

# BOOK

ON THE UNEXPLORED  
CULTURAL HERITAGE  
IN COMMUNITIES  
BY THE DANUBE





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PUBLISHER

Nakladatelství Gasset -Allan Gintel, Makovského 1148/ 4, 163 00 Praha 6  
1st edition, Praha, 2019



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Overall project budget: **2.703.844,00 €**  
ERDF contribution: **2.176.798,14 €**  
IPA contribution: **121.469,25 €**

THE PROJECT IS CO-FUNDED BY THE EUROPEAN UNION (ERDF and IPA II)

We have 20 project partners and 19 associated partners from 7 countries  
Lead partner: **BME - Budapest University of Technology and Economics**

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2019

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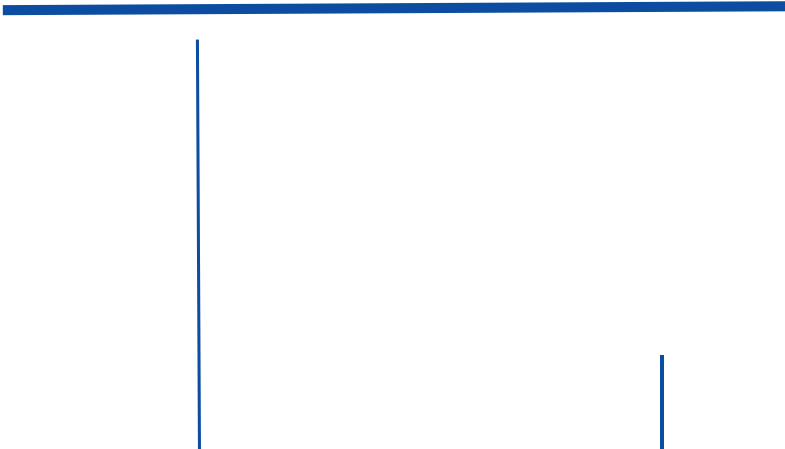
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DANURB BOOK

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# SECTION 1

## INTRODUCTION



# NATURAL LANDSCAPES

**Danube Landscape** is a new term used by DANUrB project to speak about the relationship between the built and natural environment along the Danube, to define its unit as a landscape to analyze, understand and develop. On one hand the functions of the river as a natural boundary between the territories, but on the other hand its role to join them providing similar resources and potentials. The Danube - flowing between the Black Forest and the Black Sea – is only the 30th longest (2888km) but the most international river of the world crossing 10 European countries and existing as a national border at 39% of its flow. Thus, **Danube Landscape** has evolved to be understood as an umbrella term which includes various natural and cultural landscapes, different research, education and activity carried out on a local level as well as a common and continuous territory for possible Danube Urban Brand policies. This **Danube Landscape** connects life along the space and time, along and across the river.

In this part of the book, the approach to this **Danube Landscape** differs in four chapters. The first one, to discover and make understand the changing and complex relationship between natural and cultural landscape related to the river, it presents three possible analytical methods that can be used everywhere along the Danube: the Szentendre case study is based on the scenery as an analogy and visualizes the landscape by overlapping layers seen from the water; then the urban morphology tools related to the river show Romanian settlements structure; and the last one uses a possible spatial analysis of a large scale landscape where topography, land use and population density are basic factors. The three other chapters are about one specific component of the **Danube Landscape** depending on local physical and social context, on historic and contemporary geopolitical background: the nature, the twin-city position and the connectivity situation.

The second chapter highlights the importance of natural landscapes along the Danube, presenting three exceptional sections from the Middle and Lower Danube. The Danube Delta is used as an extreme example of the Danube protected natural landscapes; then the Slovak-Hungarian part of the Danube and the Iron Gate area between Romania and Serbia illustrate 20th century transformations of natural landscapes by human engineering activities: constructions for flood protections and hydro-energetic use of the water. And finally, the chapter focuses on human being by an example from the Lower Danube: cognitive, emotional and spiritual attachment of communities to the Danube`s natural landscapes.

The third chapter is about cities, but in special twin position. As the Danube is the most international river, some cities are located opposite each other but in different countries. For them, the DANUrB project introduced the twin-city term. The Danube was and still is a natural boundary in the landscape, the river is large and strong, as a result, settlements on the Danube have been always founded on one of its side. But if there is a crossing opportunity somewhere, the opposite side is developing. Physically or socially balanced or unbalanced, belonging to the same or different countries, divided or unified by politics, it is evident that the twin-city presents key phenomenon of **Danube Landscape**, and today they are obvious sites for cooperation. Nevertheless, the last chapter focuses on the connectivity issue showing inherited situation: the changing road and rail network from the Upper to Lower Danube. The whole Danube Region need to be simultaneously developed on all three spatial levels - regional, state and urban - in order to improve its transport connections, everyday livability of settlement and Danube tourism.

Although, the landscape is related to concrete physical site, visually limited, obviously local, the use of the **Danube Landscape** term helps to connect mentally settlements along the Danube, facilitate further understanding and cooperation.

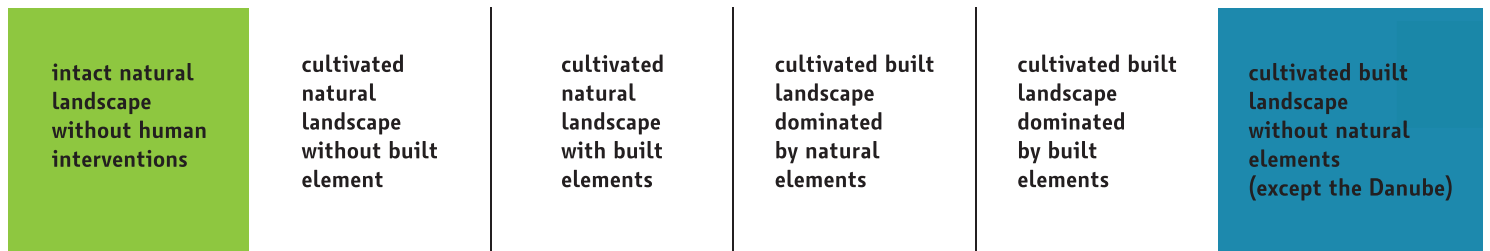
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# NATURAL AND CULTURAL LANDSCAPES: ALONG THE DANUBE: CASE STUDY APPROACH

## KEYWORDS:

Cultural Landscape,  
Identity,  
Natural and Cultural Space,  
Peripheral Urban Landscape,  
Spatial Exploration and Characterization,  
Typology of Cultural Landscape

The natural and cultural landscapes can be only investigated in their context. Therefore, from the first moment we researched the Danube-landscape as a whole. The common investigation can point to the score of the game between nature and human intervention (the summing presentation of quantity and quality of human interventions). Along the Danube, the dominance of the natural landscape generally attracts attention from the viewpoint of morphological characteristics and green coverage along the Danube. But each area shows the different degrees of human intervention: sometimes only the cultivation of forests, but sometimes the form of a monumental engineering structure. Nevertheless, by this approach it is possible to create a six level classification system of Danube landscape based on the relationship between the nature and built environment.



RELATIONSHIP BETWEEN THE NATURE AND BUILT ENVIRONMENT. SOURCE: AUTHORS' ILLUSTRATION.

But other aspects of human intervention can also be relevant in an investigation of Danube-landscape's character, such as:

- The type of human intervention: nature-shaping, environment-shaping, engineering, architectural.
- The method of human intervention: individual, communal (interest, ownership).
- The dominant period of human interventions.
- The quality of human interventions (positive, neutral, negative).
- The technical condition of human interventions.

The water landscape, as the Danube river landscape, has an important feature: its variable stratification both in time and space.



11 | NATURAL LANDSCAPE'S LAYERS. PHOTO BY AMELITA HORVÁTH, BME STUDENT.

To analyse this spatial composition made by layers it is possible to introduce three criteria in relation to the whole and parts. First criterium is about how many successive visual layers are present in the landscape (floating structures, bank, first, second, third layer) and how it possible to differentiate and evaluate them separately? Second one is about the harmony and disharmony of natural and cultural elements (their coincidence or separation) overall and within one single layer. Last one is

about the harmony and disharmony of successive layers (their coincidence or separation). In addition, other factors influence the change of the layers: the motion (both in line and perpendicular to the Danube); visible length of the river (the both sides at the same time because of the Danube-bend); a view from the river or from the other bank; and several ephemeral natural factors (high/low water, in summer and winter, morning-afternoon, sunshine-wrong time).

In this paper, the Danube bank is considered from natural and cultural aspects, but on the basis of various criteria, and in different layers. In this process, besides a theoretical approach, a visualisation method plays an important role. Drawings, graphs, pictures, photos help to uncover the view of cultural landscape opening up from the river or possibly from the other bank. This is the real subject of our investigation.

This chapter presents three DANURB case studies to analyse the Danube landscapes: the first case study carried out in Szentendre in Hungary based on a possible general theoretical approach analysing the complexity of the natural and cultural space; the second one shows the different role of the Danube as a centre, barrier and the birth of the peripheral urban landscapes within the fifth of Romanian Danubian towns- Galati, Braila, Tulcea, Giurgiu-Ruse and Calarasi; and the last one - the research on methods of spatial exploration and characterization of typology of cultural landscape in the Danube region.

## LANDSCAPE ALONG THE DANUBE AS NATURAL AND CULTURAL SPACE

The Danube life and identity are strongly determined by the riverbank landscape, and it influences not only the character of people bound to it but it gives a lifelong experience for its visitors as well. The Danube's landscape has some general characteristics that are not separable from the river and its valley, but at the same time several unique landscapes exist

along the Danube between the Black Forest and the Black Sea. Which are the common significant and which are the unique characteristics? This is our research's topic but with one strong focus: the view of the Danube banks opening up to and from the river. The spatial world determined by plains is serving as a framework to the events happened in it, to the culture born in it and to the quality of human life is happening in it (see chapter Environmental quality and livability– Joklová, et.all, 2018). So, our base is the sight, but in hope of better orientation among the deeper layers of space and time. We introduce a new methodology based on analogy and visual analytics to present opportunities related to Danube and to draw up outline potentials, which can be a starting point for enhanced research.

## ANALOGY

Tried and tested methods include analogous thinking, i.e., searching for an analogy that puts us in front of knowledge, understanding, and solving some problems. Looking at a number of photos from the country along the Danube, we realized that landscape images always consist of well-recognizable views of the different layers that follow. And then came the analogy: the world of classical theaters, where in most cases the stage scene is also a spatial world presented by different planes as scenery. Sitting in the theatre we can be involved in various stories (games) played in different layers of space and time and presented by the playing people (actors). Analogy is appropriate because looking at the landscape along the Danube would like to know more about its stories and about human life, and we would like to learn more about these experiences and raise awareness about them.



2 | THE RECONSTRUCTED BUILT SCENERY OF A BAROQUE THEATRE IN A CASTLE OF GÖDÖLLŐ. PHOTO BY ZSOLT MÁTÉ.

It is worth considering a more detailed analogy with the theater from at least two points of view: on the one hand, from the audience's point of view, on the other hand from the actor's point of view. The viewer is primarily interested in the game, but the experience will be greatly influenced by the components of the local scenery, costumes and lights. But in the case of the Danube landscape, the opposite is true: for the first time, the scene will affect visitors and raise interest in stories and life

beyond the scene. In this respect, there is a special meaning of "scenery", the appearance of the natural and cultural landscape along the Danube. If the scenery is attractive, then what does it create and, if not, what must a "Director" do to make it more attractive? And what can we do if it does not seem attractive because it is dramatically altered by human intervention? Perhaps more interesting is to explore the analogy from the actors' point of view: who and how knows the played story and how he/she can. Who and how is aware of his/her importance and role in the play whether he/she should be an ordinary participant or a star. And how happy are you in the middle of the stage scenery? If we are looking for answers to these questions on a stage, maybe we can try to answer all the questions - how do the inhabitants of the Danube town see themselves and their communities, or how do they want to be displayed outside? And here we have come up with the question of our own definition of settlement, the level of which is the determining parameter of human life in a city and can be a decisive factor for people coming from outside - even for tourists -. to awake their interest in the place. However, the following is the most relevant among these issues: What are the most important elements of identity along the Danube?

## ANALYSIS

The landscapes have two basic fundamental categories: the natural and the urban landscapes. Among them, more intermediate degrees depending on the extent of human intervention can be determined. After the first article about natural landscape (Kristianova, Kaisheva, Bostenaru, 2018), this paper focuses on the cultural landscape's layers of Danube landscape.



3 | THE UNTOUCHED NATURAL DANUBE'S LANDSCAPE AND ITS SEPARATED SPACE SHAPING LAYERS. PHOTO BY TAMÁS ADRONYI, BME STUDENT.



4 | BUILT ELEMENTS IN SETTLEMENT'S CULTURAL LANDSCAPE. PHOTO BY TAMÁS ADRONYI, BME STUDENT.





5 | LAYERS OF GREEN ELEMENTS IN SETTLEMENT'S CULTURAL LANDSCAPE.  
PHOTO BY TAMÁS ADRONYI, BME STUDENT.

The first case study location is Szentendre, a little town in the Northern agglomeration of Budapest, the Hungarian capital city. The photo was taken from the Danube and after a small graphic modification, the figures 4 and 5 show the ratio of natural and built elements. The natural environment seems to be dominant due to the hills in the background, but in the town the built environment is the determinant influenced by green areas.



6 | CULTURAL LANDSCAPE OF DANUBE'S BANK DOMINATING BY BUILT ELEMENTS AND ITS SEPARATED SPACE SHAPING LAYERS.  
PHOTO BY TAMÁS ADRONYI, BME STUDENT.

However, the presentation of the different layers following one another is more relevant in our research perspective, putting a view of the settlement landscape into a space.

As shown in 6 figures, six layers are well distinguished in the view from the Danube of Szentendre urban landscape between water and sky:

- 1: temporary floating objects
- 2: an embankment
- 3: a building's row on the Danube
- 4: building's row climbing up on the first hill and the church
- 5: a low-density built-in area of the second hill
- 6: a green background composed by the hills at the back

What to say about the layers that follow one another? The first layers can be seen sharper and more plastic.. Moving to background it seems less and less detailed, the outlines become more and more faded. The ratio of natural elements to the built ones becomes bigger and bigger moving to the background. (Well underlined by strongest natural sight of Danube's line – it's true generally in case of settlements along the Danube.) And the degree of human intervention, its age and architectural quality are decreasing moving away from the river.

What are the most important, special character elements of different layers in Szentendre?

- 1: exact engineering or naval construction: temporary, mobile, made of metal or wood,
- 2: exact engineering construction: stable, permanent, made of stone or concrete,
- 3: small-town-like: harmonious, uniform buildings in closed row with tiled roof, old trees adequate to the landscape, stone, coloured mortar, wood and tile,
- 4: changing, mixed, disordered buildings with tiled roof and skylights, a lot of personal ambition, random trees,
- 5: modernated family houses with a lot of green areas, dominating by tiled roof, kinds of trees and use of materials are irrelevant,
- 6: the sight of the hill's silhouette and green areas is dominant; the human intervention appears only to a small extent.

**What to do?** The most important task in providing for a cultural landscape is to reveal the general and the distinguished layer's special character elements as wide as possible, to strengthen them and to improve them where it's required. The more the independent layers are appearing and the more we are getting to know about their connections, the more we can define the cultural space determined by the layers. This is true for seeing the landscape from one point of view, but it is even more true, when viewed while moving, taking into consideration the changing dynamic of layers following one another. Looking at our analogy, this signals further hidden opportunities in the movie scenery.

## THE AIM

An analogous method of the approach to a cultural landscape may be appropriate for a better understanding of our environment and its hidden connections. If you want to know those elements of the character - first and foremost spatial ones - that characterize the country where we were born and emphasize the sense of belonging to specific space (Djukic et al, 2019), we have gone through the decisive time of our lives, given our own identity and our smaller communities. It is known how traumatic it can be if our life is separated from the landscape that is associated with us and the pleasure to return to it, equally as an unexpected encounter with another country with a very similar character is. It is very important to understand the spatial nature of the country for the population, but the same applies to foreigners with sincere interest and openness.

There are idioms for each other to understand and get to know each other: I can't really get to know anything without understanding its hidden connections and I can't know whether I know enough about it. In this way, understanding and knowledge can lead us hand in hand so that we can become more familiar with the cultural landscape, and an analogous approach to the landscape of the earth can help us in both. To know and be aware of the people who have links in their genome, as well as foreigners who have come from another part of the world to understand and know it..

The more I know someone, the more I love him/her and the more I love him/her, the better I understand him/her. In the case of the settlement it may be the same. The more time I spend somewhere, I get to know the deeper and deeper this place, so I'm getting closer to it and it is difficult to get away from it. However, after a period of getting known and understanding, there are other factors that will make the landscape of the country more friendly and livable to the population and more attractive to foreigners. Among other things, there are: uniqueness, ordering, neatness, awareness in shaping the environment, harmony between natural and built elements; generally speaking: a care. For an alien who has just arrived in an unknown settlement, it will be clear in a short time whether this place has a person responsible for its image or community that cares for the city. Of course, this also applies to a cultural landscape where a responsible way of caring can think of the landscape. The favorable environment has a decisive role to play in strengthening the identity of the settlement and increasing the interest of foreigners in the unknown population.

## DANUBE AS CENTER, BARRIER AND THE BIRTH OF THE PERIPHERAL URBAN LANDSCAPES

For the cities on its shores, the Danube represented a matrix of their development, the origin of growth and the birth of a specific landscape, shaped up to the horizon of the transformations they have suffered during centuries. The landscapes of these cities gradually emerged and overlapped with the Danube natural landscape, taking over its conditions. Everything that could have influenced the man-made landscape, also have been distilled and adapted: the land declivity, the water's strength, the wetlands, the forests, the wilderness areas, the islands, the fishing boats, the people themselves.

As areas with the strongest dynamics, the city's outskirts are associated with a landscape that is often in contrast or even in contradiction to the natural landscape. But for the Romanian Danube cities, the peripheral landscapes have assimilated both the natural character, the ante-industrial identity, and the remains of the (post-) industrial age, now showing a combining pattern of different and contradictory elements.

We could say that the landscape of the peripheries is by far the place of this defiance (Stan, 2014), of the struggle between the Nature and the City. At the same time, the landscape of the peripheries is just a stage in the development of an urban landscape, one able to integrate with, and adapt to the Nature. Therefore, it is not just the scene of a struggle but, at the age of its maturity (sustainability), the scenery of a symbiosis.

The paper compares the essential structures of the urban landscape seen both from this two points of view (land and water), within fifth of Romanian Danubian towns- Galati, Braila, Tulcea, Giurgiu-Ruse and Calarasi, chosen by their specific patterns of the relation between the urban morphology and the Danube landscapes, as adaptive response to the natural conditions. Comparison criteria become tools for assessing their urban landscape quality reflecting how the Danube behaved as a centre or as a periphery, in various historical contexts.

## DANUBE URBAN LANDSCAPE ASSESMENT CRITERIA

The analysis of Danube's urban landscape in the five selected cities therefore calls for an adapted grid able to capture this link between the city, its centre /periphery, and water, the ambivalence and the balance / imbalance between natural and built structures. The main objective is to bring out to the light the way in which the ex-industrial areas, partially inactive harbour activities, or industries that have collapsed after 1990 due to their de-technology have imposed contrarious segments and contexts that contravene the natural landscape and the traditional city values.

This criteria grid is composed by several items, as follows:

### A. Landscape general character (on a scale from 5- very good/ operational to 0- very bad, ruined);

- 1. Functional and physical state of buildings and equipment;
- 2. Physical and social condition of public spaces;
- 3. Status of environmental factors (risks, aggressions, protected areas).

### B. Landscape Image / from outside (water) (on a scale from 2- positive, 1- neutral, 0- negative);

- 1. Scenic qualities of the river bank (rhythmicity, accents, landmarks);
- 2. Urban / natural front overlays;
- 3. Public attractiveness (colour, lighting, places where usually are taking place events, etc.).

### C. Landscape Image from inside (land) (on a scale from 2- positive, 1- neutral, 0- negative)

- 1. Scenic qualities of the urban fabric towards water (openings, scatter points, landmarks);
- 2. Main urban fabric structure orientation of green infrastructure in relationship to natural landscape condition.

### D. Landscape Value (on a scale from 5- very high/ exceptional to 0- very bad, ignored)

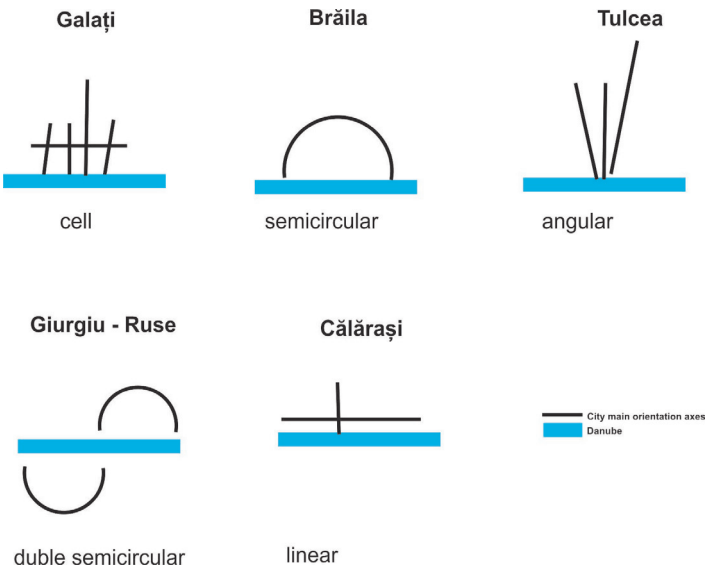
- 1. Architectural representativeness;
- 2. Ambient qualities (quietness, evocative);
- 3. Environmental qualities (ecosystems contiguity and diversity).

Thus, the essential structures of the urban landscape can be revealed by a double perspective: from the inside urban fabric and from the water. The method is helpful in showing the way in which a Danube city – both by its original centrality, and by its recent peripheral development - answers to the opportunity of opening and focalizing toward Danube. In all studied cases, the peripheral landscapes have at least two main combined characters – the natural one, coming from Danube natural capital, which have act as a barrier for the city development, and the industrial one (mainly related to harbour activities), which have created an artificial image, in contrast with the traditional identity of the city.

## DANUBE AS CENTRE

All five selected cities have evolved from ancient Dacian or Getic settlements situated on the banks of the Danube where the river's whims have been managed and turned into advantages by their inhabitants. The tumultuous history of countless wars during the Ottoman Empire caused these urban nuclei to be inhabited since the 5th century B.C.. They became the citadels with an important military defence role. In a time of peace, for the landscape that was formed on the Danube plain, the fishing boats and merchants who sold their goods on the river bank were dominant. The centrality of these cities is clearly oriented towards the Danube, being either direct, axial (Tulcea), or semi-circular (Braila, Giurgiu) or linear (Calarasi), or cell (Galati).





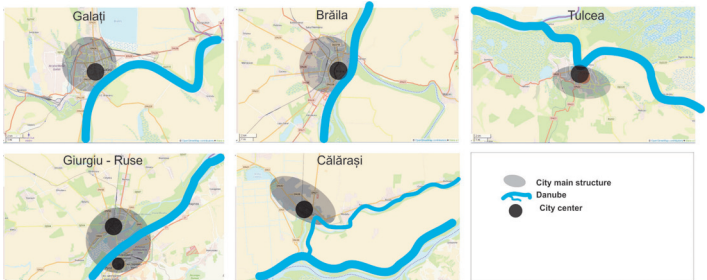
7 | THE MAIN ORIENTATION OF THE URBAN STRUCTURE SHOWING THE CENTRALITY OF THE RELATION WITH THE DANUBE. PHOTO BY ANGELICA STAN.

Until the the communist era, this orientation was organically maintained in the successive stages of urban tissue's growth.

Interventions done during communist era (1950-1990) called in Romania as „systematization of city centres” led to a mutilation of this intimate relationship between the city centres and the Danube. Parts of historical urban tissue next to the river were demolished and replaced by large and impersonal "civic squares" meant to host the people in adoration of the dictator Ceausescu. Paradoxically, although this gesture has severely affected the city's patrimony and built landscape, socially, the link between citizens and the Danube has intensified. Missing the identity places within the traditional city centre, the inhabitants have (re)found the banks of the Danube as preferred space for promenade.

## DANUBE AS A BARRIER

This position of the city centre within the entire modern urban fabric follows the connection vector which starts from the point of the ancient settlement and goes to Danube's shore. In all cases, the rest of the city by its main structure elements has developed according to the territorial constraints, conditioned by the natural barriers and/or commercial opportunities.



8 | THE EX-CENTRICITY AND THE PERIPHERAL CONDITION OF THE DANUBE CITIES. PHOTO BY ANGELICA STAN.

This positioning essentially reflects a very well preserved balance between all the city's development trends and the hearth / starting point of the city. As a barrier, the Danube was on the one hand, an administrative - in case of Romania national - border, but also as a separating context between cities itself, especially in the absence of bridges, or other connections (case of Tulcea) (Figure 9.).



9 | OLD DANUBE WATERFRONT AT TULCEA, BEING DRASTICALLY TRANSFORMED DURING THE COMMUNIST ERA. PHOTO: [HTTP://WWW.E-ANTROPOLOG.RO](http://www.e-antropolog.ro), [HTTP://WWW.OBJECTIVTULCEA.RO](http://www.objectivtulcea.ro), [ACCESSED ON 22.05.2018].

Industrial implants made during the communist era created large areas of coastline inaccessible to the population, highlighting the separation of the city from water . Therefore, the Danube cities have put on their silhouettes new elements that are alien to their original identity, but over time (with nature and through the original landscape) they transformed them into a new (modern) identity (Figure 10.).



10 | WATER LIMITS AT BRAILA SHOWING A SPATIAL CONTRAST BETWEEN BUILT/CENTER AND EMPTY/PERIPHERY. PHOTO BY ANGELICA STAN.

## A DUAL, HYBRID LANDSCAPE

The landscape of this "umbilical" connection of the city with the Danube is revealing the germinate condition from the initial growing point, together with the transformations of peripheral areas during communist and post-communist eras, by assimilating both positive and negative „gestures”. This new condition of the analysed Romanian Danube cities reflects their profound adaptation character and the opening for further development opportunities. Sometimes "city engines" and important visual landmarks in their landscape, industrial implants located in the peripheral riverfront areas, nowadays are transforming according to the activities which they host /lost. Due to multiple economic, social and political factors, after 1990 their economic decline seemed to be unavoidable, together with a whole shrinking condition of the cities themselves.



The whole young generation of emigrants are looking for jobs in EU countries, the older ones are telling stories about the famous days of industrialization and the ruins of the communist industry (abandoned, stolen, forgotten) are re-colonized by vegetation, restoring the kind of (sad) landscape, both natural and cultural, a (new) hybrid (Figure 11.).



11 | INDUSTRIAL RUINS NATURALLY „RE-COLONIZED” BY THE DANUBE VEGETATION, AT BRAILA.  
PHOTO BY ANGELICA STAN.

On one hand, it reflects the lack of power and conscience of the public administration to manage consistent parts of the city and to keep them for endogenous development, but, on the other hand, it proves the admirable power of nature to repair what man, in his excesses, damages.

According to an analysis within DANuRB project of the five Danube Romanian cities, we noticed the same pattern of „germination” and evolution of the urban landscape, mainly due to the similar positioning of the centre and peripheries within the urban morphology. Moreover, this pattern exists - even if on another scale, and in another context of civilization – in cities like Budapest (Benkő, 2011), Bratislava, Vienna or Belgrade. Hybridization of the urban landscape is thus recognized as a general phenomenon, and in the case of the Danube cities, it acquires the peculiarities of the natural features of the places. In the Danube Capitals, the old centres are usually the most emblematic elements, major tourism attractors, including cultural ones, while ex-industrial outposts are constantly turning into post-modern and advanced business centres, real engines of today’s economy and technology. Under these conditions, the cultural landscape is divided between an old, beautiful but obsolete picture, and one of the future, pulsing of energy, but lacking a well-defined local identity. Both of them are mirrored in the Danube waters which are, by definition, turbid (Figure 12.).



12 | THE FIVE ROMANIAN DANUBE CITIES: GALA I. BRĂILA, TULCEA, GIURGIU, CĂLĂRAȘI SEEN FROM THE WATER.  
PHOTO BY ANGELICA STAN AND [HTTP://WWW.OBIECTIVTULCEA.RO](http://www.obiectivtulcea.ro)

## TPOLOGY OF CULTURAL LANDSCAPE IN THE DANUBE REGION - METHODS OF SPATIAL EXPLORATION AND CHARACTERIZATION

On its way from its origins in the Black Forest to the mouth of the Black Sea, the Danube not only flows through ten countries, it also encounters a variety of people, cultures and landscapes. In order to capture the diversity of the cultural landscapes and their spatial conditions and characteristics, this part of the article describes a method that makes this possible by means of a spatial typology. The method is shown by examples in the Austrian, Serbian and Romanian Danube regions. The categorization or typology of space is used to classify an area (e.g. a federal territory or state, in this article, the landscapes along the Danube) into different structural features, so to concentrate areas with the same or similar structures in one category and distinguish them from areas with other characteristics. These categories / types are used in spatial research and spatial observation for analytical purposes. The aggregation of territories reduces complexity and makes it possible to identify tendencies and relationships that would otherwise be overlooked (Mielke, 2005). The characteristic of typology is to set the types in a set of individuals whose grouping in some - typically mentioned - individuals is excellent, while in other individuals it is not so direct. The previous one is a type that belongs to it only marginally and in some respects it belongs to another type. Thus, there are individuals who belong to more than one type, and some individuals may not even be included in typology (Hempel and Oppenheim, 1936).

### METHOD

In order to gain a first overview of the spatial conditions in the Austrian respectively Serbian/Romanian Danube regions, a visual analysis is done from a bird's-eye view in a 3D virtual reality environment via Google Earth VR (Figures 13., 14.).



13 | USING VIRTUAL REALITY FOR GAINING OVERVIEWS OF THE DANUBE LANDSCAPE IN UPPER AUSTRIA.  
SOURCE: GOOGLE EARTH VR ©, 25. 04. 2018

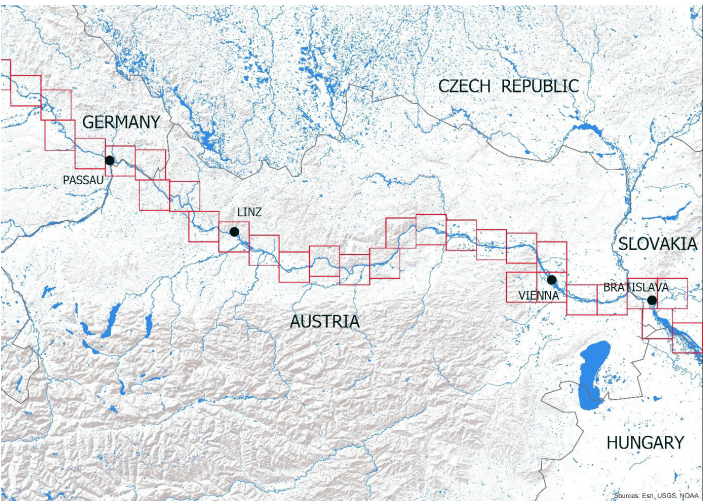


14 | USING VIRTUAL REALITY FOR GAINING OVERVIEWS OF THE DANUBE LANDSCAPE IN THE IRON GATE.  
SOURCE: GOOGLE EARTH VR ©, 17. 01. 2018.

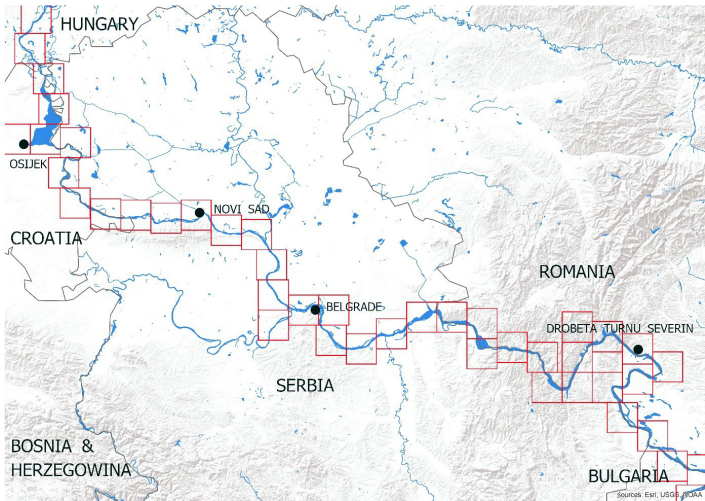


This quickly gives a first impression of the topography, land use and the location of densely populated areas and agglomerations (Pechhacker, 2018).

To describe the characteristics of cultural landscapes, a list of criteria will be developed in the next step containing statements on topography, land use and population density. In order to apply and verify these criteria in the Austrian as well as in the Serbian / Romanian Danube regions, vector and raster data of the named criteria are visualized by means of GIS (Geographical Information System) and a 15x15 km grid was placed over the respective federal territory along the river course (Figures 15., 16.).



15 | GRID 15x15 KM ALONG THE RIVER IN AUSTRIA.  
SOURCE: JULIA PECHHACKER.



16 | GRID 15x15 KM ALONG THE RIVER IN SERBIA/ ROMANIA.  
SOURCE: JULIA PECHHACKER.

Thereafter, a characteristic is determined for each criterion in each column by means of quantitative and qualitative evaluation methods.

- **Topography:** The criterion of topography distinguishes between the two types of plains and valleys. The topography is used as the first criterion to be examined, as the terrain is naturally given and can hardly be influenced by human actions. The analysis of the topography plays an important role in spatial planning - it can be verified if there are restrictions in the settlement development, e.g. by hillsides, or in plains space for large-scale agricultural use is given. The topography is visually analysed and determined according to the predominance of the characteristic of the criterion in a 15x15 km grid.
- **Land use:** Differences under this criterion are essentially between built-up areas, agricultural areas and forest lands. Water areas and wetlands are not explicitly taken into account. The basis therefor is the land cover recorded via satellite imagery according to CORINE Landcover 2012. The predominant characteristic in the 15x15 km grid defines the criterion. The characteristics are determined after a visual analysis and randomly checked (comparison of agricultural area to forest area in hectares).
- **Population density:** The population density is the quotient of the population of a territory and its area. This results in a certain number of inhabitants per unit area (km<sup>2</sup>) (Gabler Wirtschaftslexikon, 2018). Since the term cultural landscape is related to human influence on (natural) landscape (cf. Krebs 1923: 84), the consideration of the spatial distribution of the population is relevant for the typology.

This criterion is divided into five characteristics in the present typology. In order to determine the expression, a specially developed calculation was carried out for each grid.

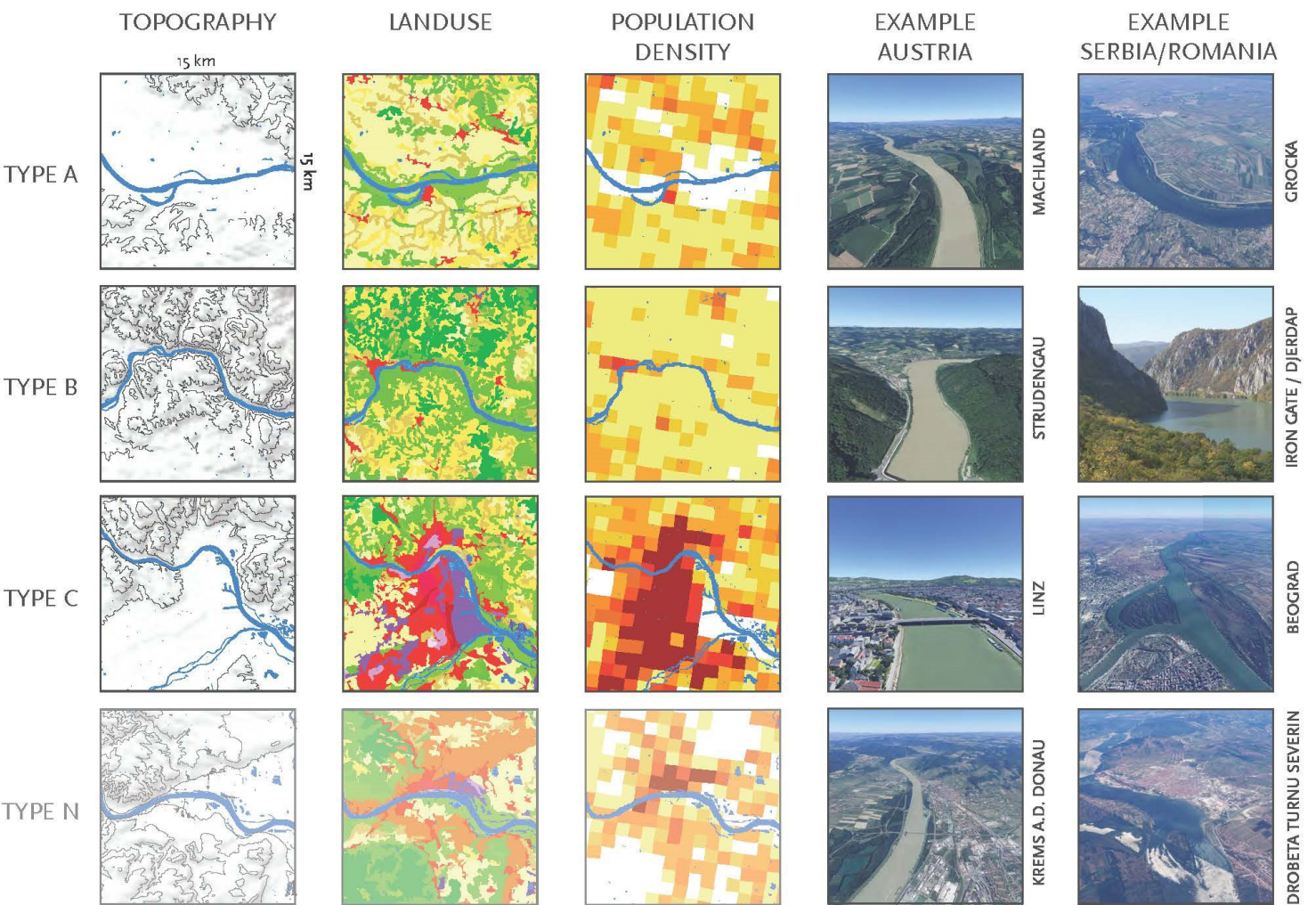
Criterion	Characteristic 1	Characteristic 2	Characteristic 3	Characteristic 4	Characteristic 5
1 Topography	Plain; Primarily flat terrain	Valley Primarily hilly, steep terrain	Hybrid	-	-
2 Landuse	Primarily agricultural land	Primarily forests and silviculturally used land	Primarily built - up areas (including settlements, industrial, commercial and traffic areas)	Mixed use	-
3 Population density	Not populated 0 inh./km <sup>2</sup>	Low populated 1 - 100 inh./km <sup>2</sup>	Medium populated 101 - 500 inh./km <sup>2</sup>	High populated 501 - 1000 inh./km <sup>2</sup>	Very high populated >1000 inh./km <sup>2</sup>

\*inh. – Inhabitants



# SPATIAL TYPES

After reviewing and overlay of the above-mentioned criteria for each 15x15 km grid, the following spatial types emerged for the Austrian and Serbian / Romanian Danube areas (Figure 17.).

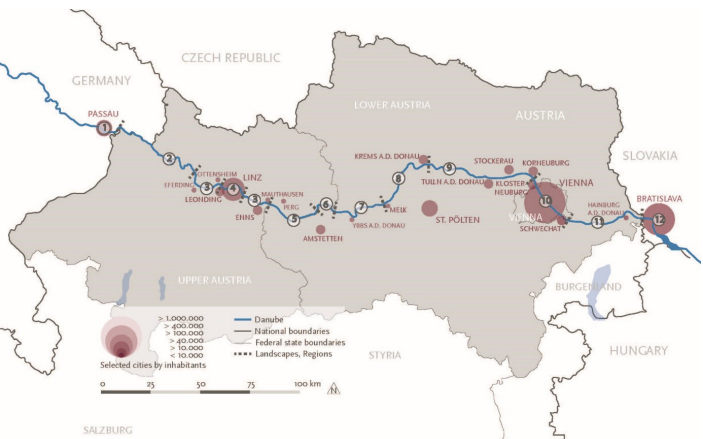


17 | OVERVIEW AND COMPOSITION OF THE SPATIAL TYPES FROM THREE CRITERIA INCLUDING EXAMPLES FROM THE AUSTRIAN AND SERBIAN/ ROMANIAN DANUBE REGION. SOURCE: JULIA PECHHACKER.

- **A)** Primarily agriculturally used plains: Type A is classified by topography as a level or flat terrain towards the Danube, with low to medium population density and predominantly agriculturally used areas (Type A, examples Machland in Austria and Grocka in Serbia).
- **B)** Mainly forest-valued valleys: Type B is classified topographically as a valley or hilly / steep terrain towards the Danube, with low to medium population density and predominantly covered with forest or forestry-used areas (Type B, examples Strudengau in Austria, Iron Gate in Serbia/Romania).
- **C)** Urban, densely populated areas / agglomerations: Type C is classified according to the topography predominantly as a plain or as a mixed form of plain and valley, with high or very high population density and predominantly built-up area (Type C, example Linz in Austria, Belgrade in Serbia).
- **N)** Mixed forms: Since in a typology not all elements have to be clearly assigned to a type or elements can correspond to several types (Hempel and Oppenheim, 1936), mixed forms also appear from the mentioned spatial types. An example of this would be a 15x15 km grid with topographical transition from valley to valley, built-up areas surrounded by agricultural and forestry land use and a medium population density (Type N, example Krems in Austria, Drobeta Turnu Severin in Romania), (Pechhacker, 2018).

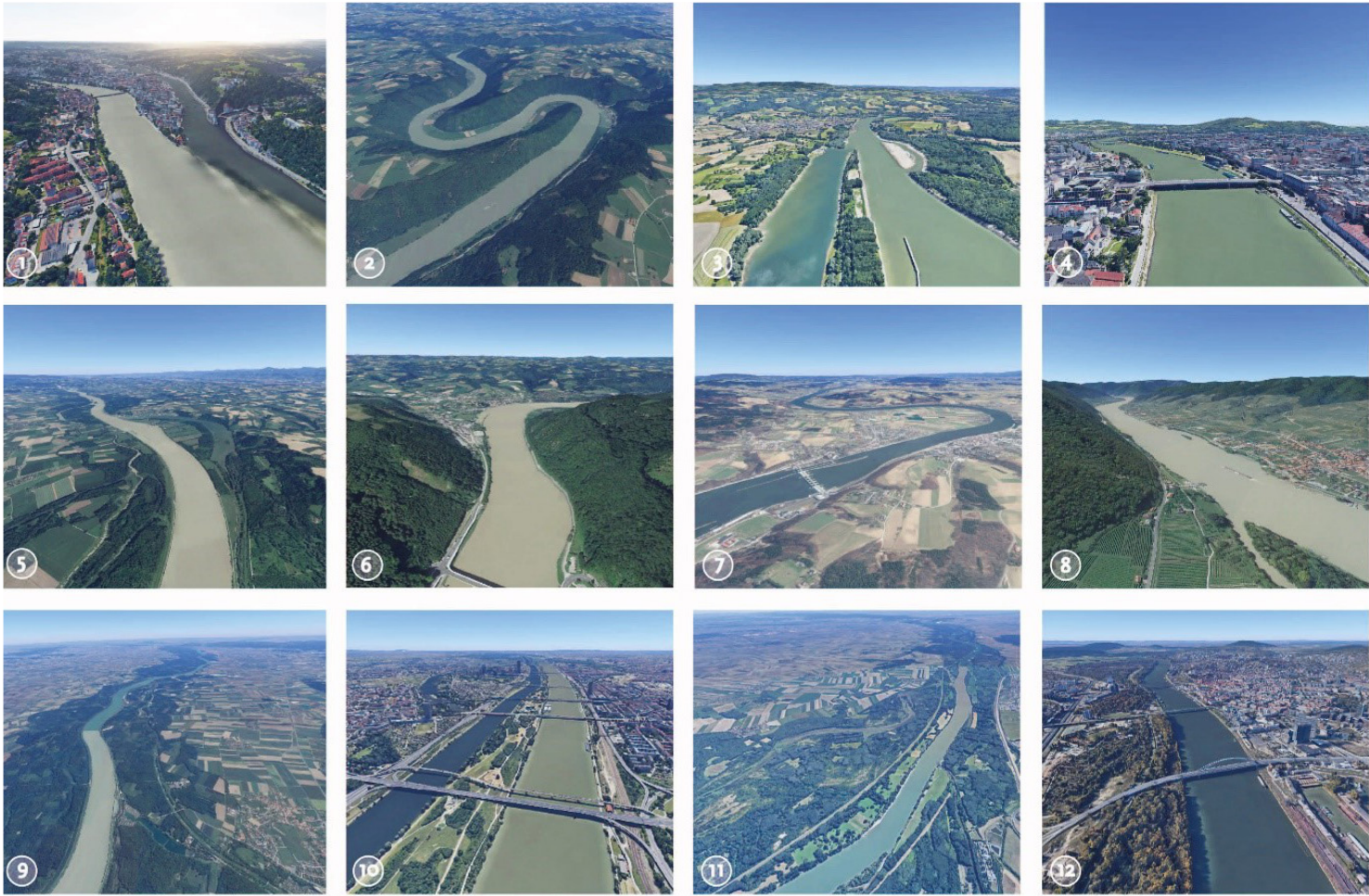
## APPLICATIONS

Subsequent to the analysis and type formation by means of the mentioned method, a delimitation of regions follows along the Danube. In the process, those neighbouring grid cells that correspond to one type are brought together. In this way, an overview of the Austrian resp. Serbian / Romanian Danube region and its (cultural) landscapes emerges.



18 | OVERVIEW OF THE AUSTRIAN DANUBE REGION - DELIMITATION OF THE INDIVIDUAL REGIONS/DIFFERENT (CULTURAL) LANDSCAPES (NUMBERING 1-12 IN FIG.19 CORRESPONDS TO NUMBERING 1-12 IN FIG.18). SOURCE: JULIA PECHHACKER.





19 | VIEW OF THE CHARACTERISTICS OF THE AUSTRIAN DANUBE REGIONS  
(NUMBERING 1-12 IN FIG.19 CORRESPONDS TO NUMBERING 1-12 IN FIG.18)  
SOURCE: JULIA PECHHACKER.

Using this method, the entire Danube region, not only the regions connected directly to the Danube, but also all other regions in the Danube catchment area, can be divided into spatial types, in case of necessity, including additional spatial types in the typology.

Between regions of the same spatial type, a comparison can be made and analysed as to whether there are similar problems and challenges in order to identify planning-relevant and strategic development goals for each type, which in turn can be implemented in all regions of a given type taking into account the region specific circumstances. This not only enables learning from each other in spatial planning matters, but also the strengthening of transnational cooperation. (Pechhacker, 2018)

## SUMMARY

The landscape's idea of the Hungarian Professor, Michael Mőcsényi (1919-2017) used by landscape architects determines the surroundings landscape environment as an interaction of the nature and the human communities (society). In this sense, untouched nature doesn't exist on the Earth because of people's presence, at least in a form of the atmosphere's pollution. Based on this approach, cultural landscape is the place where the presence and intervention of man in the natural environment prevails. To discover and understand the cultural landscape, this chapter presented three different possible methods that can be used everywhere along the Danube: the first is an analogical approach using the scenery as a reference, the second is about urban morphology focusing on settlements structure and the third is a spatial analysis of a large scale cultural landscape based on three factors as topography, land use and population density.

# REFERENCES

BEAUCHARD, Jacques, 1999. La bataille du territoire. Mutation spatiale et aménagement du territoire. Paris-Montreal: L'Harmattan, 144p.

BENKŐ, Melinda, 2011. Budapest et le Danube – un point de vue budapestois en 2011. In: Majoros, Gy. (ed.) Ót kontinens. Budapest: ELTE, pp. 49-60.

BUDA, Octavian, 2008. O antropologie a marginalului. București: Editura Caligraf, 278p.

DJUKIC, Alexandra,VLASTOS,Thanos, JOKLOVA, Viera, 2019. Liveable Open Public Space - from Flaneur to Cyborg. In Smaniotto Costa, C. (ed.) CyberParks - the interface between people, places and technology. Berlin, Springer Open Access International Publishing, pp.38-49.

EUROPEAN ENVIRONMENT AGENCY, 2018. Fragmentation pressure (number of meshes per 1 000 km<sup>2</sup>) of urban andtransport infrastructure expansion, [Accessed 16.04.2018]. Available at: <https://www.eea.europa.eu/data-and-maps/figures/fragmentation-pressurenumber-of-meshes>.

Gabler Wirtschaftslexikon, 2018. Bevölkerungsdichte. [Accessed 22.05.2018]. Available at: <https://wirtschaftslexikon.gabler.de/definition/bevoelkerungsdichte-31890/version-255438>

HEMPEL, Carl Gustav and OPPENHEIM, Paul, 1936. Der Typusbegriff im Lichte der neuen Logik. Wissenschaftstheoretische Untersuchungen zur Konstitutionsforschung und Psychologie. Typologie vs. Klassifikation. [Accessed 16.04.2018]. Available at:[https://www.christianlehmann.eu/ling/typ/typ\\_vs\\_klasse.php](https://www.christianlehmann.eu/ling/typ/typ_vs_klasse.php)

KREBS, Norbert, 1923. Natur und Kulturlandschaft: Vortrag gehalten auf der Festsitzung am 5. Mai 1923. Berlin1923. In: Zeitschrift der Gesellschaft für Erdkunde zu Berlin. pp. 81-94.

KRISTIÁNOVÁ, Katarína, and ADAMKOVÁ, Jana, 2010. Slovak agricultural landscape transition responses, ITU A[Z. 7(2), pp. 121-132.KRISTIÁNOVÁ, Katarína, 2013. Historical Vineyard Landscape of Bratislava in the Era of Market Economy. In: Ignatieva, M., Stewart, G.(eds.), Historical landscapes in the Modern Era. St. Petersburg: Publishing house of St. Petersburg State Polytechnic University

MEGGYESI, Tamás, 2002. The external space. In: Építés- Építészettudomány, 30(1-2), pp. 53-93.

MEGGYESI, Tamás, 2003. Építészet vagy/és települési táj. In: Utóirat, 3(3), pp. 17-19.

MIELKE, Bernd, 2005. Gebietskategorien. In: Ritter, E-H., Bröcker, J., Fürst, D., Heinz, W., Hoffmann-Bohner, K-H., Kistenmacher, H., Mönnecke, M., Münzer, E., Schmidt-Eichstaedt, G., Schmitz, G. Schönwandt, W., Scholich, D., Siebel, W. and Steck, Ch. (eds.): Handwörterbuch der Raumordnung. Hannover: Akademie für Raumforschung und Landesplanung, 353p.

MUNTEANU, Ion, 2014. Brăila acum o sută de ani: 1915. Braila: Ed. Proilavia of the Panait Istrati County Library, 148p.

PECHHACKER Julia, 2018. Strategische Ansätze für die Entwicklung ausgewählter Regionen im Donaauraum. Darstellung an den Beispielen der Donauregionen Linz-Ybbs in Österreich und Eisernes Tor in Serbien/Rumänien. Diploma Thesis. Vienna: TU Wien. pp. 83-97.

STAN, Angelica, 2013. Morphological Patterns in Bucharest Periphery. In: Pascariu, G. Alexandru, M. Faurest, K. (eds.) Integrated Planning and Design for Sustainable Urban Peripheries in Europe: River Dâmbovi a in the South East from Văcărești to Popești-Leordeni. Bucuresti: Ed. University Ion Mincu, pp. 24-25.

STAN, Angelica, 2013. Morphological Patterns of Urban Sprawl Terri tories. In: Urbanism – Arhitectura – Constructii, 4(4), pp. 11-24, [Accessed Day 05.02.2018]. Available at: <http://uac.incerc.ro/Art/v3n3a02.pdf>

STAN , Angelica, 2014. Planning (at) the Limit. In: Becoming Local. Atomizing Society and Public Space- the case of post-socialist territories, Annual Meeting of the AESOP-Thematic Group. Bucuresti: Ion Mincu, 16 p.

STAN, Angelica, 2015. Urban expansion in Bucharest, after 1990: errors and benefits. In: Doytchinov, G., Dukic, A., Ionita, C. (eds)., Planning Capital Cities: Belgrade, Bucharest, Sofia, Verlag der Technischen Universität Graz, pp. 224-233. Version von Bevölkerungsdichte vom 19.02.2018 - 15:08, retrieved on 18.04.2018.

WETTSTEIN, Domonkos, 2013. Tájépítés és identitáskeresés összefüggései egy holland és egy svájci esettanulmány modellszerű vizsgálata alapján. Valóság: Társadalomtudományi Közlöny, 56(7), pp. 82-93.

WETTSTEIN, Domonkos, 2017. Landscape and region. Formation of the regional concept and its landscape aspects in the history of Balaton-development. 4D Journal of Landscape Architecture 44, pp. 2-23.

# NATURAL LANDSCAPES

## KEYWORDS:

Natural landscape,  
Natural heritage,  
Nature protection,  
Floods,  
Nature reflections in culture

Natural landscapes are a base; their values have predetermined the social, cultural and economic development along the Danube. The famous history, monuments, cultural traditions, viticulture, or gastronomy, they all have developed thanks to the bounteous offer of Danube natural landscapes. Looking at the unexplored heritage in communities by the Danube, we have to look first of all to the values of natural heritage, which can significantly contribute to the formation of "Danube Brand", forcing the liveability of settlements and the enhancement of tourism.

In Danube landscapes, the values of natural heritage are closely interwoven with the cultural heritage values, the tangible and intangible heritage are blended together, and the past is attended in the present. It was the diversity of Danube natural landscapes which has enabled evolvement of the various cultural landscapes along the Danube. However, the human influence during the landscape transformation and development processes often led also to the loss of natural values in Danube landscapes, and the need to preserve these values become more urgent.

The chapter highlights the importance of natural landscapes along the Danube, focuses on specific aspects and selected examples of natural landscapes from the Middle and Lower Danube.

## THE CONCEPT OF "NATURAL LANDSCAPE"

We understand the term "natural landscape" as a landscape that has not been influenced by human activity. On the contrary, we understand the term "cultural landscape" as a landscape which has been formed by human influence. The idea of separating a natural landscape from a cultural landscape was conceptualized by the geographer Otto Schlüter who developed the terms original landscape (Urlandschaft) and its opposite cultural landscape (Kulturlandschaft) and by the geographer Carl Ortwin Sauer in his work "The Morphology of Landscape" (Sauer, 1925). However, in the twenty-first century it is not possible to find landscapes totally untouched by human activity, since at least the anthropogenic changes in the atmosphere directly or indirectly affect the whole biosphere. However, in regions that retain their basic functional ties that have not been directly influenced and altered by human activity and which can be considered "close to nature" or even "natural", we can still find fragments of the original ecosystems. (Lisický, 2001).

Such natural ecosystems which have preserved the high degree of their naturalness are still found also along the Danube.

## VALUES OF DANUBE NATURAL LANDSCAPES, THEIR TRANSFORMATION AND PROTECTION

From the Black Forest and the mountains of Western Europe, across the Pannonian Plain and foothills of Carpathian Mountains, through gorges and canyons, and along its lower section to the Black Sea, the Danube excites its visitors with different ecosystems, different sorts of animals and plants and different kinds of beauty.

Although the human influence on natural landscapes along the Danube and their transformations towards cultural landscapes may seem to be a "natural" process, there still are natural heritage values which should be preserved for next generations, and natural landscapes that should be

protected even against their transformation to cultural landscapes. The unique natural heritage values accompanying the Danube that started increasingly disappear in the second half of the 20th century, are leading in countries along the Danube to the intensive efforts to protect them and they are becoming of great interest to a growing number of scientists and conservationists. Protection of the values of Danube natural landscapes in countries along the Danube is provided through a number of types of protected areas covered by national legislation, European legislation and international conventions.

Many sections of the river are exceptionally bio-diverse, and several particularly sensitive habitats are under national or international protection. For example in Germany: Naturpark Obere Donau, Donauauen zwischen Neuburg und Ingolstadt, Nature protection area Donauleiten, in Austria: Nationalpark Donau Auen, in Slovakia Chránená krajinná oblasť Dunajské luhy, in Hungary: Danube-Ipoly National Park, Danube-Drava National Park, in Croatia: Nationalpark Kopački Rit, in Serbia: Gornje Podunavlje Nature Reserve, Fruška Gora National Park, Koviljsko-Petrovaradinski Rit Nature Reserve, Great War Island Nature Reserve, Đerdap National park, in Romania: Iron Gates Natural Park, Măcin Mountains Natural Park, Small Island of Brăila Natural Park, Danube Delta Biosphere Reserve, in Bulgaria: Persina Nature Park, Kalimok-Brushlen Protected Site, Srebarna Nature Reserve, or in Ukraine: Danube Biosphere Reserve.

We examine the values of Danube's natural landscapes, their transformation and the approaches to their preservation using three selected examples of Danube landscapes - the Danube Delta, as an example of the most exceptional values of the Danube natural landscapes, the Slovak-Hungarian section of the Danube and the Iron Gate, as examples illustrating the transformation of landscapes by human activities.

## DANUBE DELTA

The Danube Delta, one of the greatest wetlands in the whole world, is a low alluvial plain, mostly covered by wetlands and water. It consists of an intricate pattern of marshes, channels, streamlets and lakes. The wonderful natural habitats formed here offer good living conditions for an impressive number of plants and animals (Figures 1., 2.).





1 | DANUBE DELTA.  
PHOTO BY MARIA BOSTENARU DAN, 2018.



4 | PELICANS AND CORMORANTS IN THE DANUBE DELTA.  
PHOTO BY MARIA BOSTENARU DAN, MAY 2018.



2 | SAND DUNES IN LETEA, DANUBE DELTA.  
PHOTO BY MARIA BOSTENARU DAN, 2018.

Among these, reeds form one of the largest single expanses in the world, Letea and Caraorman forests represent the northern limit for two rare species of oak (Figure 3.).



3 | OLD OAK IN LETEA, DANUBE DELTA.  
PHOTO BY MARIA BOSTENARU DAN, 2018.

Together with the great number of aquatic and terrestrial plants, there are also many important colonies of pelicans and cormorants (Figure 4.), as well as a variety of other water birds which reside in or visit the delta for breeding or wintering. The large number of fish is also notable, with species of both high economic and ecological value.

Without doubt, the impressive range of habitats and species makes the Danube Delta a vital centre of biodiversity in Europe, and a natural genetic bank with incalculable value for global natural heritage. The tendency to overexploit the natural resources of the Danube Delta, and the danger that the natural ecological balance would become irreparably harmed, led to the need to take appropriate measures to reduce these impacts, to restore already damaged areas, to protect the existing unaffected areas, and to harness local and regional support for these measures. The Danube Delta has become protected as Biosphere Reserve, as a wetland under the Ramsar Convention, and listed in the UNESCO World Heritage List under the World Heritage Convention. Today also tourism may affect the delta, for this reason some lakes are closed to visitors, and illegal fishing and hunting still need to be followed (Văidianu, 2013).

### SLOVAK-HUNGARIAN PART

The less known fact is that besides the Danube Delta, the Slovak and Slovakian-Hungarian parts of the Danube are also the most interesting parts of the Danube from the ecological point of view (Lisický, 1988; Huba, 2017). After crossing the Devín Gate or the Porta Hungarica, the first peaks and ripples of the Carpathians, a relatively large gradient of flow changes and gravel, in which the river flows, required further directions in the lowlands. The main flow of the Danube is divided into three almost parallel flows and smaller flows (anastomosis) which flow diagonally between the main streams, creating rich meanders and the phenomenon of the so-called "Inland delta". The Danube carries a large amount of nutrients, what, together with the favourable climatic conditions and plenty of surface and ground water during the whole vegetation period, means that this territory between the Little Danube branch and the Mosoni Danube branch belongs to the most productive European ecosystems. It is understandable that a man had been trying to take advantage of this wealth, but up to half of the 20th century the area flourished without any major disruptions of ecological balance. The original extensive use - fishing, hunting, pasturing, have been gradually replaced by the increasingly intensive agriculture and forestry. The requirements to protect the permanent settlements in the interfluvium against floods and to make the river better navigable resulted in adjustments and regulations of the river and formation of a single concentrated flow. The last natural state of the "Inland Delta" is depicted on the maps of the 17th and the beginning of the 18th century. The changes occurred in the years 1886-1896 by the decommissioning of most of the side arms. Further changes took place after the World War II, in the second half of the 20th century by the construction of the hydroelectric power plants. The first discussions on the hydro-energetic use of Slovak-Hungarian section of the Danube at the governmental level took place already in the year 1952. In 1977, an interstate contract on the construction of Gabčíkovo - Nagymaros the Dam System between the Czechoslovak and Hungarian governments was signed, ratified by the parliaments of the two countries and signed by the presidents Gustáv Husák and János Kádár. In 1989, due to concerns about the ecological disaster, the Hungarian Parliament decided to stop working on the dam at



Nagymaros. In 1991, the Slovak government decided to adopt a solution independent of cooperation with the Hungarian party and in 1992 started to put into operation the Gabčíkovo stage that was put into permanent operation in 1996.

The remains of natural landscapes that remained after the construction of Gabčíkovo in Slovakia are today protected in accordance with the national system of small and large-scale protected areas, NATURA 2000 sites, designated on the basis of the European birds and habitats directives, and Ramsar localities. The boundaries of the sites under national protection, Ramsar localities and the areas of NATURA 2000 are partly overlapping each other. When the Hungarians refused to build the Nagymaros dam in their territory, they declared the National Park Duna-Ipoly in 1997, which was created from Pilis and Börzsöny national parks, with the addition of part of the floodplain of the river Ipoly (Figure 5.).



5 | DANUBE IN VISEGRAD, NATIONAL PARK DUNA-IPOLY.  
PHOTO BY MARIA BOSTENARU DAN, 2011.

The greatest challenge for the future remains the establishment of trilateral Austro-Slovak-Hungarian Nature Park, which would integrate the best-preserved parts of Danube landscapes in this region (Huba, 2017).

## IRON GATE

The hydropower use of the Danube and the construction of large hydroelectric power plants in the second half of the 20th century significantly changed Danube natural landscapes not only in the Slovak-Hungarian section of the Danube. At the Iron Gate gorge system on the Danube, one of the most dramatic natural wonders of Europe, dividing the Carpathian and Balkan mountains and forming part of the boundary between Serbia and Romania, a joint navigation and power project by Romania and the former federation of Yugoslavia harnessed the fast-flowing waters of the gorge and changed its original natural landscape.

The former values of Iron Gate’s natural landscape are described by Hungarian writer Mór Jókai in 1872 in his novel “Az aranyember.” He describes a travel on the Danube, including passing the Iron Gates of that time as follows:

TIMAR’S TWO WORLDS  
BOOK FIRST - THE “ST. BARBARA.”  
CHAPTER I.  
THE IRON GATE

A mountain-chain, pierced through from base to summit - a gorge four miles in length, walled in by lofty precipices; between their dizzy heights the giant stream of the Old World, the Danube.

Did the pressure of this mass of water force a passage for itself, or was the rock riven by subterranean fire? Did Neptune or Vulcan, or both together, execute this supernatural work, which the iron-clad hand of man scarce can emulate in these days of competition with divine achievements?

Of the rule of the one deity traces are visible on the heights of Fruska Gora in the fossil sea-shells strewn around, and in Veterani’s cave with its petrified relics of saurian monsters of the deep; of the other god, the basalt of Piatra Detonata bears witness. While the man of the iron hand is revealed by long galleries hewn in the rock, a vaulted road, the ruined piers of an immense

bridge, the tablets sculptured in bas-relief on the face of the cliff, and by a channel two hundred feet wide, hollowed in the bed of the river, through which the largest ships may pass.

The Iron Gate has a history of two thousand years. Four nations—Romans, Turks, Roumanians and Hungarians, have each in turn given it a different name.

[...]

Beginning from the Iron Gate up to Clissera, each valley, each cave on both banks, every cliff, island, and every eddy in the stream has its history: a fairy tale, a legend, or an adventure with brigands, of which books, or sculptured inscriptions, or national songs, or fisherfolks’ tradition tell the story. It is a library in stone, the names of the rocks are the lettered back of the volumes, and he who knows how to open them may read a romance therein.”

This is an example of immaterial, literary heritage connected to the area and its natural landscape values.

The project of Iron Gate I Hydroelectric Power Station started in 1964 and at the time of completion in 1972, it was one of the largest hydroelectric power stations in the world. The project Iron Gate II started in 1977 and was completed in 1984. The two power stations are jointly administered by Romania and Serbia and in addition to the gains of hydroelectric power the project greatly improved the navigation facilities, too. In spite of its indisputable benefits, the construction of the Iron Gate dam system had also its victims - the island of Ada Kaleh, the island of Turkish enclave which was a touristic point, was submerged during the construction of the Iron Gate I hydroelectric plant in 1970 (Osaci-Costache and Armaş, 2016). It was tried to reconstruct it on the smaller island Simian but without success. The idea to reconstruct it was not abandoned, however. The island might have inspired the island of nobody in the novel of Mór Jókai about Timar’s two worlds.

The construction of the Iron Gates Dams meant not only the losses of cultural heritage values of Ada Kaleh, but also losses of natural heritage values. It disrupted the spawning migration of the Danube sturgeons, the Beluga sturgeon (*Huso huso*) and Russian sturgeon (*Acipenser gueldenstaedti*) which are trapped below the dam. The Iron Gates dams do not have technical equipment such as fish passes or bypasses, designed to assist fish migration. However, the sporadic capture of migratory sturgeons upstream of the Iron Gates shows that a very few individuals manage to negotiate the locks used by ships. World Wildlife Fund (WWF) is supporting the International Commission for the Protection of the Danube River (ICPDR), the EU Strategy for the Danube Region (EUSDR), and other partners, to make the Iron Gates dams passable to sturgeons. Making the nearly 1000 kilometres of the Danube river up to Gabčíkovo dam in Western Slovakia accessible would be a big achievement for the conservation of Danube sturgeons and could more than double their range. Despite these losses in the natural and cultural landscape, the Iron Gate dam system represents engineering heritage and thus cultural heritage, and the landscape of Iron Gates is still a natural park, “Defileul Dunării” in Romanian and „Banatska Klisura” in Serbian (Figure 6.).



6 | IRON GATES - BAZIAŞ.  
PHOTO BY MARIA BOSTENARU DAN, 2008.



The Serbian name builds on the region name of Banat, a region which began under Habsburg emperor Maria Theresa to be inhabited by the Danube Swabians, Germans brought from the springs of Danube in the Black Forest to this region which is now divided between Hungary, Serbia and Romania. The migration was facilitated 300 years ago by the natural feature of the Danube, crossing countries with a specific type of ship (Ulmer Schachtel). Orșova, the most important city in the region, still features this minority with all its traditions. The story of migration along the Danube is an example of how intangible, immaterial heritage is closely connected with natural and cultural landscape values.

Many examples in this region show how the values of natural heritage are closely interwoven with the cultural heritage values, and how the tangible and intangible heritage values are blended together. The statue of Decebal, the ancient king of Dacia sculpted in the rock at the place where river Mraconia meets the Danube in the years 1994-2005 (Figure 7).



7 | DECEBAL STATUE SCULPTED IN THE ROCK AT THE PLACE WHERE RIVER MRACONIA MEETS THE DANUBE.  
PHOTO BY MIHAELA NEGULESCU.

recalls the times of the fights against Traian, the Roman emperor who made Dacia a Roman province. Although the face of Decebal is a human sculpture, Romania features similar sculptures done by natural erosion in the Bucegi mountains – the Sphinx, and Babele – Old Women. In this way, the region joins the nature and culture of Romania.

## FLOODS ALONG THE DANUBE AS NATURAL PHENOMENON

The Danube itself is a powerful natural phenomenon and its waters bring life but can be also destructive. Water is a dual element. On the one hand, it is a "friend", a source of livelihood, on the other hand, an enemy bringing the threat of flooding. Although coastal countries have their own beauty, as we see, for example, in Budapest on the Danube, in the past, cities were built at a distance from the river, they turned their backs to the river because of the danger of flooding. These areas tend to be nowadays integrated into cities so it also brings new flood prevention concepts. Such approach supports the active integration of natural and landscape elements in urban structure, while preserving their biological values, and forms new, aesthetic and pleasant urban spaces (Joklová and Furdík, 2015). But water is not only strong, but also vulnerable element, an opposite to the strong dimension of being a strong heritage itself, as shown for example in the ecological aspects of extinction of the sturgeons related to the development of hydropower stations. Water becomes thus a museum element, and there are living museums featuring water as aquaria, but also some more creative, which feature the states of water in the artworks.

If we look to its negative side, the waters of river Danube caused a number of floods. For example, in Romania in 2006 a major flooding took place in the Danube valley. The flooded zone was 71 ha (Ghidici-Rast-Bistreț, Bistreț-Nedeicu-Jiu, Jiu- Bechet, Bechet-Dăbuleni, Dăbuleni-Corabia,

Oltenița-Surlari-Dorobanțu, Ostrov-Pecineaga). The next flood of similar dimension occurred in June-July 2010, and the previous one from the last 20 years in January 1998, but although the duration was the same, it covered a smaller area. Over 15 000 persons were evacuated and apart of the villages also agricultural land was affected. The compartment dams which did not work contributed to the flooding, hence research work on retention without dams is important to prevent future flooding. Three breaks were proposed (Rast, Calarasi – Raul, and Făcăieni – Vlădeni). The one in Rast could not be created by specialists as the Danube made it before. Rast is a village neighbouring Calafat, one of the case studies for DANUrB. The village has been rebuilt at a distance (Rastu nou). The new village is 6 km further and 10.4 m higher. 821 new homes were built and the new village has new facilities. However, some inhabitants remained in the old village for more than 10 years after. Rebuilding after natural disasters is a question of the mental map of the region that the people have created. Reconstruction must be based on tradition, as traditional houses by architect Richard Bordenach showed in Corbeni-Antonești after the flood in Argeș in 1940. In Corbeni, the reconstruction was followed in the communist era by the construction of the Vidraru hydroelectric power plant for greater flood protection, as discussed regarding the Iron Gate and concrete coverage of river courses. Flood protection then became a built structure of cultural heritage.

In the 19th century, at a time when the distribution of media was not as widespread as today, the distribution of natural disaster photos was interesting to the masses. Several famous pioneer photographers photographed the destruction. Today, such images are used in an artistic way to illustrate the transformation of cities over time, how they looked before and then. In this way, new sites after reconstruction can become a heritage-shaped natural phenomenon. The literature was also inspired by floods, for example, the novel by Jókai Móra entitled "Kárpáthy Zoltán" describing the flood of Budapest of 1838..

Retention of water after floods in the natural area is a new approach, and even the former reinforced concrete closings are transformed, and the old branches connected. Apart of the retention basins, more vegetation, especially forests can help against flooding. The aim of these researches is to show that the landscape shaping of rivers is a more efficient protection against floods than transforming them into a concrete channels by cutting away the old wings, as for example in the city of Vienna. The Danube in Vienna, although being in the city, features great natural landscapes of Lobau, part of the Nationalpark Donau Auen (Figure 8.).



8 | TISCHWASSER NEAR JOSEFSTEG AT LOBAU-DONAU-AUEN NATIONALPARK.  
PHOTO BY MANFRED WERNER - TSUI, MAY 2016. SOURCE: WIKIMEDIA COMMONS, CC BY-SA 4.0, [https://commons.wikimedia.org/wiki/File:Nationalpark\\_Donau-Auen\\_Lobau\\_Tischwasser\\_Mai\\_2016\\_03.JPG](https://commons.wikimedia.org/wiki/File:Nationalpark_Donau-Auen_Lobau_Tischwasser_Mai_2016_03.JPG)

The Danube island is a place for leisure activities, included in the Green Belt of Vienna As late as 2013, floods also affected the upper course of Danube in Austria, from the German frontier in Passau, where 3 rivers meet (BLÖSCHL et al., 2013).



Over a long time, research on natural disasters was mainly a collaboration between natural sciences (in the case of water hydrogeology) and engineering sciences (engineering) with some touch of social sciences, but excluding architecture and urbanism. Flood protection issues require interdisciplinarity (Nedvěďová, 2013). With Horizon 2020, in 2014, cultural heritage scientists (i.e., humanities), IT professionals and disaster specialists started working together on protection of cultural heritage against floods. An early outcome in the field was from the workshop "Water: Unite and Divide" in Stresa. Also the course in Japan of the International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM) is bringing together disaster specialists and cultural heritage specialists according to the strategy of ICCROM. For the Danube and the Danube Delta it was an initiative pursued at an exhibition in Romania and the connected publication, including the essay on water ambivalence (Sârbu and Popa, 2013). In the Danube Delta apart of floods also storms may affect the natural landscape (Zăinescu et al., 2017), as it happened in August 2017 on some channels.

## DANUBE NATURAL LANDSCAPES AS A COGNITIVE, EMOTIONAL AND SPIRITUAL DRIVER FOR COMMUNITIES

Natural heritage and scenery along the Danube are hardly untouched by civilisation. Though, there are still places, where Nature shows its original, authentic creation in full, where the interaction between the Man and Nature is a spiritual and cognitive driver for creativity. To illustrate the

cognitive, emotional and spiritual attachment of communities to the Danube's natural landscapes we use the example from the Lower Danube.

Many songs, poems and narratives were written about the "silent white Danube", as Bulgarians call the river. Natural landscapes of the Lower Danube inspired a specific type of folk music and dances of people in the past - joyful, optimistic and dignified. Composers have written solemn classical music, based on the Danube's scenery. Natural heritage landscapes are specifically important for today's people, and what brings integrity and proudness of locals for "their" Danube, are the astonishing sunsets and sunrises on the grand river, which can be observed from various viewpoints (Figure 9.).

These phenomena have a special respect in the amphitheatre city of Tutrakan. There is even a Facebook group with the name of "Tutrakan - the town of sunset", where photos on the sunset are constantly published. The sunset and sunrise natural landscapes are the reasons to organize, each year, July Morning celebrations (called "Julia" by the locals). At the spot with an excellent panorama view on the river and the fiery red sunrise on the horizon, people sing, dance and enjoy the start of summer. With the most famous vocal of the July Morning song being present - the "Uriah Heep" star John Lawton.

Natural landscapes of the Lower Danube, parks, islands and natural sites are a resource for cultural activities, leisure and pleasure. They are a Nature observatory for science, education and training. They are part of the people's identity. The Danube gives them the essence for understanding



9 | SUNSET ON THE LOWER DANUBE NEAR LOM.

PHOTO BY VENTSISLAV04, MAY 2013. SOURCE: WIKIMEDIA COMMONS, CC BY-SA 3.0, [https://commons.wikimedia.org/wiki/File:Sunset\\_-\\_panoramio\\_\(324\).jpg](https://commons.wikimedia.org/wiki/File:Sunset_-_panoramio_(324).jpg)



'who we are'. It provides for continuity of long-lasting traditions in various outdoor activities like biking, walking, camping, or swimming. In the recent years, as part of the Lower Danube Green Corridor, a restoration of the wetland Kalimok Marsh, close to the town of Tutrakan, took place as one of the pilot sites on the Lower Danube, reconnecting it to the river. The project was funded by Global Environment Facility Trust Fund (GEF) of the World Bank under the name of "Wetlands restoration and pollution reduction" and was executed by the Bulgarian Ministry of Environment and Waters. This helped to enhance the biodiversity of the area and to open opportunities for additional economic activities for the locals (e.g. sustainable use of reed as biomass, etc.). This project shows a perfect example for a synergy and symbiosis between Nature and Culture. Kalimok Marsh covers an area of 5771.6 hectares and includes Tutrakan town and seven villages, as well as the Bulgarian Danube islands in this part of the river: Mishka, Malak Brashlen, Pyasachnik, Bezimenen, Kalimok and Radetski, all in the regions of Ruse and Silistra. More than 190 bird species inhabit Kalimok Marsh, including the endangered ones, e.g. Pygmy cormorant, the Glossy ibis, the Little egret, Rufous-necked grebe, Black-necked grebe, Great bittern, Purple heron, Grey heron, Night heron, spoonbill, Great cormorant, Little cormorant, Greylag goose, Ruddy shelduck, Greylag duck, Ferruginous duck, osprey, Black-winged stilt, Thrush nightingale, Little tern, and others. Six bat species with high conservation status were registered, so far. In terms of flora, most of the territory is covered by reed (*Typha angustifolia*) and bulrush (*Shoenoplectus lacustris*), frogbit (*Hydrocharis morsus ranae*), water lily (*Nymphaea alba*), Fringed water-lily (*Nymphoides peltata*), Water caltrop (*Trapa natans*), and others. Writing about fishing and boat legendary village of Tutrakan, we need to tell what kind of fish was and is still living and can be found there. The most remarkable and precious are: the lamprey (*Eudontomyzon danfordii*), the bastard sturgeon (*Acipenser nudiventris*), sterlet (*Acipenser ruthenus*), Atlantic sturgeon (*Acipenser sturio*), Stellate Sturgeon (*Acipenser stellatus*), Russian sturgeon (*Acipenser guldenstaedtii*), Beluga sturgeon (*Huso huso*), burbot (*Lota lota*), wild carp (*Cyprinus carpio*), and some others. They all are an object of special attention and care in our days. Of course, there are plenty of amphibians, especially on the islands. Even a reptile from the Red Book of Species was spotted there. Existing rare species specifically cared for by environmentalists are for example souslik, big hamster, otter, polecat, or ferret. One of the local people's favorite holidays is the feast of the water lilies, held in the middle of June near the Small Preslavets marsh. People come to enjoy the beauty, tenderness and freshness of this wonderful flower (Figure 10.).



10 | WATER LILIES IN THE SMALL PRESLEVETS MARSH.  
PHOTO BY KRASIMIR HRISTOV KIROV – VIATARKO, JUNE 2016.  
SOURCE: WIKIMEDIA COMMONS, CC BY-SA 4.0, [https://commons.wikimedia.org/wiki/File:ZM\\_BLATOTO\\_KRAL\\_S\\_MALAK\\_PRESLAVEC\\_-\\_2016.JPG](https://commons.wikimedia.org/wiki/File:ZM_BLATOTO_KRAL_S_MALAK_PRESLAVEC_-_2016.JPG)

When you walk in nature sites, or sail to the Danube islands, you realise that many people were doing the same for hundreds and thousands of years in the past and will do in the future. New cultures will come, but what will people love and enjoy will be quite the same. We hope that what we now consider important to people will be of equal value to those who come.

## SUMMARY

The chapter highlights the importance of natural landscapes along the Danube, focuses on specific aspects and selected examples of natural landscapes from the Middle and Lower Danube. The Danube Delta is used as an example of the most exceptional values of the Danube natural landscapes, the Slovak-Hungarian section of the Danube and the Iron Gate are used as examples illustrating transformations of natural landscapes by human activities, focusing on protection against floods and the hydro-energetic use of Danube waters. The natural phenomenon of floods is discussed in its duality – on one side as an important and vital element for floodplain natural ecosystems, on other side as a destructive threat to cultural landscapes. Danube natural landscapes are the landscapes where the values of natural heritage are closely interwoven with the cultural heritage values and where the tangible and intangible heritage values are blended together. In the last part of the chapter the examples from the Lower Danube are given to illustrate the cognitive, emotional and spiritual attachment of communities to the Danube's natural landscapes.

# REFERENCES

BLÖSCHL, G., NESTER, T., KOMMA, J., PARAJKA, J., and PERDIGÃO, R. A. P., 2013. The June 2013 flood in the Upper Danube Basin, and comparisons with the 2002, 1954 and 1899 floods. *Hydrology and Earth System Sciences*, 5197-5212, 17, pp. <https://doi.org/10.5194/hess-17-5197-2013>

BOSTENARU DAN, Maria and DILL, Alex (eds.), 2018. Water as hazard and water as heritage. KIT Scientific Publishing, Karlsruhe, 106 p.

BOSTENARU DAN, Maria and GHEORGHE, Doncean, 2015. Workshop summary: Floods, state, dams and dykes in modern times: Ecological and socio-economic transformations of the rural world, *Web Ecology*, 15 (1), pp. 29-31. <https://doi.org/10.5194/we-15-29-2015>

CALCIU, Daniela, 2018. Waterways as carriers of arts and repositories of heritage, In: Bostenaru Dan, M. and Dill, A. (eds.), 2018. Water as hazard and water as heritage. Karlsruhe: KIT Scientific Publishing, pp. 61-62.

DIETERLE, Jan, 2016. Risikolandschaft Oberrhein. Hochwasser und Klimawandel als räumlich-strukturelle Herausforderung für die Landschaft am Oberrhein, doctorate thesis, Karlsruhe Institute of Technology.

FLOREA, Alina Ionu a, 2013. Locuirea de urgen ă, Doctorate thesis, Bucharest: "Ion Mincu" University of Architecture and Urbanism.

HĂRMĂNESCU, Mihaela, 2017. Cultural Heritage and Disaster Risk in Danube Delta Biosphere Reserve, Romania Proceedings of UNESCO Chair Programme on Cultural Heritage and Risk Management, International Training Course (ITC) on Disaster Risk Management of Cultural Heritage Ritsumeikan University 10 Years Anniversary Symposium, eds. JIGYASU, R., KIM, K., Kyoto: Institute of Disaster for Urban Cultural Heritage, Ritsumeikan University, pp. 86-92. [Accessed 03.02.2019]. Available at: [https://r-dmuch.jp/en/results/dl\\_files/Proceedings\\_of\\_ITC\\_2016.pdf](https://r-dmuch.jp/en/results/dl_files/Proceedings_of_ITC_2016.pdf)

HUBA, Mikuláš, 2017. Z histórie paradigmatického sporu o budúcnosť prírody a krajiny Podunajska. *Forum Historiae*, 11(1), pp. 141-161.

JOKLOVÁ, Viera, FURDÍK, Juraj, 2015. Nábrežné stratégie v Bratislave-Petržalke. *ALFA*, 20 (3), pp. 58-67.

LISICKÝ, Mikuláš Juraj, 2001. Expertné vyjadrenie k optimalizácii vodného režimu ramennej sústavy z hľadiska prírodného prostredia. In: LISICKÝ, M. J. and MUCHA, I. (eds.): Optimalizácia vodného režimu ramennej sústavy v úseku Dunaja Dobrohošť – Sap z hľadiska prírodného prostredia. Prírodovedecká fakulta Univerzity Komenského v Bratislave, 205p.

LISICKÝ, Mikuláš, 1988. Dunajské vodné dielo očami ekológa. *Vesmír*, 67(7), pp. 394-401.

NEDVĚDOVÁ, Klára, 2013. Cultural Heritage and Flood Need of Interdisciplinarity, *Journal of Water Resource and Protection*, 5(4A), pp. 21-24. doi: 10.4236/jwarp.2013.54A004.

NEM EANU, Ruxandra, 2011. Trajan’s bridge at Drobeta-Turnu Severin built by the architect Apollodorus, *Caietele Ara 2*, pp. 113-126. [Accessed 03.02.2019]. Available at: [http://www.simpara.ro/editura/Caiete\\_ARA\\_2/10\\_Caiete\\_ARA\\_2\\_Ruxandra\\_Nemteanu.pdf](http://www.simpara.ro/editura/Caiete_ARA_2/10_Caiete_ARA_2_Ruxandra_Nemteanu.pdf)

OSACI-COSTACHE, Gabriela and ARMAȘ, Iuliana, 2016. Lost Landscapes: In Search of Cartographic Evidence. In: Boștenaru Dan, M., Crăciun, C. (eds.) *Space and Time Visualisation*. Springer, Cham, pp. 35-62. doi 10.1007/978-3-319-24942-1\_3.

SÂRBU, Cătălin and POPA, Andreea (eds.), 2013. Development opportunities for areas related to the Danube and the Danube Delta, Bucharest: Editura Universitară "Ion Mincu".

SAUER, Carl Ortwin, 1925. The Morphology of Landscape. University of California Publications in Geography, 2(2), pp 19-53.

VĂIDIANU, Maria-Națaș, 2013. Fuzzy cognitive maps: diagnosis and scenarios for a better management process of visitors flows in Romanian Danube Delta Biosphere Reserve. *Journal of Coastal Research*, 65. pp. 1063 – 1068. <https://doi.org/10.2112/SI65-180.1>.

ZĂINESCU, Florin I., TĂTUI, Florin., VALCHEV, Nikolay N. and VESPREMEANU-STROE, Alfred, 2017. Storm climate on the Danube delta coast: evidence of recent storminess change and links with large-scale teleconnection patterns. *Natural Hazards*, 87(2) pp. 599-621. <https://doi.org/10.1007/s11069-017-2783-9>.

<http://www.ddbra.ro/en/danube-delta-biosphere-reserve/danube-delta>

Projekt Guttenberg.

LIFE for Danube Sturgeons, <https://danube-sturgeons.org/>. The project “Sustainable protection of lower Danube sturgeons by preventing and counteracting poaching and illegal wildlife trade” is coordinated by WWF Austria and implemented by WWF in Austria, Bulgaria, Romania, Serbia and Ukraine, together with Danube Delta Biosphere Reserve Authority in Romania and IZW Leibnitz Institute for Zoo and Wildlife Research in Germany. It started in October 2016 and will continue until the end of 2020.

The remnants of the bridge built by Apolodor of Damascus on the Danube for this fight are still remaining in this area, see NEM EANU, Ruxandra, 2011. Trajan's bridge at Drobeta-Turnu Severin built by the architect Apollodorus, Caietele Ara 2, pp. 113-126.

As noted by Bostenaru and Dill, the duality of water is well illustrated in Oriental philosophy, where it represents winter. Apart of the Ying-Yang significance, the elements are also connected to seasons. See BOSTENARU DAN, Maria and DILL, Alex (eds.), 2018, 106 p. The reference includes a presentation of waterway (between Eastern Europe and Dalmatian coast, in a Getty seminar on Connecting Art Histories) as carrier of heritage in case of coffee, by CALCIU, Daniela, 2018, pp. 61-62, looking to how the Danube connects South-eastern Europe.

The project Eau comme patrimoine, under the EU CULTURE scheme, including also the Danube city of Brăila in Romania. A publication is available online at [https://www.academia.edu/36418253/2017\\_Eau\\_comme\\_patrimoine\\_Gouvernance\\_et\\_projets\\_urbains\\_et\\_du\\_paysage\\_dans\\_la\\_gestion\\_des\\_transformations\\_des\\_territoires\\_des\\_deltas\\_in\\_.pdf](https://www.academia.edu/36418253/2017_Eau_comme_patrimoine_Gouvernance_et_projets_urbains_et_du_paysage_dans_la_gestion_des_transformations_des_territoires_des_deltas_in_.pdf)

And was a subject of the doctorate of FLOREA, Alina Ionuța, 2013, “Ion Mincu” University of Architecture and Urbanism, Bucharest.

This approach has been explored in a project about the Danube in 2015 and there was a workshop at the New Europe College presenting the results, together with an excursion to the Danube in the vicinity of Giurgiu, see BOSTENARU DAN, Maria and GHEORGHE, Doncean, 2015, pp. 29-31. The workshop was a result of the project „Taming the Postsocialist Nature: Floods, Local Strategies and National Policies along the Lower Danube”, see <https://www.researchgate.net/project/Taming-the-Postsocialist-Nature-Floods-Local-Strategies-and-National-Policies-along-The-Lower-Danube>. The same dimension of natural retention of flood water is shown in the doctorate of Dieterle, dealing with landscape design and planning strategies against risks associated to the Rhine. See DIETERLE, Jan, 2016.

In 2016 Mihaela Hărmănescu participated in one featured course of the ICCROM held in Japan presenting the climate change risk mitigation to the Danube Delta at the edition called „Protecting cultural heritage from climate change induced disaster risks.” See HĂRMĂNESCU, Mihaela, 2017. pp. 86-92.

**Acknowledgments**  
We thank students Elis Minea and Ana-Maria Anghel from the Master Urban design for their help in the gathering of the data for the part on Floods along the Danube.

# DANUBE'S TWIN CITIES

## KEYWORDS:

Twin cities,  
Upper Danube,  
Middle Danube,  
Lower Danube,  
Morphology,  
Urban fabric,  
National border

The settlements on the Danube were founded on one of the banks of the river. Over the centuries, the inhabitants have been benefiting from the water and the main influence shaping its structure, development and heritage has been the meeting of the river and the background landscape.

In some places, however, the townspeople are not looking at the natural landscape beyond the watercourse, because cities have settled on both banks of the Danube. These urban patterns are called Twin Cities in our study, regardless of whether the development of the two settlements is balanced or whether they belong to the same administrative, nation-state entity (Clarke, 2011, Self-Pierson, 2012).

Possibility to crossing the watercourse, the transversal traffic has accelerated the urbanization of the Twin Cities, highlighting them from the points of the city network. At the same time, the Danube as natural border, and even more the national boundaries, had influenced the development of the two halves of the Twin Cities, creating special situations, whether we consider accessibility, the Danube-identity, or the protection and valorisation of tangible and intangible heritage. The Danube Strategy, and within this, the DANURB Program allows us to rethink in an integrated way on the whole Danube region the role of this underused heritage in the identity and external image.

The most important crystallization points for the analysis and strategy are Twin Cities, where infrastructure and historical connections mostly allow immediate action. Because of these reasons, we attempt in our study to characterize the development and special actual conditions of Danube Twin Cities.

## CITIES ON THE DANUBE

The first city network along the Danube was founded by the presence of the Roman Empire, where the crossing of the imperial road network and the protection of the limes created urban nodes. Although most of these nodes forever submerged, some of them re-emerged in the urbanization of the Middle Ages as the Danube became a city-forming factor again. Casta Regina, Lauricanum, Vindobona, Arrabona, Aquincum, Singidunum, Novae were reborn as Regensburg, Linz, Wien, Győr, Buda, Belgrade and Ruse.

From the 11th century, the Danube became one of Europe's largest transport, migration, trade and military corridors, which determined the urbanization of river settlements. For centuries, shipping was the only way of transporting large-scale goods at long distances, and therefore, navigable rivers have become the main arteries of Europe's internal trade. In peacetimes goods, in war-times armies were moving along the river, and the settlements with favourable berths developed into cities (Miskolczy, 1926). The enrichment also attracted the power centres, so for example the Hungarian royal seat was transferred from Székesfehérvár to Buda and Visegrád.

However, the opportunities for international river trading weren't equally distributed along the Danube. Combination of flow direction, the shores morphology, valuable goods of the background regions, political stability defined the positional energy of the Danube cities, also their development perspectives. Based on these, we can divide the medieval trade corridor of the Danube into approximately three sections.

The Upper Danube showed the characteristics of mountain rivers with its rapid flow and a mostly constant riverbed. From Ulm, many river boats („Zill”) supplied important goods for the lower regions: first salt and building timber. However, the river cut off the main land routes of the European salt trade, so crossing possibilities became soon important. The narrow bed allowed the construction of wooden bridges, but there were regularly damaged by flood and ice braking. Richest merchants of

Regensburg financed the oldest stone-bridge, the Steinerne Brücke on the Danube in 1135-1142. Thought permanent bridges, lively commerce and the relativ tranquility provided by the German-Roman Empire made the Upper Danube region the cradle of European urbanization. Based on the 18th century maps (MAPIRE), in Regensburg and in Linz developed already Twin Cities on both bridgeheads. In others Danube cities, as in Ulm, primarily military fortifications started to occupy the other side of the river.

After the Inn's estuary, the yield of the Danube is doubled. Until the 19th century there were no permanent bridges on the Middle Danube. Parallel traffic to the river was much more important than transversal traffic, therefore settlements were strengthened at important harbour sites at the mouth of tributaries. The Danube valley served as regular military route for the invading Turkish armies, hindering the development of an urban network. The first permanent steel bridges, mostly parts of the Austrian-Hungarian Empire's railway network, were inaugurated on the end of the 19th century and accelerated the existing urbanization processes, like in the case of Budapest or created new foci of urbanization, like at the development of Sturovo on the bridgehead linking Esztergom to the Budapest-Wien railway line.

The water of the Drava, Sava, Tisa and Moravia double once more the yield of the Danube. The alluvial river's bed, sometimes several kilometres wide, made for long time impossible to build permanent bridges. However the Turkish Emperor's policy supported the construction of pontoon bridges, like in the case of Belgrade and Novi Sad, these temporary structures contributed little to the urbanization of both shores and to the birth of a balanced urban fabric. Cities of the lower Danube, like Ruse, Giurgiu, Calafat, Vidin, Catarasi and Silistra lived independently the intensive urbanization period of the industrial revolution, relying mostly on their own economical and regional sources. Bridges were realized only in the decades of the Soviet influence, like the Friendship Bridge in Giurgiu-Ruse. Their placement followed the logic of the international trade linen, out of the existing urban infrastructure. Peripheral situation on the national border, the crisis of the socialist industry in the nineties set this



settlements on shrinking paths. Strengthening cross border links, forming new Twin Cities can contribute to the viability of those cities and their economic upswing.

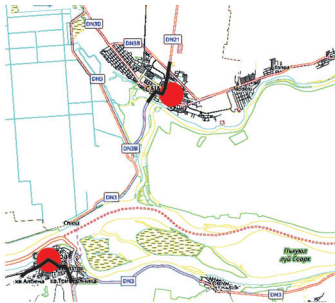
## MORPHOLOGICAL STRUCTURE

Cities on the Danube shores show mostly the same typical urban structure: at the point of crossing possibility – bridge, pontoon, or port – the road – following the river normally in a safe distance – turns to the watercourse. At the intersection of the three axes - the two branches of the river road and the axis leading to the crossing – there is situated the nucleus of the city, the later administrative centre.

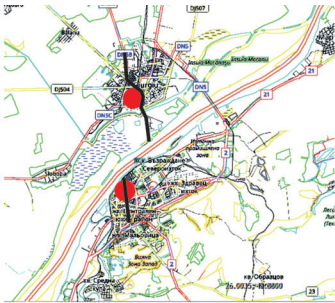
Twin Cities do have a common spatial origin, being developed in the same sub-river Danube basin, in quite similar geomorphological conditions and, partially, in similar historic circumstances (Habersack, 2013). For example, Giurgiu and Ruse were initially strategic military forts, and at different times in their history they were part of the same political organization or fight by opposite positions. From the 18th century, they developed separately from the central point near the medieval site. Both cities have an initial semi-radial road structure, which is a very common situation for a large part of the Danube region .

However, the Twin Cities similarities are highly influenced by the topographical conditions and the main Danube coastal landscape. The difference between an almost flat country (such as Vienna, Komarno, Pest, Novi Sad, Giurgiu, Calafate, etc.) or a higher country (such as Krems, Bratislava, Esztergom, Buda, Ruse, etc.) brought significant differences for the initial state of twins. Nevertheless, the real macro form of all partner cities reflects a compact order and a strong (semi) central or tentacle orientation at the starting point of development.

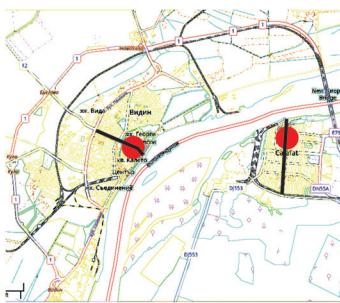
The typical relationship between the street's network and the water banks enlighten a specific morphological pattern based on the main orientation to the river and the resolution of land fragmentation (Schirmer, 2016). Whether it is flat or descending to the water, the physical connection of the city's main centre with the river banks is proving an organic position (tangent or intersecting), from which the growth of urban fabric marks a certain symmetry, as balance of the urban structure towards this axis. In almost all the Twin Cities analysed, this structural and significant axis mirrors the way in which, during history, different factors and political decisions have determined mutations in this balance, on one side or another. We could say that the man-made axis over the Danube created by the twin settlements is the framework of a (necessary) balance for their development.



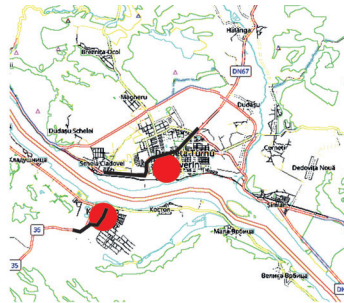
CALARASI - SILISTRA



GIURGIU - RUSE



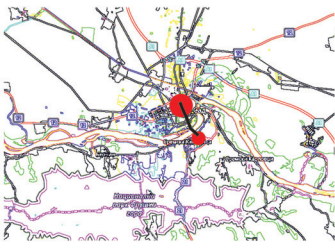
CALAFAT - VIDIN



DROBETA TURNU SEVERIN - KLADOVO



BELGRAD



NOVI SAD



BUDAPEST



KOMARNO - KOMAROM

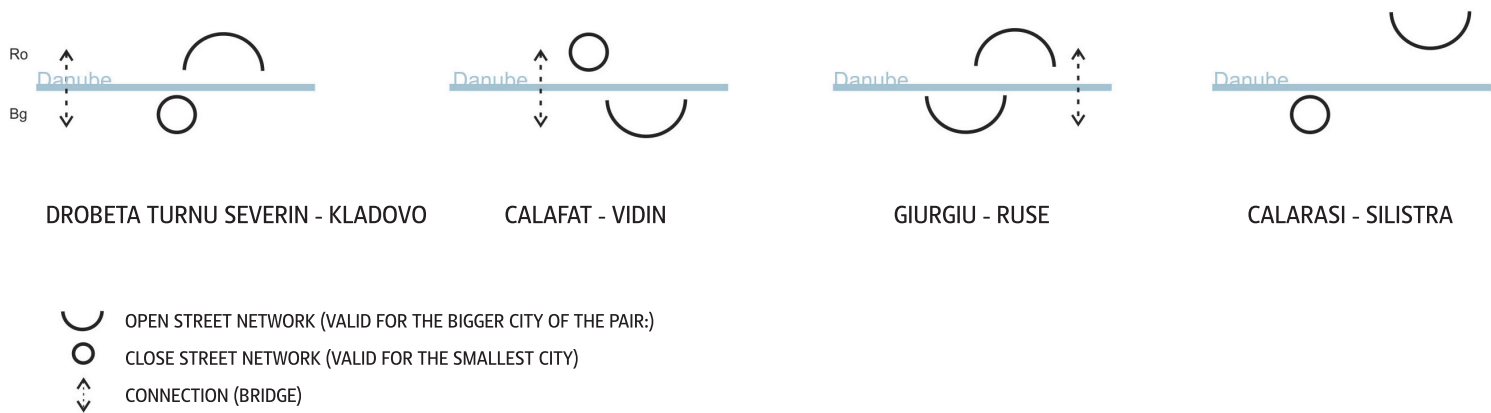
1 | COMPARATIVE TWIN CITIES, SHOWING THE MAIN AXIS OF THE STREETS NETWORK AND THE MAIN CENTRAL AREA POSITION TO DANUBE.  
SOURCE: THE AUTHORS.

Direct riverside elevations were particularly suitable to control ship traffic, so they were fortified from the Middle Ages such in the case of Esztergom, Buda, Novi Sad, Giurgiu or Ruse. Some of them strongly influenced the morphology of the city developing at their feet. However, until the 19th century river regulation, only a few settlements could settle directly on the banks of the river. In the most cases of flatland cities, the urbanization of the watercourse areas after the river regulation resulted in the separation of the historical city core from the Danube by a monofunctional, mostly industrial, today often undervalued buffer, with planned street structure, like for example in Komarno, Baja or Ruse. Today, these areas shape the Danube landscape and give space to the elements of the built heritage to valorise in DANUrB project.

The Danube bridges' construction often modified the main structure of the historic cities. Since their location was more determined by water engineering, rail network or interregional road network requirements, they generated a displacement and transformation of the urban fabric. On the Middle Danube, where the bridges were built in the 19th century, a

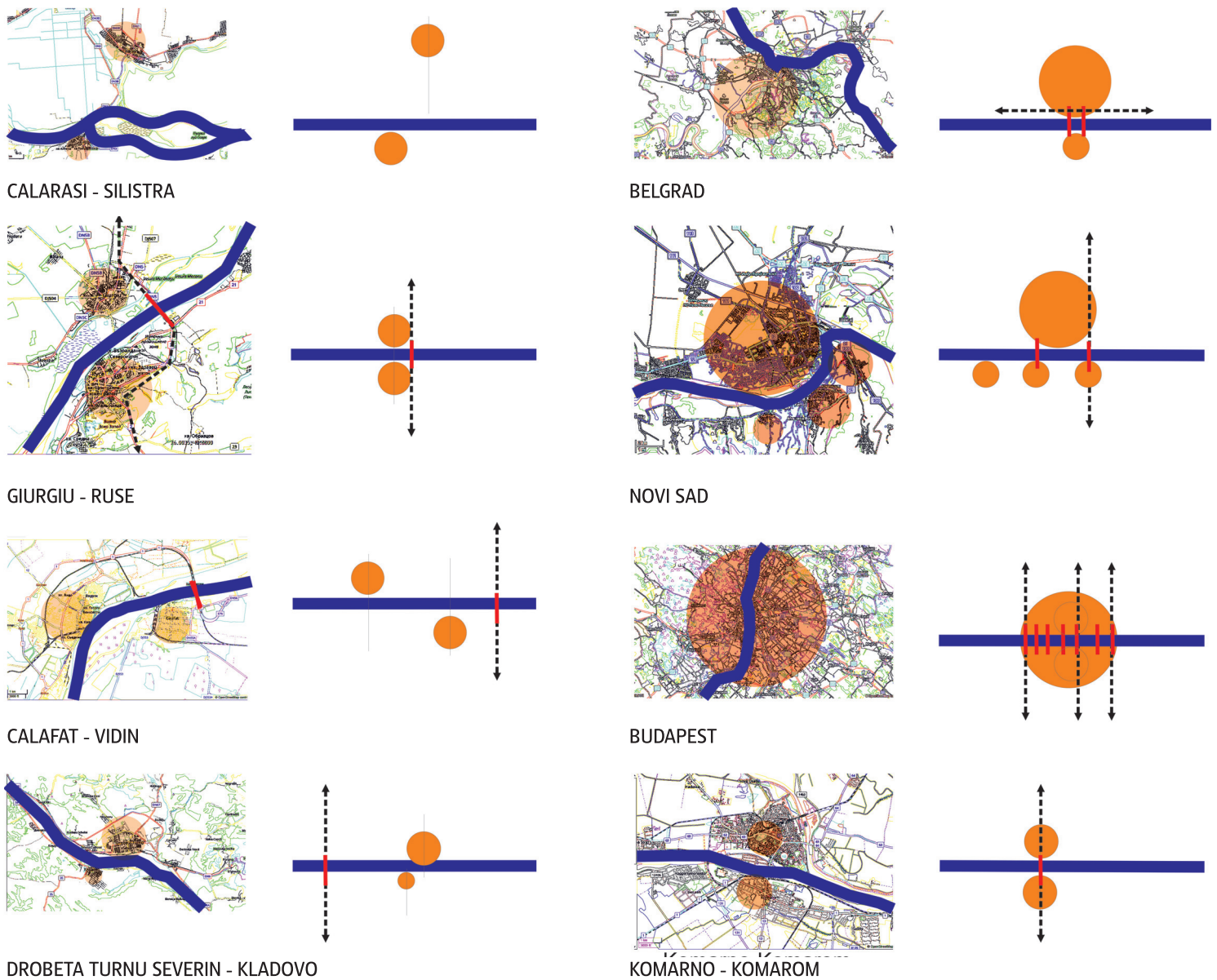
turbulent phase of urban growth, the town's body was shifted to the new connection, such in Budapest or developed a new urban focus such in Štúrovo. On the Lower Danube, where the bridges were built after the Second World War, the city's territorial growth was often unable to integrate the new structural element such in Drobeta Turnu Severin or Giurgiu, where the bridges over Danube still remain outside elements of the cities themselves.

TWIN CITIES - RELATION BESIDE DANUBE



2 | COMPARATIVE SCHEMES OF THE TWIN CITIES POSITION AND THE IMPACT OF BRIDGE AS STRUCTURAL AXIS FOR THE BALANCED PATTERN OF DISPOSAL. SOURCE: THE AUTHORS.

Even if they have developed very different, and became more and more separated through political and socio-economic contexts, the Danube Twin Cities kept prominent inside similarities. This comes from a deeper understanding of the resource represented by the Danube's water for economic activities, but also mirrors the people's intelligence of preventing flood risks. The urban street structure of these cities shows several qualities, as the direct orientation toward the water bank, the complex geometry of longitudinal profiles, the street network hierarchy and the existence of a main axis getting direct to Danube shore, and connecting important / representative points of interest. The morphological symmetry of the Twin Cities looking to each other is not very evident in terms of geometry of the streets composition, but more in the balance of the built mass, and in the landscape visual structure. (Haidvogel et al, 2013).



3 | DIFFERENT STEPS IN DEVELOPMENT PATTERN IN THE CASE OF GIURGIU - RUSE - THE IMPORTANT ROLE OF THE BRIDGE IN RE-ORIENTING THE URBAN FABRIC. SOURCE: THE AUTHORS.



## DANUBE AS A NATIONAL BORDER

The crossing of the Danube was a major obstacle in the course of history, so the river functioned as a natural border and often became the administrative boundary of countries and empires. The border situation could mean a development impulse for the Danubian cities, as in the case of the longest limit on the Danube, the limes, but it could also hinder the connections and create significant differences in development on the both sides of the river.

However, the significance of the state borders has become determinative since the 19th century, the formation of nation states. On the one hand, this is the era of the construction of large infrastructure networks - railways, bridges, ports, and later motorways - that have developed in national logic. The border towns are often in marginalized position in the emerging urban development policy. On the other hand, the official national languages, national currencies, the customs rules introduced, the difficulty or prohibiting of crossing the border cut the existing economic and cultural ties.

Most of the Middle Danube was historically part of the same realm – the Austro-Hungarian Monarchy. This allowed relatively integrated development to commence on both sides of the river. Take the example of Buda, Pest and Óbuda now conjoined as the capital of Hungary, where three historically divergent towns were slowly able to meld themselves into an integrated and competitive whole. Nevertheless, the territorial changes of the 20th century came as great ruptures. In 1918, the Monarchy exploded into a multitude of successor states, the Danube often forming the boundary. World War II and the peace treaties after it further reshaped the region, and so did the socialist takeover in most of the Danubian countries. Riverine borders that had not even existed before 1918 became hardened after 1948, border crossing became rare or even impossible, and the Twin Cities of the Danube often became orphans.

Since then, these separated Twin Cities have often developed along radically different trajectories. Integrated into different national economies, the twins react to their own country's local economy, developing capacities that suit their own environs. They turn away from the river and their twin, focusing on their own environment and perhaps their (different) capital cities. Most often, infrastructure also prioritizes these new connections. Motorways towards the capital become the lifeline, while bridges between the twins are either depreciated or missing. Railways usually lead into the country, seldom used to connect the two twins.

For example Štúrovo, having spent centuries as Esztergom's smaller, cross-river twin brother, found itself on the different side of the Danubian border between Hungary and Czechoslovakia after World War I. This situation was further exacerbated by the complete loss of the Mária Valéria Bridge connecting the two in 1944. After decades of underdevelopment, Štúrovo was reinvented in the 1950s as an industrial town. The new factories tied it to the Czechoslovak national economy, whereas relations with Esztergom and Hungary in general remained minimal. Reconnection only began after the fall of socialism, and especially 2001, the rebuilding of the bridge (Szabó et al, 2018).

In the case of Komárno and Komárom, the Slovak side has been historically dominant. After the forced separation of the two communities, Hungary scrambled to reinvent Komárom. Connecting historically separate riverside municipalities, a new town was born on the Hungarian side of the river, creating administrative and economic capacities. Even though the bridge remained, its crossing was widely discouraged. Even after the fall of the socialist bloc, transport options between the two sides remained rare. Although border posts and border control have been slowly dismantled, the integration of the Twin Cities moved slowly.

Similarly, on the Lower Danube, for example between Giurgiu and Ruse, although both cities have been part of the former communist bloc, there were only a few administrative or economic links. Being both industrial ports on Danube, there was a competition and the links were especially commercial, not being physically present into the urban structure and life.

Instead, after 1990, at the level of everyday social life, of small trade and minor cultural exchanges, there were (and still are) encouraging ties that go beyond (not sufficiently friendly) national borders, or the language and culture differences between the two cities. The accession of Romania and Bulgaria to the EU has brought excellent value to these links, which has begun to manifest itself in territorial and landscape planning through participation in joint projects such as DANUrB.

Thankfully, EU support allows for a possible restart of the Twin Cities' development, making boundaries pervious and supporting the reconstruction of cut infrastructure elements, the integration of economic and cultural policies. At the same time, there is a rupture between the vision of development contained in the Danube's European Strategy, having a strong integrating character, and the local strategies of the medium and small Danube towns, centered more on strengthening of local identities and the survival of internal values. At the new Schengen border sections, Twin Cities such Ilok and Backa Palanka are facing a new disintegration.

## DANUBE TWIN CITIES DEVELOPMENT

Summarizing, cities on the upper, middle and lower sections of the Danube can be considered as in historical stages of the development to Danube Twin Cities. While Twin Cities on the Upper Danube have now become economically and culturally homogenous settlements, the current task of the cities on the Middle Danube is to re-integrate the economic and cultural space along a more or less complex infrastructure network. In the 21st century, when massive supply chains override national borders, the Twin Cities have to react to this development positively. Integration - that is, logistic parks, cross-border attendance, but also cultural cooperation - is needed to maintain or regain economic success. The development and administration of the twin cities thus have to be made compatible to create an environment facilitating success.

The true integration of the Lower Danube Twin Cities is made impossible by the lack of bridges, the poor economic situation, demographic problems that sometimes multiply the difficulties of national borders. For these separate cities, the Danube landscape works as a link for the cities themselves. They can stay in close contact through their common country, because the bank landscape one city is looking at is actually the bank of the other city. The river area can therefore be seen as a disruption to the continuity of urban development, which offers the possibility of seeing the land of the other side from a considerably distant view. This scenery is part of the "open-water" twin city atmosphere, because there are two different tasks that every city takes at the same time, always in connection with its twin, but never with itself: "the viewer" and "the viewed". This is the paradox for "open-water" twin cities: the landscape offered by one city bank that is admired is the silhouette of the other partner city.

The goal of DANUrB is to discover, organize and valorise the unused elements of the Danube heritage and promote a network of local communities that benefit from these places. The Danube Twin Cities are obvious places in this network. Utilizing the benefits of a historical relationship, common traditions and visual contacts, we reinforce already integrated processes or anticipate the future.

# REFERENCES

CLARKE, Nicole. 2011.Town Twinning in Britain since 1945: A Summary of findings. School of Geography, University of Southampton, 201p.

HABERSACK, Helmut , JÄGER Elisabeth and HAUER Christoph. 2013. The status of the Danube River sediment regime and morphology as a basis for future basin management. International Journal of River Basin Management. 11(2), pp. 153-166.

HAIDVOGL, Gertrud et al. 2013. Urban land for a growing city at the banks of a moving river: Vienna’s spread into the Danube island Unterer Werd from the late 17th to the beginning of the 20th century. Water History, 5, pp. 195–217.

MAPIRE: Európa a XVIII: században. [Accessed 20.02.2018].  
Available at: <https://mapire.eu/hu/map/europe-18century-firstsurvey/>

MISKOLCZY, István, 1926. A középkori kereskedelem története Budapest: Szent István Társulat. 226p.

SELF-PIERSON, Rob, 2012. Is there a point to twin towns? The Guardian. [Accessed 04.02.2018].  
Available at: <https://www.theguardian.com/commentisfree/2012/apr/30/is-there-a-point-to-twin-towns>

SCHIRMER, Patrick M. and Axhausen, Kay W. 2016. A multiscale classification of urban morphology. Journal of Transport and Land Use, 9(1), pp. 101-130.

SZABÓ Julianna, FONYÓDI Mariann, KISSFAZEKAS Kornélia, LOCSMÁNDI Gábor, ORBÁN Annamária and SZABÓ Árpád. 2018. DANUrB Esztergom-Štúrovo Municipal Report. Budapest: BME Urbanisztika Tanszék.





## KEYWORDS:

Spatial connectivity,  
Transport networks,  
Heritage accessibility,  
Public space network,  
Danube region,  
DANURB

## SPATIAL CONNECTIVITY AND ITS IMPORTANCE FOR EUROPE

The Danube - the second longest river in Europe, of 2,858 km length - crosses 10 countries with various historical, cultural, political and economic evolutions and features. In this territorial context, the river plays both the role of a separating physical boundary, largely placed on frontiers segments, and of a common denominator, a natural entity that provide fluvial landscape and accessibility across the entire European corridor it crosses. The latter two assets are partially capitalized by some of the localities along the river, but they are still little exploited resources, especially in the eastern territories along the Danube course, development of which was hampered by the geo-political and economic context of the second half of the 20th century.

The opportunity to capitalize on the fluvial landscape and on the cultural and material heritage of the riparian localities shows a high potential for liveability and tourism development along the Danube corridor. The achievement of this objective is based on two main directions for action:

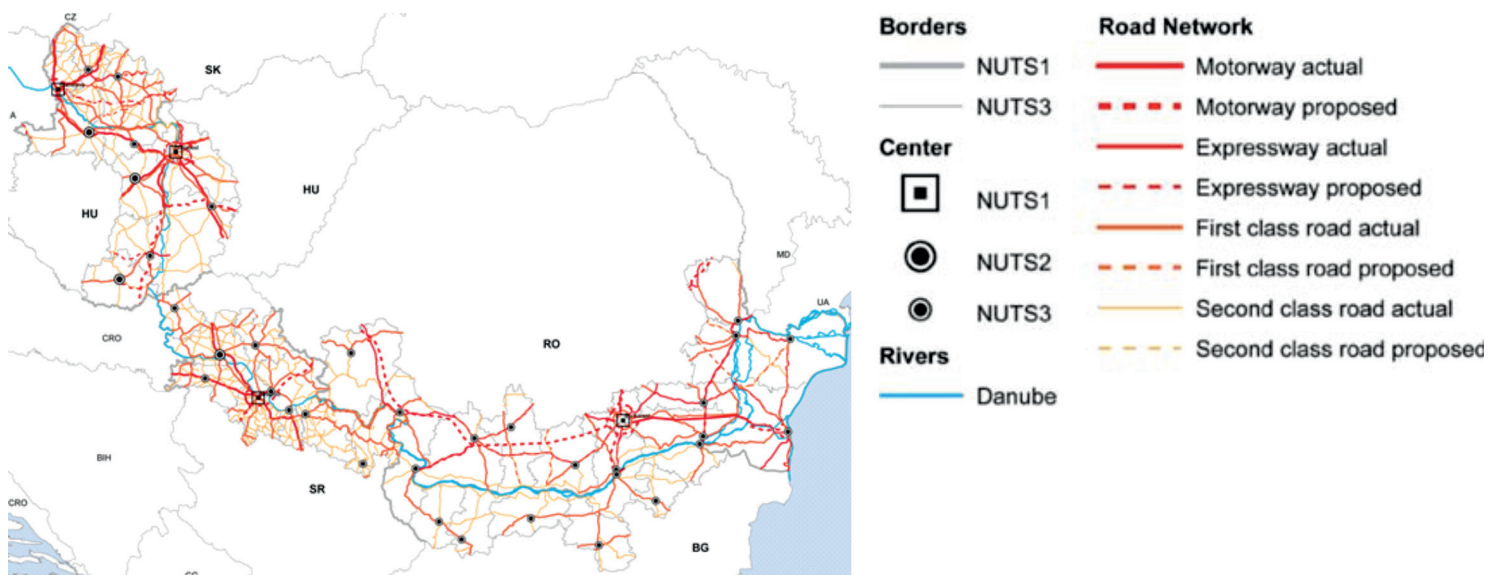
1. Ensuring good territorial accessibility of the localities, as well as ensuring good regional and local accessibility to the touristic objectives (Walter/Hansen 1959).
2. The development of a more diversified touristic offer, complementary to the one made up of the local patrimony (e.g. accommodation, leisure, business infrastructure)

One of the challenges that need to be achieved in order to perform these two actions includes the establishment of good connectivity at different spatial levels, as well as and in relation to different aspects. In general, the term connectivity is the state of being connected or interconnected. On the other side, "to connect" mean to "bring together or into contact so that a real or notional link is established and to join together so as to provide access and communication" (Oxford living Dictionary 2018). From the aspect of transport, where this term is intensively used connectivity refers to the density of connections in path or road networks, and the directness

of links. A well-connected network has many short links, numerous intersections, and minimal dead-ends. As connectivity increases, travel distances decrease and route options increase, allowing more direct travel between destinations, creating a more accessible and resilient system." (Victoria Transport Institute 2017). Accessibility (or just access) mainly refers to the ease of reaching goods, services, activities and destinations, which together are called opportunities (Hansen 1959; Engwicht 1993) and the city gates as both technological-transport hubs as well as public spaces with strong identity.

Considering the Danube Region, Danube stretching from the Black Forest (Germany) to the river's delta in the Black Sea (Romania) is a connection in itself between EU and the regions of Caucasus and Central Asia. On the other side if we look at the connectivity as one of the criteria by which we can measure the spatial development of a certain area, it can clearly indicate significant differences.

By simply comparing the density of the network (see Figure 1.) of motorways, expressways, first and second class roads (Donauregionen+ 2012), it is possible to notice the differences between the west, central and eastern part of the Danube region, which also coincides with sections which are ascending as upper, middle and lower Danube (see Figure 2.).







This was presented in the Danube regions project report (2012) in which 19 cross Danube regions CDR) were separated and further explored. Every CDR was analysed using the same methodology and each of them was given a strategy that included the theme of transport and technical infrastructure. Considering the aspect of connectivity, as an illustration, on the example of CDR07 Pécs-Szekszárd-Baja-Osijek-Sombor, (see Figure 3.).



3 | THE CDR NO. 07 PÉCS - SZEKSZÁRD - BAJA - OSIJEK - SOMBOR. SPATIAL DEVELOPMENT PROPOSAL. SOURCE: DONAUREGIONEN+,2012.

which lies on the territory of three countries (Hungary, Croatia and Serbia), it was found that it has excellent geographical position for logistics and good accessibility, transport infrastructure for all existing means, but there are bad conditions existing railroad network and second class roads, multimodal transport infrastructure is underdeveloped and the use of waterways is insufficient.

The entire Danube region is traditionally divided in three inner regions (see Figure 2.) in accordance with natural borders and limits. The main division elements are mountains that intersect the river. Carpathian Mountains interrupt the flow of the Danube in both cases. Therefore, the upper Danube region encompasses the Danube from its source in Black Forest to Bratislava, where the westernmost hills of Carpathians touch the river. The middle region is between this, westernmost point and the southernmost point of Carpathians, divided by the Iron Gates/Derdap gorge. The lower Danube region includes the region leaning to lower section of the river, from the Iron Gates Gorge (Figure 4) to its confluence into Black sea, with the length more than 1,000 km. The river in this section is characterised by significant width; the river is several-kilometre wide in some parts. Additionally, the Danube passes through Wallachian Plan and has a very small average gradient, which is approximately 0.00003% per km (ICPDR,

2002). Hence, riverside is usually a wetland, with often floods. This is in sharp contrast to its middle and, particularly, upper part, where river is narrower and with bigger average gradient.

For the purpose of the research of connectivity, this region is a bit changed, i.e. prolonged till Belgrade as an upper point. In this way, the coverage of the 'customised' lower Danube region adequately corresponds to the history related to the river connectivity. The part of the Danube from Belgrade to its confluence mainly follows national borders. In early modernity (16th-19th century), this was a border between Habsburg and Ottoman interest spheres (Jeftić and Šarčević 2012; Vezenkov 2017). In particular,, the Danube was a border between two civilisations for centuries because this long-standing political division was deeply reflected into different social, economic and cultural customs and patterns (Tracy, 2015), (see Figure 4.).



4 | THE IRON GATES GORGE, THE LARGEST ON THE DANUBE, IS THE MAIN PHYSICAL BOUNDARY BETWEEN MIDDLE AND LOWER DANUBE SECTIONS. AUTHOR: B. ANTONIĆ.

The role of border was preserved even after the retreat and collapse of these empires in the late 19th and early 20th century; the most of the section of Lower Danube coincides with the national borders between Serbia and Romania, then Romania and Bulgaria and, finally, Romania and Ukraine (Vezenkov, 2017). This position of the Danube as the overall 'limit' and 'boundary' in space has had profound consequences on connectivity at all levels: state, regional and urban level (Đukić and Antonić, 2017). Finally, this can be clearly proved by the number and frequency of bridges across the Danube in these three established regions by the following table:

THE DANUBE REGION	LENGTH (in km)	INCLUDED COUNTRIES (number of bridges)	NUMBER OF BRIDGES per country	NUMBER OF BRIDGES	FREQUENCY (One bridge/km)
Upper Danube Region	890	Germany	115	163	5.46
		Austria	48		
Middle Danube Region	718	Slovakia	7	38	18.9
		Slovakia-Hungary	5		
		Hungary	17		
		Croatia-Serbia	4		
		Serbia till Belgrade	7		
Lower Danube Region	1,172	Serbia from Belgrade	2	9	130.2
		Serbia-Romania	2		
		Romania-Bulgaria	2		
		Romania	3		
		Romania-Moldova	0		
		Romania-Ukraine	0		

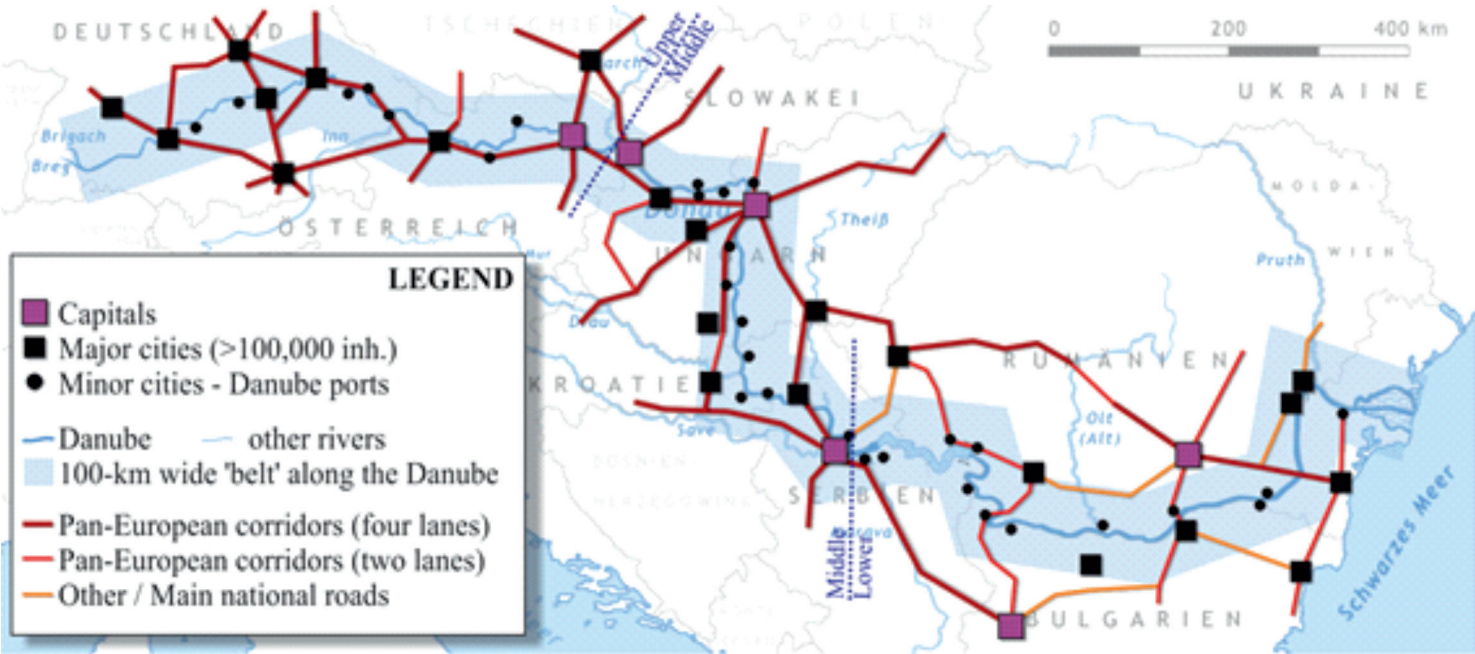
5 | THE NUMBER AND FREQUENCY OF EXISTING BRIDGES (INCLUDING THOSE WITHIN DAMS) CROSSING THE DANUBE. SOURCE: GOOGLEMAPS, 2018

This table shows that the bridges on the Middle and Lower Danube are mainly located in large centers, which further reduces connectivity, especially in connection with the possibility of creating a secondary road network that directly connects smaller settlements..

### CONNECTIVITY AND TRANSPORT NETWORK - INTERNATIONAL, INTERREGIONAL AND NATIONAL LEVEL

In accordance with the previous goals from ESDP and the Danube Strategy, spatial connectivity will be checked comparing the mobility conditions between waterways and rail-road-air transport. The main objective is to understand whether cities and municipalities along the river exist as intermodal nodes to enable transport mobility as planned in policy documents. . This includes three analyses based on existing transport infrastructures:

1. Connectivity between the river cities and towns and road network;
2. Connectivity between the river cities and towns and rail network; and
3. Connectivity between the river cities and towns and airport network.

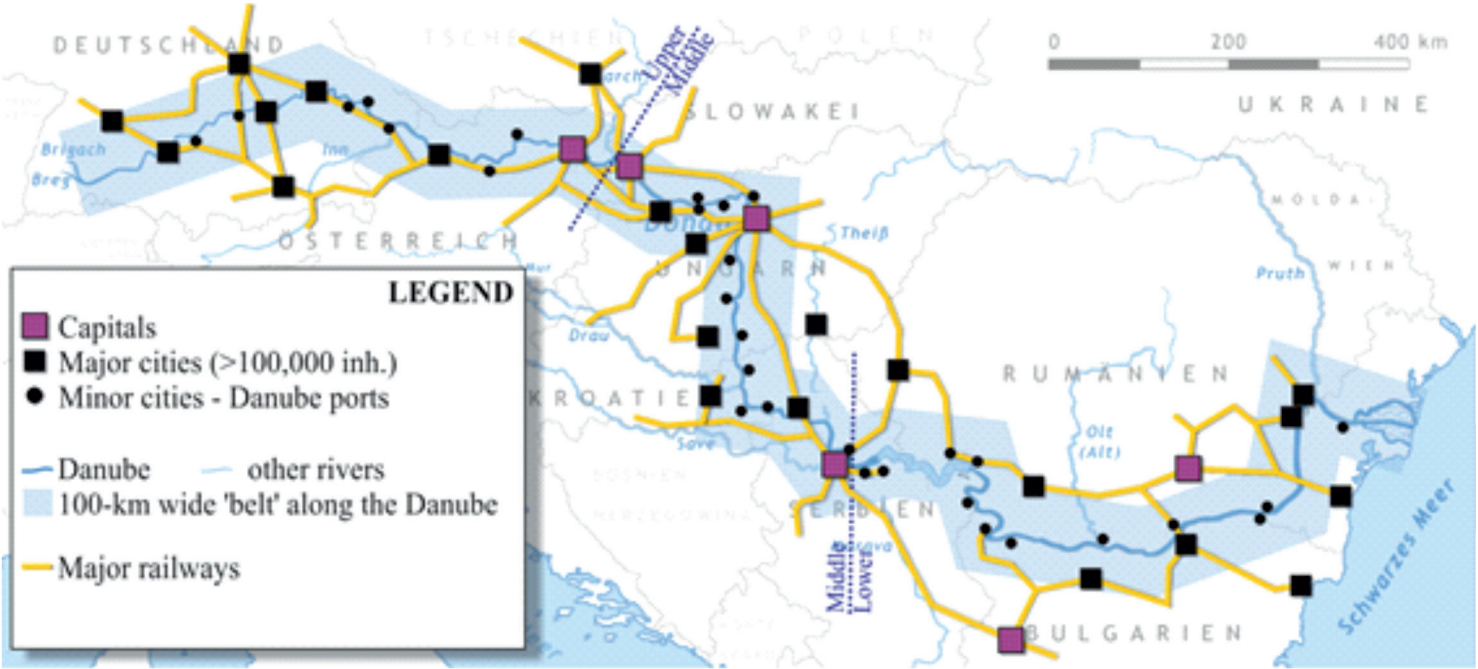


6 | THE CONNECTIVITY BETWEEN THE DANUBE (WATERWAY) AND MAJOR ROADS IN 2018. SOURCE: B. ANTONIĆ; SUBSTRATE MAP: DANIEL ULLRICH/THREEDOTS, 2005.



The Figure 6. presents connectivity between the Danube and major roads, mostly belonging to the system of E-road network. For easier observation, 100-km wide 'belt' along the Danube is marked. With help of this belt, it is evident that the road network in the upper and middle sections of the Danube Region generally follows the river. This is especially noticeable in the middle section, where larger cities and national capitals are concentrated. In sharp contrast, the lower Danube has fewer main roads, which also have two lanes. Nevertheless, it is even more noticeable that they mostly do not follow the Danube; these roads usually intersect the river in a few places (Vidin-Calafat and Ruse-Giurgiu), which are actually the only places suitable for prospective intermodal nodes. Apart their case, the general connectivity of the cities in the Lower Danube is very limited. This was also noticed by Donauregionen+ Report (2012), where is pointed that road transport is mostly concentrated in the old EU Member States.

Similar patterns of spatial connectivity are visible in the case of the overlapping of railway network and the Danube as a major waterway (see Figure 7.).



7 | THE CONNECTIVITY BETWEEN THE DANUBE (WATERWAY) AND MAJOR RAILWAYS IN 2018.  
SOURCE: B. ANTONIĆ; SUBSTRATE MAP: DANIEL ULLRICH/THREEDOTS/, 2005.

The selected railways are those that are electrified and have a status of major corridors in national systems. The density of railways decreases moving from Upper to Lower Danube sections. It is also observable that railway network is more fuzzy and with many deadlocks along this sections. However, in should be underlined that the entire Danube region faces a strong orientation towards monocentric railway system based on national capitals. This is particularly visible for Budapest and Belgrade in the Middle Danube area. Only the most western/German part of the region is developed as a polycentric system.

The last analysis is related to spatial connectivity as a result between the Danube as a major waterway and international airports, i.e. airports with at least one regular international flight (see Figure 8.).



8 | THE CONNECTIVITY BETWEEN THE DANUBE (WATERWAY) AND INTERNATIONAL AIRPORTS IN 2018  
SOURCE: B. ANTONIĆ; SUBSTRATE MAP: DANIEL ULLRICH AND THREEDOTS/, 2005.

The results obtained confirm previous ones. There are no airports in the area of the Lower Danube , even in the cities with more than 100,000 inhabitants (Galati, Braila, Ruse, and Plevn). In addition, all nearby airports are mostly located on opposite sides of the respective cities. For example, Bucharest Otopeni Airport is located north of the city, i.e. on the opposite side towards the Danube. It is similar with the airport in Sofia. On the contrary, all the capital cities of the Middle Danube have international airports. All of them are close to the river, which can simplify the creation of intermodal nodes, especially for freight. The Upper Danube region is in the midst of various locations around the Danube. Finally, it is noteworthy that all airports in the Lower Danube region (with those in the Central Danube region) are not international hubs because their main customers are tourists and migrant communities. This is very different in comparison with Vienna and Munich in the Upper Danube region, where the entrepreneurs dominate (Donauregionen+ 2012).

At the end of this analysis, it can be concluded that political history has profoundly mirrored into spatial-connectivity issue in the Danube Region. This is especially visible in its lower section. Instead of the 'classic' closing remarks, the conclusion of an Eastern European specialist in the U.S. State Department, given several decades ago, after the World War II, is cited:

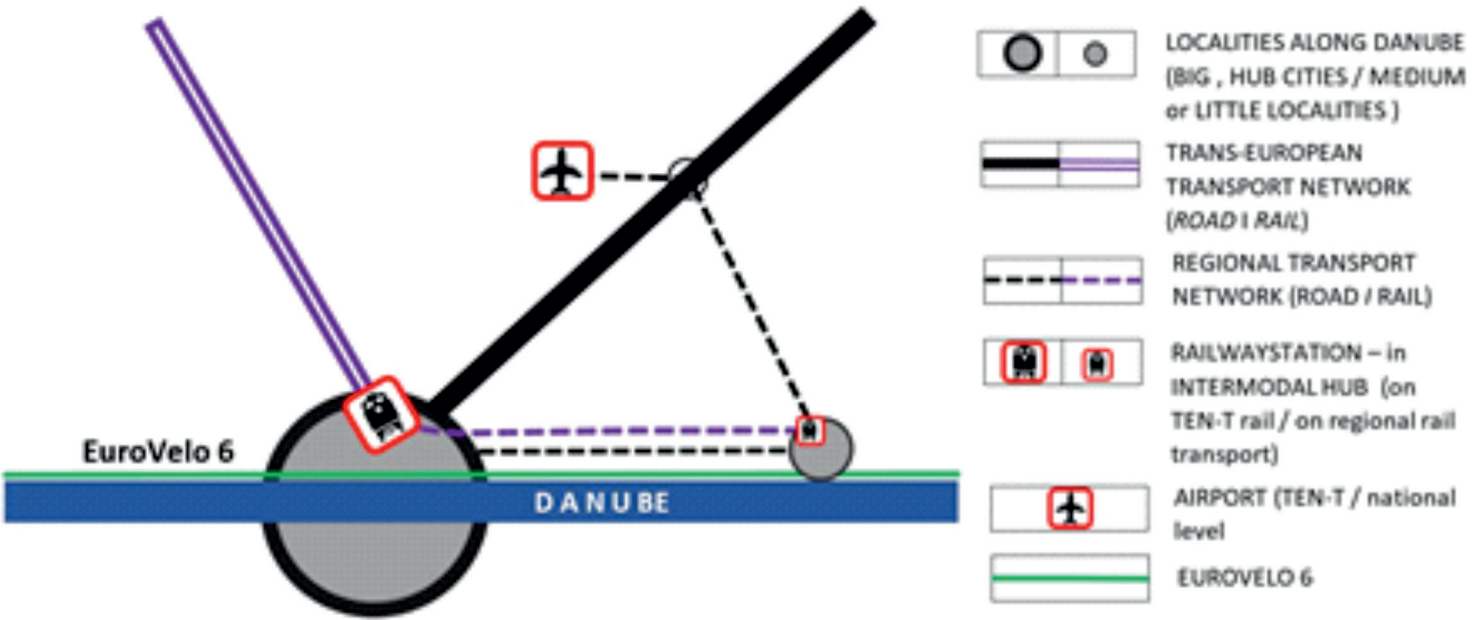
*"[The Danube] has always been a political question. As a commercial route, it has never lived up to its potentialities. Those Powers which have been concerned with opening or closing it have been more interested in their influence and control in the Danube region than in navigation on the river itself"* (Campbell, 1949, p. 315).

**THE PRESENT REVIEW HIGHLIGHTS THE NEED TO IMPROVE THE SITUATION BY USING FAMILIAR TOOLS SUCH AS THE EXTENSION OF TRANSPORT NETWORKS AND THE INTRODUCTION OF ALTERNATIVE PROPOSALS AIMED AT ENHANCING CONNECTIVITY BETWEEN SETTLEMENTS ALONG THE DANUBE AND ACCESS TO A RICH HERITAGE. TOURIST DESTINATION NETWORK FOR HERITAGE ACCESIBILITY**

The attractiveness of the touristic localities is considerably influenced by their accessibility in terms of time, comfort, and costs. The people's time budget for tourist activities is limited, precious, and therefore the share of time spent on non-recreational travels needs to be minimized. The reduction of distance-time at the territorial level is important and depends on the speed performance of transport technologies, on the quality of the infrastructure and the efficiency of transport services.

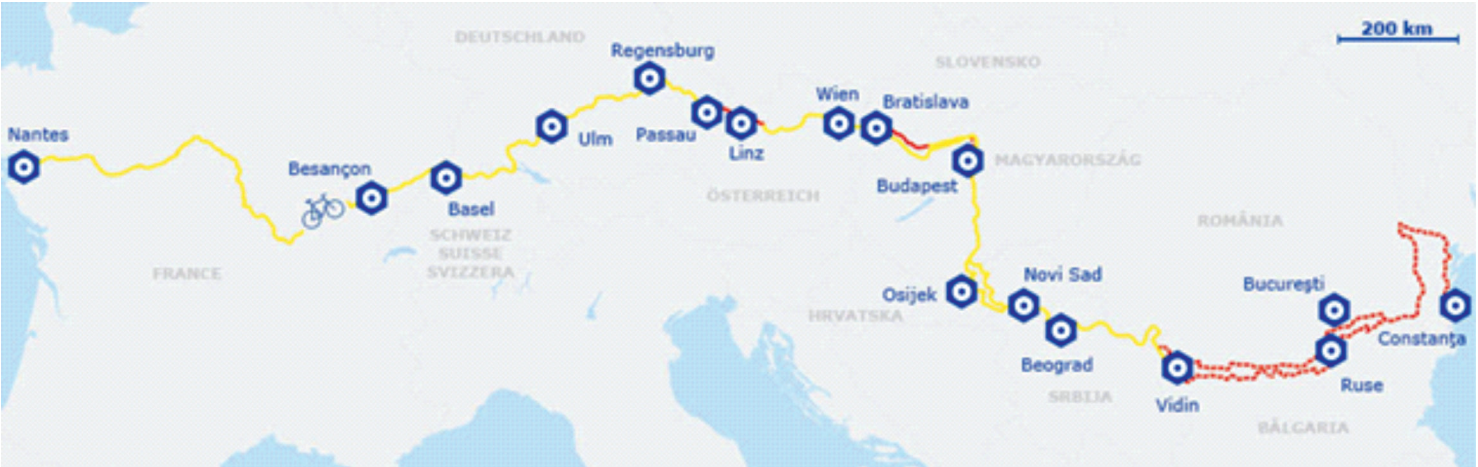
From this point of view, the connections to highways and high-speed transport infrastructures - such as TEN-T or high-speed infrastructures at national level - is essential. The large cities along the Danube already benefit from this type of accessibility and/or have prospects for improving it at a shorter time horizon, while smaller localities have a lack of accessibility at the territorial level, especially in the eastern part of the river course.

The improvement of the accessibility at the European, national and regional level of medium and small localities along the Danube can be achieved through the improvement of the regional transport networks – on road, rail, bicycle - between them and the nearby big, hub-cities. It also implies good connections of the regional transport with the main gates of the big cities – railway station, airports, and ports - some of which are related to the TEN-T (see Figure 9.).





Emphasis should be placed on improving the regional connections with less polluting means of transportation: electric vehicles (e.g. train, tram-train, tramway, electric buses) and bicycles (which implies the creation of regional/national bikeways). EuroVelo 6 is a European non-motorized connection along the Danube that is already largely carried out in the western part of the river course, but still to be developed in the eastern part of the river along both banks (see Figure 10.).



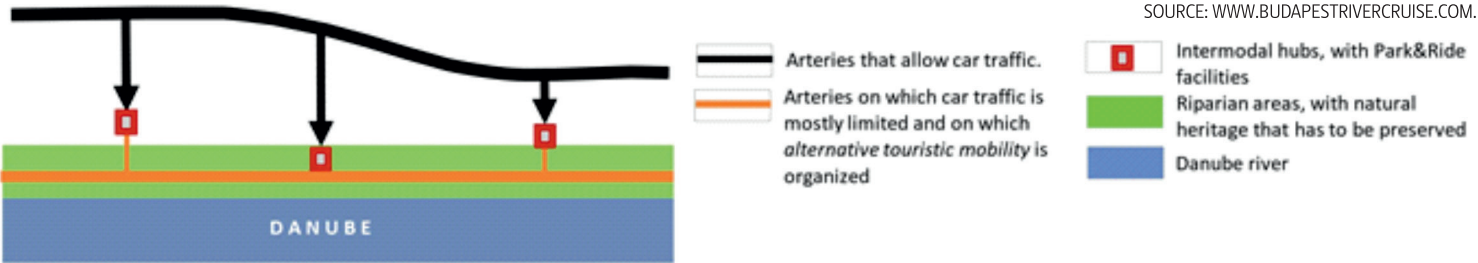
10 | EUROVELO 6 - ATLANTIC-BLACK SEA. THE RIVERS ROUTE, IS AN 3,653 KM EUROPEAN CYCLING ROUTE RUNNING ALONG 6 EUROPE'S RIVERS FROM NANTES TO CONSTANTA. SOURCE: EUROVELO 2018.

For preserving the accessibility on the roads along the Danube banks, the building-up process on the riparian areas should be controlled and limited in order to avoid future congestion effects and an undesirable anthropoization of the natural corridor. It is not advisable to enlarge these arteries, not even where it would be largely possible, because an increased supply of road will attract a harmful, excessive dynamics of urbanization in a natural context to be protected, increased motorized flows and their negative effects: natural landscape degradation, ecosystem imbalances, and pollution. Tourist Transport Management (also called Resort Community Transport Management) it is needed to improve transportation options for recreational travel, reducing automobile traffic in resort areas (Victoria Transport Policy Institute 2014). It is suitable to develop touristic mobility schemes (DANuRb, 2018) at the regional level (including trans-national territories), based on alternative-to the car-modes, as an attractive offer to meet the mobility needs of tourists (mini-buses, bike-sharing, mini-car rental, hop-on - hop-off services), intermodal points with "park and ride" facilities where the personal cars can be let and flexible transport services. Contextualized regional touristic mobility schemes should be identified to selectively limit, as it is possible, the circulation of private cars on the roads along the Danube's banks, by diverting the majority of the motorized traffic on alternative routes, bypassing the banks. Urban vehicle access regulations (UVAR) schemes (Ricci at al. 2017) could be implemented.

On the roads along the banks of the Danube, outside the localities, it is advisable to organize alternative transport systems for touristic trips, low polluting, low space consuming and with a less aggressive insertion in the valuable Danube landscape. For the tourists to give up their cars when travelling along the banks, some intermodal points should be organized, with "park and ride" facilities and an offer of alternative transport: mini-buses, public-bikes, various types of mini-electric vehicles. (Figures 11. and 12.).



11 | UNPOLLUTING AND LESS SPACE-CONSUMING MEANS OF TRANSPORTATION FOR TOURISTIC MOBILITY SCHEMES ALONG THE DANUBE. A) BIKING ALONG DANUBE. SOURCE: TOURIST ORGANIZATION OF GOLUBAC, 2017 AND B) SEGWAY TOURS IN BUDAPEST. SOURCE: WWW.BUDAPESTRIVERCRUISE.COM.



12 | SCHEME FOR ORGANIZING IDEAL MOBILITY ALONG THE DANUBE'S BANKS, FOR PROTECTING THE NATURAL HERITAGE. SOURCE: M. NEGULESCU.



The EuroVelo 6 route can and should become the longest non-motorized trans-national connection along the Danube. It is to develop its components on both sides of the river, related by trans-Danube connections that can be constructed on existing - road and rail bridges (on whose massive structure could be hooked a light metal structure for the bike-lanes) or on new bridges created exclusively for non-motorized over – Danube crossings (now the last one is in Vienna). Considering the issue of public transport the connectivity depends on the number and frequency of the lines, and whether it is conditioned by the development of the network of roads. However, there are some improvements of public transit in such a way to facilitate the movement of cyclists in certain parts of the route in the Lower Danube area (see Figure 12.).

On the other hand, there is the possibility of improving connectivity by introducing stronger mobility on the river and increasing the use of this type of movement, which would mean overcoming the river as an obstacle to merging costs and improving connections between settlements along the Danube. In this domain, special attention need to be given to problem of the existing roadways or railways along the Danube crating a physical obstacle between city and river for example in Budapest (Benkő and Garay, 2014) and Belgrade (Vukmirović 2015).



13 | BUSES FOR CYCLISTS. TOURIST ORGANIZATION OF GOLUBAC, 2017.

The connectivity at the territorial level (European, national) has to be completed by a good connectivity at the local level as support for a good accessibility of the local heritage (Negulescu 2011). This can only be achieved through the (re)organization of the city gates - railway stations, harbours, airports on the TEN-T as intermodal hubs that provide facilities for comfortable, safe, fast transfer from the transport at the territorial level to the multimodal mobility offer at the local level.

## PUBLIC SPACE NETWORK - CONNECTIVITY AT THE LOCAL LEVEL

Considering walking as a day-to-day activity of most citizens and visitors to a particular town or city, the experiences that arise in this kind of the interaction with the place are of great importance because they affect the formation of a general impression of a certain place (Vukmirovic et al., 2018). By placing an emphasis on public spaces and pedestrian environment, a light is put on the significance of small scale, often neglected in contemporary projects and development strategies. Visions that correspond to this perspective put focus on specific advantages of cities proportional to dimensions, senses and walking speed and form a basis for more complex and diverse relations (Vukmirović 2014).

Considering the ways of constructing cognitive maps, the formation of the network of pedestrian as well as public spaces is analysed on the basis of its simplified structure, which includes identification of paths/connections and destinations/nodes (Vukmirovic/Folic 2017). This approach was used in Spatial Metro Project that has the objective to improve the centre of the

city for pedestrians (van der Spek 2007). Destinations are the places with the greatest intensity of users and correspond to the places that are located at the corners of the streets, main public spaces or dotted along the paths. On the other side, connections function as water canals and correspond to the streets in which the most of the movement takes place.

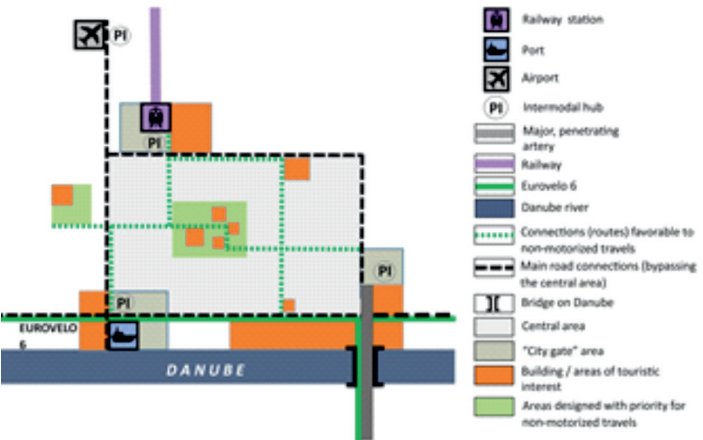
The connectivity at local level is investigated on the territory of Golubac during the student workshop specially designed for this purposes. Golubac is a small town and municipality in Serbia, situated on the right side of the Danube river. It has great tourist potential thanks to its spatial position and the Golubac fortress as a well-known heritage site. However, these potentials have not been sufficiently exploited due to the poor connection and attractiveness of the town. The research was supposed to show how this situation can be overcome by examining ways to improve the quality of the network and the connectivity of local open public spaces.

One of the results of the investigation of public spaces in Golubac was the map of the actual and the map of the future network of public spaces. It mapped the most of the public spaces and categorised them as destinations and connections. In addition to the above, a general impression of particular locations have been presented (both current and after transformation) using the defined structure that include: character, main attractor, main activity, number of approaching routes and the state of the exiting public space for destinations and character, main activity and the state of the exiting public space for connections.

Considering elements of the public space networks, in the actual state are recognised 10 destinations and 9 connections. Destinations are divided into three groups: public places, semi-public places and public objects.

Some of them also have character defined as main gathering place, commercial zone or promenade. On the other side, connections are divided into the public space and pedestrian connection, main motorway and secondary motorway.

Destinations that are recognised within the network in Golubac include (see Figure 14.).

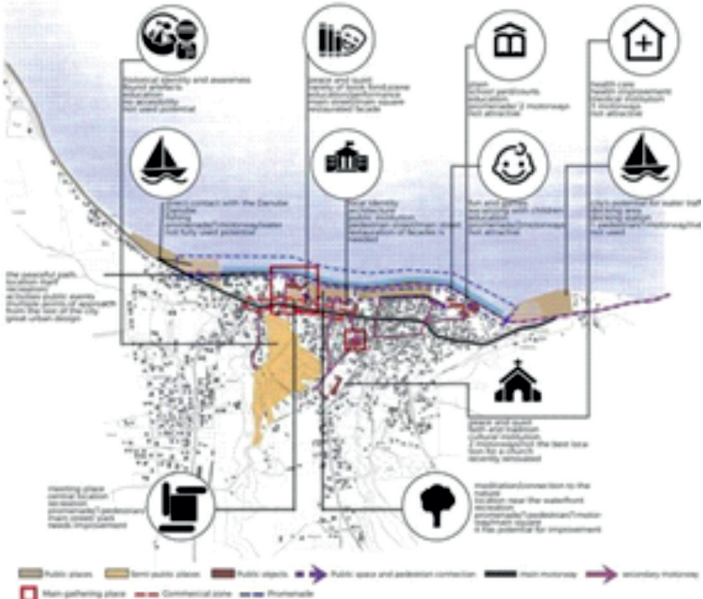


14 | CONNECTIVITY AND ACCESSIBILITY SUPPORTING TOURISTIC MOBILITY.  
AUTHOR: M. NEGULESCU.

- West marina with the direct contact with Danube, motorway and promenade and possibility for fishing, has the potential that is not fully used;
- Main square with a library, hotel and post office, a meeting place in direct contact with the main street and the public park, has the potential that could be further improved;
- A school with an accompanying environment next to the river, two courts with the direct links to the promenade and main street, in condition that is not attractive;
- East marina with docking area, has the potential for introduction of the water traffic and installing equipment that would complement this content, at the present, it is not in use;
- A theatre and cinema building with its surrounding, public institution places in the main street, the building is of an architectural value, but needs serious reconstruction and reorganisation in order to meet contemporary needs and become more attractive;
- A square in front of the church, another main meeting place, connected with two secondary motorways, peace and quiet, the church has recently been refurbished but the site needs improvement; Public park is a place for meditation and connection with nature in direct contact with the waterfront promenade and near the main street, has the potential and needs the improvement ;
- Health care centre, medical institution connected with three secondary motorways in condition that is not attractive and Historical site has the historical identity and awareness, founded artefacts, very poor accessibility, but with the strong unused potential. In relation to the connections there is river promenade, a peaceful path for relaxation and recreation, temporarily active with public events, has multiple approaching points and it is in good condition; and
- The main street with the commercial zone as some extension of the main city square, a strong and intensively used motorway that connect Golubac with other settlements and a few secondary streets leading to the main street.

General attitude is that all public spaces that are recognised within the network of public spaces own their strong character that is related to their location, but need a significant reconstruction and improvement. In this respect, the proposal of the future network of public spaces in Golubac strives to emphasize the existing character of the recognized spaces, to improve and advance their appearance and contents in order to meet contemporary needs and extend their influence and expansion into new areas.

The future network of public spaces in Golubac envisions 15 destinations and 11 connections (see Figure 15.).



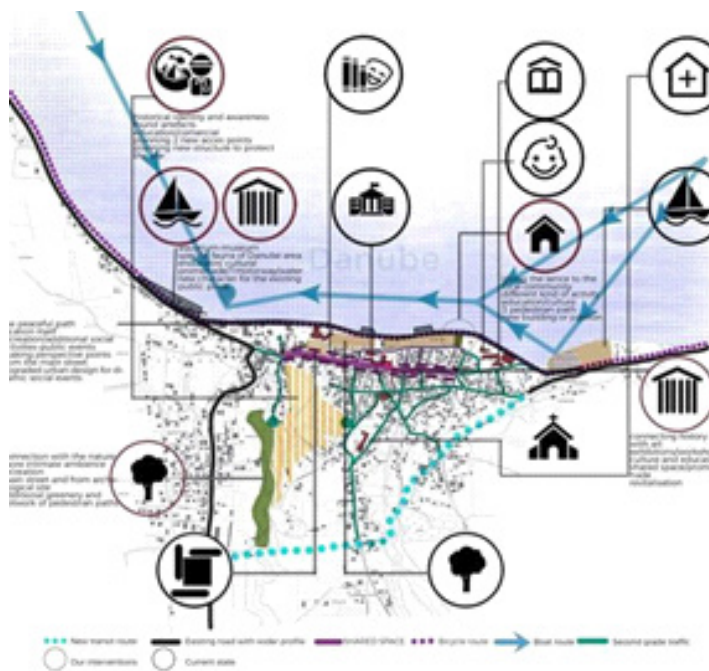
15 | NETWORK OF PUBLIC SPACES IN GOLUBAC.  
SOURCE: U. MARKOVIĆ, I. KISIN, J. JOFOLDI, T. HEKSCH,  
C. SAMARANDA AND P. CONDRUT, 2017.

The main improvement is seen in a proposal of the new transit route that would remove heavy and intense traffic from the main street. West marina will get two new contents - aquarium and museum of the specific fauna of the Danube area, it will be recognised as an educational and cultural point in order to highlight its new character; A school with an accompanying environment will be transformed in an area with a strong sense of community and complementary activities, while the area will be arranged in accordance with new needs and the place in front of the church will be renewed and improved.

It was concluded that the network could be complemented by two new destinations in the southern part of the city in the historic site. It will cover a historic site with a special building structure that will protect artifacts and give local residents and visitors the opportunity to see heritage and learn. Next to it, there should be a place for a new park of natural wealth for relaxation and recreation. These destinations will be connected with other places by two new connections. One will be completely new, connecting the historic site with the main street, and another will be the expansion of the existing Kraljevića Marka Street.

The potential for transformation could be in the area of the commercial zone of the high street that is proposed to be extended and treated as a shared space in the future. This will contribute to the integrated interconnection and integration of the main street, the Main Square and the green area along the Danube promenade. All the proposed interventions are conceived in the spirit of contemporary design and public space treatment, (see Figure 16.), which could additionally contribute to the revival, and attractiveness of the entire public space network in Golubac.





16 | FUTURE NETWORK OF PUBLIC SPACES IN GOLUBAC.  
 SOURCE: U. MARKOVIĆ, I. KISIN, J. JOFOLDI,  
 T. HEKSCH, C. SAMARANDA AND P. CONDRUT, 2017.



17 | PROPOSAL OF THE PUBLIC SPACE IMPROVEMENT.  
 SOURCE: U. MARKOVIĆ, I. KISIN, J. JOFOLDI, T. HEKSCH,  
 C. SAMARANDA AND P. CONDRUT, 2017.

The presented results have provided an overview of the current state of the network of public spaces in Golubac as well as their potential. Seen as the resource for improvement of the overall reputation and competitive identity of the city, future organisation and development of public space network would focus on increasing the attractiveness at the destination level, establishing appropriate links between them and achieving the desired effect creating a liveable town. This would be possible if the most important elements of the city were preserved, if the essential character of the existing sites were preserved and if the open space network was extended with new ones with additional content and if we formed the city on a human size, supporting walks and biking and preservation of natural resources .

## THE STRATEGIC RECOMMENDATIONS ABOUT CONNECTIVITY

Considering the presented research results, connectivity of the Danube region need to be simultaneously developed at all three spatial levels - regional, state and urban in order to improve its transport connections, tourist offer, accessibility of heritage and public space quality. Even there are areas that function very well (capital cities and regional centres), smaller cities and towns, although have great potential, do not have an enviable position in terms of connectivity.

The way of solving this problem can be found in enhancing road and rail networks, improving the regional connections with tools and methods of sustainable transport, contextualized regional touristic mobility schemes, improving the network of public spaces focusing on the local and also common Danube identity and strong character of the particular city or town.

All mentioned levels and improvements will contribute to the general image both at the level of the whole region, and in relation to the attractiveness of individual places. That will significantly affect tourist offer, quality of tourist products and number of visitors of this beautiful part of the Europe.



# REFERENCES

CAMPBELL, John C. 1949. Diplomacy on the Danube. *Foreign Affairs*. 27(2), pp. 315–327.

DONAUREGIONEN+. 2012. The Spatial Development Concept of Interregional Cooperation in the Danube Space. [Accessed 16.04.2018]. Available at: [https://www.b2match.eu/system/danubeinonetjpiurbaneurope/files/BG\\_Interreg\\_IIIIB\\_Projekt\\_Donauregionen.pdf?1490191709](https://www.b2match.eu/system/danubeinonetjpiurbaneurope/files/BG_Interreg_IIIIB_Projekt_Donauregionen.pdf?1490191709)

DUKIĆ, Aleksandra and ANTONIĆ, Branislav, 2017. Territorial Planning as a Creative Tool for the Upgrading of Cultural Tourism in Golubac, Serbia. In: *The International Conference on Tourism and Business - The Book of Abstracts*. Lucerne, Lucerne: Lucerne university of Applied Sciences and Arts, p. 21.

EAA et al. 2014. TRANSDANUBE - Sustainable Transport and Tourism along the Danube. SEE - South East Europe Transnational Cooperation Programme.

EUROPEAN COMMISSION – EC. 1999. ESDP: European Spatial Development Perspective. [Accessed 16.04.2018]. Available at: [http://ec.europa.eu/regional\\_policy/sources/docoffic/official/reports/pdf/sum\\_en.pdf](http://ec.europa.eu/regional_policy/sources/docoffic/official/reports/pdf/sum_en.pdf)

EUROPEAN COMMISSION – EC. 2011. EU Strategy for the Danube Region. [Accessed 16.04.2018]. Available at: <http://www.danube-region.eu/attachments/article/590643/EUSDR-EN.PDF>.

EUROPEAN COMMISSION 2013b. TEN-T Guidelines.

EVERT, Klaus-Jürgen, (Ed.), 2010. *Encyclopedic Dictionary of Landscape and Urban Planning. Multilingual Reference Book in English, Spanish, French, and German*, Springer-Verlag Berlin Heidelberg, p.168.

GARAY, Márton and BENKŐ, Melinda, 2014. Between Waterway and Railway – Industry along the Danube Riverside in Budapest. *Periodica Politechnica Architecture*, 45 (2), pp. 53-58. accessed online. <https://pp.bme.hu/ar/article/view/7554/6694>

HANSEN Walter G., 1959. “How Accessibility Shapes Land Use”. *Journal of the American Institute of Planners*. 35(2).

INTERNATIONAL COMMISSION FOR THE PROTECTION OF THE DANUBE RIVER - ICPDR. 2002. Joint Danube Survey. Technical Report of the International Commission for the Protection of the Danube River. Vienna: ICPDR.

INTERNATIONAL COMMISSION FOR THE PROTECTION OF THE DANUBE RIVER - ICPDR. 2010. European Union Strategy for the Danube Region: ActionPlan. [Accessed 16.04.2018]. Available at: [http://ec.europa.eu/regional\\_policy/sources/docoffic/official/communic/danube/action\\_plan\\_danube.pdf](http://ec.europa.eu/regional_policy/sources/docoffic/official/communic/danube/action_plan_danube.pdf)

INTERNATIONAL COMMISSION FOR THE PROTECTION OF THE DANUBE RIVER - ICPDR. 2014. Joint Paper on Cooperation and Synergy for the EUSDR Implementation. Vienna: ICPDR.

JEFTIĆ ŠARČEVIĆ, Nevenka, 2012. Is it Possible Synergies between the Danube and Black Sea Region: The Geopolitical Position of Serbia. In: Jeftić Šarčević, N. and Stojić Karanović, E. (Eds.) *Danube Strategy – Strategic Significance for Serbia*. Belgrade: The Institute of International Politics and Economics, pp. 156-163.

NEGULESCU, Mihaela Hermina, 2011. *Mobility and urban form - theoretical aspects*. Bucharest: “Ion Mincu” Academic Publishing House.

OXFORD LIVING DICTIONARY, <https://en.oxforddictionaries.com/definition/connect>

REWWay - Research & Education in Inland Waterway Logistics. 2014. Reader – The Danube Waterway – Economic Geography. [Accessed 16.04.2018]. Available at: <https://www.rewway.at/files/eba2d3c4f7ff424bac676f2cdec27a52/>.

RICCI A., GAGGI S., ENEI R., TOMASSINI M., FIORETTO M., GARGANI F., DI STEFANO A., GASPARI E. 2017. “Study on Urban Vehicle Access Regulations”, European Union.

SAGEATA, Radu, 2012. River and Sea Transports in Romania in the European Union Strategy for the Danube Region Perspective. *Romanian Journal of Geography*, 56(2), pp. 157-166.

TRACY, James D. 2015. The Habsburg Monarchy in Conflict with the Ottoman Empire, 1527–1593: A Clash of Civilizations. *Austrian History Yearbook*, 46, pp. 1-26. DOI: 10.1017/S0067237814000071.

VAN DER SPEK Stefan, 2007. Legible city–walkable city–liveable city: Observation of walking patterns in city centres. In Introductory paper, Urbanism On Track–Expert meeting on the application in urban design and planning of GPS-based and other tracking-based research, Delft.

VEZENKOV, Alexander. 2017. Entangled Geographies of the Balkans: the Boundaries of the Region and the Limits of the Discipline. In: Daskalov R. and Marinov T. (Eds.) Entangled Histories of the Balkans: Volume Four. Leiden, Brill, pp. 115-256.

VICTORIA TRANSPORT POLICY INSTITUTE, 2014. Tourist Transport Management-Improving Leisure Travel Choices – TDM Encyclopedia. <https://www.vtpi.org/tdm/tdm46.htm>

VICTORIA TRANSPORT POLICY INSTITUTE 2017 "Roadway connectivity" in TDM Encyclopedia, [Accessed 16.04.2018]. Available at: <http://www.vtpi.org/tdm/tdm116.htm>

VUKMIROVIĆ, Milena, Folic, Branislav Ljubiša, 2017. "Cognitive performances of pedestrian spaces", Facta Universitatis Series: Architecture and Civil Engineering, 15(1), pp. 43-57.

VUKMIROVIĆ, Milena, 2015. Belgrade: The Quest for Desired City Image. In: Doytchinov G. Djukic A. and Ionita C. (Eds.) Planning Capital Cities: Belgrade, Bucharest, Sofia, pp. 188-212.

VUKMIROVIĆ, Milena, 2014. Pešački prostor i kompetitivni idenitet grada, Beograd: Zadužbina Andrejević.

VUKMIROVIĆ, Milena, DJUKIC, Aleksandra and ANTONIC Branislav, 2018. Place networks. Experience the city on foot, Research Report on Student Workshop in Golubac, DANUrB Project, Belgrade: University of Belgrade - Faculty of Architecture.

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PAVEL GREGOR

## SECTION 2

### INTRODUCTION



## DANUBE RESOURCES

The Danube is one of the historically most important sites in the world - a place which always inspired people to develop and grow, to create technical and architectural buildings and works of art, but at the same time, to conquer and defend, to sail and to come back. The Danube played a vital role in the settlement and political evolution of great part of Europe. Its banks, lined with town, villages, castles and fortresses, formed the boundary between great empires, and its waters served as a vital commercial highway between the nations. This is probably the main reason for diversity of cultural, historical and natural heritage of the Danube region, which reflects those times and those historical settlements, as well as people of modern times.

The richness of cultural heritage in the Danube region is a reflection of the long history of this territory and today it includes, in particular, historic parts of towns and villages, important fortifications and castles, chateaus and other representative and residential buildings, sacral buildings and ensembles.

The industrial heritage plays a special role, documenting the gradual development of ports along the Danube and the related industrial growth of the Danube cities. The River Danube, as the second longest river in Europe, has retained the most striking features of all the continental rivers. It connects 10 European countries, creating a flowing river path across the continent. Utilizing the morphology of terrain and nearby water, a wide variety of industrial objects and areas has evolved throughout the Danube, which have stimulated the development of cities near and wider surroundings. Industrial buildings and facilities are located close to the Danube near it or in the wider area. Isolated objects are, for example, administrative buildings, warehouses, powerhouses, mills, power stations and other industrial objects that could be part of various factories, harbours, shipyards, quarries, water dams etc.

After World War II, during a relatively short, 45-year period, state socialism gained ground in the countries of Central-Eastern Europe. During this era, based on centrally formulated directives, a large number of decisions were made regarding the internal functioning of settlements and their relationships to each other. Among others, new towns were constructed, the roles of existing settlements were altered, their situation in the network was artificially changed, town centers were redefined, rings of housing estates were constructed around them. The spatial transformations of cities in this period were the product of the socialist ideology. This had a strong and lasting effect on the landscape and cityscape.

Since the Danube lies in the centre of Europe, a lot of historically significant persons lived on its banks, or at least paid them a visit. All European scientists, architects, painters, writers, poets, composers, historians - the ones that made strong impact in their own fields - left their trails in the region surrounding the Danube, thus influencing its culture, tradition and their works are a part of Danube intangible heritage, same as historical stories, memories, traditions and records of social and cultural life of the people connected with the river.

# DIFFERENT TYPES OF CULTURAL HERITAGE AND CHARACTERISTIC LANDMARKS

PAVEL GREGOR

## KEYWORDS:

Cultural heritage,  
Danube history,  
Danube heritage

## CULTURAL HERITAGE AS A RESULT OF HISTORICAL BACKGROUND IN THE TERRITORY ALONG THE DANUBE

In the territories, inhabited and cultivated thousands of years, we encounter works or their remains, records of the life, work and culture of previous generations, as the cultural heritage of our ancestors.

The Danube is one of the historically most important sites in the world - a place which always inspired people to develop and grow, to create technical and architectural buildings and works of art, but at the same time, to conquer and defend, to sail and to come back. The Danube played a vital role in the settlement and political evolution of great part of Europe. Its banks, lined with town, villages, castles and fortresses, formed the boundary between great empires, and its waters served as a vital commercial highway between the nations. Danube is the river that runs through so many countries as no river in the world. More than hundred million people live on or near the river, and more than 20 languages are spoken. This is probably the main reason for the diversity of cultural, historical and natural heritage of the Danube region, which reflects those times and those historical settlements, as well as people of modern times.

The Danube basin was the site of some of the earliest human cultures. The historical importance of the river is best illustrated by the relicts of the past excavated or founded on its banks. An important archaeological site of the Mesolithic Iron Gates culture of the Balkans in Lepenski Vir is compressed between 9500/7200–6000 BC. One of the first human dwellings was located in Vinča (near the Iron Gates in Serbia) where is a village dating back from the sixth millennium BC, while in Vučedol (near Vukovar in Croatia), there is a site from the third millennium. The Danubian Neolithic cultures include the Linear Pottery cultures of the mid-Danube basin. Ancient Greeks sailed the river, but the Romans (coming after them) left a significant impact. At the beginning of the first millennium, they expanded the territory of the Empire and left a number of monuments to testify to their power and wealth: each of Lower Danube countries boasts at least a couple of major Roman artefacts.

The river became strategically and economically important again during the times of the Christian Crusades, from the 11th to the 13th century. On their way from the Western Europe to Asia Minor, the Crusades used the Danube as a waterway for transportation of military force. Only a century later, the people living on the banks of the river became a subject in a series of wars and conquests which ended even the modern-day Europe: during the Ottoman invasion, from the 14th to the 19th century, the Danube was the Northern border of the Ottoman Empire, which they unsuccessfully tried to cross and invade for five centuries. The Ottoman Empire competed first with the Kingdom of Hungary and later with the Austrian Habsburgs for controlling the Danube (Turks call it Tuna). Many of the Ottoman–Hungarian Wars (1366–1526) and Ottoman–Habsburg wars (1526–1791) were fought along the river. Some of the most important battles of those times took place on the Danube banks: the Battle of Nicopolis (1396), the Battle of Mohacs (1596), the first Turkish Siege of Vienna (1529), the Siege of Esztergom (1543), the Long War (1591–1606), the Battle of Vienna (1683) and the Great Turkish War (1683–1699).

The border between the Ottoman territories and the ones they never conquered, still exist along the central segment of the Danube flow - in Serbia, Romania and Bulgaria - the architecture on one bank differs from the architecture on the other, since Turkish building and infrastructure elements are still visible.

At the time of Ottomans, Austrian-Hungarian Empire reached its peak, which is also obvious in baroque art and architecture not only of Austria and Hungary, but also of Slovakia, Croatia, Serbia and Romania. It is also important to mention that Napoleon fought his second campaign in the Danube region following Austria's rising against his control in early 1809. During the 19th century, Lower Danube people all started their battles for independence - some against the Austrians, some against the Ottomans, which resulted in almost simultaneous development of national arts and traditions.

During the 20th century, the Danube region shared the common fate of Europe: it was a place where bombs were falling, where battles took place, where the future of the world was being decided. After the World War II, it connected some of the most developed capitalist countries to the countries of the Soviet Block or communist orientation. That contrast is still visible today, more than thirty years after political changes in Europe: the infrastructure of highly developed countries is sometimes incomparable to the one found in other countries.

Since the Danube lies in the centre of Europe, a lot of historically significant persons lived on its banks, or at least paid them a visit. All European scientists, architects, painters, writers, poets, composers, historians - the ones that made strong impact in their own fields - left their trails in the region surrounding the Danube, thus influencing its culture, tradition and their works are a part of Danube intangible heritage, same as historical stories, memories, traditions and records of social and cultural life of the people connected with the river.

## DIFFERENT TYPES OF CHARACTERISTIC TANGIBLE HERITAGE BY THE DANUBE

Most of Danube landscapes and monuments are under the legal protection of the states covering more than twenty national parks and numerous towns, villages, buildings, places and monuments from prehistoric, Roman, medieval, baroque or modern times.

Some of those are even on the official UNESCO World Heritage List. At this moment, these are: old town of Regensburg with Stadthof in Germany, Wachau cultural landscape and historic centre of Vienna in Austria, Hungarian capital Budapest (including the banks of the Danube), Gamzigrad - Romuliana in Serbia, Danube Delta in Romania and Srebarna nature reserve in Bulgaria. There is, of course, even longer list of the sites which are on the "tentative list" and started the procedure of getting the World Heritage status. (one of the proposals, with direct connection with Danube is the "Frontiers of the Roman Empire - the Danube Limes" as common heritage of Germany, Austria, Slovakia and Hungary).

The richness of the cultural heritage in the Danube region is a reflection of the long history of this territory and today it includes, in particular, historic parts of towns and villages, important fortifications and castles, chateaus and other representative and residential buildings, sacral buildings and ensembles, industrial heritage, which documents the progressive development of ports along the Danube and the associated industrial growth of Danubian towns. An integral part of this heritage is the testimony of the earliest periods (often preserved only in the form of archaeological finds) as well as the architecture and art of the last period (with the specifics of the heritage of the "socialist era" of some countries). In the following section, we will try to introduce some of them, focusing on sights whose values have the potential for greater use in regional development.

## ARCHAEOLOGICAL SITE OF LEPENSKI VIR, SERBIA



1 | SOURCE: P. GREGOR

Lepenski Vir is located on the right bank of the Danube in eastern Serbia, within the Iron Gates gorge. It is situated in the village of Boljetin, near Donji Milanovac. Lepenski Vir is an important archaeological site of the Mesolithic Iron Gates culture of the Balkans. The culture of the site is about 8,000 years old. The Lepenski Vir site consists of one large settlement with around ten satellite villages. Numerous piscine sculptures and peculiar architecture have been found at the site. The view above and across the Danube is wide open and the stable and enduring terrain on the river's bank which resists the aggressively erosive effects of the Danube.

## KOMÁROM - BRIGETIO, HUNGARY



2 | SOURCE: P. GREGOR

Brigetio was a Roman garrison town located in the territory of the present-day Ószőny district of Komárom. It was established in the middle of the first century AD and served as the base for one of the 30 legions of the Imperial Army. Brigetio consisted of a military and a civil town, both located close to the banks of the Danube forming in this region the border of the Roman Empire. Moreover, a fortified military camp was built on an elevated site on the river bank, in this way, it was protected from floods. Brigetio, as a part of the borders of the Roman Empire, is on the UNESCO World Heritage List.

## KLOSTERNEUBERG - DANUBE LIMES, AUSTRIA

There was a Roman castle in Stiftplatz area. South of Limes, the road from Zeiselmauer to Klosterneuburg led south to the Vindobona Legion Camp, 13 km away.

The development of fortifications took place in several phases, late ancient fortifications are archaeologically proven by fan towers and U-tower. The southern ceiling of a probably rectangular ground plan limits the possible perimeter to approx. 2 ha. The Vicus in the south and east joined the graves along the way to the south. In late ancient times, a burial ground was created above the imperial Vicus. Traces of settlement from the 4th to 5th centuries are located in the area of the Town Hall Square.



**ROSSATZ - ARNSDORF - DANUBE LINES, AUSTRIA.**



3 | SOURCE: P. GREGOR

At the north-eastern end of the river valley around Mitterarnsdorf, before the Danube enters a narrow passage, is the late antique Burgus, 13 km downstream from Mautern / Favinis. The strategically important location results from the south-facing road in the Dürrenbachthal. The name of the place Bacharnsdorf goes back to Bishop Arno of Salzburg, who lived in the 8th century. The square-shaped tower with a wall thickness of 1.5 m is preserved on the east and south sides up to the third floor. The narrow slot windows and the arched windows are Roman times. The Burgus was part of the Valentinian fortification and was used again in the High Middle Ages.

**TULLN - DANUBE LINES, AUSTRIA.**



4 | SOURCE: P. GREGOR

Between the estuaries of the Great and Little Tulln there was the Roman fort Castra Comagenae (or Comagenis). The northern area of the camp area was cleared by the Danube. Several building stages beginning already begun in the Flavian era, testify to the occupation of the fort until late antiquity. Since Flavian times, there had been a wood-earth camp, which was built in stone in 104 AD; the oldest phase includes findings of the Porta principalis dextra. Late antiquity fortifications are preserved as monuments - fan tower and "salt tower" or "Roman tower". After destruction around 400 AD, a civilian settlement took place in the camp area until the end of antiquity.

**ARCHAEOLOGICAL SITE ŠTÚROVO, SLOVAKIA.**



5 | SOURCE: P. GREGOR

The soil was fertilized with river deposits and it attracted people looking for source of livelihood there. The first inhabitants of this area are from Paleolithic and they are called hunting tribes. This period is dated back to approximately 4000 BC. Other archeological findings are from 2500 BC. They belonged to semi-nomad tribes called archers which came from Iberian peninsula.

**SVISHTOV - THE GORGEOUS FORT AND CITY OF NOVAE, BULGARIA.**



6 | SOURCE: P. GREGOR



The Novae Roman fort was founded in the 1st century AD on a Thracian Getae settlement (3000 BC) near today's Svishtov, to protect the empire against barbarians from the north. It stationed the Legions Augusta of Neron and Italica of Vespasian, one of his three elite legions. Importance of Novae was the reason for Roman emperors to visit it, as the intention was to march east to the Caspian doors and India. Novae was the birthplace of the Gothic statehood (kings Alaric and Theodoric) and of the Old German Christian script and culture. Bulgarian kingdoms left important traces there as well.

## ANCIENT ROMAN CITY - RATSIARIA, BULGARIA.

The Ancient Roman City of Ratsiaria is dated from the 1st C AD, being a military encampment and a settlement. It is claimed to be one of the most important Roman and Early Byzantine centres in the Lower Danube. The city was declared as a capital of the Coastal Dacia province, before its destruction by the Huns. With a total surface of 200 sq.m. the area was surrounded by 3.5 m thick walls. There are still fully preserved walls, parts of buildings and pottery. A gold jewellery treasure with artefacts from different ages is a testimony of the Roman gold art evolution. Nowadays it is an open-space museum with continuous excavations.

## MAUTERN AN DER DONAU, FORT FAVIANIS - DANUBE LIMES, AUSTRIA.



7 | SOURCE: P. GREGOR

Mautern (Favianis) is located on an already prehistorically used traffic artery that is parallel to the Amber Road leading to the east. As a strategically important point, the fortress controlled the crossing of the Danube. Under the medieval to early modern old town lies a castle, which is still present in some places in the emerging masonry. Vicus stretched south, east and west, and covered an area of about 22 ha, i.e. multiple bigger area as the fortress area. Several grave fields were found and several graves were found on the way to Mauternbach.

## GOLUBAC FORTRESS, SERBIA.



8 | SOURCE: P. GREGOR

It is situated in the territory of the Djerdap / Iron Gates National Park. It was first mentioned in 1335 as a medieval Hungarian military fortification, although the exact time of their appearance is not known. Moreover, its strategic position between political and cultural circles of Byzantium, Hungary and Serbia makes difficult to determine who built it. This favourable geo-strategic position brought difficulties, too – the fortress was a target of many conquerors and a scene of many conflicts throughout the centuries.

## SMEREDEVO FORTRESS, SERBIA.



9 | SOURCE: P. GREGOR

At the confluence of the rivers Jezava and Danube, on the very north of medieval Serbia, the Smederevo Fortress was built by order of Despot Đurađ Branković in the 15th century. Europe's largest flat fortress is today remembered as the last Serbian medieval city. The excellent architectural design of the fortification is verified by the fact that no corrections were made on the Fortress since the finalization of Serbian construction by the middle of the 15th century and Ottoman addition of four artillery towers in 1480.



**SVINITA - TRIKULE  
FORTIFICATION, ROMANIA.**



10 | SOURCE: P. GREGOR

Trikule fortification - "three towers" ("kule" = tower /turkish word) was built in the nineteenth century to stop the Ottoman expansion westwards. The fortress is also known as Tri-kule or Triculi, and its name derives from the fact that it had three towers arranged in the corners of a hypothetical triangle. Although there is not much information about this fortress, the lack of residential facilities, the lack of windows and the fireplaces lead to the conclusion that it was used only for military purposes. At this moment, tourists arriving at Mehedinți County can only admire two of them, the third being swallowed by the Danube water almost a hundred years ago.

**DUMBOVA - VETERANI CAVE,  
ROMANIA.**



11 | SOURCE: P. GREGOR

The Piscabara cave (also known as the Cave Veterani or Peth) and the Danube Gorge gained a special strategic importance after the occupation of Budapest by Turks. Lipova, Caransebes, Mehadia, Orsova become battlefields and boilers are gaining an increasingly important military role (defense and traffic management). Treasure hunters throughout Europe claim that the famous silver treasure of Empress Maria Theresa, as well as the treasure of Serbian Tsar Obrenovic, was hidden in a closed cave. The fortress is 70 meters above the water, the only access to it is next to the river, due to the abrupt limestone walls, 200 meters high.

**SILISTRA - TABIYA, FORTRESS  
"MEDJIDI TABIYA", BULGARIA.**



12 | SOURCE: P. GREGOR

Located on a hill, south of Silistra, the one of the 6 fortification points of a defence system is the Turkish fort ("Abdul Medjidi") - Medjidi Tabiya, which is also the most preserved. It played a crucial role in a war of Crimea from 1953-56th (started from Silistra) and the Russo-Turkish war of 1877-79. Built in 1841-53 by the forced labour of 300 Bulgarians under Ottoman rule, inspired by a German military engineer Molke, it was supposed to secure the Danube border of the Empire. The wall is 6-angular reaching as high as 8 meters, with a ditch nearby which served as an obstacle and an ambush. It is the only one fully conserved Ottoman fortress in Bulgaria.

**KOMÁRNO - FORTRESS,  
SLOVAKIA.**



13 | SOURCE: P. GREGOR

Fortress Komárno was the biggest and the strongest modern fortress of Austria-Hungarian monarchy, it was fortress for 200 000 military soldiers. It is one of the biggest modern fortification systems in Europe and in the world. The fortress complex consist of bastion system from 16th -18th: Old fortress (citatela) and New fortress. Other parts are: Váh fortress, Danube's Fortress, Monostor's fortress, Igmánd's fortress. Fortress is completely preserved. Currently some parts are not exist, like Váh fortress, but architecture of fortress forms dominant and cultural identity of the town Komárno.



**NOVI SAD - PETROVARADIN FORTRESS, SERBIA.**



14 | SOURCE: P. GREGOR

The second largest fortress in Europe had numerous masters. After 180 years of Turkish governance, it finally got its today's appearance thanks to Holy Roman Emperor Leopold I of Austria's Habsburg dynasty. Hence the style typical of the 18th century Austria. In 1703 he began the reconstruction of the fortress that lasted for 77 years. According to a legend the name of Petrovaradin fortress consists of three words meaning "the city on a rock strong as faith". Furthermore, due to its strategic position and significance that the fortress had for the Habsburg monarchy, it was called "the Gibraltar on the Danube". It consists of Upper and Lower city rising above the Danube and representing the symbol of Novi Sad.

**ESZTERGOM - COAL-PIER, HUNGARY.**



15 | SOURCE: P. GREGOR

The coal stowage pier is standing in the Danube, at the south-western tip of the Primate Island of Esztergom. It was built by Dorogi Coal Mines in 1927. The purpose of the building was to get the coal coming from the mines on a 6 km cableway directly to the barges waiting on the Danube. In 1963 the track was demolished. Today the Váltótér Foundation for Fine Arts is the

owner of the building, with Jenő Lévy as its leader. The Foundation's goal with the building is to create a studio and a community space with a special atmosphere twenty meters above the Danube.

**BACKA PALANKA - WAREHOUSE, SERBIA.**



16 | SOURCE: P. GREGOR

The warehouse was used to cure tobacco. Inside the warehouse there is a wooden construction.

**KOMÁRNO - FORMER AMMUNITION FACTORY, SLOVAKIA.**



17 | SOURCE: P. GREGOR

The building was constructed as a part of restoring external segments in 19th century. At the beginning of 20th century it was rebuilt into Ammunition factory - imperial artillery research institute for production of different kinds of ammunition as a reaction to tense situation and armament before WWI. In the second half of the 20th century building of ammunition factory began to focus on small-scale industrial production and communal production.



DUNAUJVÁROS - WATER TOWER, HUNGARY.



18 | SOURCE: P. GREGOR

The Castrum water tower was named after its location in the area of the former Roman-era military camp (Intercisa) and the civil town. The surrounding area has archaeological protection and, since 2011, it is a world heritage site. The 67,95 foot tall tower was the considered the highest water tower in Central Europe at the beginning of 1970 and is a point of orientation, both from the city and from the Danube.

PAKS - BRICK FACTORY, HUNGARY.



19 | SOURCE: P. GREGOR

The brick factory of Paks is located north of the city just outside the city limits. It is located in a loess valley facing the river, being about 300 meters away from the riverside. The factory started working in 1890, but

always had problems with the flowing rainwater in the valley. It lost its function in the early 2000s, later it was a site of filming the Fateless (from the book by Imre Kertesz for which he won a Nobel Prize).

SMEREDEVO - SILO, SERBIA.



20 | SOURCE: P. GREGOR

The Silo is a part of Smederevo's industrial heritage. It was used for grain storage and distribution of grains to the boats. It is located at Smederevo's quay. All the facilities were closed and today the building is empty. The Silo is also internationally recognized as industrial heritage on the Danube river. The building is next to another industrial heritage that is a salt storehouse, but also near wine cellars and the Monopoly building.

SMEREDEVO - OLD STEEL FACTORY, SERBIA.



20 | SOURCE: P. GREGOR



The Smederevo region is known as the place where steel and steel items and coins were produced. The first industrial plants were built in 1921 on the banks of the Danube at a site about two kilometers upstream of Smederev and about 10 kilometers from today's factory. These plants are still called "Stara Zelezara". In the spring of 1937, construction of a semi-finished factory began.

**GIURGIU - "THE FRIENDSHIP" BRIDGE, ROMANIA.**



22 | SOURCE: P. GREGOR

The Danube Bridge (formerly known as the Friendship Bridge) is a steel truss bridge over the Danube River connecting the Bulgarian bank to the south with the Romanian bank to the north and the cities of Ruse and Giurgiu respectively. It is one of only two bridges connecting Romania and Bulgaria, the other one is the New Europe Bridge between the cities of Vidin and Calafat.

**SZOB - LUCZENBACHER MANSION, HUNGARY.**



23 | SOURCE: P. GREGOR

The Luczenbacher mansion is situated between the Árpád Street and the Danube bank. In his place stood a church from the Arpad period, which was built in the 13th century and demolished in the early 19th century. The new mansion was completed between 1904 and 1907 in Baroque and Neoclassical styles. The Lazarites bought the mansion in 1931 and it functioned as the house of their holy order. The last function of the building was the dormitory of the Saint Ladislaus Grammar School. The mansion is now closed, but 2-3 times a year the owner allows the city to organize some events because of the still beautiful interior.

**RACKEVE MICROREGION - SAVOY CASTLE, HUNGARY.**



24 | SOURCE: P. GREGOR

The most impressive building in Ráckeve is the Baroque Savoy Palace, which they started building in 1702 according to the plans of the architect Johann Lucas Hildebrandt. The castle was the first national monument of secular Baroque architecture. The building is U-shaped, the octagonal salon is crowned by a classically shaped cupola. The central building, leading to the courtyard by way of a hall, has adjoining enfiladed wings on both sides. Until its reconstruction in the 1980s, the building suffered constant decline. After the refurbishment the property was used as a hotel and restaurant, and its reception halls could also be rented for special events (conferences, weddings).

**ŠTÚROVO - FORMER SAVINGS BANK, SLOVAKIA.**



25 | SOURCE: P. GREGOR

This building was originally hotel Hungária and it was the first stories building in the town. Hotel was built in 1894. In the next period, it was used as a bank and later as a saving bank. In Štúrovo, there was established royal saving bank. This building is often displayed on historical postcards and it became representative of historical architecture of Štúrovo.



**ESZTERGOM - MOSQUE, HUNGARY.**



26 | SOURCE: P. GREGOR

The mosque was built at the beginning of the 17th century, after Suleiman the Magnificent had occupied Esztergom in 1543. This is the north-western most renovated mosque of the former Ottoman (Turkish) Empire. The mosque itself has an unusual rectangle shaped building with two floors, beside stands the basis of the former minaret with the first nine original stairs of the spiral staircase.

**SMEREDEVO - CHURCH OF THE ASSUMPTION OF THE HOLY MOTHER OF GOD, SERBIA.**



27 | SOURCE: P. GREGOR

The Medieval Church of the Assumption of the Holy Mother of God is located in the central part of the Old Cemetery in Smederevo. The Church was built in the 15th century on the site of the older necropolis, and the wall paintings dates from the end of the 16th and the beginning of the 17th century. It is not known who was the founder for the construction of the Church. Archaeological researches proved that the members of the immediate Branković family were buried here. Beside the church, there is an ossuary projected by famous architect Aleksandar Deroko and the grave of the author of the Serbian Constitution, Dimitrije Davidović. The whole complex of the Old Cemetery is an important cultural and historical unit.

**SILISTRA - ROMAN TOMB, BULGARIA.**



28 | SOURCE: P. GREGOR

This famous tomb belongs to the most interesting symbols of the late antiquity civilization and the Roman-byzantine art in the Christian world. In between two civilizations – Pagan and Christian, it is influenced by both. Dating from the 4th century, located in the then called city of Dorostorum, the tomb has a single chamber with eastern entrance, covered with paintings – geometric shapes, a family portrait performing purifying ritual, assisted by their servants. The patricius, dressed in a roman commander's costume, is painted in the middle. Two lunettes are decorated with pictures of pigeons and a peacock. It is closed for tourists and no copy has been made yet, due to lack of funding.

**BASARBOVO - ROCK MONASTERY, BULGARIA.**



29 | SOURCE: P. GREGOR



The Basarbovski Rock Monastery of "St. Dimitrius Basarbovski" is situated in the valley of Rusenski Lom river, near the village of Basarbovo. The rock monastery was established during the existence of the Second Bulgarian Empire, but for the first time its name was mentioned in the Ottoman Tax Register of 1431. The most famous inhabitant of the monastery was St. Dimitrius Basarbovski who was born in 1685 in the village of Besarbovo, and spent his entire life in the holy monastery. The Basarbovski Monastery is the only active rock monastery in Bulgaria.

**ESZTERGOM - TURKISH BATH, HUNGARY.**



30 | SOURCE: P. GREGOR

The bastion was built in the 17th century and later a Turkish bath was built using the hot water spring here. The remnants of this small bath have recently been excavated. During the second Turkish period from 1605 to 1683 several hot water baths were built in the town. During the siege of 1594-95 it was damaged. Bálint Balassa received a deadly wound near the building. Christians transformed the ruined building into a residential building. Today these are the buildings at Katona István Street 6 and 8. Ten years later, when the city returned to Turkish hands, it did not restructure the heavily damaged housing. Instead, between 1605 and 1663, in its neighbourhood, outside the city wall, a new smaller spa was built.

**PAKS - MAKOVECZ ARCHITECTURE, HUNGARY.**



31 | SOURCE: P. GREGOR

The local activity of Makovecz Imre is very highly acknowledged by local citizens and is also a magnet of the tourist industry. He was the chief municipality architect of the city for a short period of time at the beginning of the 1980s. He actually designed two buildings in the city. A church of Holy Spirit, which is considered one of his greatest masterpieces, and a small shopping centre at the housing estate of the 1980s. Although his direct activity is limited, his influence on local built identity is quite significant.



The most important Danube heritage is not, however, on any list or under specific protection regime. It is the river itself, in its total length, with everything built or grown beside it. Segments of the river are important, beautiful and deserve attention and respect, but only the whole of the Danube makes it what it is - the cultural heart of Europe, historical crossroad of all the invasions and wars, a point where different worlds and traditions collide and connect.

*The content of this chapter was based on research reports of individual regions (in frame of DANUrB project) as well as with collaboration with other researchers, mainly: Margarita Kaisheva, Peter Strasser, Alexandra Djukic and Mirjana Sladic*

# REFERENCES

DOGO, Marco. 2015. *War, colonization and trade in the Danube basin in the modern era: some sustainability-related issues*. In: Stefano Brumat (eds.) "DIAnet International School Proceedings 2015. The role of cultural heritage for the sustainable development of the Danube Region. Trieste: EUT Edizioni Università di Trieste, pp. 19-26.

DUBINY, Martin - GREGOR, Pavel - KALAŠOVÁ, Kristína, 2018. Mapovanie a valorizácia kultúrneho dedičstva miest na Dunaji : Príklad súmestia Komárno a Komárom. In ALFA. 23(2) , pp. 32-41. ISSN 1135-2679.

GREGOR, Pavel and KALAŠOVÁ, Kristína, 2017. Mapping of cultural-historical potential of architectural heritage (Case study of the selected town Komarno). In: Architecture in Perspective. Ostrava : Vysoká škola báňská - Technická univerzita Ostrava, pp. 234 - 239.

KALAŠOVÁ, Kristína, 2018. Cultural and historical identity of twin cities Komárno-Komárom. In Conference Proceedings of the 5th International Academic Conference on Places and Technologies. Belgrad : University of Belgrade - Faculty of Architecture, 2018, pp. 823-829.

Project DANUrB - a regional network building through tourism and education to strengthen the “Danube” cultural identity and solidarity, In: Research reports of Heritage by regions (Datasheets of Heritage),  
<https://drive.google.com/drive/u/0/folders/1Vk5SpLn3MdauKg1MCrOiove6AUaHFKUp>

danube.travel.com, [online] 2018 [Accessed 24 Apr. 2018],  
Available at: <http://danube.travel/main-menu/danube/heritage.16.html>

The Lepenski Vir site consists of one large settlement with around ten satellite villages. Numerous piscine sculptures and peculiar architecture have been found at the site.

<http://whc.unesco.org/>

<https://whc.unesco.org/en/tentativelists/>



**KEYWORDS:**

Industrial heritage,  
Cultural heritage,  
Harbour,  
Danube,  
Potential

"Industrial heritage represents the remnants of industry and technology and, as a part of the cultural heritage of human, has a historical significance for understanding of the civilization, for understanding of the principle of technological change, for awareness of social contexts, and it refers to the events and activities with historical implications. It also represents values and experiences - scientific, architectural, artistic and social and material for which they deserve to protect and preserve" (Col., 2013; The Nizhny Tagil, 2013).

The vast majority of these objects or campuses has become and nowadays still is the "sign" of the city or region. During their existence, they have undergone many modifications based on the needs of the modernization of production or the change of functions. In addition to a strong identity to these industrial areas, we attribute them these values:

- **Historical** - they document the importance of these territories from their origin and production to the present; from the time perspective we are talking about the legacy of the industrialization period and the industrial zone,
- **Technical** - within individual premises refer to the variety of the technical achievement (e.g. construction solution, craftsmanship of building and technical details, etc.), what is evidence of the industrialization of our territory in the 19th and 20th century and the modernization of production in the second half of the 20th century,
- **Social** - with coming of industry to the city and the region the employment was increased, which also led to an increase of the standard of living of the population, both financially and culturally,
- **Architectural** - they represent individual architectural styles and building development stages of complexes and individual buildings across the 19th and 20th centuries,
- **Scientific** - they refer to the industrialization and modernization; they have brought technical progress in individual production and technical services,
- **Urban** - they relate to the links between the city and the industrial areas, between the objects inside the area,
- and others.

Industrial architecture was created in places with supplies of mineral raw materials, water and other necessary raw materials needed for the individual industry. Industrial architecture is, in comparison with other types of architecture, a technology that is based on the type of industry associated with it. The most valuable representative of industrial heritage in this case becomes an object or complex if space and technology are preserved in addition to the object or object structure. If technology is not preserved, but it is possible to determine these values, this does not reduce the importance of industrial heritage.

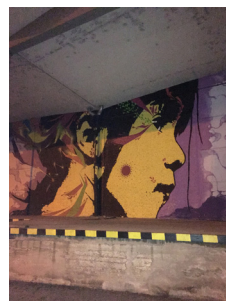
# INDUSTRIAL HERITAGE

## INDUSTRIAL HERITAGE OF THE DANUBE RIVER

The Danube River, as the second longest river in Europe, has retained the most striking features of all the continental rivers. It connects 10 European countries, creating a flowing river path across the continent. The Danube is part of the Mohan - Rhine - Danube water canal, which with its length of over 3500 km connects 13 European countries with Asia and the Caucasus via the Black Sea and it belongs to the one of the longest inland waterways. Utilizing the morphology of terrain and nearby water, a wide variety of industrial objects and areas has evolved throughout the Danube, which have stimulated the development of cities near and wider surroundings. Industrial buildings and facilities are located close to the Danube in short availability or in the wider neighbourhood. Solitary objects are, for example, administrative buildings, warehouses, powerhouses, mills, power stations and other industrial objects that could be part of various factories, harbours, shipyards, quarries, water dams and etc. These objects are countless. Let's just mention some, we'll look closer at the port cities and attractions.

## INDUSTRIAL ZONE - LINZ/AUSTRIA

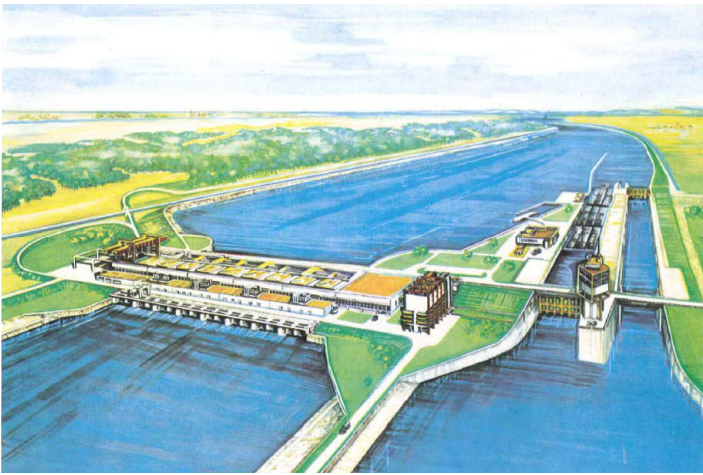
The industrial zone in Linz, Austria, is one of the largest industrial zone in Austria. It is located in the eastern part of the city and for several decades the city is well known for this zone. The Danube embankment linking different industrial areas with a length of nearly 10 km. We can find in this zone also the fourth largest Austrian harbour on the Danube together with the shipyard. The attractions of the harbour area include the Mural Harbour project, which brings colors and traces of the present day to the harbour - graffiti.



1 | INDUSTRIAL ZONE IN LINZ - THE HARBOUR AREA  
INCLUDE THE MURAL HARBOUR PROJECT.  
SOURCE M. DUBINY.

## WATER DAM - GABČÍKOVO/SLOVAKIA

The Gabčíkovo Water dam is a system of dams and channels on the Danube. It includes power station and sailing chambers, which ensure smooth shipping. The water dam was designed as a Slovak-Hungarian project - Gabčíkovo-Nagymaros. Today only the Slovak part is completed. The main themes of the project were flood protection, navigation and energy production (Urban and Lacková, 2018). The construction of the water dam lasted from 1977 and was put into operation in 1992, the power plant and other secondary parts in 1996.



2 | ISOMETRY OF THE WATER DAM, SOURCE: THOLT, PROJEKT 5-6/1990, PP. 31. SOURCE P. BAUER, (THOLT, 1990).

## COAL-PIER - ESZTERGOM/HUNGARY

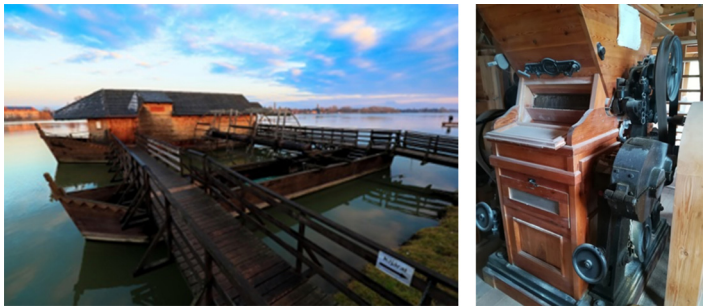
A lone house towering above the river is one of the interesting examples of industrial heritage, which was created following the river. The cable-pier that provided the transport and loading of coal into the ships on the Danube. The coal mine was built in 1927 by Dorogi Coal Mines. It is located on the southwestern tip of the island of Primate Island in Esztergom in Hungary. Interestingly, it is 20 meters above river level, and the coal was weighed by a cableway that was just 6 kilometres from the river. Since 1963, the cableway is not in operation and is an interesting example of how the river affected the life of a narrower region, and despite the distance it was possible to build an interesting technical solution in the 20th century.



3 | COAL-PIER – ESZTERGOM/HUNGARY (DANURB, 2018).

## BOAT MILL - RÁCKEVE/HUNGARY

Boat mills on the Danube were a fairly frequent phenomenon. They used the natural driving power of the milling. The last boat mill in Hungary was found in Ráckeve, which sank in 1968. In 2006 the Municipal Council of Ráckeve initiated the idea of rebuilding the mill and revive the lost milling traditions. The project was developed to give people an insight into the milling traditions, where patrons could wander through and see how the whole machine works. Great co-operation among the locals created the boat-mill.



4 | REBUILD BOAT MILL IN RÁCKEVE/HUNGARY (DANURB, 2018).

## SZOB ZILAHY MANSION - DUNAKANYAR/HUNGARY

The small mansion was built around 1895 in an eclectic style. The 16-room building served as a fishermen's accommodation. The building currently operates as a social housing and is in a very rough state. Thanks to its location on the river bank and beautiful panorama it is worth changing its function (Urban and Lacková, 2018). This object is a proof of the social background for fishermen where they could live or stay in bad weather.



5 | SZOB ZILAHY MANSION – DUNAKANYAR/HUNGARY (DANURB, 2018).

## BRICK FACTORY - PAKS/HUNGARY

The brick factory of Paks is located north of the city just outside the city limits. It is located in a loess valley facing the river, about 300 meters away from the riverside. The factory started working in 1890 but always had problems with the flowing rainwater in the valley. It lost its function in the early 2000s, later it was a site of filming the Fateless (from the book by Imre Kertész for which he won a Nobel Prize. . Today the office building, the chimney, the furnace, the bell tower and the dryer racks are under protection (DANURB, 2018).



6 | BRICK FACTORY AS INDUSTRIAL HERITAGE IN PAKS/HUNGARY (DANURB, 2018).

## WATER TOWERS - VUKOVAR/CROATIA

Two water towers in one city and with a different face. The Water tower (Figure 3. - left) built in the 1960s. It was destroyed during the war of Vukovar. Today it is a symbol of the city and a memory of history. The second tower – Old Water tower (Figure 3. - right) located in the city centre.



The tower was built in 1913 on the site of the former market and is one of the oldest structures in the city. It is currently being repaired and an information centre should be located there.



7 | WATER TOWERS IN VUKOVAR/CROATIA (LEFT PICTURE - WATER TOWER AS A SYMBOL OF WAR, RIGHT PICTURE - A REPAIRED OLD WATER TOWERS IN THE CITY CENTER).  
SOURCE M. DUBINY.

## FRANCUSKA KAPA (FRENCH HAT) - SMEDEREVO/SERBIA

In 1934, a French Foreign Minister visited Smederevo by the ship. He assassinated with Alexander 1st, the King of Yugoslavia, in the same year. This building was intentionally built two years later to straighten French-Serbian friendship. Even more, it is shaped to look like French hat. The building is on the riverside of Danube and in the course of its history, it has changed its purpose. It has been always known by its characteristic form, but also for its beautiful view of the Danube. The building now serves as a restaurant (DANuRB, 2018).



8 | FRANCUSKA KAPA (FRENCH HAT) AS A RESTAURANT IN SMEDEREVO/SERBIA  
(DANuRB, 2018).

## OLD QUARRY - GOLUBAC/SERBIA

The main building of the old quarry is located next to the Golubac Fortress. The building, designed as a modernist industrial architecture, was located at the steep slope of the first hill to the Danube and is very well exposed to the visitors of the fortress. However, this exceptional location of the building has not been adequately used in the tourist economy. The building has not been used for years (DANuRB, 2018).



9 | OLD QUARRY IN GOLUBAC/SERBIA (LEFT PICTURE - VIEW FROM THE HILL, RIGHT PICTURE - THE MAIN BUILDING OF QUARRY).  
SOURCE M.DUBINY.

## THE RIVER DOES NOT KNOW BOUNDARIES

Attractions include river crossing and business trips by ferry. There are many ferry connections across the river on the Lower Danube. Even today, they are used daily to transport trailers, buses, cars, cyclists and pedestrians. In this part of the Danube we find fewer bridge connections than upstream. The ferry is mostly the only available junction across a few kilometers wide river.



10 | FERRY ON THE DANUBE - TOUR FROM BRAILA TO TULCEA/ROMANIA.  
SOURCE M. DUBINY.

The most significant industrial heritage that affected the Danube River and the cities and the narrower region are the harbours. On the Danube, along the entire flow, we can find several important harbour cities. There is at least one major international trading harbour in each country. Harbours originated in the most advantageous areas and in places where trade routes crossed. They became the centres of transport and commerce of cities and regions. Various cultures were mixed here during the traditional markets, where goods from different parts of Europe or Orient could be found. Harbours nowadays form a three-dimensional transport hub connecting water, road and rail. Harbours are used for passenger transport and transshipment, unloading and storage of goods. Significant ports also include shipyards serving the production and maintenance of vessels.

As in the past, shipping companies operate the transport of goods and persons and ensure the smooth flow of goods and persons moving both sides along the entire Danube River, thus maintaining commercial and economic importance of the Danube. Harbours vary at least in the length of the Danube. We divide them according to two basic characteristics - okrajová hrana prekládky na brehu (Sturovo, Paks, Oryahovo, Nikopol, Belene, Svishtov, Tutrakan, Silistra a atď'), pozdĺž okrajov prístavu doplnená prístavnými oblasťami s prístavnými nádržami (Komárno, Lom, Giurgiu, Ruse atď').

## HARBOUR AND SHIPYARDS - KOMARNO/SLOVAKIA

Industrial heritage as a harbour and shipyard are concentrated near the Old and New Fortress, which is located on the confluence of the Danube and Vah River. There is also a former ammunition factory, which was built in the 19th century. At the beginning of the 20th century, it was rebuilt into the Ammunition factory - an imperial-artillery research institute for the production of various types of ammunition as a reaction to the tense situation and weapons before WWI. In the second half of the 20th century, the building of the ammunition factory began to focus on small-scale industrial production and communal production.

A new history of harbour and shipbuilding began in 1898 when a ship repair of the MFTR was established on Elizabeth Island. At the beginning of the 20th century, it grew to a shipyard. In 1919 the shipyard was transferred to the 1st Czechoslovak Republic. In 1923, the state leased the shipyard to Škoda company in Pilsen. In the 50's of the 20th century it was built new shipyard on the outskirts of the harbour basin. The Harbour in Komarno is the second most important harbour in Slovakia.





11 | HARBOUR, SHIPYARDS AND OLD AMMUNITION FACTORY AS INDUSTRIAL HERITAGE IN KOMARNO/SLOVAKIA. SOURCE M.DUBINY/MUNICIPALITY OF KOMÁRNO.

## SILO AND BUILDING OF THE MONOPOLY ADMINISTRATION - SMEDEREVO/SERBIA

The Silo was used for grain storage and distribution of grains to the boats. It is located at Smederevo's waterfront, on the road which connects Smederevo with Belgrade. There was a gym on the ground floor, casino on the first floor and a club at the roof top. All the facilities were closed and today the building is empty. The Silo is also internationally recognized as industrial heritage on the Danube river. The building of the Monopoly Administration was built in 1936, designed by the architect Mihailo Petrović for the needs of national monopoly administration as warehouse for export tobacco. The complex includes two main objects, those are warehouse building as the dominant one and administration building which is a lot smaller but very interesting by its architecture. The complex is really close to the Hotel Smederevo, Warehouse of Salt, Silo, and Wine cellars, which makes those brownfield locations even more interesting for a new development with the preservation of industrial character.



12 | EXAMPLES OF INDUSTRIAL BUILDINGS IN HARBOURS AREA IN SMEDEREVO/SERBIA (DANURB, 2018)

## HARBOURS OF LOM, SVISHTOV, RUSE/BULGARIA

The Harbour of Lom is situated on the right bank of the Danube river in the central part of the town of Lom, District of Montana, North-western Bulgaria. It stands 162 km north of Sofia, 56 km southeast of the city of Vidin, 49 km north of the city of Montana and 42 km west of the town of Kozloduy. The port is of local importance as the crossing point of the two Pan-European Corridors 4 and 7, pointed out by the European Union for priority development. The harbour serves as a connection to most Eastern and Western European countries through the Danube River and is also open for transit goods from Macedonia and Greece.

The Harbour of Svishtov, since the beginning of the 16th century, has been an important transport and trading centre for handling cargo from/to Western Europe to/from the Balkan countries and the Middle East. Harbour of Svishtov, used to be the main trading town in the Ottoman Empire during the 19th century, is the most convenient harbour for distribution on the territory of Bulgaria because it is located in the middle of the Northern Bulgarian border and is the nearest container port terminal to Sofia.

Ruse is the biggest Bulgarian harbour town on the bank of the Danube River. The construction of the Ruse harbour was initiated during the time of the Roman emperor Vespasian in 69-79. In 1864-1866, the first Bulgarian railway line Ruse-Varna was built and opened for use, which marked the opening of today's harbour. In 1906 a contract was concluded for the harbour of Ruse development which included building of quays, sloping transshipments platform, a quay wall with a railway line and a road connecting the harbour to the main railway line Ruse - Varna. In 40s of the 20th century the port fleet, terminals, machinery and services gradually expanded, and the harbour turned again into one of the most important Bulgarian harbours.



13 | HARBOURS IN RUSE AND LOM/BULGARIA. SOURCE M. DUBINY (DANURB, 2018).

## HARBOURS AND SHIPYARD OF GIURGIU, TULCEA/ROMANIA

The Harbour of Giurgiu belongs to the ports, which together with the harbour in Ruse in Bulgaria create a pair of opposite harbours. It has been mentioned since the 16th century. It is 60 km away from the capital city of Romania. During the Austro-Hungarian Empire and the Ottoman Empire, it was the place of trade and defence of freight. The harbour along with the shipyard is one of the most important harbours on the Danube in the country.

The Harbour of Tulcea is one of the last great harbours on the Danube in Romania. In front of the city, the delta mouth begins, creating the gateway to the Danube Delta. The harbour is continuously fed to a shipyard where the ships are still being produced. The importance of the harbour has been preserved since the Middle Ages. The industrial harbour zone was built in 1974 with the aim of providing the transshipment of raw materials especially for metallurgical plants.



14 | SHIPYARD IN GIURGIU AND HARBOUR WITH SHIPYARD IN TULCEA/ROMANIA. SOURCE M. DUBINY.

## PANAMA CANAL ON THE DANUBE

The Danube - Constanta channel in Romania belongs to the ambitious projects that took place in the second half of the 20th century. The first attempt to build the canal was in the years 1949 – 1953. However, it was built between 1976 – 1984. The South canal, which is 64.4 kms long, runs from the city of Cernavoda, on the Danube, to the city of Constanta on the Black Sea coast. Its northern part, known as the Alta Gate - Midia Navodari Canal, 31.2 km long, was built between 1983 – 1987. It is interesting to see its parameters (width 90 m and depth 7 m) besides the length and history of construction. The reason for the construction was to shorten the transport distance by almost 450 kms to the Black Sea. Among the important values in terms of industrial heritage, I would highlight the technical value, since at that time it was necessary to concentrate a great deal of human and mechanical power. Historical value can include the

whole process of construction, which documents, besides the size of the construction, the idea and the human sacrifice, as there were almost 20,000 political prisoners working on the canal and belonging to the concentration camps of the then communist regime in Romania. The overall effort to build a canal, the human effort made over several decades, points to the importance of the waterway as the Danube (Turnock, 1986).



15 | WATER TOWERS IN VUKOVAR/CROATIA (LEFT PICTURE - WATER TOWER AS A SYMBOL OF WAR, RIGHT PICTURE - A REPAIRED OLD WATER TOWERS IN THE CITY CENTER).  
SOURCE M. DUBINY.

## POTENTIAL OF INDUSTRIAL HERITAGE

Today's view of abandoned industrial buildings is beginning to change. There is an increasing interest in their understanding and preservation in the context of the city and, last but not least, they are beginning to be protected. They are part of the cultural heritage as the continuing technical and craft skill of our ancestors. One of the factors that positively affects their preservation is the great importance of economic potential (Fragner, Dvořáková and Zídek, 2010). Conversion after completing the original purpose of the building or object structure of the site provides space for new selected features. The versatile disposition of these objects offers a versatile opportunity for new use (Zimund, 2013; Zemánková, 2013). In the past, industrial areas were located on the edge and today they reach the central city. To exploit the potential of industrial heritage, interdisciplinary cooperation is needed to ensure the selection of a suitable function and, in particular, the preservation of industrial values. Scheme of organized design process, but also a key educational element about local industrial heritage (Hain and Kráľová, 2016). New functional use and legislative protection of industrial heritage in Europe is slowly looking for a way. The preserved documents of industrialization in the central cultural heritage lists have a minimum representation towards another cultural heritage. At present, we learn how these objects or areas to valorise and protect. Potential for the new use of these objects and complexes is their significant position within the city, the urban-architectural expression, the mass-space structure and the variability of the object's layout solution. Architectural heritage reflects the historical image of cultural and social ties in the city. The collection of values, which is a concentrated layer of one value to another, creates a "genius loci" of places and cities that should not be forgotten. On the contrary, it should be remembered and working with it to exploit the potential for city development and tourism in the region with links within an international context such as the Danube.

*The content of this chapter was based on the research reports of the individual regions (within the DANURB project), own research, as well as on the cooperation with other researchers, in particular: Margarita Kaisheva, Cristina Enache, Adreea Simion and Mirjana Sladic.*



# REFERENCES

CANALUL, Dunare, MAREA, Neagra. [online] 2010 [Accessed 02 Jan. 2018], Available at: <http://cercetati.blogspot.com/2010/09/canalul-dunare-marea-neagra.html>

DANUrB research – collection of datasheets. 2018.

FRAGNER, Benjamin, DVOŘÁKOVÁ, Eva and ZÍDEK, Svatopluk. 2013. Úvod. Stavební kniha 2013. Nový život opuštěných staveb. Průmyslové dědictví. 1. vydanie. Praha : ČKAIT, 2013, pp. 5 - 9.

HAIN, Vladimír, KRÁĽOVÁ, Eva. Principles of interdisciplinary cooperation in the conversion of industrial heritage. In SGEM 2016. 3rd International Multidisciplinary Scientific Conference on Social Sciences & Arts : conference proceedings. Viedeň, Rakúsko, 6.4.-9.4.2016. 1. vyd. Sofia, Bulharsko : STEF92 Technology, 2016, pp. 509-517. ISBN 978-619-7105-54-4. V databáze: WOS: 000395727600063.

Kol. 2013. Stavební kniha 2013. Nový život opuštěných staveb. Průmyslové dědictví. 1. vydanie. Praha : ČKAIT, 2013. p. 140. ISBN 978-80-87438-36-7.

KRÁĽOVÁ, Eva. Footprints of Industrial Heritage in Slovakia. Bratislava: STU. 240 p. ISBN 978-80-227-3308-3.

THOLT, T. (1990) "Vodné diela na Dunaji - áno či nie? Problémy s kom-plexným využitím Dunaja", (Water works on Danube - yes or no? Problems with complex use of Danube) Projekt, 5-6, pp. 28-31. (in Slovak).

TURNOCK, David. 1986 "The Danube-Black Sea Canal and its Impact on Southern Romania". David Turnock, GeoJournal, Vol. 12, No. 1 (January 1986).

The Nizhny Tagil: Charter for the Industrial Heritage. July 2003.

URBAN, Ján, LACKOVÁ, Andrea. How (not) to Design a Landscape. <https://pp.bme.hu/ar/article/view/12085>

ZEMÁNKOVÁ, Helena. 2013. Problematika konverze průmyslového dědictví baťovského Zlína v mezinárodním kontextu. [aut. knihy] Kol. Stavební kniha 2013. Nový život opuštěných staveb. Průmyslové dědictví. 1. vydanie. Praha : ČKAIT, 2013, pp. 40 - 44.

ZIMUND, Jan. 2013. Potenciál poválečné průmyslové architektury. [aut. knihy] Kol. Stavební kniha 2013. Nový život opuštěných staveb. Průmyslové dědictví. 1. vydanie. Praha : ČKAIT, 2013, pp. 34 - 39.

# CHANGES IN WATERFRONT LAND USE ALONG THE RIVER DANUBE IN THE STATE-SOCIALIST ERA

**KEYWORDS:**  
State Socialist Era,  
Eastern Bloc,  
Political Influences

After World War II, during a relatively short, 45-year period, state socialism gained ground in the countries of Central-Eastern Europe. During this era, based on centrally formulated directives, a large number of decisions were made regarding the internal functioning of settlements and their relationships to each other. Among others, new towns were constructed, the roles of existing settlements were altered, their situation in the network was artificially changed, town centres were redefined, rings of housing estates were constructed around them. The spatial transformations of cities in this period were the product of the socialist ideology. This had a strong and lasting effect on the landscape and cityscape.

The state socialist era can be divided into several shorter, approximately 10-year-long periods, in which the changing will of the Party caused shifts in the priorities of urban policy as well. As the most important concern was to comply with Soviet expectations, these processes and their spatial effects were similar in all of the Eastern Bloc, even if the changes themselves occurred in slightly different times.

Some of the processes were rather similar, but their depth, extent and prevalence in time were often significantly different in each country.

This chapter follows the most important events of urban development for each period, in some former state socialist countries of the Danube (Hungary, Slovakia, Serbia, Romania) participating in the DANURB project.

Due to length limitations, the paper will only address the main tendencies and major focal points with some typical examples. However, these will be discussed not only from a chronological standpoint, following consecutive periods, but also in the context of the Danube and spatial conditions.

## I. THE 1950S - DEGRADATION, EXPLOITATION - THE RIVER AS RESOURCE

After 1947, state socialist **Hungary** entered the so-called forced industrialisation era.

The goal was to become the „country of iron and steel” by the intensive development of industry - especially heavy industry -, and thus demonstrate the strength and glory of the communist idea.

Predominantly rural Hungary, with most of its population concentrated in small and mid-sized towns and villages, was not sufficiently prepared for this. The most important criteria taken into account in the industrialisation plans were demand for raw materials and water, as well as availability of labour, but finding the ideal locations from a military and political standpoint was also a major concern.

Several large-scale prestige projects were launched at the same time, on different parts of the country, but the greatest attention was attracted by the Danube Ironworks. As the area of the designated site could not provide the necessary labour, constructing the industrial facilities was not enough: a new town had to be constructed. The new town - initially called Sztálinváros (the Hungarian Stalingrad) - was constructed on the 40-50 m high, natural loess cliffs along the Danube, separated from the river by a cc. 350 m wide green belt. The settlement, constructed according to heavily politicised directives in socialist realist and modernist style, became the

first of nearly a dozen Hungarian socialist New Towns. In a short time, tens of thousands of new citizens appeared in the formerly rural area. Nowadays, Dunaújváros has cc. 47.000 inhabitants, its riverfront is popular, intensively used urban place for locals. Its architectural heritage is showcased by an Architectural Educational Trail. The displayed items of the outdoor sculpture park, located in a large green area on the riverbank, are the products of Hungary's only metal sculpting artist colony, the Dunaújváros-based Steel Sculpting Artists' Colony, established in 1974.

The construction of several more new towns was planned along the Danube, but these were never realised. However, the following years saw the construction of many further industrial facilities along the river, which depended on flowing water for their technologies.

As development efforts were concentrated on industrial cities and Budapest, other historic towns (e.g. Esztergom, Kalocsa) located on the Danube were neglected, as the atheist administration ignored them due to their former central role in the organisation of the church.

Budapest, the capital and the most important historic centre of the Hungarian settlement network, was in a privileged position in this period as well. However, this had no obvious effect on urban design. In spite of the large number of unrealised plans - one of which was, in the spirit of the era, the construction of a new and imposing main square with a main axis leading to the Danube -, the city kept its structure and architectural character, legacies of the historicist era.

In that period, massive industrialization took place also in **Slovakia**, as in other countries of the socialist bloc. However, key industrial complexes have been prioritized in the weakly developed regions of Slovakia (Orava, Pohronie ...). Western Slovakia and Danube region represented a more developed part of Slovakia in this period.

The development of the industry in the 1950s in Slovakia in the Danube region is mainly linked to shipbuilding yard in Komárno. Shipbuilding has had its tradition since the end of the last century (1898). Tradition, strategic location on the Danube impressed the construction of a new shipyard shortly after World War II. Its conversion significantly contributed to the economic development of the city in the 1950s. During this period, the plant focused on the export of ships and river tugs to the USSR.

The shipyard also had an impact on the new construction in the town of Komárno. The most important act of industrialization of Danube region in the 1950s was the construction of the Slovnaft refinery in the „Vlčie hrdlo” (Wolf throat) near Bratislava. It was linked to supplies of crude oil from the former USSR and was put into operation in 1957.



In 1949 it was founded the Youth Village as a brand new village on the confluence of the river Váh and the Little Danube on the marshland and wasteland Dögös. In the whole post-war period, in Slovakia is the only species of its kind. The idea to build a new village was created on the Youth Trail - at the time of the post-war constructive enthusiasm. The aim of the young founders was to build a model agricultural cooperative in the south of Slovakia on the principle of collective management. The construction of the "United agriculture co-operative" courtyard was completed at the end of 1950. Simultaneously with it which was basic idea it was developed also the village. The village was gradually built from the brigade barracks through the construction of the first houses (25 in 1950), followed by two new streets (in 1951), to which the Local National Committee building, the agricultural school building, elementary school, the cultural house, the post office. The population has increased from 60 (in 1949) to 800 inhabitants (in 1958). Communist party officials have often come here to see how to build a new society.

Unlike other socialist countries, Yugoslavia - so **Serbia** that was one of the republics of the Socialist Federal Republic of Yugoslavia until the 1990s - did not replicate the Soviet model of socialism, but the state party shaped the main model of urbanization, and cities were the bearers of functions and development incentives. Population growth in cities was accompanied by territorial expansion, physically and functionally integrated urban annexes, such as New Belgrade and the new parts of Novi Sad, as zones of collective housing on the city peripheries. From the aspect of concept and quality of life, they shared common characteristics and were composed of identical elements - free-standing lamellas and towers with a large number of inhabitants and lack of content of extended housing, surrounded by wide and empty green areas. The reconstruction of the cities along the Danube took place after the World War II in accordance with the general urban plans. The period of post-war reconstruction and expansion of the industry, as the main precondition for further economic growth, marked the beginning of a relatively fast and intensive urbanization, which, with more or less oscillations, lasted until the end of the 1980s. The most relevant examples were primarily Belgrade and Novi Sad two cities that were inhabited by lot of newcomers.

Post-war construction in Belgrade, besides reconstruction of demolished parts of the city, was intensively taking place in the area of New Belgrade close to the Danube. The ambition of the authorities was to build the administrative centre of the new socialist state, while the construction in an empty space had an additional symbolic break with the past after the World War II. The construction begins in 1948 on several locations, some of which were located near the Danube bank - the Palace of the Federation (SIV building, today the Palace of Serbia) and the hotel Yugoslavia. Since very soon after the construction of New Belgrade has started Yugoslavia came into conflict with the USSR, there was an economic crisis and the construction of New Belgrade was halted in 1950. Also, during the 1950s, construction of the administrative centre of the state was abandoned and in response to the accelerated migration from the village into the city, the construction of residential blocks of New Belgrade began. Break with the Soviet Union also brought the determination of the Yugoslav authorities for abstract art against the banality of socialist realism, resulting in the European modernist residential architecture. One of significant projects in that time was the construction of a bridge in Pančevo in 1946, which has long been the only bridge over the Danube in Belgrade for a long time.

Immediately after the liberation, Novi Sad has approached the reconstruction and development of industry. In the already existing industrial branches, the city has multiplied production and has established the new one. The first post-war General Urban Plan of Novi Sad (1950) enabled its transformation into a modern centre. During the numerous urbanization cuts in the era of socialism (construction of large boulevards and housing blocks), the city lost some of its distinctive buildings and character. In the vicinity of the Danube promenade, a new building of the Museum of Vojvodina has been built and the construction of the University Campus has begun in 1956. In addition, it was planned to dislocate the industry from the central parts of the city to the areas along the banks of the Danube-Tisa-Danube canal.

In **Romania** between 1945 and 1952, the development was subsumed by a terrible process called "nationalization", meaning, on the one hand, a painful financial and monetary reform, and on the other, the "co-operative working" of agricultural land, started by confiscating the large private properties and farms and giving them to peasants. In 1948 Romania was still a country with predominantly rural structure, already with a delay in the level of urbanization (23.4%).

Industrial development was relatively independent of the Soviet bloc and introduced a large-scale industrialization model, followed by explosive urbanization and systematisation of the entire state territory. Industrialization plans drafted at the end of the fifties and continued after 1965 with the arrival of Nicolae Ceaușescu were part of a large-scale mechanism of organizing a centralized economy that included: electrification, comprehensive mechanization, the development of heavy industry. In 1952, under C.A.E.R., Romanian side opposed the famous "Valev Plan", which proposed the creation of the "Lower Danube Interstate Production Complex" in the south-eastern part of Romania, through which the Romanian territory should become a "vegetable park" of Communist Europe, something that Romanian political leaders seeking massive industrialization did not accept. In the cities of southern Romania, such as Giurgiu, Calarași, Calafat, Orșova, the Danube also bears the stigma of these rapid and hasty transformations: the agrarian reform led to bankruptcy of "Baragan" (known in the years 1933-38 as The Granary of Europe). On the other hand, urbanization, which started with electrification and water availability, improved the livelihoods of people in urban (or urbanized) locations on the Danube. Paradoxically, while on the one hand Danube is engaged in the large industries as a resource of their activity, for most of the population in these cities, Danube is still the "mother-river", a simple and immediately accessible nature, more related to the rural culture, than to the urban one. Fishing, the use of the shores for sports and relaxation, the use of water for irrigation of nearby vegetable gardens are small scale daily activities, yet with no tourist hues, done in the respect and limitations imposed by the river, without the eagerness of controlling its strength.



1 | HUNGARY/VÁC - DANUBE CEMENT AND LIME MILLS.  
SOURCE: WWW.EGYKOR.HU



2 | SERBIA/ HOTEL YUGOSLAVIA AT THE DANUBE BANK IN NEW BELGRADE.  
SOURCE: [HTTPS://WWW.SKYSCRAPERCITY.COM](https://www.skyscrapercity.com)



3 | ROMANIA/NAUTICAL COMPETITION ON THE DANUBE, IN THE AREA OF GALAI PORT, IN 1953.  
SOURCE: <https://www1.agerpres.ro/flux-documentare/2017/08/18/istoria-sportului-romanesc-kaiac-canoe-12-00-39>.

## II. THE 1960S - BACK TO NATURE - RECREATION FOR THE „WORKING PEOPLE” AND COMMUNITY AS VALUES

After the suppression of the revolution in 1956 and the following retaliation, the lifestyle of Hungarian society changed markedly.

People were employed by the state, which compensated for lower income by providing additional services. Travelling to Western countries was only allowed once every 3 years, with permission, and for a maximum of 30 days, which resulted in a flourishing domestic tourism scene. State enterprises and trade unions offered workers simple but cheap recreational facilities and accommodation in their own holiday houses and resorts. Most of these facilities were built near water.

A large number of watersports facilities, company beaches and resorts appeared on the banks of the Danube as well, especially on certain islands. Dozens of islands are located on the Hungarian stretch of the Danube, many of which have a magical atmosphere even today. Architectural mementos of sports facilities from the '60s can still be found in many of these places often in terrible condition.

Weekend houses started spreading rapidly in the late 1960s. An increasing number of moderately wealthy families owned small holiday homes, fishing cabins, weekend houses and garden plots. At weekends, the whole country set off at once and large crowds travelled towards major waterfront settlements; especially in metropolitan areas. In addition to Lake Balaton, the Danube and the Danube Bend were among the most popular destinations.

The Danube Bend, located close to Budapest, was often the destination of mandatory school trips and family excursions. Esztergom and Visegrád, with their prominent role in Hungarian history, as well as Szentendre and Zebegény, widely associated with art and culture due to the high number of local artists, were especially popular.

In Slovakia, the Danube region was classified for the development of recreation and tourism. This type of regions should primarily provide short-term, partly long-term recreation in relation to larger cities and industrial agglomerations. The planned tourism included only the wider facilities of Bratislava and Komárno. Therefore, no significant investments have been made in the Danube region. They were targeted to regions with international or national significance of tourism (to Tatras, Liptov, to the north part of Váh and Hron regions...) or to spa centers of international importance.

However, the Danube region in Slovakia is rich in healing springs and in the 1960s it was used for weekend and short-term recreation. During this

period, the infrastructure of several thermal baths was built. Recreation in the Danube region, due to its regional importance, was mainly focused on activities related to wildlife and water, a characteristic phenomenon of this area. Various types of water sports, fishing, winter skating, but without major development of infrastructure and services, were grown.

The intensification of the establishment of gardens and cottage colonies also took place during this period, with the greatest boom in the 1970s during a period of normalization. Inhabitants coming from rural areas to work in towns and cities lived mainly in housing estates. They lost contact with the soil, which was bad due to the agrarian character of Slovakia. That is why many people found themselves in gardening settlements or in cottages, which at that time served for relaxation and pleasure. The most attractive locations around the Danube were mainly near Bratislava. But they were not as exploited as they were in Hungary.

The sixties of the 20th century represented a period of political defrosting in Slovakia, which was reflected in the amount and diversity of socio-cultural activities. Significantly, a large proportion of important socio-cultural activities took place directly at the Danube. The promoter of this cultural and social revival in the 1960s was the Park of Culture and Recreation (PKO) in Bratislava. The "golden sixties" are often associated" with it. During this period, there took place events that resonate to this day, such as: Bratislavská Lýra, Flora, fairs, balls, dance entertainment, performances of big Slovak big beat groups, sporting events. The project architects were successful Slovak architects.

In Serbia, intensive industrialization and population migration to Belgrade and Novi Sad influenced the significant development of these two cities. Already in the early 1960s, a mass construction of New Belgrade was under way, which provided a large number of housing units for accommodation of residents who were settled in the city. The first half and mid-1960s were marked as a period of intensive housing construction. Gazela Bridge was built and opened in 1970. Attention was paid to the development of cultural institutions, and in 1965 the Museum of Contemporary Art was built in New Belgrade at the confluence of the Sava River in the Danube.

With transformation of Novi Sad into a significant industrial centre and increased number of inhabitants, there was a need for providing new space for the development of the economy, but also for housing settlements. One of the main directions of the new General Urban Plan (1963) was the implementation of the policy of intensive housing construction, and the expansion of the city to the right bank of the Danube, solving the problem of traffic network and conservation of the old city core. Despite the fact that the industry was initially located on the periphery of the city, due to the rapid urban development it was soon found in the central parts, surrounded by residential blocks and preventing the city spreading to the Danube. Construction of a road-rail bridge over the Danube in 1964 was extremely important, as well as the construction of bridges over the Danube-Tisa-Danube Canal in 1964. During this period, two exceptionally significant industrial facilities for oil refineries in Pancevo and Novi Sad were built. The commissioning of new kilns of the Cement Factory in Beocin in 1962 and 1970, as well as the excavation of the channel in 1967 by which the factory was connected to the Danube contributed to the technological progress.

In Romania, when he came to power in 1965, Ceaușescu continued the industrialization plan of the country, focusing on heavy industry. Inauguration of the steel mill in Galați in 1968 was considered a great success in this respect. Until 1972, the activity of the Galați plant had grown steadily and the number of employees reached about 50,000 employees. Until 1974, when the law on the systematization of the national territory issued, the modernization process started without significant prior studies, sometimes in the urgency of providing minimal urban equipment after the wartime destruction. The interventions were aimed, on the one hand, to the modernization of the city centers in order to host the representative institutions of the PCR, and on the other hand, to the raising of the working quarters for the labor force involved in the heavy industry.



*In Gala i, for example, between 1961-65, new blocks of about 3 000 apartments were built in the central city area, following a plan which established the city-development approved in 1955. The central market place and the main promenade to the Danube were outlined as part of this complex.*

During this period, work began on the Iron Gate I - the largest water power plant in Romania and the largest on the Danube, the first cross-border collaboration between Romania and Serbia. The construction was completed in 1971, resulting in the extension of the navigation period on the Danube, the provision of a fantastic energy source and the tourist development of the area with the opportunities for recreation developed on the Danube in the Iron Gates National Park (Romania) and Djerdap National Park (Serbia).

Once the Gura Văii dam was built, an accumulation lake was created behind it, for which 10 settlements on the Romanian bank and 7 on the Serbian side had to be moved, among which Ada-Kaleh fortress was.

Most of the medium and small towns on the Danube - Gala i, Braila, Giurgiu, Tulcea, Calarasi, Orsova, Drobeta, Turnu Severin, Calafat, etc., felt the impact of a territorial development policy that first pursued the performances in the industrial production area. Thus, a number of social, cultural and economic differences deepened, and the identity of cities acquired over centuries of existence was completely ignored.

The construction of new civic centers involved massive demolitions of old tissue, the cancellation of the old parceling system (which almost entirely was transformed into public or state property), the demolition of many patrimony buildings, and the implantation of modern, efficient, but strange, architectures. In relation to the Danube, this impact was all the more powerful, as the image of the communist blocks intervenes in the image of the city towards the water, an emblematic element of the urban historical evolution.

In addition to these radical transformations, which mainly focused on residential and the related facilities, it co-existed some remnants of the "old world", as was in Gala i "Cocuța Beach", an inheritance of the interwar place of agreement, which the communist took over and promoted for recreation of the new working class.



4 | HUNGARY/VIVID SOCIAL LIFE ON THE DANUBE IN THE 1960S AND 1970'S.  
SOURCE: „BUDAPEST” - VOL.X. NO.9.- 1972.



5 | SERBIA/THE MUSEUM OF CONTEMPORARY ART IN NEW BELGRADE - BUILT:1960-1965.  
SOURCE: [HTTP://WWW.BINA.RS/MUZEJ-SAVREMENE-UMETNOSTI-OBILAZAK-GRADILISTA](http://www.bina.rs/muzej-savremene-umetnosti-obilazak-gradilista))



6 | ROMANIA/GIURGIU, THE FRIENDSHIP BRIDGE FROM THE DANUBE SHORE.  
SOURCE ANGELICA STAN.S

### III. THE 1970s - MASS PRODUCTION - LOGISTICAL AND TECHNOLOGICAL VALUES

The 1970s brought the second wave of socialist New Towns in Hungary, but only a small number of new settlements were founded, including Százhalombatta, located on the Danube, which prospered due to its energy and chemical industry facilities. It officially received the rank of town in 1970, its population grew by 16% in 10 years. Százhalombatta adapted well to the changing economic and social conditions after the change of regimes as well, making it one of the most prosperous Hungarian towns today. The construction of the Paks Nuclear Power Plant and the related spectacular increase in the Danube-front settlement's population happened during this period as well, along with the building of the divisive „Tulip” housing estates .

In the 1970s, industry was dominantly present on the banks of the Danube even in the capital, especially in the outer districts. The strong presence of industry was somewhat controversial. Problems and ideas concerning the environment and the need for liveable urban conditions arose more and more often.

As DIY-style constuction of recreational buildings flourished, the pace of state housing construction remained slow. As a result, the government made a decision about the construction of 1 million new homes in 15 years. To make this possible, the development of mechanical and technological equipment, mechanisation of labour-intensive manual jobs became essential. Factories producing concrete and reinforced concrete were launched and the production of prefabricated blocks started. Due to technological requirements, these factories were also constructed near the Danube.



It was during this period that the largest and most populous housing estates were constructed, many of them near the Danube, mostly for logistical reasons. However, the proximity of the water was not a prominent aspect of urban development concepts. Today, most of the population of Hungary lives in prefabricated housing estates, most of which were constructed during this period.

In **Slovakia**, along the Danube River, operations have been expanded in already established industrial complexes such as Slovnaft - Vlčie Hrdlo, shipbuilding yard in Komárno or South Slovak pulp and paper in Štúrovo. With the rise of production, demand for housing also increased. Therefore, one of the main policy objectives of that period was housing construction. For the massive construction of the settlement, "optimal" conditions were created thanks to the central planning system, the state ownership of the land and the construction industrialization. The mass housing development corresponded at the same time with the policy of "social equality of citizens". The number of built dwellings culminated in the 1970s and 1980s and became one of the main indicators of the success of socialism. The size of the new mass housing estates was also related to the quantity. During this period, the construction of the largest mass housing estate in Slovakia – Petržalka, new district of Bratislava situated on the right bank of the Danube. (for 150 thousand inhabitants, about 1/3 of the inhabitants of Bratislava), began. It has become the largest settlement in Central Europe. Around the Danube, in Komárno – new mass housing estates (10 000 inhabitants, about 1/4 inhabitants of Komárno) and mass housing estate Danube in Štúrovo (3,500 inhabitants, about 1/3 inhabitants of Štúrovo) were built in connection with the growing industrial complexes. The 70's meant insensitive access to the existing urban structure and often ignoring the values of historical and cultural heritage. Such an example is the occupation and subsequent degradation and contamination of the Komarno fortress on the confluence of the Danube and the Váh by the Soviet army after the occupation of Czechoslovakia in August 1968. Bratislava's historic district on the Danube, Podhradí and Zuckermandel was demolished due to the SNP bridge's transport infrastructure. This extraordinarily valuable area is still empty and deprived. Similarly, the whole parts of the cities and their centers were demolished in the Danube region and replaced by panel construction of residential buildings or solitary facilities, often typified. To date, these scars in the urban structure of the towns of Komárno, Šamorín, Dunajská Streda, Nové Zámky and Galanta are noticeable.

However, in spite of the reality of mass and often insensitive construction, the 1970s are also associated with great architectural realizations. The Slovak architecture became visible not only within Czechoslovakia but also internationally. In the 1970s it was planned to build a series of important public buildings and representative national institutions. We will mention those that are connected with the Danube and play a significant role in the flow of the river.

Meanwhile the mass construction of New Belgrade in **Serbia** continues. The General Urban Plan's linear concept of longitudinal roads leading to the central zone was accepted, with new centres and small settlements in the natural environment that should provide a better and humane life. The concepts came as consequences of ideological needs to show what we would like to be, although we have already passed through the so-called "reform" and "stabilization", which are euphemisms for the economic crisis.

In the 70's Novi Sad crossed the significant border of its development; the number of inhabitants increased significantly, as well as the number of employees, which required the expansion of the city to new premises. Since it gradually took over the characteristics of a strong industrial and administrative, but at the same time a shopping centre of regional importance, with the potential for creating better living conditions and greater opportunities for employment, Novi Sad's new general urban plan envisioned the expansion of the city towards the construction of a residential unit on the right bank of the Danube, which meant that the city should conquer both banks of the river. Unfortunately, the realization of this plan was not carried completely, although the objects of family housing, mostly unplanned construction, built the area. During this period, the construction of large residential settlements on the left bank of

the Danube (Liman 1, 2, 3 and 4) was intensified, thus doubling the housing stock and significantly improved housing conditions. In mid-1978, the arrangement of the promenade from Strand to the monument to the victims of the Novosadska raid, which was linked to the existing ones between the Varadin and Žeželj Bridge, was completed.

In this period, there was also the modernization and construction of new capacities of industrial plants, such as the completion of the modernization of the Iron factory in Smederevo. The intensive construction in this period included several new bridges; in 1974 a bridge on the Danube connected Backa Palanka and Ilok, in 1975 a bridge between Bezdan and Batina was built and the bridge near Beska, as well as the bridge between Kovin and Smederevo in 1976. This period of intensive infrastructure development was characterized by the great undertaking of the construction of the hydroelectric power plant Djerdap I, which was built in 1970 on the Serbian-Romanian border.

Oversized, the entire industry in **Romania** suffered from the lack of access to the new technologies developed in Western Europe. In the mid-1970s, Ceaușescu had come to the forefront of popularity, and the living standard in Romania was probably one of the highest in the 20th century. In order to keep the industry alive and to "ensure the energy independence of the country", from 1975 until 1982, Romania signed three disastrous financing agreements with the International Monetary Fund, and the country's external debt have risen above 20 times.

Ceaușescu massively imported Western technology: on the Danube he started the construction of the Cernavoda Nuclear Power Plant with AECL's Canadian technology, and re-started the construction of the Danube-Black Sea Channel, a project initiated by the communists in 1949, and ceased in 1953.

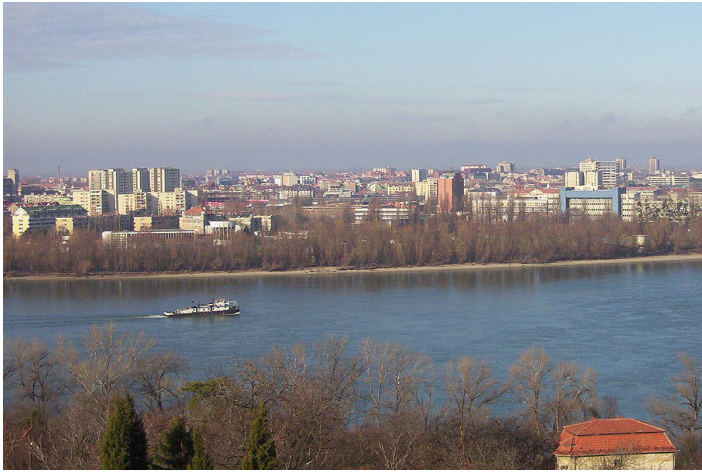
Brutal interventions continued to take place in all Danube towns: Giurgiu finalized intervention on the central market ("The Plate"), after which the radial ring system of the center was destroyed by the forced application of an urbanization project based on the rectangular tram system street. In Tulcea the cliff was built with a "curtain" of tall blocks of collective dwellings, thus hiding behind this the old, traditional, organic town, developed on the seven hills. In Braila, the old center of the city is abandoned, together with a considerable amount of historical buildings, and a new civic center is being built in the south of the city, thus opening a new, foreign image of the city towards the Danube.

Although the morphological relationship of the cities with Danube was a neglected aspect within the communist systematization plans, the promenades along Danube, the recreational activities and sports on its banks were highly frequented by local population.



7 | HUNGARY/BUDAPEST ÓBUDAI LAKÓTELEP.  
SOURCE: [HTTPS://OBUDAI.BLOG.HU](https://obudai.blog.hu)





8 | SERBIA/LIMAN 1,2,3,4 - NEW HOUSING AREA AT THE RIVER BANK.  
SOURCE: [HTTPS://SH.WIKIPEDIA.ORG/WIKI/LIMAN\\_\(NOVI\\_SAD\)](https://sh.wikipedia.org/wiki/LIMAN_(NOVI_SAD))  
#/MEDIA/FILE:NOVISAD.JPG



9 | ROMANIA/TULCEA'S DANUBE PROMENADE FROM THE "DELTA" HOTEL.  
SOURCE ANGELICA STAN.

## IV. THE 1980S - RE-EVALUATION - VISUAL AND ENVIRONMENT VALUES

Post-modernism appeared in **Hungary**, which influenced both the architectural way of thinking and the planning attitude of urban designers and urban planners. Parallel to the official change in planning approach, the public expectations about the urban environment and living conditions became more nuanced as well. Even though the change of regimes only happened at the end of the decade, policies became recognizably more permissive and less intrusive.

Housing estates became more humane - instead of the former long blocks, smaller frames were constructed, with lower buildings. While during earlier housing estate constructions, the presence of the Danube was considered to be a visual asset at best, the new uses of urban space of the 1980s found new qualities and values in the river's proximity. Some housing areas owed their popularity and consistently high property value to their environmental quality and liveability, enhanced not only by their architectural quality, relatable scale and high functionality standards, but also by the closeness of the pleasant waterfront areas. (e.g. the low, high-roofed buildings of the Pók Street housing estate in Budapest).

The processes of the 1970s gained momentum, and the controversies became more pressing. Open, undeveloped areas near the river became scarce, and at the same time, problems regarding the conflicts derived from different land users and environmental problems became more and more prominent. The increasing demand for different waterfront land uses - industry, residential areas, recreational facilities, green areas etc. - created a peculiar competition for land, which became less and less manageable with the tools of the traditional planned economy. This led to the appearance of certain urban planning and urban development tools „imported” from the West.

The 80s in **Slovakia** were marked by continued normalizing. The deteriorating economic situation of the state was reflected in the lack of care for the countryside and the urban structure of the city, even its devaluation. Dissatisfaction with this situation resulted in the publication of the Bratislava / aloud (1987), which was prepared by a broad team of authors and collaborating experts from different fields of science, culture and civic initiatives. The publication was a professional study of the state of the present natural, cultural, historical and social environment of Bratislava and its surroundings. At the same time, it presented a vision for new, democratic, cultural, greener, healthier and more beautiful Slovakia. It was an open critique of the regime.

Progressive ideas and current global trends have also been reflected in many urban and architectural studies that have emphasized the quality of urban structure and the sustainability of territorial development, for example the urban study for the transformation of the Pribinova street zone, or the study of the experimental residential complex of Dlhé diely (Long Parts), both in bondage on the Danube (direct or visual).

The most important action in the 80's was the construction of the Gabčíkovo dam. The impetus for starting construction was a catastrophic flood in 1965, which flooded more than 65 municipalities and caused huge economic losses. The issues of landscape ecology and water quality were the subject of the largest scientific discussions and scientific studies. In addition, the Danube Delta was a unique natural habitat with up to 17 protected areas. The construction of the Gabčíkovo - Nagymaros waterworks system finally started on the Slovak territory in 1978 and in Hungary in 1982. In Hungary, however, work was stopped in 1989. Only the Gabčíkovo dam, with the hydroelectric power plant and navigation chambers, was realized. A separate chapter in planning the dam was the question of recreation around it. Recreational facilities began to be built only in the 90's and beyond.

In **Serbia**, amendments to the General Urban Planning of Belgrade adopted in 1985 were aimed at determining such planned solutions that would be more realistic for realization based on an analysis of the current development mismatch. The emphasis was placed on the functioning of the city as an organism defined through a number of functions, which means that the solutions concerned the physical category of space - density, construction, distribution of functions.

The GUP of the City of Novi Sad, foresaw that since free capacities are slowly exhausting, a significant reconstruction of the built parts of the city should begin. A change of the housing type from the family to the multi-family and large-scale densities in a permanent reconstruction regimes, implemented the replacement of an existing, mostly poor housing fund with an aim to improve life and increase the rationality of space use. The most important transport infrastructure was the construction of the Liberty Bridge in 1981, which was supposed to connect housing settlements on both sides of the Danube, but the emerging events and the breakup of the state halted plans to spread the city to the other side of the river.

In **Romania** in the mid-1970s, the too rapid economic growth, coupled with excessive borrowing done by Ceaușescu, amid the international oil crisis, led to bankruptcy of the Socialist Republic of Romania that had to pay three billion dollars per year, plus another five billion- the difference between import and export. In 1982, the Romanian authorities began to apply a drastic and rapid program of savings, and this terrible engagement of Ceaușescu to pay the external debt led to depriving of the population of basic consumer goods, especially food.

In this context, however, Ceaușescu continued, with huge costs, the construction of the Danube-Black Sea Channel, being inaugurated with great fast in 1984. For the construction of the canal, approximately 2 billion dollars were invested, with an expected recovery of the investment in about 50 years (what lately turned out to be fake). Another major project, the Channel between Danube and Bucharest has remained unfinished.



In this decade, Ceaușescu's dictatorship negatively evolved by overwhelming the entire society with lying and falsity, by culting of the Ceaușescu and his wife, and by declaring a country's general progress, a "bigger and bigger productivity", despite of the generalized evidence of poverty and lack of basic needs.

The international movements that already predict the fall of communism are closer and closer to Romania, which, although isolated, is still heard abroad through radio stations such as "Europa Libera" or "Vocea Americii". At the same time, the exodus of the population to the West is hardly controlled by the authorities: in 1988, 20,000 Romanians (Romanian and Hungarian ethnics) illegally crossed the border in Hungary. On February 4, 1989 in Brussels it was announced that 1,000 villages adopted 1,000 Romanian villages in threatened to be destroyed. Two weeks later, in France, another 2100 localities are twinned with so many Romanian villages, and The Council of Europe adopts a resolution condemning Ceaușescu's "systematization of villages". In the world of architects, more and more voices publicly condemned the systematization programs of cities through irrational demolitions and the loss of invaluable built heritage. However, until the last moment, the Communist regime continued its despotic and aberrant plans of construction, culminating with the People's House, for which a whole Bucharest heritage district was wiped off the face of the earth.



10 | HUNGARY\_KÁPOSZTÁSMEGYER.  
SOURCE: [HTTPS://WWW.LEGIFOTO.COM](https://www.legifoto.com).



11 | SERBIA- THE LIBERTY BRIDGE IN NOVI SAD  
(SOURCE [HTTP://WWW.GRADJEVINARSTVO.RS/TEKSTOVI/4915/820/NOVOSADSKI-MOST-SLOBODE-ISTORIJA-KROZ-KONSTRUKCIJU](http://www.gradjevinarstvo.rs/tekstovi/4915/820/NOVOSADSKI-MOST-SLOBODE-ISTORIJA-KROZ-KONSTRUKCIJU))



12 | ROMANIA \_DANUBE AT GIURGIU\_OSTROVU ISLAND  
AND FORMER INDUSTRIAL SOCIALIST AREA.  
SOURCE CRISTIAN GHITA.

## CONTEMPORARY EFFECTS

All of the events described above happened within 50 years.

When moving along the Danube, the imprint of different eras is equally visible to those interested in the general, overall picture as to those who are more impressed by typical urban design tendencies, urban building complexes and buildings. Elements visible today do not, on their own, necessarily have significant architectural or artistic value, but many of them do.

Nevertheless, recognising them is crucial for understanding the Danube Region. The often-changing morphological units of large-scale industrial sites, factories, square block buildings of housing estates from the era of mass housing development, as well as tiny, scattered, do-it-yourself style holiday houses and cabins, all the various land uses and characters are all witnesses of the peculiar cultural and urban history of an era. Land use and morphology are often clear imprints of historical, social and economical changes. The goal of this study was not necessarily to inventorise and name places of particular touristic interest, but to assist with understanding the underlying causes of changes in the landscape around the Danube.



# REFERENCES

BALLA, Regina, BENKŐ, Melinda, and DURASAIYE, I. O. 2017. Mass Housing Estate Location in Relation to its Livability: Budapest case study. In: Cities, Communities and Homes: Is the Urban Future Livable? Conference, Derby, United Kingdom, pp. 192-203. [Online] Available : <http://architecturemps.com/wp-content/uploads/2018/03/AMPS-Proceedings-10-Cities-Communities-Homes-Is-the-Urban-Future-Livable-1.pdf>

FRUNZA,Victor, 1990. Istoria stalinismului în România. Bucuresti: Humanitas, 512 p. Generalni urbanistički plan Novog Sada (1950) Arhiva JP Urbanizam – Zavod za urbanizam, Novi Sad.

GILBERG, Trond, 1990. Nationalism and Communism in Romania. The Rise and Fall of Ceausescu’s Personal Dictatorship. Westview Press, 289 p.

IONESCU, Ghita, 1994. Comunismul în România. Bucuresti: Litera, 410p.

KISSFAZEKAS, Kornélia 2015. Relationships between politics, cities and architecture based on the examples of two Hungarian New Towns  
Cities: The International Journal of Urban Policy and Planning 48: pp. 99-108.

KISSFAZEKAS, Kornélia, 2016. Budapest: Urban Structures and Architectural Specificities in the Post-Socialist New Towns, In: Szirmai, V. (ed) „Artificial Towns” in the 21st Century: Social Polarisation in the New Town Regions of East-Central Europe, MTA Szociológiai Kutatóintézet, pp 403-437.

Kol. autorov: Bratislava Nahlas, Bratislava 1987, 83p.

MORAVČÍKOVÁ, Henrieta a kol.: Bratislava atlas sídlisk. Bratislava Atlas of Mass Housings. Bratislava, Slovart, 2011, 343p.

PETROVIĆ, Bosko. 1987. Istorijat Novog Sada. In:Petrović – Milisavac Z. (ed), Novi Sad Novi Sad: Matica srpska. pp. 9-194.

TISMANEANU, Vladimir, 2004. Gheorghiu Dej and The Romanian Workers Party. From De-Sovietization to the Emergence of National Communism. Washington D.C., Woodrow Wilson International Center for Scholars, 208 p.  
[cit. 21.5.2018]. Available at: <https://www.wilsoncenter.org/sites/default/files/ACFAF5.pdf>

TOPHAM, Shaun. 1990. Housing policy in Yugoslavia - Trends in Housing Conditions and Construction: 1945–1985. In Sillince, JAA (ed.), Housing policies in Eastern Europe and the Soviet Union, London: Routledge. pp. 402-439.

URBAN, Ján - LACKOVÁ, Andrea [Lacková, Andrea,]. How (not) to design a Landscape. In Periodica polytechnica architecture. Vol. 49, Iss. 1 (2018), s. 77-85

URBIS, 1982. Mišeluk – Programska osnova. Novi Sad: RO Urbis, OOUR Urbanizam.

URBIS, 1983. Vrednovanje alternativnog prostornog razvoja – Prednacr Generalnog urbanističkog plana, III deo. Novi Sad: RO Urbis, OOUR Urbanizam.

UZ NS 1974a. Informacija o prostornom razvoju Opštine Novi Sad i Grada Novog Sada u periodu 1963-1973. i zadacima u oblasti urbanizma, prostornog uređenja i zaštite čovekove sredine u Opštini Novi Sad u periodu 1974-1981. Novi Sad: Urbanistički zavod Novi Sad.

UZ NS, 1978. Izveštaj o realizaciji Generalnog urbanističkog plana Novog Sada. Novi Sad: Urbanistički zavod Novi Sad, Zavod za izgradnju grada.  
<http://urbel.com/beograd-kroz-planove/>

C.A.E.R- the economic organization of the Communist states, created in 1949, of which the Soviet Union, R.D. Germany, R.P. Poland, R.P. Bulgaria, R.S.F. Czechoslovakia and R.P. Hungary

They belong to: Patince (since 1966), Vadaš in Štúrovo (since 1952), the thermal swimming pool in Komárno (in 1967 realized well), Veľký Meder (since 1974)

Andrik, P., Štefanec, J. and Gross, K. The works of art in interiors and exteriors were realized by equally important Slovak artists (Alexy, J., Bártfay, T., Gajdoš, F.).

Partidul Comunist Român (Romanian Communist Party)

architect: György Csete, one of the most dominant personalities of Hungarian organic architecture

They are: the Slovak National Gallery, the Slovak National Theater, the Incheba Exhibition Center, the Government Hotel Bôrik and the SNP Bridge

# INTANGIBLE CULTURAL CAPITAL, ARTS & CRAFTS KNOWLEDGE TRANSFER

## KEYWORDS:

Intangible cultural capital,  
Viniculture,  
Fishing,  
Historical memories and folklore

## INTANGIBLE CULTURAL CAPITAL AND REGIONAL IDENTITY BUILDING

Sharing common historical background, legacy (e.g. Roman, Ottoman or the Hapsburg Empire) and traditions, this chapter will focus on different kinds of intangible cultural capital and heritage along the Danube. Encapsulated in ancient agricultural traditions, like viniculture or fishing, remnants of ethnic migration, heroes, tales, folk songs and traditions kept and transferred through many generations. Due to which we can find common tracks, living and forgotten/or hidden remnants of intangible cultural heritage in the DANURB countries, which can be re-discovered and activated for regional identity and brand building, as well as local and community development.

At the very beginning we remember a great soldier explorer diplomat, engineer and polihistor scientist, Luigi Ferdinando Marsigli (1658 – 1730) who first discovered and documented - in a pioneering scientific way - the wild, unknown battleground of the Carpathian basin and the Balkans when the ultimate battles were fought between the Ottoman and the Hapsburg Empires, covering almost the whole area of our DANURB project. Marsigli arrived in the region at the end of the 17th century to explore and research not only the natural, environmental conditions of the region (needed for military purposes), but was also interested in the history, economy, ethnography, genealogy (e.g. the Zrinyi family) and every day life (e.g. fishing, see later) of various nations along the Danube. He became the founder of several branches of natural sciences as well as draw the first administrative and postal maps (e.g. of Hungary) used for many centuries onward. He discovered - after the victorious battles against the Turks in 1689 - the place and remnants (e.g. several piers, the memorial plate) of the Roman Emperor Trajan's bridge in the Lower Danube at the Kazan straights. In 1726 he published his findings in the 6 volume "Danubius Pannonico-Mysicus", the "Danube monograph" such a rich intangible cultural capital, of which we all have to be aware and honour in this region.

## AGRICULTURAL INTANGIBLE CULTURAL HERITAGE AND KNOWLEDGE TRANSFER

### VINICULTURE IN DANURB COUNTRIES FROM THE WEST TO THE EAST

Viniculture is one of the most ancient agricultural human activity. Neolithic communities of the Fertile Crescent invented agriculture itself by domesticating plants and animals around 10-8000 BC and using a large variety of food processing techniques. They were the first producing bread, beer - and more important for us - wine (also inventing pottery of the storage jars dated back 6000 BC). There could be more wine routes to Europe from the Middle East through the Mediterranean Sea and through Asia Minor. As we will see in the next section on Bulgaria, one of the earliest evidence of winemaking in Europe is from around 3000 BC, related to the wine god of Thracians, called Zagreus/Dionisius. Later the Hellenic people not only learnt wine making but also adopted their god as Dionysus (called Bacchus by Romans later). The ancient Greeks developed a high level of viniculture, deeply rooted into their life and spreading all over Europe wherever their traders and settlers arrived. Most of their intangible

cultural heritage was adapted by the Romans, especially important for us, their reverence for wine. Viniculture expanded with the Roman conquest throughout Europe, brought to such provinces as Pannonia, or far Britain. Romans drank wine as everyday staple food and invented storage in wooden barrels. With the collapse of the Roman Empire unfortunately the Greco-Roman viniculture declined during the "Dark Medieval Ages" until its revival in the Renaissance. In the following section we will introduce some examples of this Greco-Roman agricultural intangible heritage, having still important economic and cultural-tourist effects on the concerned DANURB countries.

Wine represents a central cultural asset in the Austrian Wachau, vineyards covering one-fourth of the region, mainly in the north of the Danube. Wine production - along with the later mentioned apricot in the Southern part - is very important, elevating Wachau to a culinary region, called "Genussregion", famous for their homemade products. There are more than 1.350 ha wine-growing areas, more than 100 Heurigen, and more than 200 wineries. According to the natural alcohol content, there are mainly three "Wachau" brands: the fragrant light wines called „Steinfeder“, the classic „Federspiel“ and the vibrantly reserve wines are called „Emeralds“ (Österreich Wein).

The Roman conquerors had a great effect on the Hungarian viniculture in the Trans-Danubian part of Pannonia, along the Danube and around the lakes of Balaton and Fertő. Remnants of this Greco-Roman intangible cultural heritage could be traced, both in the form of transmitting the production technology knowledge and religious honour. Then maintained and transferred through centuries to the next generations of new settling communities, like the Hungarian conquering tribes in the 9th century. These nomadic Hungarians brought additional viticultural knowledge with themselves, living near large rivers, thus knowing how to ripe the wild type of grape (*Vitis sylvestris*). However, during their long migration travel from the East to the West, they also met other civilizations and cultures, like the Turkish and Bulgarian people, with advanced level of viticulture, from whom they learnt not only the knowledge of wine production, but also inherited etimologically their word of "grape" and "wine". In the early mediavel ages, after the Mongol (tatar) invasion (1241) foreign settlers and masters of high level viniculture came: from Germany (Bavarian) to the West (e.g. Sopron and surrounding, "Kékfrankos") or near the Danube (Baranya, Tolna) and from France and Italy to the Southern (Szerémség) and North-Eastern part of Hungary (e.g. Eger, Tokaj hegyalja). After the Renaissance, wine production and trade was one of the most important income of many settlement as well as of the kings in Hungary, leaving their heritage even in the name of the village, referring to wine production



(e.g. "Vanyarc" or "Vonyarc"). Other ethnic groups, such as the Serbian ("Rác") people fleeing from the Turkish invasion brought their Balkan vinicultural – mostly red wine - traditions as well as types of wine, e.g. "Kadarka". Today, Hungary is famous for several wine regions and types of red and white wine many along the Danube, such as the Pannon Wine Region, created in 2008 by four wine districts: Szekszárd, Tolna, Villány and Pécs. Also the first wine tourism route has been started here: the Villány-Siklós wine route in the South Transdanubian Tourism Region in 1994.



1 | VINEYARD ON THE HILLS  
SOURCE: FORTEPAN 105908,  
[ONLINE] [ACCESSED 15 MAY 2018],  
AVAILABLE AT: [HTTP://WWW.FORTEPAN.HU](http://www.fortepan.hu).

In Serbia, in the "Fruška Gora" wine region - where climatic, pedologic and orographic conditions are favourable - viticulture and wine production are ancient traditions in which special attention is paid to breeding autochthonous grape sorts as well as to producing high-quality wines. What agriculture is for regions of Bačka, most of Banat and the flat part of Srem, viticulture is for the mountainous part of the Srem region - the industry branch that has for many years provided the population with a comfortable life and existence. The beginning of viticulture in this region is linked to the Roman Emperor Probus in the 3rd century A.D. After the downfall of the Roman Empire this region has been inhabited by many people, but grapevine cultivation is connected to Slavic and Hungarian settlers, when wines from this region started to be known as exceptional ones. As in other parts of Serbia, viticulture and wine production on Fruška Gora was occurring at estates of rich feudatories as well as at church properties. Living on Fruška Gora, but also in villages in Bačka opposite of Fruška Gora, was a matter of prestige as opposed to having a vineyard, a wine cellar and wine. Based on the established facts, the development of Fruška Gora's viticulture can be surveyed through several historical periods of progress: the beginnings of viticulture and wine production in ancient times, the medieval viticulture, the setback during Turkish rule, the prosperity in period of Austro-Hungarian regime, the period after the phylloxera fly (from the 1890s to World War I), the period between the two World Wars, the period after World War II and modern viticulture as well as viticulture from the 1990s until today. Each of these periods has its distinctiveness and attributes.

The Lower Danube plane, south from the river bank, is a cultural landscape, dominated by agriculture for milleniums characterised by the first category soils on the scale of fertile soils (Black soils). Almost all, curenly known agricultural activities, define the cultural landscape in that plane, today, e.g. cereals, fruits, vegetables, vines, etc. One of the most amazing historically represented cultural landscapes is related to viniculture. Archaeological findings and historical sources state that vinyards and wine making existed here for more than 5000 years. The beginnings of viticulture and wine-making were placed by the Thracians considered to be among the best winemakers in the Antiquity.



2 | TREASURES OF THRACIANS VINICULTURE HERITAGE  
SOURCE: "DANUBE CULTURAL LANDSCAPE" 2018,  
DANURB RESEARCH REPORT, CENTER FOR HERITAGE INTERPRETATION,  
(CHI) SOFIA, BULGARIA



3 | TREASURES OF THRACIANS VINICULTURE HERITAGE  
SOURCE: "DANUBE CULTURAL LANDSCAPE" 2018,  
DANURB RESEARCH REPORT, CENTER FOR HERITAGE INTERPRETATION,  
(CHI) SOFIA, BULGARIA

So production of wine has been a tradition for the inhabitants on the territory of today's Bulgarian lands and the Lower Danube for many centuries. There are many artefacts, related to wine, determining the spiritual and emotional life of people, living during the times. There are wines that have survived since Thracian times (around 3000 BC.) and are still cultivated industrially and at home vineyards. The Rogozen and Vulchu Tran treasures of Thracians witness the respect and ceremonial usage of the wine. First vines were taken by Thracians from the Middle East to the territory of the present-day Bulgaria. Upon coming to the Balkan Peninsula, the Slavs and the Bulgarians continued the Thracian traditions. Following the imposition of Christianity, the cult of Dionysus was ceased, but the feast related to wine making became Christian and celebrated as Saint Trifon, as the patron saint of the vineyards and winemakers and the related ritual practices for Trifon Zarezan feast continue till today. The main ancient Thracian grape varieties, still grown and having commercial value in the today's Bulgarian Danube plain are "Gamza", "Misket", "Pamid" and "Dimyat".



# FISHING TRADITIONS IN HUNGARY, SERBIA AND BULGARIA

Fishing traditions along the Danube are also thousand years old, as the first human and cultural settlements found here by scientists date back to the 6000 B.C. For instance, Lepenski Vir, a settlement from the Middle Stone Age located in the Derdap Gorge of the Danube in Serbia, is famous for the first monumental sculptures of Europe, with "fishlike" human heads, probably deities of this early Danubian civilization. Even today, in many coastal communities' languages we can find traces of fishing terminology and technology witness to the great antiquity of this agricultural industry. Some terms have travelled with fishermen and were transmitted from one nation to the other: like the Slavic name of the fishing trap "vrša" called "varsă" in Hungarian.

In Hungary, additional to the ancient predecessors' knowledge, fishing traditions came with the settling nomadic tribes, as one of the most important source of food production. Here we mention only one, but very famous city by the Danube. Komárom, and the surrounding settlements were well known for fishing from the 13th cent., a kind of fishing paradise according the historical chronicles and taxation rules : e.g. the serves of the castle payed their tax by fish to their master, and one fourth of the fishermen's catch should be given the king. The Komárom fishermen were very talented and famous for many centuries, especially fishing the largest and most precious great sturgeons ("Huso huso", 9-12 m long, 7-800 kg), called "visa" in Hungarian, which swam up the Danube from the Black Sea, through the Iron Gate, for spawning twice a year. (The earlier mentioned soldier engineer-explorer, Marsigli paid a special attention to fishing traditions (in Vol. IV.), especially to great sturgeon). There were fishing colonies, communities and fishing nests along Danube, meaning the best places for fishing where fishermen could throw their net. The first fishing guilds were established in 1696, with their own strict fishing and trading rules. These fishing communities, called "fishing bushes" with their masters, assistants and pages had special initiation, "baptism" ceremony of the youngest fishermen with the master as "godfather" and their wives as "godmother". The Komárom fishing has flourished until the Danube control and flood protection works started in the 19th cent., when the great sturgeon disappeared from the Danube, overall the amount of fish, and therefore fishing itself has declined.



4 | FISHING BOAT IN THE LOWER DANUBE AT THE GREAT KAZAN STRAIGHT (SERBIA/ROMANIA, 1904),  
SOURCE: FORTEPAN 86894, [ONLINE] 2018 [ACCESSED 15 MAY 2018],  
AVAILABLE AT: [HTTP://WWW.FORTEPAN.HU](http://www.fortepan.hu)

Many words and terms related to fishing along the Danube region are of Slavic origin, as the earlier mentioned "vrša" (fishing trap), "ost" (harpoon), "setka" (net), or even the notion of Slavs was often identified with the concept of fishermen in the old manuscripts of 11-12th cent. Fishing vessels, such as "oranica" or "kopanica" made of one piece of trunk,

were already used by ancient Slavs, but still used by Serbian fishermen during the First World War. Later we will refer to legends and mythical creatures, here we mention some examples, characteristics of the Danube fishing population. One of these mythical creatures was imagined as a dwarf living in an underwater glass castle where it used its victim - drowned men and women - as its servants. They believed that fishermen should not glimpse at their own reflected face in the water, because the underwater creatures will pull their head and drown them. Moreover, sometimes they offered a certain sacrifice to the water spirit (the devil) for better luck in the hunt, saying: "I give you communion, you give me fish!" However, such a fisherman would have luck in the hunt, but would not die of natural causes - most likely drown - and then the other fishermen would say, "Give the devil his due!" They also believed that certain fish have demonic characteristics. For instance, in the Iron Gate/Derdap area it was believed that carp, after a certain number of years, would get wings and fly out of the water turning into a dragon. Even today in Serbia – as the Danube River Basin region is comprised of largely rural population - fishing plays an integral part in the coastal people's livelihoods and every day life. The most popular species are carp, prussian carp, chub, nase, pike, zander, bream, barbell, catfish etc. Float fishing and classic groundbait fishing are most popular. Fishing opportunities in the closest vicinity of Belgrade are numerous as well as on other locations on the Danube, such as Golubac, one of the hosting settlements of the DANURB project.

In Bulgaria, the ancient people, who were occupying today's Danubian plane for thousands of years B.C., and left remarkable evidences of their culture, were Thracians, called Tribali, Getae and Moesi. Tutrakan area was inhabited by the remarkable Getae. Respected warriors, they were welcome to serve as the cavalry in the Roman army. The most representative old times' heritage of the area of Tutrakan is related to relationship of Getae with Romans. Local people feel strongly affiliated to the river. They always admired it, loved it, protected it and built their hopes on it. It was their limes in antiquity, their road in the middle ages and their soul at present days. Danube was, of course, the main resource for living and for gaining every day food. The only and unique fishermen's lower Danube quarter, recognized as an architectural reserve on the Bulgarian bank of Danube, is the "Ribarska Mahala of Tutrakan". Fishermen's nets, the boat workshops and the fishermen's houses bring vivid images of the past. There is a 3000 year old recipe for cooking fish, discovered by archaeologists: river fish wrapped in bigger leaves of rumex, or vine, seasoned with local herbs and grilled on a hot stone. The only ethnography museum dedicated to fishing and boat building on lower Danube is the "Danube Fishing and Boat Construction Museum", including the 100 national historical sites that preserve the material culture of the Bulgarians from the Danube fishing villages. The reputation of the Lower Danube people as skillful and agile fishermen and boat builders is legendary. Their mastership was the reason for the constantly booming town life in the Lower Danube settlements. Their boats were sold a lot outside Bulgaria, e.g. in Austria, Serbia, Romania, Hungary.



5 | FISH SOUP FROM A 3000 YEAR OLD RECIPE  
SOURCE: "DANUBE CULTURAL LANDSCAPE" 2018, DANURB RESEARCH REPORT,  
CENTER FOR HERITAGE INTERPRETATION, (CHI) SOFIA, BULGARIA





6 | DANUBE RIVER LEGENDARY FISHERMEN AND BOAT BUILDERS OF TUTRAKAN,  
SOURCE: "DANUBE CULTURAL LANDSCAPE" 2018, DANURB RESEARCH REPORT,  
CENTER FOR HERITAGE INTERPRETATION, (CHI) SOFIA, BULGARIA

## HISTORICAL MEMORIES, FOLK TALES, SONGS AND TRADITIONS

Geographical conditions and strategic position along the Danube formed unique settlement patterns for instance on today's Slovak-Hungarian border in twin cities like Komárno-Komárom and Štúrovo (Párkány) - Esztergom. Simultaneously it affects linking local cultural heritage in international context in the framework of Danube. These towns have rich unexplored and unused historical cultural potential, which relates to Danube and its diversity. Komárno – the Northern part of the previous united city in 1896, now located in Slovakia –, being in a strategic position and of crossing trade routes - has been a fortification town since Roman Empire, being part of the Limes Romanus. Archaeological findings of Roman military camp Celemantia - Leanyvár (near Komárno, in village Iža) were found. It was part of the Limes Romanus fortification system – the only one preserved on the left side of the riverbank - and served as an extended bridgehead of legionary camp Brigatio on the confluence of the rivers Danube and Vaag. After the 1526 Mohács battle - when the Turkish troops defeated Hungary and later occupied large part of the country – Komárno (Komárom) gained further strategic importance for whole Central Europe. From the 19th century extensive construction of the fortification system started, in a combination of renaissance and modern fortress. Komárno - as a military point - influenced architecture: there is military church, officer pavilion, square of General G. Klapka and other. Regarding the inhabitants of the town, there were specific groups called banderium in honour of the guard of Komárno.



7 | BANDERIUM, HONOR GUARD OF KOMÁRNO  
SOURCE: [HTTP://AHOJKOMARNO.SK/NIKDY-NEVIDENE-FOTKY-O-STAROM-KOMARNE/](http://aho.jkomarno.sk/nikdy-nevidene-fotky-o-starom-komarne/)

On trade routes, markets were organised in towns along the Danube. Such market town is Štúrovo, organising market of St. Simon and Juda annually with 450 years of tradition. It usually lasted 8-10 days and was located in the whole town. The tradition of market preserved until today and merchants come from Romania, Ukraine, Hungary and other countries. There is another historical intangible heritage of this town. Regarding the defeat of Turks - very important military moment for Europe - is to mention the Párkány/Parkan (Štúrovo) battle, where Prince Charles de Lorraine -

general and head of the Saint League - and Polish king J. Sobiesky fought and defeated the Turkish troops in 1683. There is a place called "Valley of laments" where Turks killed 2000 soldiers and the other is called "Valley of Cry" where they murdered 1000 prisoners (women and children). As an intangible heritage of this historical event, the Slovak national writer Janko Král remembered Párkány/Parkan (Štúrovo) how it stands proud through happiness or grief, during tough times of Turkish occupation.

In the Hungarian cities along the Danube, various festivals and events are held with national and international importance based on the multiethnic (Hungarian, German, Serbian, Croatian, Sekler, Turkish) traditions. Today many fish soup festivals and competitions (Paks, Baja etc...) are held, as well as internationally famous folk festivals (dance, songs etc...) based on the varied and multi ethnic traditions, such as the "Folklore Festival Along the Danube". A farewell to (or funeral of) winter tradition, called „Busójárás” in Mohacs, coming from the Balkan with the "Sokac" people fleeing from Turks in the late 17th cent. became a UNESCO Word Intangible Heritage in 2009.



8 | BUSOJÁRÁS IN HUNGARY  
SOURCE: [HTTP://WWW.MOHACSBUSOJARAS.HU](http://www.mohacsibusojaras.hu)

The international "Tamburica fest" was found in 2008 in Deronje village (North Backa) and held from 2013 in the Petrovaradin fortress of Novi Sad (Serbia). It is a 5 day festival with unique concept and cultural mission to promote tamburitza music and present tambouritza as instrument, also to cherish tradition, cooperation and artist friendship on international level. Every year orchestras from Serbia and abroad are competing in the competition part of festival, while in non competitive selection there are appearances of well known artists accompanied by tamburitza orchestras. In the past six years more than 1500 artists have performed. A huge result of this fest that the „World Tamburitza Association" has been organized, Novi Sad hosting the main office.

Kukeri festivities in Bulgaria are a still living Thracian tradition. People wear colorful hand-made costumes and masks, which preparation may take more than a year. The Kukeri masks usually represent animals (rams, goats, bulls, chicken, etc.). Some of the masks have two faces: a good-humored face with a snub nose, and an ominous face with a hooked nose, symbolizing coexistence of Good and Bad. The colors are very important: red symbolizes fertility and sun; black - Mother Earth, white - water and light. They scare evil spirits away by dancing to secure fertility and rich harvest. Kukeri jump, jingle with the bells (they may weight 50 kg) and make jokes.





9 | KUKERI FEST  
SOURCE: "DANUBE CULTURAL LANDSCAPE" 2018, DANURB RESEARCH REPORT,  
CENTER FOR HERITAGE INTERPRETATION, (CHI) SOFIA, BULGARIA



10 | KUKERI FEST  
SOURCE: "DANUBE CULTURAL LANDSCAPE" 2018, DANURB RESEARCH REPORT,  
CENTER FOR HERITAGE INTERPRETATION, (CHI) SOFIA, BULGARIA

Very important part of intangible cultural heritage are folk songs, tales and legends related to the Danube. There are many, however we can introduce only some examples of this rich treasure. Many of the folk songs – e.g. the Hungarian “Wide Danube” - are about love, that the wide river separates the two lovers from each other or related to historical memories – such as the Slovakian song - remembering kidnapping of young girls during the Turkish occupation.

“Széles a Duna...”

Széles a Duna, magos a partja,  
nincs olyan legény, ki átugorja.

Jancsi átugorja,  
csizmáját sem sározza,  
Katát általkapja,  
az ám a legény!...

(Hungarian folk song)

“Ten prešporský mýtný”

Ten prešporský mýtný  
prekrásnu dcéru má,

ešte krajší spíva.  
Uderev jej ten hlas  
dole po Dunaji,  
Turkovi do brány...

(Slovakian folk song)

On the other hand, most of the Danube related tales and legends are about various kings (e.g. “The Fish King”), queens (“The Danube Queen”) or spirits such as the rusalka or rusalki, the Slavic mythological underwater creatures of the Danube. Most of these tales, and especially the rusalka performed as social norms for the coastal communities, e.g. prohibiting fishing on Christmas (“The Fish King”), or during other religious days, such as Pentecost. “Rusalki” have been wide spread in the Slavic mythology from Slovakia to Serbia (and even Russia), somewhere a lake-dwelling soul of a child who died unbaptized or in other places a virgin who was drowned (accidentally or purposely). These later are also called vile (vila), beautiful, charming girls, with a long “rus” (reddish) hair, singing sweet, bewitching songs to the passers-by. While villas were found throughout nature, rusalka were especially connected to the aquatic environment. According to old legends in Serbia they even came out of the water preceding the Pentecost, to get into contact with people and spend a week with them, called the Trojica/Trinity week, or the „Rusalka week”.

DANUBE, “ROAD OF NATIONS”

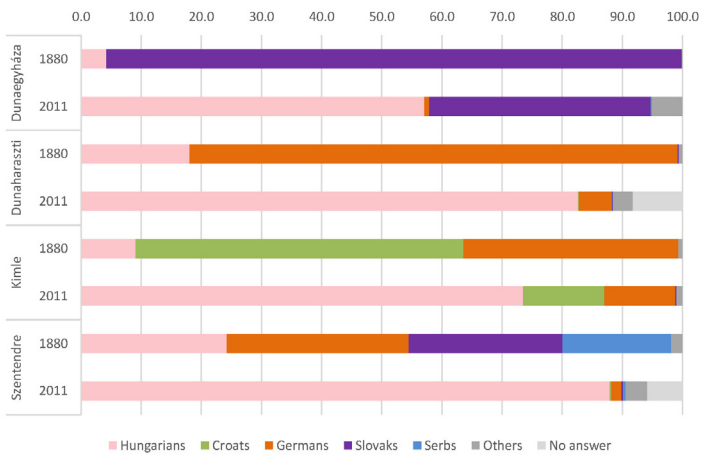
The proximity of the Danube constitutes an important experience of several ethnic communities with living cultural heritage. This is manifested in various elements of their identity: in their traditions or their memory of historical events connected to the river, especially in the way of interpreting the Danube as a main “cultural corridor”. We can look at the Danube – which is the biggest river in Central Europe connecting different regions and communities – as a “Road of Nations”. Although it is well-known that the Danube passing through 10 countries is the world's most international river, this statement is in need of clarification. Most of the Danube-countries have a high ethnic diversity, and a large number of minorities lives in this special region. The presence of these ethnic groups enhances the cultural diversity of this region. Although the two following settlements of examples are located in Hungary (from the North to the South along the Danube), the ethnic minorities in question cover the entire Danube region from Germany to Serbia/Balkan region.

Szentendre (in Serbian Сента́ндреја/Sentandreja), located 22 kilometres from Budapest, has a rich cultural heritage with historical and architectural elements; it was the centre of the Serbian minority in Hungary in the 18-19th centuries, and even today it plays an important role in the life of this community (e.g. it is an orthodox episcopal seat). The first migrants from the Balkans arrived at the end of the 15th century to this Hungarian town, perhaps they were not Serbs, but Dalmatians. The first, well-documented migration of Serbs reached Szentendre (and other settlements in this region) around 1690. They arrived from different areas,

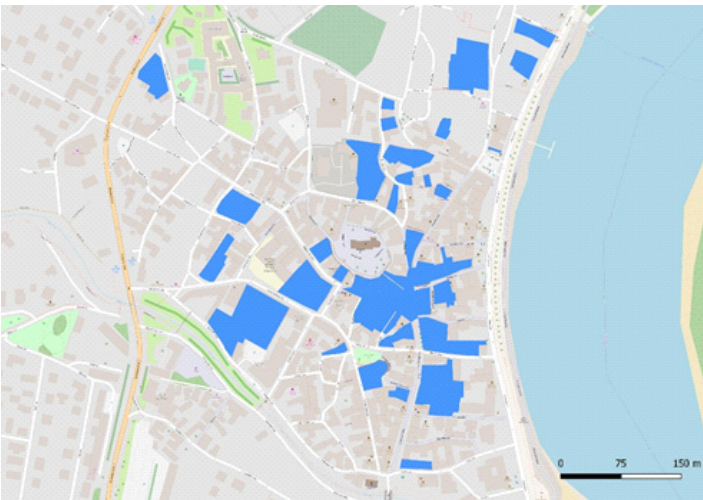


and because of this they took up residence in different quarters within the town. Every community built its own church in a different quarter. All together they erected seven churches, although today one of them is already Catholic and another one is Calvinist.

After the end of the Ottoman wars, many Serbs returned to Serbia. Due to the migration to Southern Hungary and Serbia, the number of the Serbian population in the Szentendre region decreased rapidly after the beginning of the 19th century. The main reasons behind the emigration were the retreat of viticulture (which was a traditional occupation among Serbs) and the decreasing potential in the trade market. Despite that, at the beginning of the 20th century Szentendre was still a town with very high ethnic and cultural diversity. Besides the Hungarians, there were also German, Slovak and Serbian communities in the city which had a very unique atmosphere and a rich cultural heritage. However, due to the later historical events between 1920 and 1950 (Serbian emigration to the Kingdom of Yugoslavia, expulsion of the Germans, Czechoslovak-Hungarian population exchange, assimilation, events of World War II, etc.) Szentendre became a homogenous (Hungarian speaking) city.



11 | DIAGRAM  
SOURCE: D. BALIZS OWN COMPILATION



12 | LOCATION OF THE ELEMENTS OF SERBIAN (AND OTHER BALKANIAN) ARCHITECTURAL HERITAGE IN THE DOWNTOWN OF SZENTENDRE  
SOURCE: MUNICIPALITY OF SZENTENDRE

Dunaharaszti (in German Harast) is located 20 kilometres south of Budapest, on the bank of the Soroksári-Danube. This suburban settlement – which was a small village before – had an ethnic German majority until 1900. In 1695, a few years after the recapture of Buda castle from the Ottoman Empire, 6 Hungarian and 39 German families settled down in the uninhabited Dunaharaszti; the Germans mainly came from Bavaria and Württemberg. Most of the newcomers started their journey from Ulm and travelled on the Danube to Hungary. Their boats were the so-called Ulmer Schachtels (“Boxes from Ulm”), which were used after the arrival to build the first houses. In 1713 the area came into possession of the Laffert family who from 1715 began to settle it with new German families (118 families

arrived to Dunaharaszti until 1770). The structure of the population altered drastically in this period because the newcomers changed their location many times.

In the 19th cent. the population increased fast: in 1869 it numbered 1.748 and in 1910 3.861. In 1910, the assimilated German community identified itself as Hungarian (81% of the inhabitants were Germans in 1880). Dunaharaszti wasn't affected by the expulsion of the German community (only 10 persons). In 2011, 5,5% of the local population identified itself as German, that meant 1.127 persons (the total population number increased to 21.000) which is not much less than in 1880.

	1715	1720	1728	1770
A	Aisenhoffer	Antoni		Antoni
B			Boldner	Anlar
C			Czigler Csoma	Cziezler Czer
E	Eishoffer	Eisenhoffer	Eizhoffer Eisenhoffer Ezer	Eisenhoffer Eisenpacher
F		Fantre Feigler Finster	Faind Faid Faj	Fait Faita Felber Friderik
G		Gabler Gerstenbrein Glass	Glas Gerstenbrein	Glass Gerstenbrein
H	Haiszler Hess Hofschmitt	Hász Hess Hest	Halt Hess Mess	Hell Hochrein
K	Kaiser Kertspar Kerstrey Kerstrei Keymayer Kindlberger Klass Krais Kremer	Káizer Kaltenecker Kimbell Kirschberger Knorr Krausz Kreisz Kretsmann	Kaiser Kaldenecker Kezmann Kinchl Kinsrbajn Kloz Kner Knor Kraczer Kraus Kromer Kux	Kaltenecker Kegler Kidmer Kilm Koltner König Kramer Krausz Kreisz
L	Lailer Lang	Langelmayer Leimetter Lemm	Laigl Langh Lamprecht Lébl Lerner	Lamprecht Lauter
M	Mala Mick Mayre	Mayer	Maár Mayer Miller	Mayer Millpacher

13 | LIST OF THE GERMAN FAMILIES LIVING IN DUNAHARASZTI, ACCORDING TO THE DATE OF THEIR ARRIVAL  
SOURCE: GERMAN COUNTRY HOUSE, DUNAHARASZTI

# REFERENCES

ÁBRAHÁM, Barna, 2014. Nyelvek, hitek, ítéletek: Szentendre etnikai képe a 19-20. század fordulóján. In: Erdősi P.–Majorossy J. (szerk.): Kép, önkép, múltkép. Fejezetek Szentendre történetéből. Ferenczy Múzeum, Szentendre, pp. 103-130.

CZIBULKA, Zoltán, HEINZ, Ervin and LAKATOS, Miklós, 2004. A magyarországi németek kitelepítése és az 1941 évi népszámlálás, Központi Statisztikai Hivatal, Budapest, pp. 326-353.

Danube Cultural Landscape, 2018. DANUrB Research Report, Center for Heritage Interpretation (CHI), Sofia, Bulgaria.

DANUrB Research Report on Wachau, Lower Austria, 2017, Technical University (TU) Wien.

DEÁK, Antal András, 2004. A Duna felfedezése (Exploring the Danube), Vízügyi Múzeum, Levéltár és Könyvgyűjtemény, [online] [Accessed 5 February 2018], Available at: <http://www.dunamuseum.hu/public/deaka/adunafelfedezeseangol.pdf>

ĎURICKOVA, Mária, 2004. Bratislavské povesti (Legends of Bratislava), Slovenské pedagogické nakladateľstvo, Mladé letá.

FÉNYES, Elek, 1851. Magyarország geographiai szótára, melyben minden város, falu és puszta, betűrendben körülményesen leíratik. Kozma, Pest, 654 p.

GRÁFEL, Lajos, 1999. Nec arte nec marte. Komárno: Mestský úrad Komárno a NECARTE s.r.o.

G. SIN, Edit, 2000. Egy évszázad krónikája. Szentendre 1900-1999. Szentendre, Pest Megyei Könyvtár, 343 p.

HERMAN, Otto,1980. Life of fishermen, herding. Gondolat Publ. Budapest.

KATONÁNÉ SZENTRENDREY, Katalin, 1998. A szentendrei római katolikus plébánia története. Magyar Egyháztörténeti Vázlatok 10(1-2), pp. 115-122.

McGOVERN, Patrick E., 2003. Ancient Wine: The Search for the Origins of Viniculture, Princeton University Press.

MÁTÉ, Andrea, 2011. Wine routes in the South TransDanubian Tourism Region, In: Acta Szekszardiensium Scientific Publications XIII, PTE IGYK, Szekszárd, pp. 59-71.

MUSILOVÁ, Margareta and TURCAN, Vladimír, 2010. Rímske pamiatky na strednom Dunaji od Vindobony po Aquincum, Nadácia pre zachranu kultúrneho dedičstva, pp. 116 – 120.

ŐRI, Péter, 2010. Etnikum, felekezet és demográfiai különbségek a 18-19. századi

Magyarországon. Pest-Pilis-Solt(-Kiskun) megye példája. Demográfia 53(4), pp. 373-405.

PÁL, Tibor, 1991. A szerbek nagy kivándorlása. In: Zombori I. (szerk.): A szerbek Magyarországon. Móra Ferenc Múzeum, Szeged, pp. 79-90.

PALÁDI, Zsolt, 2014. Egy sváb család útja Magyarországra. [online] [Accessed 20 April 2018], Available at: <http://vilag.transindex.ro/?cikk=22278>

RÓKAY, Péter. 1991. A szerbek betelepülése Magyarországra a XV. században. In: Zombori I. (szerk.): A szerbek Magyarországon. Móra Ferenc Múzeum, Szeged pp. 51-64.

Rusalka. [online] [Accessed 14 May 2018], Available at: <https://www.britannica.com/topic/rusalka>;

<http://virtuelnimuzejdunava.rs/serbia/cultural-heritage/ethnographic-heritage/rusalka.rusalka-.372.html>

SZÉNÁSSY Árpád, 2010. Komárno, Gibraltár na Dunaji, Komárno. Komárno: Vydavateľstvo KT spol.s.r.o.

TÓTH-SZÖLLŐS, Mihály, 1968. Dunaegyháza község története. Dunaegyháza Virtual Danube Museum, [online] [Accessed 14 May 2018], Available at: <http://virtuelnimuzejdunava.rs/serbia/cultural-heritage/ethnographic-heritage/rusalka.rusalka-.372.html>





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LUBICA VITKOVA

## SECTION 3

### INTRODUCTION



The DANURB project aims to evaluate the cultural and natural potential, small and medium-sized towns and regions around the Danube, which lie outside the main spheres of development. Based on the mapping of the cultural and natural heritage (Danube Landscape and Danube resources) of these cities and regions, it is possible to specify the possibilities for their future development, based on the principle of sustainable development. Valuable natural and cultural heritage calls for more intensive linkages with the development of tourism, in particular sustainable tourism, which promotes local economies and positively influences to the environment.

The chapter on "Sustainable tourism" therefore addresses several key themes. It describes the causes of the negative impact of tourism on the environment, with the aim to avoid their implementation during the tourism development in the regions around the Danube. At the same time, it focuses on forms of sustainable tourism and on its possible application into urban design. The authors asked some questions leading to the support of the quality urban and landscape environment in the tourist regions.

How to plan a sustainable system along the Danube? How to deploy visitors? How to combine the leisure needs of local residents with tourism along the Danube? How to promote the authentic character of cities and regions along the Danube and how to create the Danube brand for sustainable tourism?

The "Thematic Tours" chapter maps sets of similar attractions, locations, destinations, and tourism services. The aim of the research work was to create relevant common thematic areas that can form future networks between regions and more or less along the entire Danube. Common themes can increase the quality and scale of not only domestic and cross-border tourism, but they can also increase the interest of foreign tourists who prefer experiences and learning in tourism. The regions around the Danube are often characterized by a common history and conditions when some types of cultural heritage are along the entire Danube River (the remains of "Limes Romanus", forts, castles, historic towns, twins, complexes of socialism) as well as characteristic gastronomy tied to fishing and agriculture (vineyards, fruit growing ...), or leisure-time tourism in the countryside. „The thematic route is not understood as a tourist destination in marketing terms only, but also it exceeds the classical model of a tourist destination and has a much wider coverage. Further benefits include minimizing the effects of tourism seasonality and reducing the pressure on "magnetic" areas by allocating tourists to less-visited places." The thematic tours attract tourists who want to learn and experience something that is close to them and at the same time is different.

The "Bridges" and "Perception & Participation" chapters point to other cities and regions' qualities - their intangible or natural heritage, their unrepeatable remembrance of the past, the atmosphere and the people who created them.

The Chapter „Conceptual approaches to environmental quality and livability in small towns,, brings together the principles of sustainable tourism and creation for the inhabitants. The contribution defines penetrations based on the needs of residents, tourists and small and medium-sized towns themselves. At the same time, it points out the possibilities of creating a quality residential and public environment for all, emphasizing the appreciation of the potential and specificities of the cities and places.

# SUSTAINABILITY OPTIONS FOR TOURISM DEVELOPMENT

**KEYWORDS:**  
Sustainability,  
Tourism,  
Development,  
Region,  
Communities

## 0<sup>1</sup> WHERE DO TOURIST GO? VISITORS ALONG THE DANUBE

The most important economic activities related to the Danube inside the towns and cities are mostly connected to tourism. Urban and rural areas, natural parks, beaches and vine regions equally form tourism destinations along the river, and several tourists visit more types of these in one travel. However, there is no statistics of the overall tourism of the river, and very few researches mapped the interregional destination system of the Danube. The first question emerges: is the Danube an integrated tourism destination today?

## INTERNATIONAL TOURISM

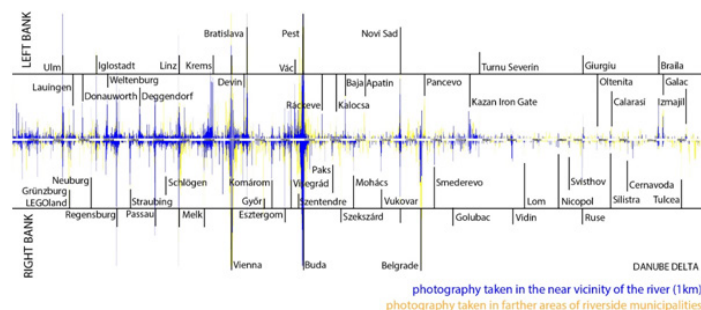
The attractive places of the Danube are either tied to its natural landscape and rich ecosystem, or to its cultural heritage, concentrated in the towns and cities on the shores of the river. Many of such sites are protected, some part of the UNESCO World Heritage. The Wachau Cultural Landscape, the historic cities of Budapest, Vienna and Regensburg are already on this list, together with the natural landscapes of the Srebarna Natural reserve and of the Danube Delta, and with some monasteries on hills close to the river. Other sites, like the Djerdap National Park of the Iron Gates or the Danube Limes and many unique historical places in Esztergom, Komarno-Komárom and Smederevo are on the tentative list. There is a strong professional effort to reveal the joint potentials of the Danube as a European tourism destination, however, today most tourists visit singular sites, and only few venture to gaze along the river.



1 | THE UNESCO WORLD HERITAGE SITE OF DÜRNSTEIN, WACHAU, AUSTRIA.

There most popular international destinations are the main capital cities on the river: Budapest "''''''", Vienna – , Belgrade "''", and Bratislava. Similarly popular are the Danube Delta region , the Wachau region in Austria and the Iron Gate area – . Some cities like Linz "''''", Passau or Regensburg also have become international destinations. All the above-mentioned destinations brand themselves with the Danube river, on the other hand, still few are the multi-destination tourism products along the river. Exceptions are the river cruise ship tours , the transnational Eurovelo 6 bicycle routes , and some cultural routes promoted by the Council of Europe, like the Roman Emperors & Danube Wine Route . In Europe the highest number of cruise ships operate on the Danube and the situation is similar in bicycle tourism, as the Danube bike trail from Donaueschingen to Vienna, and in many cases until Budapest is the most trafficked bike trail in the continent . The means of transport between destinations along the Danube are therefore a cruise ship, a bicycle and a car, in addition to transport between the capitals, which are well connected by rail and air,

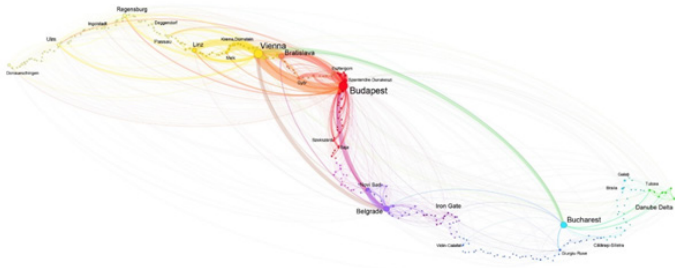
allowing multiple visits to cities between cities like Vienna, Bratislava and Budapest (Kádár, 2014). There is a strong professional effort to reveal the joint potentials of the Danube as a European tourism destination. The Danube region was acknowledged by the European Union as a standalone region in 2009, and since then there are many programmes following a common strategy to unite the different regions along the river . Projects funded by the European Commission such as DATOURWAY or DANUrB work in a transnational cooperation to create a unified Danube tourism brand.



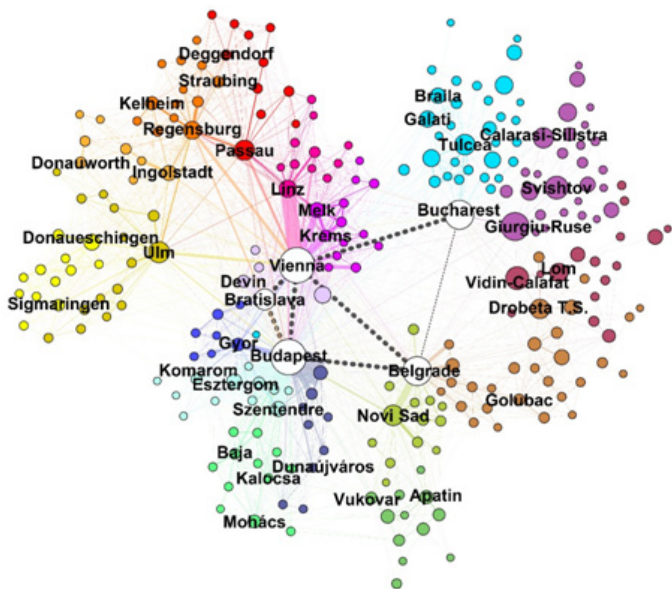
2 | DISTRIBUTION OF TOURIST PHOTOGRAPHY  
ALONG THE TWO BANKS OF THE DANUBE.  
SOURCE: KÁDÁR & GEDE, 2018.

However, the tourism geography of the Danube today is still fragmented, mostly analysed in a national perspectives . In countries like Bulgaria and Croatia there are no tourism regions by the Danube important at a national level, but also in Slovakia or even in Germany only cruise ship and bicycle tourism is relevant along the river. Multi-destination trips are hard to analyse in this scale, but managed to map all tourism related movements along the river using user-generated content from Flickr.com. The results showed how visitors made journeys along the river only in The Upper-Danube, in Hungary, and in some sections of Serbia, but these destination clusters are quite separated by national borders.





3A | TOURISM FLOWS ALONG THE DANUBE.  
SOURCE: KÁDÁR & GEDE, 2018.



3B | TOURISM CLUSTERS ALONG THE DANUBE AND VISITOR FLOWS BETWEEN THEM REPRESENTED AS A GRAPH ACCORDING TO CLOSENESS CENTRALITY MEASURES.  
SOURCE: KÁDÁR & GEDE, 2018.

It is important to note, that none of the successful tourism regions along the Danube is transnational. The Iron Gates region is the only one where significant cross-border tourism is present –, but the Danube in this section is the EU border between Romania and Serbia, and only one crossing exists on the Iron Gate dam itself, therefore transnational cooperation is very limited. The successful tourist destinations are the Wachau region in Lower Austria (Meschik, 2012), but also the region around Linz in Upper Austria (Iordanova, 2017), the Hungarian Danube bend and the developing Danube Delta region in Romania (Hall, 1993). The border regions between Slovakia and Hungary, Croatia and Serbia, Serbia and Romania, and Bulgaria and Romania could not produce popular destinations for international tourism. It must be also noted, that Upper-Danube regions have much better economic outcomes than others on the Lower Danube.

## NATIONAL AND REGIONAL TOURISM

The destinations of regional importance along the Danube are more equally distributed. All larger cities have something to offer at a cultural level, and all sections of the Danube have natural landscapes worth visiting. Natural beaches are well distributed, and they slowly become popular again. In the 20th century waste-water and industries polluted the river to extreme measures, but nowadays the quality of the water is getting to be ideal again. Canoeing and water sports are popular everywhere, and fishing is a stabile leisure time activity bringing many to the shores from year to year.

Most popular regional destinations are natural parks and cities with rich heritage. Day trips are common to urban centers of big cities, e.g. Budapest

has some popular destinations within an hour travel from the city center; Szentendre, Visegrád, Esztergom, Vác are the most popular at the Danube (Michalkó et al., 2016) . Vienna, Bratislava and Belgrade also have cultural and natural destinations within 1-2 hours of drive. Much more difficult is the situation of towns without big cities nearby. In Hungary, it is, for example, Baja or Mohács, or a good example in Bulgaria is Vidin. Vidin is a regional center because there is no big city nearby, but it has drastically reduced its population in recent decades. A city full of monuments and cultural institutions is trying to be an international destination, but the number of visitors is beyond its potential because there is no good accessibility from international markets. The German and Austrian towns of similar size followed a successful model and became regional and also international tourism destinations by forming a network of cultural and natural destinations along the Danube. Larger cites like Ulm, Regensburg, Passau, Linz, Melk and Krems have smaller but very well developed destinations between them, all are well accessible by car and more importantly by bicycle. Here culinary tourism is just as developed as cultural attractions, therefore this network benefits from national and international tourism alike.



4 | BICYCLE TOURISTS ON THE FERRY OF SPITZ, WACHAU, AUSTRIA.

## HOLIDAY HOUSES AND LOCAL TOURISM

The most local scale of tourism by the Danube is the local leisure use of riverside land. Fishing is the most common river related activity in all settlements along the Danube. Bathing is also common; many small towns have their own beaches with some infrastructures. Waterside promenades are not as common as they should be, therefore not every town has local public spaces allowing leisure time activities faced to the Danube. Cities like Krems or Komárom-Komarno are cut off by the river by industrial land use, train lines or by flood protection infrastructures. Krems had to build a little welcome centre as a gate to the Danube to make itself seen from the water. Komárno had a promenade where most citizens met in the late 19th century; today it is an unused industrial port. Paks and Komárom are cut off from the river by the railway. On the other hand, the cities with less attractive centers often built an attractive promenade (Sturovo, Silistra) or riverside recreational areas (Dunaújváros, Backa Palanka, Calafat). Locals use the river for recreation at a daily basis in these places; a good example is Ráckeve, where the riverside promenade also serves as a popular open air market, and have several heritage sites along it, but also a beach on the other side of the River.



5 | LOCAL BEACH IN AN AREA WHERE HOLIDAY HOUSES FACE THE DANUBE, VINCI, NEAR GOLUBAC, SERBIA.  
SOURCE: BALINT KÁDÁR.

Most of the towns have holiday houses by the Danube, so there are more inhabitants in the summer than in the winter. This phenomenon is much more common in post-socialist countries, such as Slovakia (Alzbetin Otrov in Komárno or small cottages near Stúrovo), Hungary (almost all Danube cities have weekend quarters, the most famous are in the Danube Bend or near the Soroksári Danube arm near Ráckeve), Serbia (near Novi Sad, Vinci near Golubaci) and Bulgaria (near Ruse), while there are very few intentionally built holiday homes along the Danube in Romania and Austria. Local residents and holiday home owners usually do not mix, the latter are mainly residents of larger cities who spend weekends or summer near the Danube.

## 0<sup>2</sup> SUSTAINABILITY AND TOURISM

### TOO MANY OR TOO FEW

Tourism is currently one of the rapidly evolving areas of the economy. Its development is conditioned by raising the standard of living, increasing the level of education, changing the way of life, increasing leisure time, changing its use, improving transport and transport connections and other factors. Tourism as a part of the economy is becoming part of state or local policies.

The tourism industry tends to observe in particular the economic effect - number of visitors, number of overnight stays, share of the country's GDP. However, the economic criterion cannot be the one and essential for the assessment of tourism in terms of its long-term effects.

Therefore, it is necessary to monitor the balance between quantity and quality. To monitor the balance between economic profit, which came from the number of tourists and the life quality in the area.

There can be too few or too much tourists, but it is hard to find the right balance, when local socio-cultural life benefits of tourists who have the good experiences of their lifetime. The topic of sustainable tourism has been particularly relevant in the last two decades. It opposes the non-ecological and long-term unsustainable mass tourism with its negative impacts on society, traditional cultures and environment.

There are a large number of definitions of sustainability and sustainable development. The definition of sustainable tourism is based on the best-known definition of sustainable development, which is defined as: *'development that meets the needs of the present without compromising the ability of future generations to meet their own needs'* (WCED, 1987). The World Tourism Organization defines sustainable tourism as *"tourism which leads to management of all resources in such a way that economic, social and aesthetic needs can be filled while maintaining cultural integrity, essentials ecological processes, biological diversity and life support systems."*

Many are intensively addressing to the potential of sustainable tourism development from the field of economics, tourism, or environmental management, but also urbanism, spatial planning, sociology, geography, architecture, and preservation of heritage. Research is primarily focused on assessing the functionality of established and applied sustainable tourism principles, especially because the term itself remains only theoretical in many debates, while without the radical transformation of the tourism industry sustainability remains only an empty brand .

Founders of the concept of sustainable tourism include Bramwell & Lane. They perceive it as a solution capable of making positive changes through a system of targeted strategies, regulation and development control. The topic of sustainable tourism they are devoted to the long-term, from different aspects (Bramwell & Lane, 1993, 1999, 2011).

Sustainable tourism research focuses on a number of specific issues that are current also for the towns along the river Danube. A particular problem is the application of sustainable tourism principles in small and medium-sized towns as well as in regions with tourism potential, but for which tourism has not been until now one of the strategic objectives of their

economic and social development. Most of the towns by the Danube outside the attraction field of large capital cities struggle with similar problems. Good examples are mapped in the publication "Small Towns in Europe in the 20th Centuries. Heritage and Development Strategies"(Klusáková et al., 2018), where successful realizations of sustainable tourism in cities and regions across Europe are presented through an interdisciplinary perspective. The book underlines the fact that this issue has been neglected in the European context for a long time.

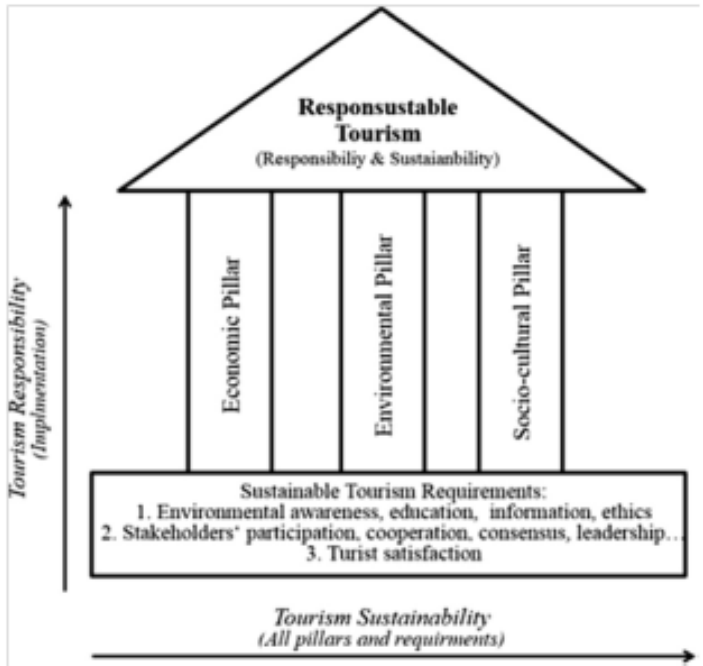
A topic that can contribute much to the sustainability of tourism in the Danube region is creative tourism in small cities and rural areas. The CREATOUR project worked in this area, involved researchers promote the potential for the development of human scaled, interactive, creative tourism and culture-based tourism experiences. The goal is to develop a sustainable creative tourism that is socially, culturally, environmentally, and economically rooted in specific places and is sensitive to these dimensions. It aims to give added value to cultural and creative traditions, skills, and knowledge as well as to emerging creative practices. Among other things, they point to the importance of cultural organizations and creative enterprises for the development of tourism in smaller cities and rural areas (Duxbury, 2017).

A related field is community tourism, where sustainable development is applied to improve the residents' quality of life by optimizing local economic benefits, protecting the natural and built environment and providing a high-quality experience for visitors (Bramwell & Lane, 1993)

It is clear from the above, that sustainable tourism development should be based on the three basic pillars of sustainable development: environmental, economic and social sustainability ""'. In tourism development sustainability should mean demand consistency with economic as well as socio-cultural and environmental objectives and operations, which are competitive in the long run (Mihalic, 2013) (Fig.1). Socio-cultural aspects are often divided into separate pillars, Mc Kercher (2003) developed various guidelines for the four: economic, ecological, cultural and community sustainability.

Sustainable tourism is further based on the following principles:

- On ethics, environmental education, relevant information.
- On the synergies of a wide range of stakeholders, their appropriate management and political support.
- On the satisfaction of tourists and on the satisfaction of the market. (UNWTO, 2004).



6 | PROPOSED UNDERSTANDING OF RESPONSUSTABLE TOURISM.



The main principles of sustainable tourism design should be:

- Long-term viability;
- Respect for the site – to its natural and cultural heritage, as well as to the people living there; Sustainable tourism strengthens the individuality of the place and its character;
- Support local economy and economic development of the site; Sustainable tourism creates jobs for local people, engages local businesses;
- Development and construction are balanced, community-friendly and environmentally friendly; Construction is carried out on the principles of sustainable development;
- Preference for efficient and sustainable transport to and within the destination;
- Generating revenue that is re-invested in improving the environment and improving community life;
- Promoting initiatives and new opportunities. Organized and coordinated efforts of many people and entities. (UNWTO, 2004).

## ENVIRONMENTAL IMPACT

The negative environmental impact of tourism is often its uncontrolled exploitation, leading to degradation of its quality. It is caused mainly by mass tourism. Tourism industry is most often linked to exceptionally valuable territories, both in terms of natural and cultural values. The disturbance of the environment is due to the construction of large-scale tourist facilities that do not respond to local conditions and do not respect the environment. Mass tourism facilities, especially in developing countries, are mostly imported by transnational tourist chains without regard to the location. Their goal is above all profit, based on the attractiveness of the site and quantity. Global mass tourism uses the uniqueness of the place and very often its "newness". It provides standardized services that tourists require (tourist resorts, golf courses...), regardless of the character and capacity of the environment.

Mass tourism also attacks the centers of many cities. Their facilities, accommodation and services are subordinated to tourists at the expense of domestic residents and their needs. In many cases, tourism is pushing locals out from their own places. With mass tourism, there is also an enormous increase in traffic, unsustainable at a local level (congestion, parking...) and international level (polluting air traffic).

Sustainable tourism should be the opposite of mass tourism regarding its environmental effects. Ecological sustainability should only involve development that is compatible with the maintenance of essential ecological processes, biological diversity and biological resources. The main directives to follow in order to achieve such sustainability are the following:

- Codes of practice should be established for tourism at all levels;
- Guidelines for tourism operations, impact assessment and monitoring of cumulative impacts should be established;
- Formulate national, regional and local tourism policies and development strategies that are consistent with overall objectives of sustainable development;
- Institute baseline environmental impact assessment studies;
- Ensure that the design, planning, development and operation of facilities incorporate sustainability principles;
- Ensure tourism in protected areas, such as national parks, is incorporated into and subject to sound management plans;
- Monitor and conduct research on the actual impacts of tourism;
- Identify acceptable behavior among tourists;
- Promote responsible tourism behavior. (McKercher, 2003).

## SOCIO-ECONOMIC IMPACT

*„Human communities represent both a primary resource upon which tourism depends, and their existence in a particular place at a particular time. Communities are a basic reason for tourists to travel, to experience the way of life and material products of different communities. Communities also shape the 'natural' landscapes which many tourists consume.”(Hall, Richard, 2000)* Sustainable tourism is based on securing renewable

economic, social and cultural benefits for the community and its environment.

The role of the community in sustainable tourism is affected by variety of conditions in different contexts.

The main negative impacts of mass tourism on society and local economy include:

- Pushing residents out of their own local environment (from city centers, recreation areas ...) because of their non-economic dependence on the economic pressure of tourism industry;
- Services built on mass tourism are particularly suitable for the needs of tourists and in no form suitable for the needs of local residents;
- The intensity and speed of mass tourism is causing social disruption, in particular to rural and smaller communities;
- Using the local population as a cheap labor force goes against the economic development of locals;
- Imported tourism investments value their profits outside of the destinations where they are brought;
- Exploitation of local resources without investments to restore them. After the oversaturation of the destination market, economic and social decline is expected.

Economic and social sustainability brings profit immediately or in the long term. Its principles are based on:

- Harmonization of the economic and social potential of the locality with the character of tourism;
- Principle of partnerships throughout the entire supply chain from micro-sized local businesses to multinational organizations;
- Application of internationally approved guidelines for training and certification;
- Promotion of ethical and environmentally conscious behavior among clients;
- Development of wide range of tourist activities and their diversities;
- The financial incentives for businesses, which adopt sustainability principles. (McKercher, 2003).

## LOCALITY AND VISITORS

Apart from a few major cities, most towns and villages along the Danube strong international competitors in the tourism market and only a few places can stand the world's exceptional cultural heritage. This is also true for the natural heritage of the Danube, some sceneries are genuinely unique, but most beaches and parks have competitors in seaside or mountain areas that are more marketable. The greatest tourism assets of places along the Danube lie in their local values related to the Danube itself. The locality of Danube towns is strong all along the river. Ancient traditions still live on, and most of the riverside places are used only by locals, in a quite harmonic way. Fishing and bathing is ordinary way of life



7 | SAND SCULPTURE FESTIVAL IN RUSE.  
SOURCE: LUBICA VITKOVÁ.



Local culture and crafts are foundation for the development of creative tourism and cultural tourism. It can offer a great variety of creative activities such as craft workshops – textile, pottery, ceramics, leather, metal, wood, etc.; fine arts workshops – painting, sculpture, drawing; performing arts workshops and community-engaged, participatory artistic residencies; storytelling sessions and workshops; gastronomy-focused workshops; creative and interpretative 'Walks & Visits' involving creation activities; raw materials production and work cycles – of salt, linen, wool, clay, marble, wicker, etc. These activities are equally in harmony with the activities of local cultural institutions, art schools or associations. Moreover, they are realized in an authentic cultural environment.



8 | THE TRADITIONAL OF CERAMIC PRODUCTION IN KOMÁRNO.  
SOURCE: LUBICA VITKOVÁ.

Contact with nature and the cultural landscape in a form of walking, cycling, water sports, spa is also the interest of tourists as well as locals. Local cultural institutions could help to valorize this local heritage, but these are present mostly in the larger towns and cities by the Danube. Tourism development is weakest in rural areas along the river, where the attraction of large cities are missing. The agricultural character of the territory gives the best conditions for the development of rural tourism. It has a number of forms that directly correspond to the economic activities of the local population: such as agritourism, slow food and wine tourism, hunting and fishing tourism, but also active participation of tourists in local production. The main basis of such locally embedded tourism would be the preservation and development of local cultural knowledge, and the interaction based on such values between locals and tourists.

### 0<sup>3</sup> THE DANUBE AS A SUSTAINABLE TOURISM DESTINATION

The main aim of tourism development along the Danube should be a utilization of the natural, cultural, economic and social potential of the territory in accordance with the needs of its inhabitants and in order to ensure the economic prosperity of the area. Planning a sustainable tourism system along the Danube should be an interregional cross-border task and priority, but it should be based on local potentials and possibilities in each town, therefore, a locality based interregional strategy is needed.



9 | NATURAL CONTACT OF LOCALS WITH THE DANUBE - RUSE.  
SOURCE: LUBICA VITKOVÁ.

The unexplored cultural, natural potential and the authenticity of Danube regions might be particularly attractive for a group of visitors looking for peace, knowledge, less demanding sports, healthy and experiential gastronomy, contact with nature, desire of honesty. Regional-rural tourism or tourism coupled to small and medium-sized towns outside of mass tourist centers caters to groups of people who prefer relaxation possibilities close to their home (1, maximum 2 hours), short-term recreation (weekend tourism, more frequent recreation during the year). Tourists with such preferences has increased significantly over the years in European countries. (MDVSR, 2018)

At the same time, a bicycle tourism has boomed, especially in the Upper-Danube area , while it has great potential to develop in the Lower-Danube regions , even though south of Serbia even the basic infrastructures and connectivity is missing. This form of tourism, together with mostly all forms of river-related leisure activities can be harmonic parts of a sustainable tourism system, but it must be noted, that a bicycle and any river-tourism can be symbiotic part of any local socio-economic context only if locally developed accommodation, gastronomy, and cultural services are built upon these.



10 | FOLK AS INTEGRAL PART OF SUSTAINABLE TOURISM – TUTRACAN.  
SOURCE: LUBICA VITKOVÁ.

Strong capacities for the development of sustainable tourism in small and medium-sized towns and rural areas of the Danube can be the following:

- Appropriate natural context for the development of rural tourism;
- Rich cultural heritage from all ages;
- Cultural traditions, preserved folk customs in many areas, the effort to restore and present them;
- Cheap labor that can be employed in tourism;
- Traditional hospitality of the rural population;
- The potential of historical built infrastructure for tourism services (traditional houses, abandoned mansions, empty industrial heritage);
- Lower price level of services provided compared to mass tourist destinations;
- Support from relevant ministries from each country around the Danube or the EU;
- Existing local and regional tourism organizations as well as a network of cultural educational and advisory institutions.

The potential for developing sustainable tourism with international cooperation includes:

- Danube as an integrative element of different regions and states;
- Possibility of using ecological and attractive transport: water (network of existing ports...), railway and Eurovelo 6 bicycle route;
- Existing cross-border relations and international cooperation.



## DANUBE FOR LOCALS

Tourism generally needs infrastructure; apart from accommodation and catering facilities, they are functional facilities of culture, sports, high-quality transport infrastructure or public spaces. One of the principles of sustainable tourism development is that the enhanced environment and its facilities serve not only tourists but also domestic residents. As well as visitors, they enjoy the possibilities of recreation, using built facilities and natural environments even more intensively - as for day-to-day or short-term recreation, given their immediate proximity to their residence. Tourism development though can be beneficial not only as the part of local economy, but also by offering even more opportunities for the leisure of domestic residents, increasing their quality of life, therefore increasing the livability and resident-attractivity of such towns.

Successful and sustainable tourism destinations along the Danube should be based on the local recreational needs and local cultural values. External visitors should come to enjoy a destination only if local communities attach to its places and use these with pride. If a strong local consciousness cares about the values of the community and the Danube and if locals have power and initiatives to take care about these, a sustainable tourism destination can be created.

A sustainable tourism system along the Danube should be created by extending the existing supply of tourism products and services in a planned manner, aiming an ideal network where visitors can support local economies and local leisure needs, without overcrowding residents. Wherever there is a place attractive already to tourists, a next place of interest should be valorized, one that is accessible from the existing ones. But only places already discovered by locals should be valorized for tourism, and only if the development of that place can be at least partially managed by locals, for the benefit of local communities. Such places can be heritage places, or venues and infrastructures where the intangible heritage of the local community can be best valorized. The stories and heritage assets connected to the Danube have even better possibilities for tourism related valorization, as the values attached to the Danube appear also in other destinations along the river, even in very popular ones, therefore these are more easily consumable for tourists. But the valorization and development of such places is sustainable only if initiated by locals. A promenade or beach section loved and used by local communities for leisure can be more easily developed to gain the interest of visitors, who will be happy to join local uses and traditions with residents, taking part of activities that are authentic to the place, and will be remembered so. In fact, heritage and local resources can make tourism in an area not only sustainable, but also unique and authentic.



11 | DANUBIANA GALLERY – CUNOVO (SK) A PLACE FOR TOURISTS AS WELL AS FOR LOCALS.  
SOURCE: LUBICA VITKOVÁ.

## DISTRIBUTING VISITORS

It is easy to understand why an optimal balance between locals and visitors is desirable. Without visitors, many leisure related infrastructures will not be feasible or built at all, and heritage assets will not be preserved and used in lack of resources and interest. On the other hand, too many visitors will transform the once authentic places into globalized tourism hotspots, where local uses, traditions, languages disappear, present only in a staged form, preformed to tourists, but not lived. Too many visitors will force locals to find other places for their recreational needs, pushing them out from places with the best natural and cultural potentials (like best views). But how to make authentic places to be discovered by tourism, without the invasion coming after the first Instagram feeds?

A well-managed network of attractive places, where an optimal distribution of visitors can happen, is the key. None of the sites of attraction should stand out too much from the others, but together the attractiveness of Danube regions – and the Danube as an integrated tourism system – should be high enough to draw great numbers of visitors. The distribution in time and space of tourists in this system is a key element.

From the point of view of sustainability, a balance between economic efficiency, the will and capacities of locals, and the burden of the territory must be found. It is optimal to use the predominant potential of the unused capacities of existing buildings and spaces in the towns of a region, and the development potential of unvisited settlements and deserted riversides and natural areas. In most small and medium-sized towns as well as for the entire regions around the Danube, there is a characteristic decline of their inhabitants. This means that they have the natural potential to absorb the growth of the "short-term" population - tourists.

The natural and cultural character of the area around the Danube, outside the main economic and cultural centers, calls for a more balanced "sharing" of work - synergy. The possibility of creating joint and unique thematic routes along the Danube (limes romanum, historic fortress and castle systems, historical cities, architecture of socialism, technical monuments, spas, vineyard, nature reserves, unique nature ...) naturally requires cooperation and synergy. Such routes are great tools to distribute visitors. Capacities of more developed regions should be directed towards less developed ones directly connected, so flows of tourist can be also directed to more empty areas, preventing overtourism in the developed places.

## DANUBE BRAND

Overtourism to the most popular international destinations helps to valorize the heritage and natural potential of the Danube, as many popular destinations with similar characteristics of Danube-side places are already overcrowded, therefore they cannot absorb more visitors, and their existing visitors have more willingness to explore new destinations where mass tourism is less overwhelming. Beautiful seaside beaches, world heritage towns, famous wine regions, exotic natural parks – most of them are suffering overtourism already. The Danube can offer the same possibilities, but in a less exploited, more authentic setting. Beaches are long, natural reserves and towns with heritage are numerous, wine regions and culinary traditions are dispersed uninterrupted all along this great river.

With smart planning, transnational and interregional cooperation, local entrepreneurship and local pride, and a good branding, the Danube can be one of the most interesting, extended and popular destinations of Europe. If all local values are well used and respected, this could become a destination system with sun and beach, nature, culinary experiences, water sports, cultural heritage and local traditions, but without destructive mass tourism. The Danube is the best development area for sustainable tourism, and the best chance for the communities along the river to find a good quality of life in their own settlements. The branding of this destination system must also be based on the localities, on the slow flows of the river, which allows a more authentic and relaxed lifestyle, but still connects 10 countries and many more cultures to explore.

# REFERENCES

BOENGIU, V. (2012). Evaluation of Tourism Resources in the Iron Gates Natural Park in Order To Identify the Potential of Tourism Development. *Analele Universității Din Oradea, Seria Geografie*, 22(2). Busek, E., & Gjoreska, A. (2010). The Danube Region: Transformation and Emergence. *Eastern Journal of European Studies*, 1(1), 9–20.

BRAMWELL, B., LANE, B. (1993). Sustainable tourism: An evolving global approach. *Journal of Sustainable Tourism*, 1(1), 1-5.

BRAMWELL, B., LANE, B. (1999). Sustainable Tourism: Contributing to the Debates. *Journal of Sustainable Tourism*, 7(1), 1-5.

BRAMWELL, B., LANE, B. (2011). Crises, Sustainable Tourism and Achieving Critical Understanding. *Journal of Sustainable Tourism*, 19(1), 1-3.

DAMIAN, N., & DUMITRESCU, B. (2009). Sustainable Development Prospects for the Danube Delta Rural Communities. *Revue Roumaine de Geographie/Romanian Journal of Geography*, 53(2), 153–163.

De FRANTZ, M. (2018). Tourism marketing and urban politics: cultural planning in a European capital. *Tourism Geographies*, 20(3), 481–503.  
<https://doi.org/10.1080/14616688.2017.1354392>

DRAGIN, A. S., DRAGIN, V., PLAVŠA, J., DRAGIN, A. S., & PLAVŠA, J. (2007). Cruise Ship Tourism on the Danube in Vojvodina Province as a Segment of Global Tourism. *Geographica Pannonica*, 1(1), 59–64. <https://doi.org/10.5937/GeoPan0711059D>

DRAGIN, A. S., JOVICIC, D., & BOŠKOVIC, D. (2010). Economic Impact of Cruise Tourism along the Paneuropean Corridor VII. *Ekonska Istrazivanja*, 23(4), 127–141.  
<https://doi.org/10.1080/1331677X.2010.11517438>

DUXBURY, N. (2017). CREATOR: Creative Tourism Destination in Small Cities and Rural Areas. *Revista Turismo&Desnvolvemento*, (27)28,47-48

GIDDINGS, B., HOPWOOD, B., & O'BRIE N, G. (2002). Environment, economy and society: fitting them together into sustainable development. *Sustainable Development*, 10, 187–196.  
<https://doi.org/10.1002/sd.199>

HALL, D. R. (1993). Ecotourism in the Danube Delta. *Revue de Tourisme - The Tourist Review*, 48(3), 11–13.  
<https://doi.org/10.1108/JHOM-09-2016-0165>

HUNTER, C. (1997). Sustainable tourism as an adaptive paradigm. *Annals of Tourism Research*, 24(4), 850–867.

IODANOVA, E. (2017). Tourism destination image as an antecedent of destination loyalty: The case of Linz, Austria. *European Journal of Tourism Research*, 16, 214–432.

JOKSIMOVIĆ, M., GOLIĆ, R., VUJADINOVIĆ, S., ŠABIĆ, D., JOVANOVIĆ POPOVIĆ, D., & BARNFIELD, G. (2014). Restoring tourist flows and regenerating city's image: the case of Belgrade. *Current Issues in Tourism*, 17(3), 220–233.  
<https://doi.org/10.1080/13683500.2013.861390>

KÁDÁR, B. (2013). Differences in the spatial patterns of urban tourism in Vienna and Prague. *Urbani Izziv*, 24(2), 96–111.  
<https://doi.org/10.5379/urbani-izziv-en-2013-24-02-002>

KÁDÁR, B. (2014). Measuring tourist activities in cities using geotagged photography. *Tourism Geographies*, 16(1), 88–104.  
<https://doi.org/10.1080/14616688.2013.868029>

KÁDÁR, B. (2017). Hotel development through centralized to liberalized planning procedures: Prague lost in transition. *Tourism Geographies*, 0(0), 1–20.  
<https://doi.org/10.1080/14616688.2017.1375974>

KÁDÁR, B., & GEDE, M. (2018). Mapping the attractivity of tourist sites all along the Danube using geotagged images from Flickr.com. In 5th International Academic Conference on Places and Technologies, 26-27.04.2018 (pp. 1–13). Belgrade: University of Belgrade - Faculty of Architecture.

KASAGRANDA, A., RAJČÁKOVÁ, E., & VYSTOUPIL, J. (2016). Urban tourism in Slovakia - its quantification, spatial differentiation and typification. *Geographica Pannonica*, 20(2), 105–113.  
<https://doi.org/10.18421/GP20.02-08>

KLUSÁKOVÁ, L. et al. (2018): Small Towns in Europe in 20th and 21st Centuries. *Heritage and Development Strategies*. Prague. Karolinum;7-156



MAZILU, M. (2011). Regional Tourism from the Perspective of the Danube Strategy – Iron Gates Region. *Cactus Toruism Journal*, 2(2), 44–55.

MCKERCHEL, B. (2003). Sustainable Tourism Development – Guiding Principles for Planning and Management, 1–10  
[https://www.researchgate.net/publication/255624917\\_SUSTAINABLE\\_TOURISM\\_DEVELOPMENT\\_GUIDING\\_PRINCIPLES\\_FOR\\_PLANNING\\_AND\\_MANAGEMENT](https://www.researchgate.net/publication/255624917_SUSTAINABLE_TOURISM_DEVELOPMENT_GUIDING_PRINCIPLES_FOR_PLANNING_AND_MANAGEMENT)

MESCHIK, M. (2012). Sustainable Cycle Tourism along the Danube Cycle Route in Austria. *Tourism Planning and Development*, 9(1), 41–56.  
<https://doi.org/10.1080/21568316.2012.653478>

MIHALIC, T. (2016). Sustainable-responsible tourism discourse e Towards 'responsustable' Tourism, Tanja Mihalic, *Journal of Cleaner Production* 11(1) 461-470

MICHALKÓ, G., KÁDÁR, B., GEDE, M., BALIZS, D., KONDOR, A., & ILYÉS, N. (2016). A Budapesti Agglomeráció szatellit turizmusa és környezeti hatásai. In T. T. Sikos & T. Tiner (Eds.), *Tájak, régiók, települések térben és időben: tanulmánykötet Beluszky Pál 80. születésnapjára* (pp. 241–257). Budapest: Dialóg Campus kiadó.

Ministerstvo dopravy a výstavby SR (MDVSR). (2018). Ubytovacia štatistika na Slovensku. Vidiecky SR 2017. (7)  
<http://www.mindop.sk/ministerstvo-1/cestovný-ruch-7/statistika/ubytovacia-statistika/2018>

OPPERMANN, M. (1996). Rural tourism in Southern Germany. *Annals of Tourism Research*, 23(1), 86–102.  
[https://doi.org/10.1016/0160-7383\(95\)00021-6](https://doi.org/10.1016/0160-7383(95)00021-6)

PLONER, J. (2009). Narrating regional identity in tourism - Sketches from the Austrian Danube valley. *Language and Intercultural Communication*, 9(1), 2–14.  
<https://doi.org/10.1080/14708470802684465>

PUCZKÓ, L., RATZ, T., & SMITH, M. (2007). Old City, New Image: Perception, Positioning and Promotion of Budapest. *Journal of Travel & Tourism Marketing*, 22(3–4), 21–34.  
<https://doi.org/10.1300/J073v22n03>

RÁTZ, T., SMITH, M., & MICHALKÓ, G. (2008). New Places in Old Spaces: Mapping Tourism and Regeneration in Budapest. *Tourism Geographies*, 10(4), 429–451.  
<https://doi.org/10.1080/14616680802434064>

RICHARDS, G., HALL, D. (2000). *Tourism and sutainable Community Development*. Rotledge, London, 1.

SMITH, M. K., EGEDY, T., CSIZMADY, A., JANCSIK, A., OLT, G., & MICHALKÓ, G. (2018). Non-planning and tourism consumption in Budapest's inner city. *Tourism Geographies*, 20(3), 524–548.  
<https://doi.org/10.1080/14616688.2017.1387809>

STEINBACH, J. (1995). River related tourism in Europe - an overview. *GeoJournal*, 35(4), 443–458.  
<https://doi.org/10.1007/BF00824354>

TALABOS, I. (2014). Customer habits and the Datourway strategy. *Turističko Poslovanje*, 14(December), 71–80.

TERZIĆ, A., & BJELJAC, Ž. (2016). Cultural Routes - Cross-border Tourist Destinations within Southeastern Europe. *Forum Geografic*, 15(2), 180–188.  
<https://doi.org/10.5775/fg.2067-4635.2015.041.d>

United Nations World Tourism Organisation (UNWTO) (2004). *Indicators of sustainable development for tourism destination: A guidebook*. Madrid, 55–65

VUJKO, A., PLAVŠA, J., & OSTOJIC, N. (2013). Impact of the “Danube Cycling Route” on the Development of Cycling Tourism in Serbia. *Polish Journal of Sport and Tourism*, 20(3), 227–233.  
<https://doi.org/10.2478/pjst-2013-0021>

World Commission on Environmental Development (WCED) (1987). *Our common future*. Oxford: Oxford University Press. The Brundtland Commission - formally the World Commission on Environment and Development, 16  
<http://www.un-documents.net/our-common-future.pdf>

WIDAWSKI, K., & WYRZYKOWSKI, J. (2017). *The Geography of Tourism of Central and Eastern European Countries*.  
<https://doi.org/10.1007/978-3-319-42205-3>

<https://sustainabletourism.net/e-history-of-Balaton-development>.

# POSSIBLE THEMATIC TOURISM NETWORK COOPERATION

**KEYWORDS:**

Thematic tourism,  
Connectivity options,  
Cultural networks,  
Heritage tourism,  
Events,  
Gastronomy,  
Health tourism,  
Religious tourism

## 0<sup>1</sup> CONNECTIVITY OPTIONS

In the history of tourism, attractions were changing: at the beginning, only natural elements were the objectives of tourism; later on, the type of attractions, which became the main factors of tourism, gradually increased. Today's most popular attractions include the built heritage, artificial facilities, entertainments and other programs. This process accelerated in the second half of the twentieth century and mass tourism was released. At the turn of the millennium, concentrated, thematic attractions created with a significant investment were appealing where experience, excitement and adventure were the main attraction.

In the earlier period of tourism, tour operators were driven by exploration of demand-driven destinations, now the tour operators are adapting to the changed desires of new consumers and finding new experiences, offering flexibility, ease and pleasure of creating customized vacation. The demand for new forms of tourism has emerged as thematic travel, adventure programs, cultural tours, ecotourism, boat trips, and many more. Search for new experiences becomes a predominant consumer trend. This trend is fully supported by the continuous IT development. The benefits of information technology enable the development of different thematic programs that allow tourists to perceive other local values and express their uniqueness in search of authentic experiences. (ĐURAŠEVIĆ, 2014)

The thematic route is not understood as a tourist destination in marketing terms only, but also it exceeds the classical model of a tourist destination and has a much wider coverage. Further benefits include minimizing the effects of tourism seasonality and reducing the pressure on "magnetic" areas by allocating tourists to less-visited places. (BALOG, GONDA, RAFFAY, 2018) The potential sources of development of tourism thematic forms are not only needed to analyze the natural and material possibilities, but also the profound analysis of the human characteristics and the potential target group, whose are motivated to experience something new during the holiday. Various forms of thematic tourism exist and it is difficult to classify them as tourism demand often involves many interlinked needs. These include among others thematic wine routes, pilgrimages, and educational tourism, which are usually related to lagging destinations that are not capable of delivering this concept alone but fit into the integrated product with partnership forms. (WARD-PERKINS, TORRES, HOUIELLEBECQ, ELLIS, 2017) Thematic travel is a tourist product that combines natural and artificial attractions with a variety of transport modes around a selected theme. The routes, while taking into account the principles of sustainability, offer both learning acquisition and recreational opportunities. Cultural trips are thematic journeys, the central theme of which is cultural value, inheritance, and which have a dominant role in cultural attractions. (RÁTZ, PUCZKÓ, 2002) From the geographical point of view, the thematic routes may be:

- local settlement / Andrásy Avenue, Budapest
- regional / Tokaj-hegyalja Wine Route
- national / Mária Route, National Blue Trail, Hungary
- international / The Roman Emperors and Danube Wine Route, Croatia, Serbia, Bulgaria and Romania

## THE ROMAN EMPERORS AND DANUBE WINE ROUTE

The European Cultural Route programme was launched in 1987 and is managed by the European Institute of Cultural Routes (EICR) based in Luxembourg since 1989, by the Council of Europe. European Institute of Cultural Routes examines and certificates applications for new cultural routes projects, monitors the already-certified routes, coordinates and provides technical assistance to networks, especially in Central and Eastern Europe, initiates new proposals and promotes information and maintains the cultural route database. 32 Cultural Routes were certified as listed. A Cultural Route may be used in accordance with certain conditions: identify the heritage elements created by the geographic and cultural, historical and natural features of the different regions; common to at least 3 countries of Europe; encourage cultural tourism and sustainable cultural development; creating common visibility to

allow the identification of the items part of the Route. Since 1987, the Institute has certified 33 routes, among which The Roman Emperors and



1 | THE ROMAN EMPERORS AND DANUBE WINE ROUTE, LOGO.  
SOURCE: DANUBECC.ORG.

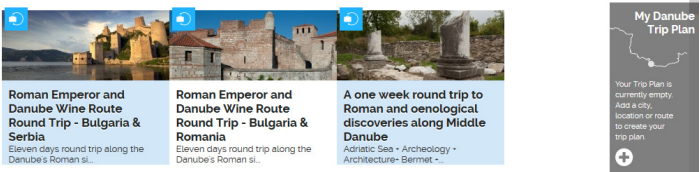


The Roman Emperors and Danube Wine Route run through four countries of the Middle and Lower Danube Region – Croatia, Serbia, Bulgaria and Romania – including 20 archeologic sites and 12 wine regions. The Roman Empire maintained a permanent military presence along the border of the Danube, which resulted in the spread of the wine culture, and the Danube Wine Route thus encompasses the same regions where wine was introduced in Roman times and continued the tradition of wine production. Besides the heritage of the Roman culture related to the road, wine is a key theme that conceptually combines the introduction of Roman culture and social customs into the Danube region. The fluvial route called Roman Trans-Balkan Highway linked the lines of military facilities and ensured the regulated commercial traffic on the river. Along the Danube River corridor, it was an important land route that served to connect the European half of the Empire to the East, from the Adriatic Sea, through Sirmium, to the Morava River near Viminacium, finally, arrive in Constantinople (Istanbul). (danubecc.org, 2018), (Figure 2).



2 | THE ROMAN EMPERORS AND DANUBE WINE ROUTE, MAP  
SOURCE: DANUBECC.ORG/ MARIANN FONYÓDI.

The cross-border journey along the Roman Danube Frontier (Limes) can be done either by hiking, biking, driving, boat or train connecting the hidden historical and archaeological treasures, several sites have only recently been discovered. Today it connects places such as Baranja (w), Ilok (w), Sirmium/Sremska Mitrovica (r), Fruška Gora (w), Smederevo (w), Viminacium/Požarevac (r), Diana/Djerdap Region (r), Negotin/Krajina (r, w), Felix Romuliana/Zaječar (r), Ulpia Oescus (r), Vidin (w), Kale Fortress (r), Mediana/Niš (r), Plevna (w), Roman Legion Camp Novae/Svishtov (r), Ruse (w), Adamclisi (r), Histria Fortress/Orsova (r). (danube.travel, 2018), (Figure 3).



3 | MY DANUBE TRIP PLAN" TRAVEL DESIGN APPLICATION ON THE WEBSITE  
SOURCE: DANUBE.TRAVEL.

## POTENTIAL REGIONAL THEMATIC NETWORKS

The most important goals of developing thematic routes include raising interest directly to a particular theme and related attractions, and thus to the geographic area where these attractions can be found. This feature, especially for roads that are less well-liked, can play a prominent role as routes can turn products into products that fit into the subject but do not attract visitors.

### HERITAGE TOURISM

When the vast majority of tourists come to see cultural heritage which falls into the category of cultural tourism. It is important in terms of sustainability that heritage tourism sites offer a complex experience for visitors that is built on services. The main elements are the uniqueness of the site, its interactive presentation, displaying the everyday lifestyle, the

unique experience, the connection between the nostalgic and the modern. Heritage buildings and sites become products through management and interpretation. In this case, it is typical to seek authenticity, there is a desire for local, real values and a rejection of any fake products. Heritage tourism is less seasonal and less cost sensitive, the target group travels more than the average. Besides the complex experiences, the idyllic country atmosphere, the various countryside images could be appealing as well. (BOŽIĆ, GORDEA, 2014)

The river connects ten European countries, they speak about twenty languages, they have different religions and traditions, their past is a common memory of the Roman and Byzantine Empire, the Neolithic and medieval fortifications. The Roman Emperors' Route is based on the fact that Romans conquered Croatia, Serbia, Romania and Bulgaria, and that 19 emperors were born on this territory - the Route leads through old Roman towns, palaces and fortresses in these countries, with the culture of the culture mediated by them, baths, vineyards, Byzantine temples. The legacy of the important military role of the Danube is the chain of Roman, Ottoman fortifications, Medieval fortresses (Baba Vida, Devin, Kalemegdan, Zemun, Petrovaradin, Ilok, Šarengrad, Kalet, Severin, Diana, Drenčova, Golubac etc.)

The Route of Emperors and Kings is an interesting cross-section of European diversity and history, along the Danube to the cities of Passau and Regensburg in Germany via Linz and Vienna in Austria to Budapest and Gödöllő in Hungary. Natural sights and abbeys, noble houses of worship, medieval castles, palaces and royal residences line the river Danube. Austrian-Hungarian Empire reached its peak, which is also obvious in baroque art and architecture not only of Austria and Hungary, the remarkable baroque architecture is also present in all the Danube countries and from Germany to Romania.

After the World War II, the Danube connected some of the most developed capitalistic countries to the countries of the Soviet Block or communist orientation. That contrast is still visible today, and can also be seen as an illustration of what was happening in Europe for almost half a century. Beside tangible heritage found in the given area, there are also some stories related to the same period. One of them is about youth labor actions that were voluntary activities of young people in the Socialist Federal Republic of Yugoslavia. Those actions were the way to build public infrastructure such as roads, railways, factories, public buildings etc. The volunteers have built the embankments along the Danube as well, and there is even a monument devoted to the successful defence of flooding in Bačka Palanka. The text on the monument says: "Your power is great, Danube, you showed that in 1965, but even greater is the power of human solidarity that tames you." (utnv.org, 2018)

Most of Danube landscapes and monuments are under the protection of the state - which includes more than twenty national parks and numerous buildings, streets and monuments from prehistoric, Roman, medieval, baroque or modern times. Some of those are even on the official UNESCO World Heritage List. At this moment, these are: old town of Regensburg with Stadthof in Germany, Wachau cultural landscape and historic centre of Vienna in Austria, Hungarian capital Budapest (including the banks of the Danube), Gamzigrad-Romuliana in Serbia, Danube Delta in Romania and Srebarna nature reserve in Bulgaria.

Historically, these activities characterized the most important economic sectors of the Danube territories. The river was the shortest and the most efficient transport corridor. Fishing was a secured living resource. Sailing was and still is the way to experience water sports and to explore islands and vicinities. Today, it is a scene of numerous cultural activities and celebrations, next to the attempts to still make living from it.

### EVENTS

The urban events often relate to heritage tourism, they focus on historic traditions or create a new tradition associated with local attractions. There is a great tradition of organizing cultural festivals where not only cultural and musical programs but also gastronomy plays an important



role. (Flavors-Ages-Feelings, St. Stephen's Day Wine and Music Festival)  
On the banks of the river, festivals are organized to celebrate it, to promote it, or to discover some new segments of its beauty and culture: Danube Festival in Krems (Austria), International Danube Festival in Ulm (Germany), The Blue Week (organized by Croatia, Serbia, Bulgaria and Romania), etc. (Figures 4., 5., 6., 7.).



4 | OPERA AND CONCERTS SUMMER FESTIVAL  
IN THE 'FORTRESS OF THE AGES' IN VIDIN.  
SOURCE: MARGARITA KAISHEVA.



5 | HISTORIA VIVENS IN SVISHTOV.  
SOURCE: MARGARITA KAISHEVA.



6 | WATER LILLY FEST  
SOURCE: MARGARITA KAISHEVA.



7 | KACHAMAK, MAMALIGA (POLENTA) FESTIVAL  
SOURCE: MARGARITA KAISHEVA.

Cultural heritage of the Lower Danube towns is sustainably exploited for organising numerous activities and events. The best known are the opera and concerts summer festival in Vidin, on the scene of the Baba Vida Castle and in the Magura Cave, Polenta Fest, River Notes Fest, River on Fire (The Flaming Danube) Festival, Apricot Fiesta, Water Lily Fest, Polenta (Mamaliga, Kachamak) festival, etc. All summer festivals and events are highly attractive at local, national and international levels.

There are festivals, included in the European History Record of Historical Restorations, "Historia Vivens" (Svishtov in Lower Danube, etc.). A number of them are dedicated to the Roman legacy, where gladiator battles and demonstrations of Roman artillery are performed and scenes are played. Usually, these events take international character with stakeholders from various Danube countries: Bulgaria, Romania, Hungary, etc. There is also a rich program for children..

The festivals are attractive events for lovers of history, culture, ancient crafts, adventures, antique culinary recipes, antiquity weapons, disappeared languages and tribes and curious facts, the mission of preserving ancient monuments (castles, etc.) from oblivion, popularize ancient history and culture, preserve the memory of our proud ancestors. Naturally, the events are an excellent opportunity to strengthen and promote cultural tourism.

One of the many gastronomic and tourist manifestations in Vojvodina is the Golden Kettle, organized in September every year by the Tourist Organization of the Municipality of Bačka Palanka, under the sponsorship of the Municipality of Bačka Palanka. Giant cattle located at the Kaloš Čarda in Bačka Palanka is the largest in the world but has not been listed in Guinness Book of Records due to the uncompleted procedure. Its volume is 4,000 litres, it is 1.5 meter deep and its diameter is 2.4 meters. Although the kettle represents a tourist attraction per se, it continues to be used many times a year, and various dishes are cooked in it, from fish soup to goulash. The fish soup for Guinness World Record was cooked in 2002. At that time, 12,000 people were fed up with the giant soup from the world's largest kettle.

The tradition of winemaking is celebrated by the annual wine festival, which takes place in the period under the name of a vineyard but at the same time during the grape harvest (Szekszárdi Szüreti Napok, Paksi Siller Fesztivál, Smederevska jesen, Karlovačka berba grožđa etc.)

There are many celebrations and festivities of the Danube communities which relate to the past and often, even to the pagan times. For example, prayers of the Moesians to their supreme god, the Thracian horseman, a prototype of St. George in Christianity, were helping them to defend themselves. That is why St. George has a very high position in the Lower Danube people's traditions. Celebrations of his day take place in each family as one of the greatest holidays. The cult of the Thracian horseman is



associated with faith in the afterlife and gratitude for bringing fertility and well-being to people.

Folklore traditions keep beliefs into supernatural creatures towards which people have more poetic or generally pagan attitude, mythic creatures related almost wholly to the nature. Such creatures are the samodivas (wood nymphs), these are most often beautiful girls with blonde hair, sometimes with wings and their power is in their clothes. The lamia (dragon) is a female creature with iconography appearance of an enormous reptile with sharp-nailed legs, three or nine dog's head and sharp teeth. The zmeys (male dragons) are enemies of the lamia. They are young male creatures with human appearance, a tale and wings in the armpits, the lower part of their bodies is covered with flakes shining like gold and they inhabit deep woods and caves. Orisnici (weird sisters) are three female creatures who go together around the world, visit the homes of the newborns and predict their fate. They wear the nicest folklore adornments and are typical relics of the matriarchal culture.

In many towns and villages on the Danube in modern times, love and passion for the brass band music has been reborn, not simply continues in the tradition but also builds on it.

## GASTRONOMY, WINE

Like other aspects of the Danube life, gastronomy is also a good example of mixing and sharing different cultures: many food specialties in more than one country, while a common approach to gastronomy is characteristic of neighbouring regions.

Hungarian cuisine is famous for the fullness of spicy and tasteful dishes. In that country, a visitor can taste a variety of gulyás soups, pörkölt (pepper and meat stew). As for the typical Danube dish, it is called Fishermen's Soup, cooked differently on the banks of the Danube and other rivers. In Croatia, there is a variety of different cuisines, depending on the proximity of the sea. In part of the country where the Danube flows - Slavonia, the cuisine is more or less under Hungarian influence. Therefore, the same or similar dishes would be served both in Croatia and Hungary. The same goes for the upper part of the Danube in Serbia restaurants built in a traditional style, by the river, which can be found from Hungary, down the Danube. After the Danube passes the capital, Belgrade, the cuisine is becoming more and more Turkish influenced, so a variety of minced meat dishes is served - like pljeskavica or ćevapčići. The national drink is plum brandy, called "šljivovica".

Romanian cuisine is based, among other ingredients, on the Danube fish. A visitor can choose from icre (fish egg) salad, fish cake, fish stew, carp fillet, ragout of river fish, and many others. Thanks to different influences of the neighbouring countries, Romanians also serve different soups and meat stews. Plum brandy - tuica - is also a national drink. Gastronomy of the Danube region is, above all, defined by the wines made and served here. The vine-growing tradition of Roman origin, common to the former provinces of the Danube. Austria's most famous wine regions overlook the Danube River, from the westernmost slopes of the Wachau and Kremstal to the metropolis vineyard hills above Vienna, the capital. Organized viticulture in the lands that became Hungary dates back more than two thousand years. (bluedanubewine.com, 2018), (Figure 8.).



8 | LOGO OF BLUE DANUBE WINE  
SOURCE: BLUEDANUBEWINE.COM.

The Hungarian tribes responsible for developing the local wine culture were deeply influenced by traditions brought from Central Asia, Roman practices, and advanced methods from Western Europe. Ancient cultivars from the East that adapted best to the region's diverse, often volcanic soils are partly why Hungarian wines are so distinctive. By the 16th century, Hungarian wines were the toast of Europe and the favourites of royal courts.

The grape cultivation in Croatia pre-dated the Romans by several hundred years, and grew more substantial and organized under the Roman Empire. Vineyards and winemaking survived invasions by marauding tribes and the anti-alcohol policies of the reaches of the Ottoman Empire.

In Serbia, one of the major white varieties is the indigenous Smederevka. An ancient grape named after the medieval town Smederevo, it is most often blended with other local grapes. Another local grape is Tamjanika, a variety of Muscat à Petits Grains that have been known in Serbia for more than 500 years. International varieties include Chardonnay, Sauvignon Blanc, Rhine Riesling, and Italian Riesling.

Traditions in culinary and gastronomy could be a great contributor to promotion of heritage along Danube and to present the interrelations between the culinary heritage and the cultural and natural heritage, it allows establishment of creative practices.

Increasingly, regional attractiveness is being measured by travelers' culinary experiences. As the most visible connection between cultural and natural heritage, local food and gastronomy are gaining better space in tourism industry, pulling ahead artisan businesses (decoration, souvenirs, etc.). This tendency should be captured by rural communities, many of which struggle with urbanization and suffer from shifts in traditional economies. Home food and gastronomy can be employed as a driver for business innovation and a learning competitive impulse to capture this tendency.

## HEALTH TOURISM

The units of the health tourism infrastructure are facilities which provide an area with the possibilities of exploring the attractive points of the given area and make good marketing use of them. They are popular both with tourists and the locals. Spas and baths are good examples. The thermal water-based facilities generate some of the biggest visitor numbers along the Danube and its agglomeration (Mosonmagyaróvár, Lipót, Győr, Komárom, Esztergom/Štúrovo, Visegrád, Leányfalu, Vác, Göd, Budapest, Dunaföldvár). (JANDALA, SÁNDOR, GONDOS, 2010) Esztergom's Aquasziget belongs to this list. The bath complex of 15,000 square metres was finished in 2005 and has three individual departments: Spa treatments, Medical department and Spa pools.

Spa tourism has long been a mainstay of the Slovak tourism industry. A combination of geothermal sources and fine-quality mineral water means that the country has several spa towns. In the town of Štúrovo, there are three hot springs. Thermal water has a temperature of about 39.7°C, the total mineralization is 0.80g/l and has beneficial effects on the articular system and on allergic skin disorders. In Vadaš Thermal Resort and Spa there are thermal pools, water slides, beach and non-beach sports, aquazorbing, adventure park in the aquapark, and paddle boating, wakeboard and fishing at a nearby lake.

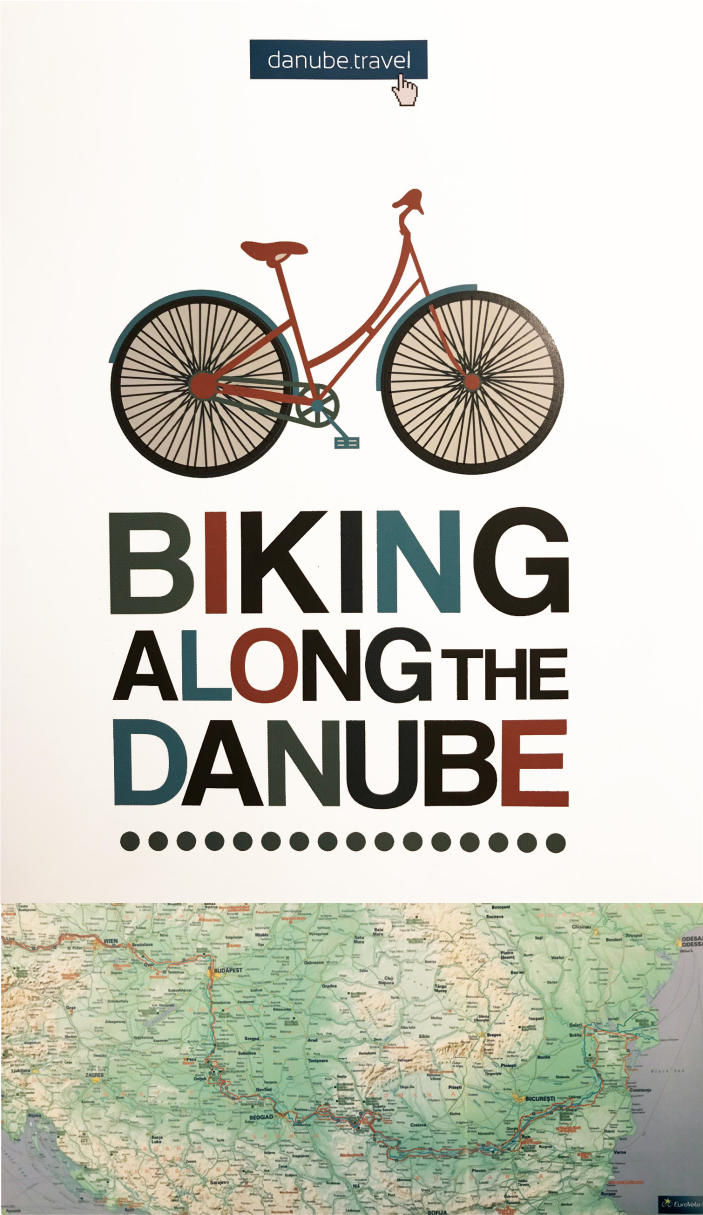
There are also very good conditions for specific sports - sport fishing, hunting, riding and hiking - as well as the development of various forms of rural tourism various such as agrotourism. The Danube Region is mostly characterized by its nature, offering opportunities for water sports such as rafting on the river Danube and Vág, water tourism and fishing. The tourism development of the two cities has not been coordinated. Štúrovo is primarily the place of relaxation, while Esztergom has a more complex functional role.

The ancient Slankamen Spa (old salty rock) is included among the oldest

natural healing resorts in Serbia. The Spa is located on the right shore of the Danube, between Novi Sad and Belgrade, on the east slopes of Fruska Gora. In the times of Ancient Romans, a military fortification was raised here, the curative this water was used at that time. Turkish bath (hammam) were raised above the hot water source in 1566. First chemical analysis of the mineral water was made in 1876, and it becomes significant again in the year 1906, and the modern development of the spa begins in 1964 with the construction of a new spa building. (banjaslankamen.com 2018)

## BICYCLE TOURISM

The EuroVelo 6 (River Route) is an important cycling route also for Hungary. The route follows the Danube through four countries. The infrastructure of the individual sections of the route has quite different quality: the German and Austrian sections are modern but the Hungarian parts are rather lagging behind. It would be beneficial to improve the quality of the Hungarian sections and create a continuous cycling route away from car traffic along the river. An example to follow is the infrastructure of the Donauradweg which forms the basis for cycle tourism in Germany and Austria (Figure 9.).



9 | THE DANUBE CYCLE ROUTE – APPLICATION FOR ROUTE MAP AND INFORMATION EUROVELO 6  
SOURCE: DANUBE COMPETENCE CENTER.

Cycling tourists see exploration and active recreation as their holiday goals. They plan their routes to visit diverse places and reach as many sights as possible. A West-European survey showed that cycling tourists

spend 15% more days than the average tourists because they pay for local services and products more frequently, as they are able to carry only a limited amount of luggage. The Danube Bike Path belongs to the most beautiful cycling routes and is part of the European bicycle route Eurovelo6 having a total distance of 3,652 kilometres.

The Slovak section running from Bratislava through Komárno to Štúrovo is 238 kilometres long. As the cycle path runs on the plain along the Danube, its intensity is relatively low, making it even more attractive to a wide range of cyclists. In the area, there are excellent conditions for cycling along the Danube, as well as in lowland and sub-mountain terrains. The following bicycle routes are available:

Danubian international route running along the Danube to Austria, in the given area along its left bank and further on through the Danube to Esztergom,  
Around the Burda Mountains (Štúrovo - Kamenica nad Hronom - Chľaba - Leľa - Štúrovo),  
The small circuit through the Danube Bend (Štúrovo - Esztergom - Visegrád - Nagymaros - Szob - Salka - Štúrovo).

The number of foreign tourists in Serbia, especially from the 10 countries around the Danube, is increasing. Serbia becomes increasingly important tourist map for Europe with cultural and historical heritage along the Danube, which is a new tourist opportunity. Since 2006, the GIZ project has been developing bicycle paths for the Danube in Serbia and fixed growth by the number of tourists over 10 000 cyclists per year.

## HIKING, NATURE SPOTTING

The region has great wealth and diversity of natural biotopes, particularly the remnants of floodplain forests with a specific fauna and flora typical for river, lake and wetland environments. There are also very good conditions for specific sports - sport fishing, hunting, riding and hiking - as well as the development of various forms of rural tourism various such as agrotourism. The Danube Region is mostly characterized by its nature, offering opportunities for water sports such as Kayaking / Canoeing on the river Danube, water tourism and fishing.

The valley of the Danube is rich in natural resources, hiking offers range from one-day excursions to cross-border guided tours and can be combined with other activities such as biking or bird watching. The forest forests of the Black Forest, the Alpine Foothills and the Pannon Basin, the rocky canyon of the Iron Gate and the Danube Plain create different hiking trails for various excursions (Figure 10.).



10 | HIKING TOURISM ALONG THE DANUBE  
SOURCE: MARIANN FONYÓDI.

The most important hiking trails in Austria, Donausteig trail in Upper Austria, from Passau to Grein, offers - next to its main route - 40 loop tours for getting connected to the surroundings of the Danube region;

Slovakian Long Hiking Trail E8 passes Bratislava and goes along 750 km;  
in Hungary, part of E4 called the National Blue Trail;  
Nature Park Kopacki Rit in Croatia offers 3 nature trails: Old Elm Tree, Free Grazing and Sakadas;  
in the area of Djerdap National Park in Serbia, there are nine hiking trails from 2 to 20 km long;



10 hiking trails are established in Bulgaria, in the regions Vidin and Montana (Western Balkan Mountains);  
Romanian Danube Delta park offers seven hiking trails within the biosphere of the park, as well as 19 touristic trails along the waterways in the delta area.

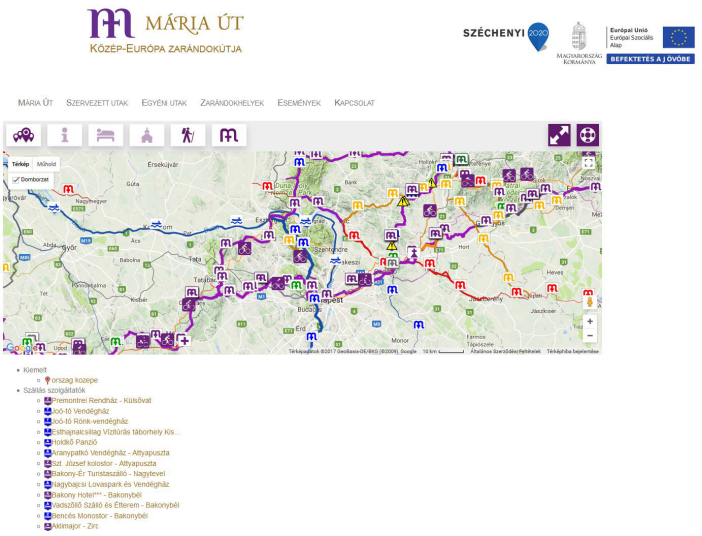
The crossroads of the “Route of Emperors and Kings” along the Danube and the beautiful landscapes, linking the diversity of European culture through the medieval city of Regensburg, Passau and Vienna to the metropolis of Budapest. (BAUMGARTNER, SCHWENOHA, RIFFERT, HADERER, Tina, 2012)

There are several islands on the Danube in Serbia. One of their characteristics is that some of them are visible only during summer when the Danube level is low. Some of them are very popular for recreation especially among youth, so they are a favourable destination for recreation, swimming, sunbathing, barbecue, sports etc.

The route linking the islands of the Danube, a Danube Islands Tour can be a particularly exciting topic: this theme can focus on specifics and potential of the Danube natural heritage, representing biodiversity and cultural diversity, as a driver of cultural heritage and of the cultural landscapes, for sustainable agriculture, recreation and tourism on the local and cross-border level.

RELIGIOUS TOURISM /  
PILGRIMAGES

Religious tourism is a marketable touristic product which is based on religious motivation or church institution. The main motivation is faith but more generally it also means the visiting of places of worship viewed as places of importance in terms of cultural heritage or art history. Visits to religious monuments, participation in religious events and pilgrimages, all belong to this category. Religious tourism shows a growing tendency worldwide, with a yearly 15% increase. Mária Route is a pilgrim and tourist route throughout Central Europe. The 1400 km route does not merely connect places of worship but can support local tourism too, by creating a system for hidden sights which have so far remained less popular. (SULYOK, MÁRTONNÉ MÁTHÉ, 2014), (Figure 11.)



11 | THE INFORMATION WEBSITE OF MÁRIA ROUTE  
SOURCE: MARIAUT.HU.

This thematic route was created based on the cult of the Virgin Mary which is strong in Hungary as well as on the Mary shrines located in the country and in the neighbouring countries, close to the borders. The route helps to utilize the regional touristic services better by attracting new target groups. The objective of the Mária Route Association is to establish a Central-European volunteer community, which creates and operates the Mária Route, the symbol of Christian values. The complete planned length of the spiritual and cultural walking and cycling route in the Carpathian basin is 1400 km, which runs mainly in natural surroundings. The route is

already partially signposted, recommended accommodation sites welcome pilgrims and the design of a pilgrim guide with a map is underway. There is also a Mária Route informational and community website and a Pilgrimage Register. (mariaut.hu, 2018)

The Hungarian Pilgrim Route Association established a route similar to the Spanish El Camino, which is open to pilgrims from spring. This route has been established on three pillars: the Catholic Church, the 27 local governments providing support to it and a civilian organisation.

The Hungarian Pilgrim Route starts from Esztergom and ends in Máriagyűd-Pécs. It is 420 km long and operates with GPS coordinates and signposts. Its 17 sections are open to individuals and groups for walking the entire length or just certain sections. Each section means 20-35 km walking in stunning natural surroundings, along with places of worship, churches worth a visit and villages welcoming the pilgrims. (MÁRTONNÉ MÁTHÉ, SIMONYI, 2018), (Figure 12.)



12 | RELIGIOUS SITES  
SOURCE: MARIANN FONYÓDI.

The valley of the Danube is rich in religious monuments, showing the connections of people along the river in time and space, some example

Primatial Basilica of the Blessed Virgin Mary Assumed Into Heaven and St Adalbert / Esztergom  
The Orthodox Church at 60 Kossuth Lajos Street was built around 1770, by Serbian migrants / Esztergom  
The Orthodox Cathedral of St. Nicolas, was built from 1758 to 1762 in baroque style / Újvidék  
In a close proximity to the Danube, there is a Fruška Gora mountain with 16 monasteries (in the past 35)  
Sanctuary, Church and Friary of St. John of Capistrano / Ilok  
Tuman monastery was built in the XVI century and dedicated to Saint Gabriel / Djerdap  
The Mănăstirea church was built by Matei Basarab, a great king of Vallachia, in 1648 / Călărași County  
Sfantul Nicolae Monastery / Orsova (danube.travel 2018)

In Serbia, in a close proximity to the Danube, there is a Fruška Gora mountain, its hidden valleys were once the home of an astonishing number of 35 Serbian Orthodox monasteries, only 16 of which still stand today due to various conquests, wars and desolation. While historical sources state that the monasteries were built in the first half of the 16th century, legends tell us they originate from a period between the 12th and 15th century. The monasteries of Fruška Gora were built by the Branković despot family so as to continue the old state governing traditions of the Nemanjić family. This group of sacral objects once was the pillar of spiritual and political life of Serbs, and today it represents religious, historical and cultural objects of great value and importance. (serbia.com, 2018)

## 0<sup>3</sup> NECESSARY BACKGROUND AND SUPPORT FOR INTERCONNECTIVITY

A tool for thematic tourism can be used to develop tourism products, focusing on different segments of consumers to expand the visitor experience. Destinations can include well-known tourist destinations, as well as unknown, upmarket attractions that are linked to thematic routes. The destinations to be developed often have different tourism resources, such as underdeveloped transportation infrastructure and utilities, lack of accommodation facilities, limited marketing knowledge. Strategies should be set up to allow the use of specific forms of tourism, for which the first is a critical analysis of the region's tourism, and the identification of potential thematic tourism products, services and the development of a missing tourist infrastructure.

There are several ways to crawl the routes (i.e. the mode of transport used), and the various options can be combined in many cases:

walking paths / can be found mainly within a settlement or in a natural environment / Szocreál educational trail, Dunaújváros  
the roads that can be traversed by public transport / are mainly characteristic of big cities / sightseeing boat, Hop On/Off  
by car or by motorcycle / primarily in an individual organization, in a special, natural or historical environment  
bicycling routes / usually connected to either the car or the footable trails / Eurovelo  
theme-organized rides / in a natural environment / horseback riding Búč  
boats / hotelship is a passenger ship which is used for a short period as a hotel / the main thoroughfares for river cruises in Europe are the rivers Rhine, Main, Danube and Elbe  
canoe trips / on side branches of larger rivers such as the Little Danube

The concept of developing thematic forms of tourism provides a slower, longer-term, more sustainable development in which the contribution of local stakeholders is extremely important. stakeholder For this reason, along with the development of the usual tourist infrastructure, mapping the willingness and opportunities of local stakeholders is a key to establishing a functioning structure. In order to strengthen thematic tourism and to make it more popular, it is necessary to encourage the development of destination management companies (DMC), which usually define and develop different product segments. It is important to know what is specific to see and what are the activities planned in a destination. This knowledge usually helps them choose a specific destination. In support of the development of these programs, there are local or regional associations established. This process integrates: identification of natural and cultural resources that are unique to a region; integration and coordination of efforts of the private, public and NGO sectors in the protection and presentation of identified resources; as well as the development and marketing of the new product, which is ultimately presented as the itinerary program.

The use of cultural values in tourism in the form of thematic routes and the construction and operation of the cooperation networks that make up them requires continuous communication between the cooperating parties, the conflict between different interests and values, the development of joint solutions and the development and implementation of joint action programs. When creating thematic routes, it is important to develop a common cultural image that is attractive to tourists and can be identified by all stakeholders. Stakeholders in a cultural trip project can be divided into the following groups: stakeholderStakeholder

originally not for tourist purposes, which illustrate the topic (geographical locations, churches, castles, wine cellars)  
attractions for tourism, illustrating the theme (museums, visitor centers, events, visiting workshops)  
tourism and cultural services (hotels, restaurants, shops, bicycle rental, outdoor stages)

information services (information offices, websites)  
state and civil tourism organizations (local governments, regional tourism organizations, cultural associations).

To establish and maintain a common image, cooperation and networks must be established with many suppliers of destination and responsible organizations at the destination. To do this, an innovative approach is needed to search for quality tourism based tourism models that are sustainable and value-driven.

## CHALLENGES

Thematically linked projects (mapping of similar attractions, locations, destinations and tourism services that may be related to the identified topic), network product development;

Network and function-enhancing tourism products and services that have excellent marketing potential are attractive and interesting for travellers and operators;

Medium-long-term common and effective communication between network stakeholders and the target audience, branding and market strategy.

Develop creative promotional activities that provide practical information and useful tools for potential tourists. Implement awareness-raising and dissemination activities

Continuously cooperating partners (coordinated attractions, events, travel infrastructure, joint products).



# REFERENCES

BALOG, Péter - GONDA, Tibor – RAFFAY, Zoltán, 2018. How to Attract Tourists. Ecotourism handbook for rural handicraft entrepreneurs and actors of tourism. Carpathian Tourism: Cooperation of V4 Countries, International Visegrad Fund and UN Environment Vienna Office Secretariat of the Carpathian Convention (SCC), 122p.

BAUMGARTNER, Christian – SCHWENOHA, Cathrine – RIFFERT, Petra – HADERER, Tina, 2012. Status Quo analysis of hiking tourism along the Danube. Naturefriends International, WGD Tourismus GmbH Vienna, Linz, 21p.

BOŽIĆ, Bojan – GORDEA, Sergiu, 2014. Enhancing the Local Value of Thematic Cultural Tourism in: International Conference on Intelligent User Interfaces. Papers of the PATCH Workshop: The Future of Experiencing Cultural Heritage published online. Haifa S. 1.

DURAŠEVIĆ, Silvana, 2014. Thematic tourism as an important segment in the business of modern tour operators. Turističko poslovanje, 2014 (13) pp. 109-117.

JANDALA Csilla – SÁNDOR, Tibor – GONDOS Borbála, 2010. Az egészségturizmus a turizmuspolitika fókuszában – A fürdőkultúra szerepe a turisztikai termékfejlesztésben. Turizmus bulletin 201 (4) pp.19-28.

MÁRTONNÉ MÁTHÉ, Kinga - SIMONYI, Norbert, 2018. A magyarországi zárandokutak turisztikai kapcsolódásai és üzemeltetési modelljei. Turizmus bulletin 2018 (2) pp. 46-56

RÁTZ, Tamara, PUCZKÓ, László, 2002. Goethe, Humbert és Odüsszeusz nyomában avagy kulturális utak a turizmusban. Turizmus bulletin 2002 (3) pp. 5-14.

SULYOK, Judit - MÁRTONNÉ MÁTHÉ, Kinga, 2014. A vallási turizmus helyzete Magyarországon Turizmus bulletin 2014 (1) pp. 11-20.

WARD-PERKINS, David – TORRES, Issa – HOUJELLEBEQ, Jennifer – ELLIS, Jackie, 2017. Handbook on Transnational Tourism Themes and Routes. ETC, UNWTO, World Tourism Organization, Madrid, 224p.

banjaslankamen.com. Official website of Smestaj Nekretnine Turizam. Slankamen SPA – Stari Slankamen Vojvodina [online] 2018 [Accessed 20 June 2018] Available at: <http://banjaslankamen.com/english/slankamen-spa/>

bluedanubewine.com. Website of Blue Danube Wine Company [online] 2018 [Accessed 20 June 2018] Available at: <https://www.bluedanubewine.com/about/>

coe.int. Official website of Council of Europe. Cultural Routes, Map, Roman Emperors and Danube Wine Route [online] 2018 [Accessed 20 June 2018] Available at: <https://www.coe.int/en/web/cultural-routes> <https://www.coe.int/en/web/cultural-routes/map> <https://www.coe.int/en/web/cultural-routes/the-roman-emperors-and-danube-wine-route>

danubecc.org Official website of Danube Competence Center (DCC) [online] 2018 [Accessed 20 June 2018] Available at: <http://danubecc.org/>

danube.travel. Official website of DCC's project. Navigate the river. [online] 2018 [Accessed 20 June 2018] Available at: <http://danube.travel/main-menu/activities/navigate-the-river.289.html> <http://danube.travel/main-menu/activities/explore-the-culture/religious-sites.350.html> <http://danube.travel/main-menu/highlights/roman-emperors-.733.html>

mariaut.hu. Mária út – Közép-Európa zárandokútja [online] 2018 [Accessed 20 June 2018] Available at: <http://mariaut.hu/>

serbia.com. Official website of Serbia. Medieval Jewels: A Guide to the Monasteries of Fruška gora [online] 2018 [Accessed 20 June 2018] Available at: <https://www.serbia.com/16-medieval-jewels-guide-monasteries-fruska-gora/>

utnv.org. „Kotlić za Ginisa” – turistička atrakcija u Bačkoj Palanci [online] 2018 [Accessed 20 June 2018] Available at: <https://www.utnv.org/kotlic-za-ginisa-turisticka-atrakcija-u-backoj-palanci>

# CONCEPTUAL APPROACHES TO ENVIRONMENTAL QUALITY AND LIVABILITY IN SMALLER CITIES

**KEYWORDS:**

Liveable City,  
Objective and Subjective Aspects  
of Spatial Quality,  
Sensorial Attachment  
to Water Environment,  
Urban Planning Approaches to Livability

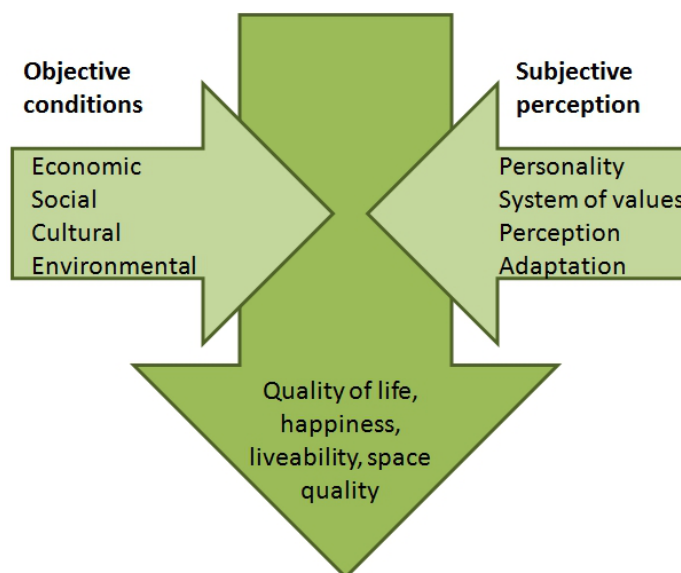
Livable city means a city that can effectively meet the needs of its population regardless of age, gender, social situation or level of education. Many official rankings publish annually a list of the most suitable urban places for life, evaluated according to number of indicators including infrastructure and public transport, urban design and architecture, health and education system, safety and crime, climate, socio-economic and environmental problems, connections to nature, and others. Top 10 places ranked regularly are Melbourne, Vienna, Vancouver, Toronto, Calgary, Adelaide, Sydney, Helsinki, Perth, Auckland. It is interesting to note that the geographic location and climate of these liveable favourites is not ideal; the bad weather, snow, darkness and cold last for at least 6 months of the year. So which values prevail in the selection of people for the quality of life?

The issue of livability or quality of life in the context of urban design and environmental quality and sustainability is of great interest of interdisciplinary academic research, more common since 1960s. Modernist street negation and functionalist ideals of hygienic and lighted settlements supported the creation of impersonal high-rise buildings coupled by roads without active public spaces. As a reflection on modernistic principles in architecture and urban design and continued growth and preference for automobiles, the new theoretical and practical works were born, such as Jane Jacobs' voice calling for the cities humanization or Jan Gehl's theoretical approach and practical design for many great cities, which can be characterized as urban humanism and the return of the city to its real users. Urban design is all about the human dimensions. Not about cars, industry or business. The quality of life must be first, followed by space and buildings - otherwise it does not work. If people perceive positively the city for their life, everything else will come gradually (Gehl, 2014). The quality of urban life is primarily concerned with the qualitative aspects of the city's life as a whole. Simply it is expressed as "friendly relations" of its inhabitants and visitors to the city and to the degree of infrastructure and urban amenities (Bašová, 2014).

Attempts are now being made to humanize cities, to increase their livability, to improve the public space for people and this way encouraging them to walk and cycle. Open public spaces are only attractive for users if there is a certain concentration of people. When an osmosis between open spaces and the city occurs – it is an osmosis of the human presence in the streets with the human presence in public spaces (Djukic et.al, 2018). Factors such as the presence and quality of walkways, safety, isolation from disturbing traffic influences, distances, accessibility, creation of a mixed-function and attractive environment affect user preferences and ultimately affect health, environmental and economic benefits.

## OBJECTIVE AND SUBJECTIVE ASPECTS OF SPATIAL QUALITY

Quality of life is a complex and very broad concept. It can be analyzed and judged from many disciplinary points of view. Its essence is human existence, happiness, internal and external factors that influence this essence (Ira, Murgaš, 2008). The interdisciplinary views examine the economic, social, cultural, psychological, spiritual, as well as environmental conditions for a healthy and happy life.



1 | OBJECTIVE AND SUBJECTIVE ASPECTS COOPERATING  
ON THE SPATIAL QUALITY PERCEPTION AND LIVABILITY.  
SOURCE: V.JOKLOVÁ.



The definition and assessment of quality of life is, in essence, a reflection of the relationship between objective environmental parameters and subjective user responses to them. According to multiple sources, the quality of human life depends on objective and subjective factors (Van Kamp, et.all, 2003). The objective dimension of quality has alternative names such as environmental, urban, residential, community quality, or the quality of space. The subjective dimension of quality is in turn a set of human endogenous factors and a way of perceiving the environment. These are systems of values and priorities, opinions, attitudes, adaptation, perception, feeling, mental state and personality. The quality of life can therefore be understood as a result of the interaction and synergy of external and internal factors.

The central theme of the humanistic perception of the quality of life in space is the spatial feeling and preferences of space by users (Cummins, 2000). Such approach tries to formulate and understand the meaning and values that connect a person to his or her living space. To some places, as it is mentioned as well in the chapter Cultural and natural landscapes... (Pálffy et.all, 2018), the inhabitant or visitor creates a strong positive relationship, to other not.

To the most important factors in the positive relationship to their living environment belong such specifications as, for example that it is a birthplace and there exist family ties; unpolluted environment and tranquility; good transport and infrastructure; quality and aesthetic environment; social relations with the environment and custom. The most important factors in the negative perception of the living environment are: the inappropriate and polluted environment and noise; ethnic and national problems; complicated transport and inappropriate infrastructure; low quality and aesthetics of the environment; lack of social relations (Kollár, 2008).

## DANUBE SPECIFICS TO LIVABILITY

The Danube is the second longest European river. Its river basin area reaches the territory of eighteen states, through ten of them it flows directly or forms a state border. It is the world's most international river. From its origins it connects more advanced west regions with the less developed Middle and East European regions. From the upper flow mountainous surroundings in Germany and Austria, through the middle flow flat environment with the extensive system of flooded forests and side water branches in Slovakia and Hungary, the river continues through the mountainous valley of the Iron Gate and majestically advances toward the giant Danube River Delta to the Black Sea. The permanently changing dynamics of the natural scenery creates a unique environment for life on the water and near the water, for physical and mental interconnection with the flow, narratives and special Danube cultural landscape. Due to the diversity of conditions, a specific and diverse biotope, a large living organism, has emerged. People naturally had to get used to these conditions.



1 | THE ATMOSPHERE OF THE DANUBE ENVIRONMENT.  
SOURCE: L.VITKOVÁ, DANURB.

According to multiple sources (Völker, Kistemann, 2011) and (White, et.all, 2010), aquatic urban or natural environments have mentally stimulating, stress releasing and mood enhancing powers and are great for general well-being. In sensual perceiving of blue space, the colour of water, its clarity, sound, motion and context are significant determinants. Water, as natural mirror, reflects light in special way, creating lines and patterns. These visual properties are attractive and potentially restorative for human brain. Views of water are fascinating for people and different water colours stir different emotions. While blue water is associated with coolness, white water is perceived as powerful and wild. Sounds are significant aspects of aquatic environment, ranging from calm to roaring, and are considered to be restorative. The context of water is also important, connection to natural elements and green spaces rapidly increases its visual rating.

Tactile connection is unique. The term „immersion“ is not only a metaphor, the potential to bathe and swim in water allows a very different interaction with the natural environment than can be achieved on land. The purifying effect of water has great impact on human mental and emotional health. Compared to other environments, aquatic environment has more positive influences on human well-being.

The water flow represents as well the expressive city generating element. From the ancient times it forms the important strategic and transport consequences. Permanently changing water surface as if brought the greetings from other cities, regions, countries and civilizations...and at the same time its reflection, performance and dynamics creates the unique aesthetical component in the city structure. Bridges built over the rivers form the architectural expression of the city. Waterfront areas in the cities offer the optimal conditions for the creation of cultivated public spaces for free time activities, meetings, leisure, culture, sport activities...

The landing and personal ports have arisen in cities on the river banks; and especially the landing ports have been surrounded by the nowadays lasting out industrial structures, which should be regenerated. With the city expansion these structures got to the close contact position to the city centers and thus form the ideal conditions for the urban revitalization and redevelopment of whole complexes alongside the river banks.



2 | DANUBE WATERFRONTS AND BROWNFIELD  
INDUSTRIAL STRUCTURES IN KOMÁRNO.  
SOURCE: V.JOKLOVÁ, DANURB.

## URBAN PLANNING APPROACHES TO LIVABILITY WITHIN THE PROJECT DANURB

Project DANURB is mapping the cultural regions along the Danube with the emphasis on smaller and middle sized cities. Except the Germany and Austria regions these cities are currently facing the crisis of post-socialist economic transformation, the closure of state-owned enterprises and thus reducing job opportunities and the overall decline of the population. A positive change can be achieved by the effective use of the cultural

potential of settlements and their transformation towards the creative cities with a higher share of creative industry, services and creative human capital. Tourism is a very significant aspect in the development of the area, which depends and in the same way can influence the quality of life in the Danube regions. Nevertheless local inhabitants must be at least as balanced as tourists or visitors to strategies for improving the spatial quality of life. Identification of inhabitants with their locality raises their interest in its functioning, creates a relationship with the environment and leads to a greater willingness to participate in its development, to participate in local activities.



3 | INVOLVING CITIZENS IN SPATIAL REDEVELOPMENT PROCESS INCREASES INTEREST AND CARE FOR THE LIVING ENVIRONMENT.  
SOURCE: E.DAVIDA, DANURB.

The central theme of DANURB's activities is to understand the specific cultural heritage and cultural links of the communities along the Danube and to indicate the strategy of their development. For that reason, local stakeholders, such as civil NGOs, local authorities, entrepreneurs, owners, interest associations, citizens, are key partners in the creation of local cultural ecosystems and cultural networks. The project's activities include exploring and addressing potential actors in the area and outlining their impact on the development potential of a specific cultural heritage along the Danube. The micro regional or settlement level focuses on analyzes and concepts of development of settlements along the Danube, including their surroundings and regional links and focuses on medium and small towns, not on major cities. The river is a natural border, and at the same time, often the state border, which, however, underwent significant changes in the socio-political structure in the past. As a result of this development, there are often twin cities, divided by the Danube and the state border, but which in the past were often constitutionally incorporated into one.

As the emphasis on identifying possible development scenarios that enhance the cultural, tourist and spatial potential of the project focuses on smaller cities along the Danube, it is interesting to mention research on quality of life in small and medium-sized cities (Frantál, Vaishar, 2008) . The survey conducted in the Czech and Moravian towns at the beginning of the 21st Century tried to find out what is the attractiveness of small towns for their inhabitants, for which social and demographic groups of the inhabitants are attractive. What are the advantages and disadvantages of the life in smaller cities. The methods of geographic research used can be divided into a space specified methods, such as a specific location, natural conditions, urban environment, infrastructure of every kind, and a methods of space perception, which is the subjective phenomenological aspect of the character of the site. The basis of such methods is the relationship between inhabitants and their everyday living space. The quality of life is then characterized by the degree of conformity or inconsistency between the inhabitants and their environment, and to what extent the city environment satisfies their physical and psychological needs.

Unlike large cities, medium and small towns have usually smaller environmental ballast and provide a much higher level of social control, which is in the big cities replaced by the anonymity. Social control increases the sense of personal safety. The substantial disadvantage in the

life quality in smaller towns is the limited choice, whether in job opportunities, education, services or cultural offers. According to the results of the analyzed survey, the inhabitants of selected small towns mostly appreciated the natural environment around the city and the quality of social contacts. This has been followed by the appreciation of the quality of urban environment, the presence of historic buildings and the personal security. Worse rating had the offer of cultural and transport services and the possibility of obtaining own housing. The limited option of job opportunities has been the biggest problem. The most important factor influencing the tendency to relocation has been the age with an average of 34% of young people aged under 29 considering resettlement from small and medium towns to larger cities.

During the first year of DANURB project, university partners have explored the spatial, architectural and urban planning contexts aiming to specify the problems and potentials to enhance the livability concepts in mid-sized or small cities along the Danube, starting with the most developed touristic region Wachau in Austria, continuing with the twin cities Komárno/Komárom and Štúrovo/Esztergom in Slovakia and Hungary, the cities Golubac in Serbia and Giurgiu in Romania. University partners together with their students and in collaboration with local municipalities, citizens and local actors in the area examined the problems and potentials of the urban revitalization and redevelopment aimed at improving spatial functionality and quality and improving the quality of life in these cities. An integrated approach based on the principles of quality of life is beneficial in deciding on the future of the territory and assumes that the territory is an integration area of the qualities and values that need to be maintained for the future. The urban redevelopment strategies can be generally characterized either as long-term and more expensive, or low cost and achievable in a relatively short time, nevertheless which can as urban acupuncture increase the spatial quality and start the revitalization process in the area. The first one addresses the overall re-development strategy of the city or its part, including the optimal solutions of transport infrastructure and its relocation from urban centers, the revitalization of waterfronts and design of optimal spatial connections with the city and surrounding landscape. The second one deals with the revitalization of public spaces, squares, street profiles, pavements, creation of community gardens, design of small architecture and furnishings, revitalization of courtyards or waterfronts. Both strategies have been designed in these cities and we provide the examples of cities Štúrovo, Komárno, Golubac and Giurgiu.

## ŠTÚROVO EXAMPLE

Štúrovo is the southernmost situated city in Slovakia, on the Danube riverside, which represents as well the state border with Hungary, with the opposite twin city Esztergom and its magnificent cathedral of Our Lady and St. Adalbert, which is also the largest church in Hungary (Fig.4). Although Esztergom and Štúrovo are real twin cities on the opposite banks of the Danube river their urban history cannot be viewed as a parallel process. Esztergom's urban fabric is represented by the compact historical forms developed mostly till the beginning of 19th Century, while Štúrovo was until the beginning of the 20th Century a small town with about 3,000 inhabitants. After the Second World War the situation changed radically. Fast industrialization together with a strong housing program increased the number of inhabitants of Štúrovo to 14,000 until 1990. Nowadays the city is shrinking, and due to post-socialist industrial and demographic changes the population counts about 11,000 at present. The urban character of Štúrovo was formed in the second half of the 20th Century in the socialist era using its forms, and the city thus has a relatively modest historical center of provincial character surrounded by panel housing estates and a less compact structures of family houses and partly functional industrial areas.





4 | BRIDGE OF MÁRIA VALÉRIA CONNECTING THE TWIN CITIES ESZTERGOM AND ŠTÚROVO ACROSS THE DANUBE AND THE MAGNIFICENT VIEW ON ESZTERGOM BASILICA FROM ŠTÚROVO WATERFRONT. SOURCE: V.JOKLOVÁ, DANU+R.

Two cities that are separated by the Danube are connected by the re-constructed bridge of Mária Valéria, serving as a border crossing between Slovakia and Hungary and allowing good relations between nationalities and relatives living on both sides of river. A wonderful view of the enlightened Esztergom Basilica can be experienced only during the evening walk on the banks of the Danube in Štúrovo. The city is surrounded by agricultural land and beautiful nature and has also an exceptionally warm climate, its inhabitants can enjoy the most sunny days in Slovakia. Štúrovo disposes the wealth of thermal waters and in contact with the city center is located a thermal swimming pool Vadaš, which is the largest of its kind in Slovakia. With a precarious urban policy, the city has the property of the grounds under the swimming pool and the wider area, where it is possible to extend the spa services.

Structured SWOT analysis outlined the potentials and problematic aspects of city development. To the weaknesses belong the missing connections of the city with the river, so as many private lots with family houses or companies form a barrier near the waterfront, interrupted pedestrian zone not leading to the waterfront, overall low quality of public spaces, walkways, benches and city furniture, car preference and non existing bike paths, although the size and character of the city is ideal for cycling. Parking is located at one of the most exposed places on the Mára iValéria Bridge.



5 | THE OFFENDING PAVEMENT DETAIL AND THE DISCONTINUANCE OF CULTIVATED PEDESTRIAN ZONE WITH THE DANUBE WATERFRONT IN ŠTÚROVO. SOURCE: V.JOKLOVÁ, DANU+R.

The advantage is the favorable location of the city on the river Danube , the presence of thermal sources, recreation and summer tourism, visual and historical attractions of Esztergom and the good railway connection, so as the city was one of the most important transshipment station in Slovakia and still represents important international railway node. The development potential of the city includes mainly the access to and development of the Danube riverbank with the creation of promenades, recreational and leisure areas (Kristiánová, 2018). Important issue is the

use of traditional activities to enhance the identity of the site as well as the development of farm tourism, small businesses in agro-tourism and the associated off-season tourism, the sale of local specialties, markets, exhibitions and cultural events



6 | CULTURAL EVENTS ENHANCING THE COMMUNITY LIFE, LOCAL IDENTITY AND LIVABILITY. DANUBE DAYS 2018. SOURCE: E.DAVIDA, DANU+R.



7 | CULTURAL EVENTS ENHANCING THE COMMUNITY LIFE, LOCAL IDENTITY AND LIVABILITY. DANUBE DAYS 2018. SOURCE: E.DAVIDA, DANU+R.

These problems and potentials have been widely explored by the team of Faculty of Architecture Slovak University of Technology in Bratislava as DANURB project partner for the spatial, urban planning and architectural contexts of urban regeneration strategies of the city. Urban designs of



students have been tutored by professors and supported by the Štúrovo municipality. Together with Hungarian partners and students the possibilities to accommodate new functions and uses in the area, which might enhance the quality and livability of the urban environment, offer attractive public spaces and green corridors, with recreational and environmental functions have been tested. The designs have been presented before the public on Danube Day exhibition and will be collected in printed catalogues. Štúrovo has great potential, amazing atmosphere and deserves quality public spaces. The overall strategy and vision of proposed solutions can be summarized in enhancing the spatial quality to enhance the quality of life of its inhabitants and to attract more visitors and keep them longer in the city (Fig. 8-10).



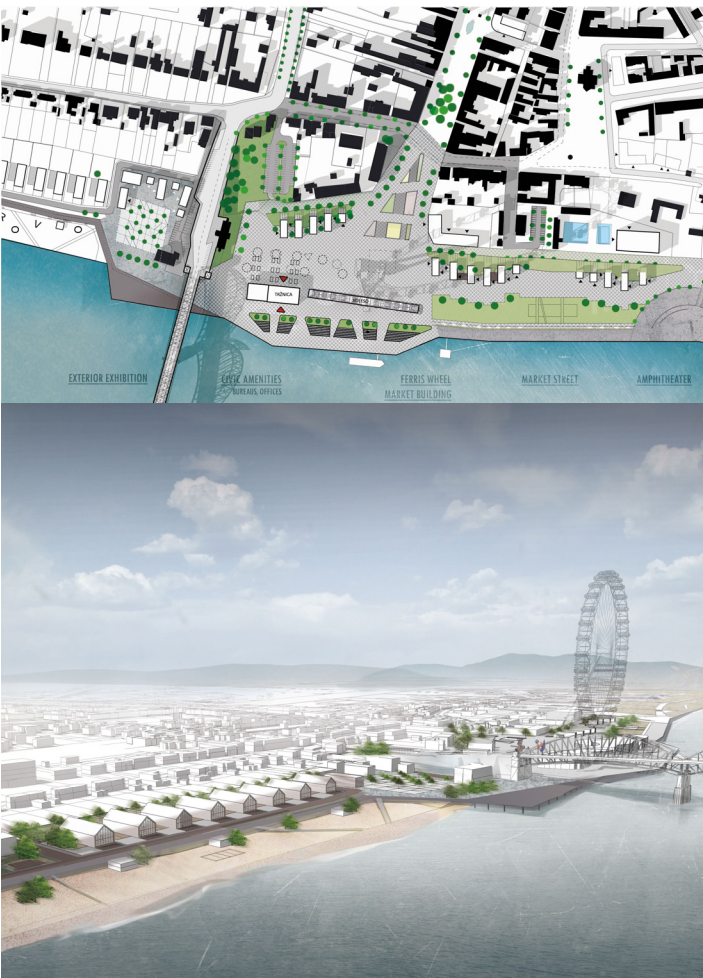
10 | CONCEPTUAL DESIGNS FOR ENHANCING THE LOCAL LIVABILITY IN ŠTÚROVO.  
BME STUDENTS: L. CSERESZNYÉS, A.VÖRÖS, T.TANSZÉKY, P.DECSÁK, B.HORVÁTH.  
SOURCE: DANURB.

## KOMÁRNO EXAMPLE

Komárno lies on the confluence of the rivers Danube and Váh and is one of the oldest permanently inhabited localities in Slovakia. It was built in place of a ford across the Danube, which was used by merchants and the locals benefited from it. The city has a rich history documented from the Bronze Age. The outer border of the Roman Empire and the province of Pannonia - Limes Romanus passed through these territories. From this period comes the Roman military camp in Iža (Celemantia), which protected the border around Komárno. Further impulses for the development of the city arose during the Turkish expansion, when the city formed the border fort of the empire. The need to protect the territory and population initiated the construction of a military fortress that has become the foundation of the city's defense system. The diverse historical and natural contexts give the city a characteristic image, which, together with its twin - Komárom on the opposite side of the Danube, has a spacious fortification system, the largest of its kind in Central Europe. Further development of the city was influenced by the construction of a large shipbuilding yard after World War II. New housing estates were built for their employees. Komárno is currently a busy border town with approximately 34,000 inhabitants. The extensive but not always corresponding development of the city caused the current state of the city structure, when the former Komarno remained virtually only its historic core invaded by mass settlements and the main road infrastructure. The post-war industrial development benefited from its strategic position on the Danube and resulted in the absolute isolation of the city and urban structures from the waterfront as it is currently reserved for significantly declining industrial activities (Figure 11). The most interesting point, namely the confluence of rivers, is barricaded and marked as private land and cannot be reached.

Figure 11.: Surveys in the area documenting industrial character of Komárno waterfront. Source: V.Joklová, DANURB.

8 | URBAN STUDIO DESIGN AIMING FOR ENHANCING THE SPATIAL QUALITY OF ŠTÚROVO.  
FA STU STUDENTS: L. BAKOVÁ, N.BISOVÁ, TUTOR:V. JOKLOVÁ.  
SOURCE: V.JOKLOVÁ, DANURB.



The main objectives in urban designs for enhancing the spatial quality and livability in Komárno represented the efforts to link the city urban fabric with the inaccessible brownfield waterfront areas and to bring the life and attractiveness to this area. To open the space that could offer the best for the city and tourism as well. To create diverse riverfront functions, including the live poly-functional neighbourhood in contact with the city center, the green landscape and park solutions in contact with the historical architectural monuments of old fortress, the sightseeing

9 | URBAN STUDIO DESIGN AIMING FOR ENHANCING THE SPATIAL QUALITY OF ŠTÚROVO.  
FA STU STUDENTS: L. BAKOVÁ, N.BISOVÁ, TUTOR:V. JOKLOVÁ.  
SOURCE: V.JOKLOVÁ, DANURB.



architecture on the exceptional place of the confluence of Danube and Váh rivers, more natural oriented landscape design for the Váh riverfront, where residents are accustomed to relax and sport. To create new and revitalize old urban structures and objects for the everyday life of people. All proposals have strong respect for historical objects and provide an effort to revitalize and incorporate them into new structures. More proposals enhance the university campus and widen the possibilities for students accommodation, which in summer holiday can be utilized as the accommodation for tourists. Komárno has high quality thermal sources, which could be further used for the spa and wellness activities. They can be exploited for the production of domestic greenhouse vegetables. The wealth of water is being proposed to be used as well for the local transport of goods to busy local markets, so personal ports and equipped marinas are designed on the river banks (Fig.12,13).



12 | URBAN DESIGN CONCEPT DEVELOPING MISSING CONNECTIONS IN KOMÁRNO WATERFRONT.  
FA STU STUDENTS: M. FRIDRIKOVÁ, L. HRICOVÁ JANČOVÁ, TUTOR: V. JOKLOVÁ.  
SOURCE: V. JOKLOVÁ, DANU+R.B.



13 | VISUALIZATIONS OF THE RE-VITALIZATION OF URBAN STRUCTURES IN THE AREA OF SLOVAK SHIPYARD IN KOMÁRNO.  
FA STU STUDENTS: M. JELÍNKOVÁ, R. PETREK, TUTOR: V. JOKLOVÁ.  
SOURCE: V. JOKLOVÁ, DANU+R.B.

## GOLUBAC EXAMPLE

Golubac is a small town in Branicevo District of the eastern Serbia located at the entrance of Iron Gates (Djerdap in Serbia). It is located on the Danube River, on the border with Romania, on the other side of the Danube River. Iron Gates is the longest gorge and probably the most picturesque area along the Danube. It is appreciated by its incredible and unique landscape. Bearing the myriads of cultural and natural assets, the whole area is protected at national level as a national park. However, The Djerdap region is of greater European significance and has many characteristics for which it can be considered an exceptional cultural landscape. Despite this view, it is still underestimated internationally, and it is not officially included in the list of cultural landscapes by UNESCO. The Golubac Fortress was a medieval fortified town 4 km downstream from Golubac. It was abandoned for centuries and nowadays it is reconstructed and it will become the milestone for the cultural tourism.

Golubac, as well as Djerdap region, has faced socio-economic problems for decades. For comprehensive regional development, the most noticeable problem is that the protection of the area has not been adequately supported with sustainable space-related regional development. As a consequence, the region is marked with the sharp decline of population, overall isolation and the weak interconnection of its main localities.

Golubac is a typical small sized shrinking town which has lost more than a half of its population during the past six decades. Consequently, the other demographic indicators (emigration patterns, aging, educational attainment, computer literacy, etc.) are generally negative and more severe than at national level. The state of local economy in Golubac follows demographic patterns. The municipality belongs to 20% of Serbian municipalities which economic performance was below 50% of national average last years. Golubac shares the destiny of its region, despite the fact that medieval fortress is on its border and that important European bicycle route Eurovelo 6 are located along the riverbank. However more than 100,000 tourists are passing through the fortress and more than 15,000 bicyclists use Eurovelo 6, but just a few of them decide to spend time in Golubac.



14 | THE CENTER OF GOLUBAC.  
SOURCE: BRANISLAV ANTONIC, DANU+R.B.

The main objectives in urban designs for enhancing the spatial quality and livability in Golubac are: regeneration of the city center; revitalisation of the contact zone along the riverside (the major street and the rest of Golubac are in bad condition and without attractive and vibrant facilities) (Fig. 14); strengthening the existing viewpoints towards the Danube and opening the new one; enhancing the development of eastern part of Golubac and connection with the fortress.

There is a great difference in livability between the western and eastern part of the town centre. The problem is eastern part, because it is closer to



major tourist assets, but it lacks the facilities and space by means of which it could make it more vibrant and attractive for both locals and tourists. Regarding the research carried out during 2017, with the Master students of Faculty of Architecture, University of Belgrade, the next potentials regarding quality of life were recognized: urban part of the riverside (Fig.15.), including the quay and the town park, is generally refurbished and in good shape, but links (small streets and paths) between it and the main street are not attractive and functional; prospective viewpoints exist, for instance, the picturesque view opens during the entrance to Golubac from west – viewers can see the full picture of the town with the fortress and the Danube in its widest position; there are similar places in the upper part of Golubac, too; there is of facilities in open public places and in the ground floors of the buildings along the riverbank.



15 | STUDENTS AT RENOVATED RIVERBANK ALONG THE DANUBE IN GOLUBAC, SOURCE: BRANISLAV ANTONIC, DANUrB.

## GIURGIU EXAMPLE

The city of Giurgiu is located in the southern part of the Romanian country, on the left bank of the Danube, surrounded by a typical low and flat Danube floodplain. It is located 64 km from Bucharest capital and serves as old commercial node on the Danube River at the intersection of important communication networks: road, rail and naval. Giurgiu is an urban centre in the South Muntenia Region with the population of about 70,781 inhabitants. Urban development of the city started in the second half of the 18th Century under the Ottoman Empire rule. The fortified town was situated in the southern part of the city along the Plant canal and included an Ottoman port in the shape of a Vauban fortress. The city has undergone extensive expansion in the 19th Century, when doubled its surface by incorporating the Slobozia village and by extending its industrial area. The communist period brought a new town planning system with the building of panel housing estates. Due to the proximity of Bucharest metropolitan area and to the economic importance of the city of Ruse, the most developed city in the Bulgarian cross border region, the area of Giurgiu – Ruse micro region represents nowadays a strategic point between the two countries with important traffic flows through the Danube Bridge (opened in 1954) (Fig. 16.). Ruse and its 150,000 inhabitants is the main urban pole in the Bulgarian cross-border area, which attracts the regional workforce due to its industry. On the contrary Giurgiu shares the common cross-border decreasing demographic trend and suffers from the young workforce emigration to Bucharest or to foreign countries. Although the Danube River represents a powerful natural element which favoured the development of all human activities along its basin, it is also a space of social and economic gaps and disparities, being still tributary of the influences due to local economies and borders between the different states crossed by it. Though in a strategic location, the Giurgiu city structure is isolated from the waterfront by the decline industrial activities. Thus the Danube waterfront, blurred and imprecise, is very difficult to access, but has the high potential for improving the life quality and livability in the city (Fig.17.).



16 | FRIENDSHIP BRIDGE IN GIURGIU, SOURCE: MIHAELA HĂRMĂNESCU. SOURCE: DANUrB.



17 | IMAGE OF THE CURRENT STATE OF GIURGIU WATERFRONT. SOURCE: ANA OPRIȘ, CLUSTER 4.

The research carried out by the DANUrB team of UAUIM Bucharest/Faculty of Urbanism was structured in four clusters in order to make visible the hidden potential of urban development, based on valorisation of local cultural heritage created by Danube and has demonstrated that the life quality is highlighted by the possible development potential in an integrative and coherent system. New narratives are needed to improve attractiveness of many of the obsolete places in Giurgiu, including the connection of local settings to the larger context of the entire Danube. As the potentials regarding the quality of life were recognized: 1. Establishing new relations at the regional level of the Giurgiu-Ruse Danube micro region with Giurgiu as a pivotal point for development; 2. Developing a conceptual scheme of sustainable urban mobility in consensus with the opportunities existing in the European context, with emphasis on connectivity and gentle mobility; 3. Identifying and designing the possibilities of architectural and urban design valorisation of former industrial heritage in Giurgiu; 4. Reassessing the cultural landscape as the resource for finding the (lost) cultural identity of the city.

Former industrial sites, which best represent the city, but nowadays are abandoned, are considered as important land reserves with the potential to reveal their hidden architectural value and to rehabilitate the Danube waterfront. The selected areas, which are in essence a reflection of life quality assessment, recycle & reuse value and environmental approach are: the textile factory (near the north train station which is a historic monument and a part of the Orient Express Route since 1883); the sugar factory (located on the Danube shore with strong relationship to the river, Park and the Museum of the city); the naval shipyard (a central point between the city and the Danube River).



18 | INVOLVING CITIZENS IN COMMUNITY ACTIVITIES INCREASES THE FEELING OF SPATIAL LIVABILITY; EXPANDED GARDENS IN GIURGIU. SOURCE: E.DAVIDA, DANUrB.



Developed projects try to change the invisible landscape elements into visible and thus to enable the inhabitants to discover the surrounding environment, unknown or forgotten over the years and to improve it through the maps that keep the sound of a place before it disappears. The city model was constructed by sequential sections in order to highlight the radial structure of the city and to identify city silhouette, to mark the main attractions, landmarks, historical monuments; underlining their distribution in the depth of the urban tissue. The purpose of this sensory experience is to allow people to discover the specific environment of the city from a distance, to recognize the atmosphere of some of the key places in the city through deciphering sound intensity and the way they intertwine. Also, the sound map encourages stakeholders to appreciate the balance or imbalance created in different city areas.

## EPILOGUE

Liveable cities provide the full potential of possibilities and opportunities for people's lives. Successful cities are the ones that allow people to be what they want; unsuccessful ones try to force them to be what others want them to be (Sudjic, 2008). Research conducted in DANUrB regions and cities has shown that the scenarios for the micro regions which revitalize urban structure, rehabilitate cultural potential, develop (tourist) economy and integrate nature and green solutions are increasing their potential of the livability, attractiveness and accessibility.

An extensive source of local and international students urban design and landscape proposals created during the project with the fruitful collaboration with local authorities, communities and stakeholders, represents the unique pool of ideas aiming for the revitalization of urban fabric, which can be used in the future for the enhancing the livability in small and medium cities along the Danube.

# REFERENCES

BAŠOVÁ, Silvia, 2014. Urban vitality. ALFA, Architectural Journal of Faculty of Architecture in Bratislava, 19 (2), pp. 4-11.

CUMMINS, Robert, A, 2000. Objective and subjective quality of life scale: an interactive model. Social Indicator Research, 52 (2000), pp. 55-72.

DJUKIC, Alexandra,VLASTOS,Thanos, JOKLOVA, Viera, 2018. Liveable open public space - from Flaneur to Cyborg. In Lecture Notes in Computer Science. Vol. 11380, CyberParks - The Interface Between People, Places and Technology. New Approaches and Perspectives (2019), ISSN 0302-9743, pp. 38-49.

FRANTÁL, Bohumil, VAISHAR, Antonín, 2008. Special features of quality of life in small towns. Geographia Slovaca, Geographic Institute Slovak Academy of Science, 25 (2008), pp.175-187.  
GEHL, Jan, 2014. Cities for people. Response, Klarshov K. (ed.), Liveable cities. Ramboll, 01 (2014), pp 5-6. [online] 2014 [Accessed 10 May 2018], Available at: [https://issuu.com/ramboll/docs/response\\_\\_1\\_lowres](https://issuu.com/ramboll/docs/response__1_lowres)

IRA, Vladimír, MURGAŠ, František, 2008. Geographic view of quality of life and changes in society in Slovakia. Geographia Slovaca, Geographic Institute Slovak Academy of Science, 25 (2008), pp. 8 -21.

KOLLÁR, Daniel, 2008. Subjective aspects of the quality of life: the perception of the cities based on the life functions of the inhabitants of Slovakia. Geographia Slovaca, Geographic Institute Slovak Academy of Science, 25 (2008), pp. 85-95.

KRISTIÁNOVÁ, Katarína, 2018. Promenade as Landscape Architecture Strategy for Riverbanks of Small Danube Cities: Komárno and Štúrovo. In Amjad Almusaed (ed.) Landscape Architecture: The Sense of Places, Models and Applications. London: IntechOpen, 2018, pp. 289-306.  
SUDJIC, Deyan, 2008. Cities on the edge of chaos. ArchitectureThe Observer, The Guardian International edition, March 2008, [online] 2008 [Accessed 10 May 2018], Available at: <https://www.theguardian.com/artanddesign/2008/mar/09/architecture.design>

Van KAMP, Irene, LEIDELMEIJER, Kees, MARSMAN, Gooitske, De HOLLANDER, Augustinus, 2003. Urban environmental quality and human well-being: towards a conceptual framework and demarcation of concepts, a literature study. Landscape and Urban Planning, 65 (2003), pp. 3 -18.

VÖLKER, Sebastian, KISTEMANN, Thomas, 2011. The impact of blue space on human health and well-being – Salutogenetic health effects of inland surface waters: A review. International Journal of Hygiene and Environmental Health, 214 (2011), pp. 449– 460.

WHITE, Mathew, SMITH, Amanda, HUMPHRYES, Kelly, PAHL, Sabine, SNELLING, Deborah, DEPLEDGE, Michael, 2010. Blue space: The importance of water for preference, affect, and restorativeness ratings of natural and built scenes. Journal of Environmental Psychology, 30 (2010), pp. 482-493.

See The Global Liveability Report 2017 provided by the The Economist Intelligence Unit [online] 2017, [Accessed 4 June 2018]. Available at: <https://www.cnn.com/2017/08/17/the-worlds-top-10-most-livable-cities.html>

DanurB Esztergom/Štúrovo municipal report, © BME, STU, January 2018.

The data from Uredba, SLglasnik RS, br. 104/2014, [online] 2014 [Accessed 10 May 2018], Available (in Serbian) at: <https://goo.gl/Y2b6wu>.

The data from Olympia, Agencia za poslovne usluge, [online] 2015 [Accessed 10 May 2018], Available (in Serbian) at: <https://goo.gl/KQBEm>.  
Giurgiu Municipality general information [online] 2015 [Accessed 10 May 2018], Available (in Romanian) at <http://www.primariagiurgiu.ro/porta/giurgiu/primarie/portaL.nsf/AllByUNID/00001826?OpenDocument>

Information from Landscape Atlas - Landscapes identification and character assessment in the Romania - Bulgaria cross border area, showing the landscape units, [online] 2015 [Accessed 10 May 2018], Available at: <http://www.spatial.mdrap.ro/files/Project%20results/Work%20package%206/Metrodology%20Landscapes.pdf>.

From the research conducted by Angelica Stan (coord.) et al: DANUrB Research Report Student Workshop in Giurgiu. UAUIM, [online] 2018 [Accessed 10 May 2018], Available at: [https://www.uaui.ro/cercetare/danurb/Deliverable%20D%205.5.2\\_Research-Report-%20UAUIM\\_a.pdf](https://www.uaui.ro/cercetare/danurb/Deliverable%20D%205.5.2_Research-Report-%20UAUIM_a.pdf)

Sensorial experience developed as an audio archive by viewing a movie uploaded on Youtube, [online] 2017 [Accessed 10 May 2018], Available at: <https://www.youtube.com/watch?v=NO96TIPKPLs>





# LANDSCAPE PERCEPTION AND PARTICIPATION

## KEYWORDS:

Landscape,  
Regional development,  
Perception,  
Participation

## LANDSCAPE-BASED DEVELOPMENT IN THE DANUBE REGION

The origin of the word 'landscape' comes from the Germanic languages and refers to 'land' and to 'to make'. It thus expresses a manifestation of territorial identity over time. Handed down in form of images and material symbols in paintings, texts, maps, photos, and other representations, landscape became an acknowledged object of study in the 15th century (see Antrop 2013), emphasizing the visual character and scenery of landscape as an expression. Today, landscape research highlights the relationship between human beings and the space they occupy. The European Landscape Convention (ELC) defines landscape as "[...] an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors' (Council of Europe 2001, Art.1a). This definition explicitly acknowledges the dual nature of landscape, the latter being both natural and cultural. It recognizes that landscapes are intrinsically linked to societies living under both stable as well as unstable conditions; landscape describes the relation between cultural and natural elements. It reveals the interconnected history of people and their environment, and thus discloses an important part of local common heritage.

In DANURB, urban and regional planning are mustered with social and cultural aspects instilled by the local citizenry. Carefully planned by experts, locations and sites selected for small and large scale interventions on the riverside are designed to be sustainable but find their final shape only if accepted by the local community. In order to understand how dwellers and stakeholders perceive the Danube-shaped landscapes and manmade interventions, the DANURB partners convened to discuss regional characteristics and opportunities for development. Discussions were based on individual perception, expertise knowledge and formal scholar education. They also rely on photographs taken by dwellers, which represent categories established in through a hermeneutical interpretation process. With reference to people with local and tacit knowledge who perceive the Danube according to cultural, political as well as recreational and economic purposes, the authors accept the complexity and banality of the Danube to initiate a European cross-border initiative geared to each other, aiming at reaching a shared understanding of the potential landscape transformations.

## PLACE-MAKING IN THE DANUBE REGION AND ENVIRONMENT

The landscape approach refers to spatial environments as complex territorial, urban or punctual systems. Landscape forms a fluid, process-oriented concept in line with post-Marxist philosophy. Succeeding as one of the most cited references in the late 20th and early 21st century, in the "Production of Space", Henri Lefebvre stresses the significance of history and tradition for places and space: "Every social space is the outcome of a process with many aspects and many contributing currents, signifying and non-signifying, perceived and directly experienced, practical and theoretical. In short, every social space has a history, one invariably grounded in nature, in natural conditions that are at once primordial and unique in the sense that they are always and everywhere endowed with specific characteristics". (Lefebvre 1991 [1974]) Lefebvre argues that usage and perceptions of natural conditions form representations and perceptions. It can be observed when comparing Central and Eastern European countries on the Danube to each other, or at every other site where heterogeneous socio-cultural or political traditions manifest. In DANURB, researchers and cultural activists from the region and from all over Europe collaborate to re-frame the making, conservation and development of such histories and significances on a local, regional and supraregional scale.

Following Lefebvre's reasoning, spaces are made coherent in each of our perception through the adding of meanings and significance, and thus connect with a landscape past, present and future imaginary. Place-making or attachment to a particular country and place is described in the institutional strategy or tactics of individuals, which consists in transforming an originally insignificant space or country into a space full of meaningful places where people experience a sense of belonging in hegemonic structured societies (see de Certeau 1984). Belonging to a hegemonic society does not exclude from active participation, which runs into the physical and imaginative boundaries and limitations that a person deals with every day. In the context of place-making, not all of these liminal experiences and undertakings relate to locally visible changes in the built environment and urban landscape. Examples based on qualitative research carried out in the DANURB project show that liminal experiences made by small cities on the Danube include several transformations. They led to the creation of flood protection with an impact on the flow of rivers, to the acceptance of subordinate tasks in cooperation with national or regional capitals and institutions, but also to experiment with meals in restaurants that differ from the standard regional diet. Transformative place-making is connected to the recognition and experience of certain spaces as "[...] the relationship between people and their surroundings (which) entails more than attaching meaning to space, but involves the recognition and cultural elaboration of perceived properties of environments in mutually constituting ways through narratives and praxis." (Low e.a. 2003) The landscape approach takes into account change



and transformation imposed and accelerated by social, cultural, economical, and technological transformations. It also emphasizes a continuous process marked by multiplicities from punctual to general, from simple to complex and from objective to subjective contexts.

Assuming that the ecologic and cultural landscape of the region being is a subjective experience anticipates some difficulty in the evaluation and appreciation of transformation on a local and regional scale. A growing body of knowledge about development projects in the Danube region and beyond the implementation of such projects – even if ecosystem-friendly – are contested by local communities for various reasons (Frantal e.a. 2017). The wide-spread neglect of low- and high-tech solutions with impact on the landscape among people living in Europe and Danube region leads to the assumption that a majority of dwellers struggle with cutting ties and histories established in the hostile framework of the regional landscapes. Political and industrial players thus have to build trust, promote transformative shifts on a long run, and feature development as well as technical progress through in-house technological advance and promote a better living for all (Frantal e.a. 2017). In the public discourse one may find arguments and incentives for and against building a dam, a windpark or for upgrading of old housing units according to sustainability standards. In each case, urban development, architecture and engineering projects within the landscape approach describe complex territorial systems that relate to socio-cultural, economic, political and ecological aspects.

## PARTICIPATION BASED ON PHOTOGRAPHY

Photographs discussed by DANuRB partners in respective workshops resulted from participatory photo interviews. The qualitative method developed is well-established in social sciences and the humanities. Participatory photo interviews aim for the identification of local strengths and weaknesses in order to make an argument for influencers and policy-makers, while empowering research participants (see Wang e.a. 1997; Kolb 2008; Anranter 2016). In the first two years of DANuRB, social scientists conducted eight participatory photo interviews with expert tourists, ten with expert residents and eleven with members of the local communities, thus collecting a total of 159 photographs. The differentiation between expert and non-experts is based on the participants' relation to the DANuRB project. The gender and age distribution was balanced, as well as the geographic distribution. Research participants came from six countries and experts from seven countries on the Danube. German citizenship was the only Danube citizenship not represented in the sample.

In the analysis of photographs, researchers formed four main categories with several subcategories that refer to motifs. The categories are: architecture (fortress, railway station, classic architecture, contemporary architecture, floating locations), water (large expanse of water, people and water, riverside), infrastructure (bridge, flood protection, harbour), and the environment (vineyards and other manmade landscapes, animals, natural space, food). For the purpose of this chapter, the authors identified representative photographs from three categories addressing issues of regional and local development; the perception of the Danube landscape and self-identification within the very same context. The format, perspective, composition, and detail given in photographs unveil knowledge and make a statement about a regions' or places' landscape.

**Drivers for Development:** The first photograph shows a windpark in the sunset. While the upper part of the photograph is dominated by a misty yellow sky, the part below the horizon line shows a hilly forest or agricultural region with a smaller water surface in the front. The photograph suggests a confusion between greenery and shadow, which are at the same level. Wherever it contrasts with the water surface, reflections become visible. On the right hand corner, the viewer can identify some tree branches and leaves located in close proximity to the standpoint from which the photograph was taken. On the horizon, the observer identifies an extensive onshore wind farm that dominates the scenery. Given the size and detail of the windmills, it is possible to estimate the relative distance between them and the photographer.



1 | "I TOOK THIS PHOTO, WHEN THE SUN WENT DOWN. TO ME, THE [...] RIVER DANUBE AND WIND POWER [...] REPRESENT TWO BIG POWERS" - ANNA, BRATISLAVA. PHOTO: OIKODROM, 2017.

The photographs interpretation turns tangible when taking into account background data and knowledge. It shows the Danube river from Bratislava castle (Slovakia) and a wind park for green energy production located in Lower Austria (Austria). Located on a hill close to both, the Danube river as well as the inner European border, from Bratislava castle the only windparks visible necessarily belong to Austria. Any farms of this size are to be found on Slovak territory. According to the photographer, the windpark and the Danube river represent two main economic drivers and energy resources of the region. Both promise a sustainable and prosperous future for the greater region and, due to technological advancements. Already promoted in the northern and western European countries, the photographer suggests the development of a man-made but ecologically sensitive environment landscape and environment.

**Boathouse activities:** The second photograph shows a house, two people standing near a boat positioned upside down on a sawing trestle, and a tree in the back. The photograph depicts a sunset or an early evening situation, revealed by the artificial light sources in the house. The light shines through the two-storey contemporary construction. Made out of wood, the outer construction seems more like a skin than a primary structure. The action undertaken by the two people in the house can't be clearly identified without background information. A small boat is either newly built, or an old one refurbished. The materials leant to the left wall and alloted on the ground indicate a work-in-progress situation.



2 | "I REALLY LIKE THE BUILDING: HOW IT COULD HAVE A NEW, CONTEMPORARY SKIN BUT PRESERVING THE OLD STRUCTURE; HOW IT REMAINED A BOAT HOUSE OPEN TO THE PUBLIC. IT WAS VERY NICE TO SEE THE BOAT BUILDING PROCESS WHILE ATTENDING PRESENTATIONS AND DRINKING BEER" - LASZLO, BUDAPEST. PHOTO: OIKODROM, 2017.

With the photographer providing further background information, the function of the building becomes explicit. The location, close to Budapest in Hungary, is popular among young people for hanging out, sharing beer with like-minded people, and attending formative classes and presentations. From the interview and from the boat building or repairing activity, the role of the Danube in the region becomes evident. Asked about the emotional affiliation towards the river, the research participant highlights not only the reproductive function of the place but also the juxtaposition of heritage and modernity that makes the attractiveness of this photograph. The buildings structure and materiality, the activity and handicrafts as such, the young engaging and learning traditional technique are a good example for how both, architectural and cultural interventions on the Danube shore may indicate a sustainable and ecologically compatible landscape.

**Healing Danube:** The third and last photograph shows a ruinous pier surrounded by a wide and still water surface. The viewer can not see where the pier starts but, due to the piers' rejuvenation towards the end is invited to estimate its length. The man-made structure is made out of wood and iron and has a stairway at its left end. People can use it to get into or out of the water or boat. In the very front on the left hand side of the pier a stick protrudes. In the rear one can see a landscape made of hills and mountains that mirrors in detail on the water surface. The mountains also form the horizon from the observers' point of view. The upper parts of the photograph are covered by a slightly damp but almost cloudless blue sky which mirrors in the water.



3 | "THIS PICTURE HAS BEEN TAKEN AT GOLUBAC PROMENADE ALONG THE DANUBE RIVER. IN GOLUBAC THE DANUBE RIVER REACHES ITS MAXIMUM WIDTH OF 6,5 KILOMETERS [...] WHEN I WALKED ALONG THIS PROMENADE I FELT A PEACE, BECAUSE THIS PLACES OUT OF TOWN BY THE RIVER ARE MORE PEACEFUL THAT THE SAME PLACES IN BIG TOWNS WHERE I AM FROM" - MILENA, BELGRADE  
PHOTO: OIKODROM, 2017.

About the landscape scenery depicted, the photographer comments there is nothing that creates a single stir. Just before the Iron Gate dam and energy plant providing Serbia and Romania with electricity and at the entrance to Djerdap National park in Golubac (Serbia), the Danube reaches its maximum width. For the photographer the picture represents the reproductive character of the Danube river and settlements in an area where seeing the opposite coastline is nearly impossible in the early morning hours, especially as misty fog blurs the vision over the water surface wide more than six kilometers. Segregated from the busy capital cities of each neighbouring countries, the observer is invited to dive into the Danube where bathing facilities are outdated. Thus, it evokes emotions that contrast with landscapes provided by large cities: is it the peaceful lack of technological advancement that is a major resource for development in the region, or the full acceptance of and consternation caused by a large scale infrastructure project for renewable energy that has lead to the piers decay?

In the interviews and photo collection, dwellers as well as natural science scholars like architects, urban and regional planners, heritage conservation experts and geographers turned out to not perceive the landscape they live and work in as separate from their everyday life. Indeed, all interview partners confirmed having a keen action-oriented approach

towards their own role in the landscape. Following the early landscape designer and writer John B. Jackson, all participants in their respective societies believe that being part of a landscape and develop our identity is a fundamental condition for our being in the world (see Jackson 1984). A preliminary recap aiming for transnational regional landscape development based on propositions shared by the photographers themselves and expert commentators and observers allows for three core statements:

a) the many facets and characteristics of the Danube in the region are acknowledged are a result of manmade interventions, and form a comprehensive regional landscape. The qualities of this regional landscape contrast with the qualities offered by the larger cities in the region and may become a source for local empowerment and proactive regional landscape development. This aspect is best depicted in the second photograph showing the boathouse and associated activities.

b) an omnipresent contrast at the heart of the DANUrB project manifests in dwellers and experts' views of the region. The duality is further expressed through old and new, ancient and contemporary, young and aged societies. Taking these dualities seriously may be a source for development on the one hand, but hinders it on the other one. Traditional aspects with the fast-paced city life and represent a threat for inclusive landscape design, which requires calmness attributed to smaller towns and villages in the region. Knowledgeable about the extensive structural change that came across with the building of the Iron Gates dam, the authors go with the third photograph to argue for this statement.

c) the narrative of the Danube region as an economic and ecological driver for the whole region was strengthened since all bordering states apart Serbia joined the European Union. Assuming that trust technological awareness and in-house construction are conditions for sustainability-oriented landscape development, an almost obedient attitude towards Western and Northern European countries is promoted among the societies in the former Eastern European countries to catch up with their economies. Hereat a self-critical approach and explicit reciprocal appreciation among the authors and experts collaborating on the Danube turns out being a precondition for further and hopefully equal collaboration to encompass the sometimes oppressive and suffocating hegemony of Western societies.

Each of these statements returns examples to the dual nature of landscape (see Antrop 2013). They evidence a strong relationship between stable and unstable conditions spread among the societies that may or may not support actions taken to compose and imagine new landscapes. Besides small-scale interventions and empowerment, the prominent landscape patterns promoted in the region include progressive, urban, sustainability-oriented models linked with industrial players such as energy providers. Implemented with the motivation to satisfy multilaterally developed strategies developed on a European Union level, the increasingly interwoven modernization regime dictates the perception of an imagined landscape supported by significant financial means in the northern and western European countries.

## WIND FARMS - PROVIDING AN EXAMPLE FOR UNILATERAL DEVELOPMENT IN THE DANUBE REGION.

When spending abundant amounts of time in a place, emotions deriving from mental construction related to the perceived space and environment create mental realities (Härmănescu, 2011). In the qualitative research conducted in DANUrB however, the relationship between people and landscapes turned out to depend on ownership patterns expressed through passion but also through a widely spread rejection of responsibility. On the other hand, improved accessibility to the Danube and an ecologically sound development strategy make up the more technical precondition. Governmental bodies, researchers and dwellers thus need to balance wisely when imagining new and flexible functionalities and services for old



ensembles in a discursive and empowering process where everybody can join in and find a role. An integrated dwellers' self-perception with strong mental constructions and landscape imagination needs an open-minded, potentially conflictive or at least contested framework with a benevolent attitude towards transformation.

Aspects integrated to landscape character assessment with aesthetic-visual-perceptive preponderance visualize tranquility, the sense of calm, and balance based on the sensory perception of immediate proximity. In the theory of cultural landscape these are conditions for everyday life and form the experience of the place (see Tuan 1987). For creating a sound process of landscape assessment, there is a tendency of graduation of value between landscaping assets related to aesthetic evaluation, going to exceptional uniqueness. The emphasis is on the ambient, historically, also the functional, symbolic, cultural, architectural and visual interrelations that exist and are part of an ensemble. This can be found in each of the above showed photographs and statements from research participants. Drawing once more on the photograph with the pier, the Danube features both, a mystical and functional character of the river and associated landscape. Both facets gain equal importance on a local scale, hence for regional development, coastline and landscape development. The wider regions and national views are key to embed, keep and revalorize ancient and thus mentally anchored infrastructure.

Considering additional photos showing windmills at the back of Golubac Fortress forces us to think about another, transnational potential conflict in the process of developing, rejuvenating and valorizing the region : the fortress is a national cultural heritage protected by the Republic of Serbia, the farmwind is a modern Romanian energy landscape with a number of turbines visible in the area. The Iron Gates Gorge is recognized for its scenic beauty, natural parks and the Iron Gate Hydroelectric Power Station on the Danube River, between Romania and Serbia. In Romania, the Environmental Protection Agency requires an environmental impact assessment procedure for each park that exceeds ten turbines and for any development overlapping with Natura 2000 or heritage sites. In the wind farm Environmental Impact Assessment (EIA) report, visual assessment concludes that "[...] the visual impact will not be more significant than in the case of electricity-carrying pylons" (see EIA 2010).



4, 5 | ROMANIAN WIND FARM (SFÂNTA ELENA) IN THE IRON GATES NATURAL PARK SEEN FROM THE GOLUBAC FORTRESS, SERBIA.  
PHOTO: UAUIM, 2017.

Being a cross-border region under transformation, the visual impact analysis and assessment of landscape loss is key in the development of the EIA report whenever a project has significant impact on the landscape quality within and beyond national borders. A well-rounded framework for qualitative assessment of the impact of proposed development projects on the landscape is imperative to extend economic impact assessment which recently gained momentum (Faludi 2012; Petrakos e.a. 2002; Popova 2013; Purkarthofer 2016). Integrating visual and even participatory dimensions allow the Danube countries to reduce the gap between citizens and heritage-bound infrastructure projects and to initiate an experimental collaboration between social sciences and urban and regional planning along the Danube, participatory photo interviews paved the way towards a more comprehensive understanding about the kind of national or even cross-border transformation (un)wanted.

## THE LOCAL AND THE TOURIST

Landscape preservation and valorisation are subjects of different approaches from country to country in accordance to the different approaches according to the country and the values attributed from a historical perspective: landscape can be considered as a cultural asset, landscape as natural/ecological or heritage, or as environmentally valuable landscape as a productive component of the territory. The valorisation and development of the perception of transformation with impact on natural environment goes hand in hand with asking potentially disruptive questions: should South-Eastern European countries develop independent ideas and technologies to tackle environmental change? Does an economized valorisation of old infrastructure and landscape components take into consideration the means and concerns of those living and using places now and in the future? Are science and technologies or myths and soft skills more important for creating a comprehensive and inclusive narrative for the region? Are imaginaries investigation and myth analysis tools to be explored further in order to create a comprehensive and inclusive narrative for the region? Landscape identity comes with its dangers over the authenticity including the territorial context, the degree of development, sustainability, memory, heritage, tradition, cultural features, social structures and the economy.

While expert perceptions of the Danube-shaped landscapes and places differ from that of local residents, the imagery created through photographs and discussions has become a proxy transporting satisfaction and dissatisfaction about the distribution of benefits, damages and advantages supported by regional institutional stati and transformative development. While highlighting and exploring the spatial relationships of people and institutions is thus inevitable to consider disconnected and dispersed relationship towards place: landscape use in accordance with collective developments marked by unequal distribution that provokes more and less intense interactions at a given time. Due to such trends at the international level, cultural landscape issues are understood and managed in various ways which sometimes do and sometimes do not follow local traditions and perception of landscape. In order to streamline and take advantage from dwellers' perceptions and preferences for landscape design, training is equally important with inclusion from an early stage onward. The perception of the Danube landscape as a source for future-oriented and successful self-identification and representation is demonstrated in the participatory photo interviews despite rivalries among neighbours where a multitude of emotional inscriptions are obvious. People and societies are likely to open their minds, accept and support decisions if they are taken on the basis of evidence, framed by a greater picture and attributing stakeholders an essential role.

# REFERENCES

ANRANTER, Michael. 2016. Place-making Tactics or Strategies? A Case Study on Governmental Strategies in Urban Restructuring Processes and the Effective Challenge of Asylum Seekers' Trying to Find a Place and Way of Place-making in Bolzano. Spaces and Flows: An International Journal of Urban and ExtraUrban Studies, Vol.8 (1), pp. 31-34.

ANTROP, Marc. 2013. A brief history of landscape research. In: Howard, Peter; Thompson, Ian; Waterton, Emma (eds.), The Routledge Companion to Landscape Studies. New York: Routledge, pp. 12-22.

COUNCIL OF EUROPE. 2001. European Landscape Convention. European Treaty Series, [online] 176. [Accessed on 23. 11.2018]. Availabe at: <https://rm.coe.int/1680080621>

DE CERTAU, Michel. 1984. The Practice of Everyday Life. Berkerly: California University Press.  
EIA. 2010. Report for investment on Wind Farm Connection to SEN Sfânta Elena. Coronini, Caraş Severin County. [Accessed on 30.05.2018].  
Available at: [http://www.eib.org/attachments/pipeline/20110247\\_eia3\\_ro.pdf](http://www.eib.org/attachments/pipeline/20110247_eia3_ro.pdf)

FALUDI, Andreas. 2017. Territorial cohesion, territorialism, territoriality, and soft planning: a critical review. Environment and Planning, Vol. 45, pp. 1302-1317.

FRANTAL, Bohumil; BVEK, Tadej; VAN VEELLEN, Bregje; HÄRMĂNESCU, Mihaela; BENEDIKTSSON, Karl. 2017. The Importance of On-site Evaluation for Placing Renewable Energy in the Landscape: A Case-Study of the Búrfell Wind Farm (Iceland). Moravian Geographical Reports, Vol. 25 (4), pp. 234-247.

HÄRMĂNESCU, Mihaela. 2011. Landscape issues in contemporary thinking (Problematica peisajului în gândirea contemporană) în Peisaj Cultural şi Dezvoltare, Bucureşti: Ed. Universitară Ion Mincu, pp. 69-79.

JACKSON, John Brinckerhoff. 1984. Discovering the Vernacular Landscape. New Haven: Yale University Press.

KOLB, Bettina. 2008. Involving, Sharing, Analysing—Potential of the Participatory Photo Interview. Forum Qualitative Social Research, [online] Vol. 9(3), Art. 12. [Accessed on 12.01.2019].  
Available at: <http://www.qualitative-research.net/index.php/fqs/article/view/1155/2574>

LEFEBVRE, Henri. 1991 [1974]. The Production of Space. Oxford: Blackwell.  
LOW, Setha M.; LAWRENCE-ZÚÑIGA, Denise. 2003. Anthropology of Space and Place Locating Culture. Oxford: Blackwell.

PETRAKOS, George; ECONOMU, Dimitris. 2002. The Spatial Aspects of Development in South-eastern Europe. Discussion Paper Series, [online]. 8 (3), pp. 37 – 66. [Accessed on 19.04.2018].  
Available at: [http://www.prd.uth.gr/uploads/discussion\\_papers/2002/uth-prd-dp-2002-03\\_en.pdf](http://www.prd.uth.gr/uploads/discussion_papers/2002/uth-prd-dp-2002-03_en.pdf)

POPOVA, Juliana. 2013. Attitudes and Prerequisites for the Establishment of an Integrated Cultural Identity within Romanian-Bulgarian Cross-Border Region along the Danube River. Journal of Danubian Studies and Research, Vol. 3 (1), pp. 258-269.

PURKARTHOFER, Eva. 2016. When soft planning and hard planning meet: Conceptualising the encounter of European, national and sub-national planning. European Journal of Spatial Development, [online] 61. [Accessed on 30.05.2018]. Available at: [http://www.nordregio.se/Global/EJSD/Refereed articles/refereed61.pdf](http://www.nordregio.se/Global/EJSD/Refereed%20articles/refereed61.pdf)

TUAN, Yi-Fu. 1987. Space and Place: The Perspective of Experience. London: Arnold.





# BRIDGES INTO THE FUTURE

## POTENTIALS FOR CULTURAL HERITAGE IN THE DANUBE REGION

### KEYWORDS:

Danube,  
Cultural heritage,  
Perceptions of space,  
Bridges,  
Common narratives.

## INTRODUCTION

*"We live in a house that breathes us as a rare air. who doesn't know how to listen to our words, but absorbs them in its indifferent textures, grinds them into its mills, camouflaged in walls and ceilings. a house where we levitate, moving from one room to another, as long as we do not feel the gravity of not even one thing: just borrowing from one to the other. alveoli of nothing."*

Poem, Angelica Stan (Stan 2016)

The socio cultural life in its diversity, the specific routines of the landscape along the Danube: the authors are drawing a picture of the Danube region from the perception of its inhabitants, showing the cultural potential of the region based in daily social and cultural life. Although the region experienced severe historical conflicts, cooperation based on a common understanding of the collective heritage is possible.

Through selected methods and perspectives on the region, a Danube heritage puzzle is created, covering the following themes: the mental character of the Danube and the perception of landscape and nature (Angelica Stan), fishing as an important cultural practice and magic life in storytelling (Heidi Dumreicher/Bettina Kolb), a variety of perceptions of the bridge (Richard S. Levine) and the risk of a biased global representation of the Danube region through "junk narratives" (István Kollai). For the whole Danube region, we can find common themes as part of the cultural heritage, e.g. fish is an important issue everywhere, but fish soup – as a cultural heritage with its own festival (Sturovo/Estergom summer festival) – is not served everywhere along the Danube and other animals, e.g. horses get more importance and traverse the landscape.

This article as a whole reflects the common cultural potentials and narratives in the Danube region and shows a critical perspective. Based on the experiences and findings of the different researches and discussions, it draws conclusions that concern the whole region, constructing possible steps on the bridge to a common future. In terms of cultural perceptions of the tangible and intangible heritage in the region, the notions become a cultural potential and a transition base for a sustainable future.

## METHODOLOGIES AND THESES IN SHORT:

In order to identify the "unpredictable character of the Danube from the minds of its inhabitants" in the Giurgiu Ruse micro-region, a questionnaire is the basis for investigating the perception of landscape and nature. In completion of another study, this questionnaire, answered by stakeholders from the Giurgiu city's and by UAUIM's students, reveals findings on the perceived differences of the Danube River in the region. Additional research objects of the questionnaire involve the taboo image of the "Danube's Man", the "verbalizing" landscape and the mental representation of the hypothetical relationship between two settlements located on both sides of the Danube (Angelica Stan).

Next, the socio cultural practices of the Danube region are the focus of a participatory photo interview in Slovakia and Serbia, representing the dwellers' view of this region (Heidi Dumreicher/Bettina Kolb). The research shows that the intangible heritage is still embedded in the daily socio cultural practice, visible through cultural practices such as fishing and storytelling.

Based on a picture of the Rainbow Bridge in Novi Sad, the different perceptions of the bridge as a tangible and intangible heritage in the Danube are being discussed (Richard S. Levine). Môže byť vnímaný pozitívne ako reprezentácia prepojenia, ako aj modernej éry architektúry. owever, bridges are also likely to be perceived as dangerous and can act as a separation facility.

At last, the possible risk of turning the culturally valuable places of Central Europe into a "Wild East" Disneyland will be discussed (István Kollai). The adaptations of Dracula in Romania as well as the Slovakian story of the "bloody countess" Elisabeth Báthory are majorly influencing the way the Danube region is perceived globally: through "junk narratives" rather than through lively and real stories. Instead, the suggestion is made to embody the contradictory historical mixture of conflicts and cooperation among Central European nations in such easily-readable narratives as the "personal unions".

## THE UNPREDICTABLE MENTAL CHARACTER OF DANUBE

In the context of a fragmented perception of the Danube – both at the level of the whole territory (inherently due to the cultural and ethnic diversity of the Danube countries), and at a microscopic level – our questionnaire asked about the amplitude of the perceived differences of the Danube River in the Giurgiu Ruse micro-region. How is the Danube reflected in the current mentality of its inhabitants and visitors, beyond the tourism stereotypes and the common perception modelled by the inputs of the technological world in which we live? Beyond the urban or rural labels (which are not quite exact for describing these territories in Romania, because this border is very thin), the Danube is perceived not only as physical space, but also as its mentally lived inside, "seen" with that peripheral "view" that does not focus directly on objects, but records "instantly" all the data of this complex reality. This reality includes not



only the shape of Danube's built space and its functions, but also the smell, sound, danger, memory, fantasy, habits, stories and fears.

We used a questionnaire consisting of 10 questions related to both areas of immediate perception of people's lives, as well as images or data that deal with memory, imagination, correlation, or past education. The main goal was "to find the unpredictable character of the Danube from the minds of its inhabitants or visitors", so we developed this questionnaire as a research tool, in completion of another study about the Soundscape of Giurgiu, and we applied it to both stakeholders from Giurgiu city, and to the UAUIM's students who researched this territory within the DANURB workshops. Because this research is done through a written questionnaire, and inevitably uses the written and spoken language of the respondents – the Romanian language in this case – we considered in compiling and interpreting it what Merleau-Ponty said: "The full meaning of a language is never translatable to another. We may speak several languages, but one of them always remains the one in which we live" (Merleau-Ponty 1993).

The total number of respondents is 70, of which 63% are local stakeholders and 37% are students. The results of the questionnaire revealed that the Danube is intimately linked to their life, and the interest in the city development is a real and profound one, often full of imagination and positivism. The poetry behind these answers speaks about the immense potential of improving the mental image of the Danube for their inhabitants, and starting from this point maybe, any strategy could start to develop and gain a real interest.

An additional motivation of this questionnaire comes from the somewhat taboo image of the "Danube's Man". The Danube is the generator of patterns that accumulate both physical as well as moral and behavioural traits of its inhabitants. In Romania, with a highly varied geography, it shows an anthropo-cultural distinguishing, related to the forms of relief prevalent in the lived landscape: mountain, sea, plain, hill, all of them characterized by several categories of inhabitants. Often, we find that the features of the Danube water are transferred to the generic character of the Danube man: skilful, clever, and turbulent (uninhibited, hidden), or "testy".

These are more or less valid labels, born out of the desire to simplify a quasi-unknown content. How does the Danube human being perceive him/herself? What is in his/her mind when asked about where he/she lives? What is in his/her soul? – we could ask, keeping in mind the words of Merleau-Ponty, who said, commenting on Descartes's philosophy: "The soul is not in the body like a pilot in his ship; it is wholly intermingled with the body. The body, in turn, is wholly animated and its functions contribute to the perception of objects" (Merleau-Ponty 1964). These would have been too ambitious questions for a study at this stage, so we preferred to concentrate the most frequent mental schemes, simplified space representations, and markers of world knowledge of this "Danube's Man" in Romania. We trust that the study can continue to develop to the magnitude of a complete picture.

With this study, we intend to check on a small segment (a small town, Giurgiu): how the mental image of the Danube overlaps with its physical, spatial landscape features. We also consider the discourse about the "verbalizing" (practicing) landscape, more than the theoretical and imagistic production based on it (which does not lack). In my work "The Landscape Becoming", we find the rationales and reveal the perceptual channels of the landscape evolution in the human mind (Stan 2012). We discovered, through Deleuze & Guattari, that any landscape is, above all, a mental picture, a complex, branched, intermittent and whimsical construct (Deleuze & Guattari 1980). And that the space which hosts or stands at the origin of a landscape is peripherally installed in this construct, as adjacent information coming through the path of mnemonic retention, dream, or even cultural clichés.



1 | GOSTINU BEACH.

Around 80% of the respondents have associated the Danube with a landscape where the traditional, strongly symbolic elements of the Romanian Danube area are found, especially for the rural settlements, or areas with a low degree of urbanization. Thus, the respondents associated the horse (88%), and to a lesser extent, the fish (12%) with the Danube. The tree, considered to best fit the Danube landscape, was the oak (76% of the respondents) and the rest of 14% considered the willow as the representative tree of this territory. These results indicate the force with which the sacramental cultural archetypes are deeply stored in the collective subconscious. The horse, as we know well, has a strong mythical character and a magical and ceremonial function within the Romanian culture and civilization. According to several researches in this area, the inhabitants of rural or semi-urban areas in the entire Romanian territory consider the horse to be "the most beautiful, noble and smartest of all animals". The collective imaginary associates supernatural powers to the horse, which are extensively found in popular literature – in fairy tales such as "Tinere e fără bătrâne e și via fără de moarte" ("Youth without oldness and life without death"- trad.n.) and many others. The horse is a guide for man in all its businesses, and this trait is expressed by Romanian proverbs such as „Voinicul fără cal/E ca peștele pe mal" ("The young man without horse / is like the fish on a shore"- trad.n.), thus reflecting that the horse is the present symbol rather in the male consciousness than in the female one.

As for the preference of the oak instead of the willow (more appropriate for the bioclimatic type of the Danube), this response can be interpreted either in the sense that the reference is made to an upper mark symbol, nationally valid (the oak as a symbol of the permanence of the Romanian people), or as a reference to a local landmark: the beach and the camp named "Stejarul", a public place in Giurgiu city, on the Danube shore, frequented by a large number of locals in summer time.



2 | SYMBOL FOR MODERN LIFE QUALITY.







The most common or unusual aspect related to Danube life that deserves attention is a historical narrative related to the persistence of a Romanian proverb "Te bat pînă o să auzi cîinii din Giurgiu!" (I'll hit you as you'll hear the dogs from Giurgiu" - trad.n). Most interpretations of the phrase are violent and refer to a beating or a serious threat of beating. The expression is of literary origin, but no one can say exactly when it first appeared: we find it in the work of the writer I.L. Caragiale, in the drama "A Stormy Night" (Caragiale 2003). However, the story and the explanations of the respondents within the questionnaire are related to the fact that during the Ottoman occupation, the sheep of Romanian peasants were taken out of the country by the Turks passing to Giurgiu: while the sheep were transported by boat (or, in another variant, on the frozen Danube, by foot) the companion dogs stayed on the Giurgiu shore, and strongly barked for their flocks.

The questionnaire has brought to light a series of information that we can verify with theories of perception and philosophy of language. We introduced a "methodical doubt" by asking questions that were not abstracted and philosophical, but concrete and intuitive. The answers meant more than answers, but they counted as revelatory items of inner states that each of us faces. The "methodical doubt", a tool of Merleau-Ponty's theory of perception, "is carried out within the voluntary zone of ourselves, (and it- n.n.) refers to Being, since it resists a factual evidence, represses an involuntary truth which it acknowledges to be already there and which inspires the very project of seeking an evidence that would be absolute" (Fischer 1969).

We found out that the Danube world perceived by the locals sensibly differs from what comes to us as current/standard information on those places. We have also learned that people's perception of the living spaces on Danube's shore is a lacunar, uncertain, moving and temporal one, but, perhaps paradoxically, it is also positively determined towards the future. Language, as well as Image, is mentally structuring the human being, both as individual and society, imprinting peculiar patterns of behaviour and attitudes related to the prevalent or traditional linguistic structures. In Romanian (space and) language, Danube is a rich word, full of meanings at least as consistent as the route of the river runs at the southern border of the country. Certainly, the inhabitants of the Danube cities, unlike those who just visit it, do not perceive the direct association with its spectacular geography, tourist attractions, historical references, traditions or architectural performances. Often, these are at the surface perceptions of mass tourism (that also speculate it intensively). Beyond them, there is the everyday existence of "normal" people that, in those places, mirrors the river landmarks, and the ancient language of its beauty, which is not only an image, but also, as Pallasmaa teaches us, sound and textures, memory and imagination (Pallasmaa, 2015).

## SOCIO CULTURAL PRACTICE AS POTENTIALS

What is the character of the Danube region? What are the hidden potentials and places of the Danube region seen from an insider or an outsider perspective? This section of the article is based on an empirical field work in Slovakia and Serbia representing the dwellers' view to the Danube region by the means of participatory photo interviews. This method represents a visual approach towards knowledge acquisition in social sciences empowering also participants of research (Kolb 2008).

In the study, we asked people to take pictures of their most beloved places, asking for potential innovations and challenges they could imagine for the very same places. Data collection was carried out in 2017. For the pilot action we asked research participants to compile a 'Visual Data Quest' and to send pictures of the three most significant places along the Danube River and shortly describe their value. The research question we answered with our approach was: What to change and what to maintain in the Danube region? In narrative interviews, focus groups and stakeholder discussions, we further gained a broad range of perspectives for the interpretation of the visual material and input for upcoming stakeholder involvement.

The research question was also defined with the aim to empower research participants to become active and to eventually be considered as situational experts that are ready to go with or argue against academic and/or professional experts.

The expertise of the participants is based on the concept of emotional co-ownership developed by Dumreicher and Kolb (2003) and also to be found in Anranter, Dumreicher, Kolb & Levine (2015), which describes the social interactions indicating a relationship with a clearly defined place and emphasizes longevity through empowerment and engagement in the community as a demand for sustainable interaction with spatial settings: Emotional Co-ownership is "[...] a strong attachment to a place that results in an interest from local citizens in the perpetuation of the valued qualities of the place. Most often this attribute is found in an empowered citizen who is involved in the decision making process of her or his locality" (Dumreicher & Kolb 2003).

The research in the Danube region shows that the intangible heritage (UNESCO 2016) is embedded in the daily socio cultural practice. There still exists a specific tradition and cultural practice which starts with fishing and leads to traditional songs and stories performed in a traditional dinner.

## FISH AND FISHING IS STILL THERE

Fishing is still present as an important cultural practice, generating cultural memory. There is still a specific practice for fishing in the Danube, and fishing schools communicate this practice to other fishermen and fisherwomen. We found a practice in Slovakia, where the school provides the study of fishery on different levels. There are still different forms of fishing practice: from fishing with the stick and fishing with the net, you find different well established methods. The fishing corporations have a lot of experience and are specialized for warm water and cold water fishing, private fish farms and activities which protect the living environment. The fishing activities are transferred into traditional cultural practices like cooking a specific dish - the fish soup and other dishes, which can be found in the region at festive events.

*"So I can fish in many types of ways. There is not just the classic way. You can hold the stick and pull out the fish. That experience when you get a three kilograms carp with only this small stick!"* (I. High School, Fishing Department based in Slovakia).



7 | FISHING ON THE DANUBE, 2017.

MAGIC LIFE IN STORIES

There is also still experience about the magic life in the river and its landscape. Interviews show that magic stories were collected, adapted for storytelling and told for an interested audience. The intangible heritage of stories is part of a cultural revival and part of the cultural heritage puzzle of the Danube region. During the interview with Baba Dragica, we were invited in her mythic experience. We learned about fairies living under the roof: *"fairies bath their children on the attic of our house"*, as well as about dragons, which could hold on people. Aždaja (А ж д а а) – dragon – has more heads than one – three, seven or nine, and is haunting fire. *"Lubitza was possessed by the dragon, and my grandfather told me not to go near her house"*.

The dragon is a long established inhabitant of the Danube region with a bias towards transition: *"And people of course believed that the dragon, who derives from a fish, from a carp is two hundred years old... And that he comes out of the Danube. And, when he got out from the Danube, he is not a carp anymore."*

We can differentiate between magic inhabitants of the region on the one hand, and symbols and artefacts of protectors for people against harassments of daily life on the other. Wolves are part of the dangerous life in the Danube regions: so the house has to be protected, with the wool around the sisal hanging on the entrance door, to stop the wolf by trapping his mouth: *you put the wool around the wolfs mouth symbolically.*

Protecting material is manifold and preserved during many generations: from the established natural flowers and vegetables like garlic to religious paintings like icons, *"I have it from my grandfather"*. The best protection is having both in the religious corner of the house. In Romania, this kind of double insurance was known: the religious cross in one corner, the dictator Ceausescu (marele conducator) in the other. Good to have more than one corner in the house, *"who knows, who wins at the end?"*

THE BRIDGE - TANGIBLE AND INTANGIBLE HERITAGE - A DISCUSSION OF SPACE

ON THE BRIDGE - BRIDGES CONNECT THE RIVER SHORES

Bridges are part of the tangible heritage of a landscape. The Danube region is strongly connected to its bridges, because of the necessity of crossing the river and bonding the river banks. The bridge represents a tangible heritage, and protects the intangible heritage, the socio cultural life under the bridge and on the bridge. The bridge stands for the connection and also for the border, because the river represents the border. In Roman times, the Danube was a river, representing the border of the Roman Empire. But the connection between the banks of the river is also important for hundreds of years: the "Steinerne Brücke" in Regensburg, Germany, was one of the eldest bridges (1135) in the Danube region, a masterpiece of middle aged architecture, and the only bridge between Ulm (Germany) and Vienna (Austria).

In the DANUrB project bridges were places of transitions and manifold connotations with functionality on the first range: the river as a border between national countries (Estergom, Hungary and Štúrovo, Slovakia) connected the different socio political situations: two national countries, two languages.

Bridges are positive representations of the interconnection, especially for insiders using the bridges in this functional way. For them the architecture of the bridge is a sign for a modern era insuring access to the city and its sites. The bridge facilitates the tie between the river shores, the established cultural life around the river and the socio cultural heritage or religious sights in the river landscape:

Well, I was walking over the bridge and I saw something rocky on the hill

and an entrance. When I looked more closely, I saw a cross. So I wondered, what could that be!

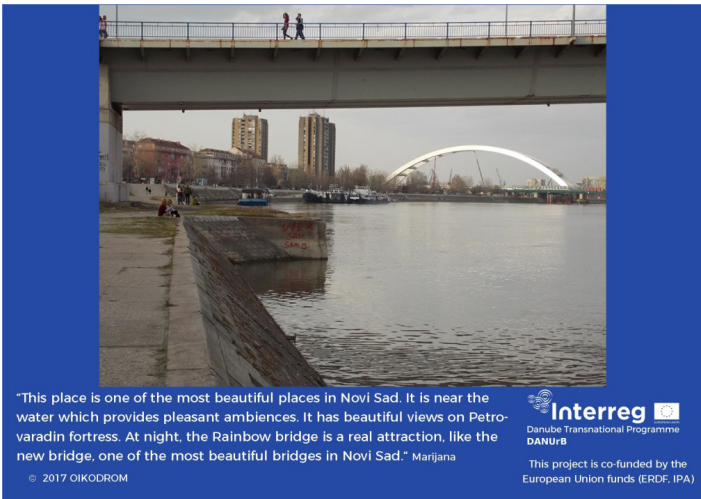


8 | THE CHAPEL IN A CAVE ON THE ROCK NEAR GELLÉRT HOTEL, BUDAPEST, HUNGARY, M., PHOTO 1, 2017.

Nevertheless the Danube region has an outstanding attitude towards crossing the river – this is recognized by insiders and outsiders like tourists. But bridges also have spaces underneath their construction, which are often seen as spaces of fear and anxiety.

UNDER THE BRIDGE - THE BRIDGE AS A NON SPACE

Bridges are likely to be perceived as dangerous and insecure, especially the space under the bridge. Nevertheless, the bridge is functional as architecture against rain, when you are standing under the bridge. It is a space of protection, too. Homeless people gather under the bridge for this functional aspect of the building, although the bridge cannot function as a very homey place. The photo shows a place in Novi Sad, Serbia: The photo represents a dweller's perspective, who goes to this space in his daily life. He speaks of a place where people could go to have a calm rest, to be in a place with a nice view, yet calm and isolated, and he sees it as an important part of the city, especially in opposition to a busy urban life. By locals, this is thus considered a lovely place with potential to also attract tourists (supposing that the safety questions are solved).



"This place is one of the most beautiful places in Novi Sad. It is near the water which provides pleasant ambiances. It has beautiful views on Petrovaradin fortress. At night, the Rainbow bridge is a real attraction, like the new bridge, one of the most beautiful bridges in Novi Sad." Marijana © 2017 OIKODROM

Interreg Danube Transnational Programme DANURB This project is co-funded by the European Union funds (ERDF, IPA)

9 | RAINBOW BRIDGE AND NEW BRIDGE IN NOVI SAD, SERBIA.

The bridge can also be seen as a space and a non space, a relation making device and at the same time a separating device, focusing on functional attributes of the space around the bridge, too:

There are two things in evidence: The bridge as a place at the edge of town



is a breathing space. The photograph shows a barren, newish, engineering structure which essential function appears to be to protect the Danube shoreline and protect the adjacent area from flooding, possibly once used or for future use for some possible port activity. Also included in the image is the undifferentiated part of a bridge spanning overhead, a few scattered people and what seems to be a town in the far distance with a new bridge under construction there. There is nothing else indicating any activity or accommodation or access. *It is rather anonymous and could be anywhere.*

The narrative on the back side of the post card indicates that the writer loves the spot as do other students and perhaps "marginalized" people in general. The site offers beautiful views of the river (and the "rainbow bridge", which must be the undifferentiated bridge span which we see only from below.) It also offers some privacy, remoteness, refuge and solitude as well as a place to get together with friends, to party without interfering or being interfered by the established patterns and social structures of the (nearby?) town.

Every town should have some breathing space for which no one has any particular ownership, a convenient, neutral space where the established patterns, customs and commercial/institutional activities of the established town are largely absent.

The bridge may be seen as a space of opportunity and informal possibility. The photo tells a story about a place of opportunity and possibility, but not of any particular support or inherent vibrancy. Those things must be brought there from the outside. The narrative speaks of young people, foreigners or marginalized people who have not yet found a place or role or pattern of living or integration within the established town. Yet they have friends, comrades, schoolmates who likewise have not found comfort or emotional co-ownership within the existing urban fabric of the town and seek such definable locations, i.e. the underside of the intersection of a bridge and a marine promenade where they can comfortably congregate. We can imagine all sorts of ways that this waterside promenade could even be a lot more supportive of these more informal, extra urban possibilities. In many cities urban parks and urban woods support places like this.

The bridge connects the river and the inner town: The point is that while there is every reason to support these peripheral, less structured, not appropriated spaces, they cannot be the whole basis of a town. The photo shows a place I can go for a walk or perhaps a picnic, but without grass, shade or tables/benches. Should the town itself be unable to provide me with the sort of comforts, experiences services or interests that I desire/require or just for the solace of being away from the (hopefully) vibrant inner town for just a bit? The arising questions seem to be, how strong is the emotional attachment to a place and how is its spacial attraction to an outsider? What is the life on the street like – the spaces, the big buildings, the urban fabric, the shops, the services? Can I, as a visitor, develop an emotional attachment to the sense of the place? Can the young, the transients, the students, the marginalized hope to eventually develop an emotional co-ownership of the place?

Is any affection or vibrancy for the anonymous waterfront a staging area for eventual integration into the life of the old city or is it merely a way station for moving off to some other, more promising town or city?

Can a long-time resident hope to find it a worthy place and personal relationship to the place, to the culture to his/her fellow dwellers? Can she/he develop a meaningful life in the local community?

## THE COLOURS OF THE DANUBE

The Danube lives in the mind of Central Europeans as the "blue river", a stream of civilizations where nations and cultures have met and fertilized each other over the past centuries. This highly positive and peaceful image was cemented by such artworks as the waltz of Johann Strauss' "An der schönen blauen Donau", or like the texts of Claudio Magris. But, looking at the river from the level of global consumerism, the silhouette of the Danube and its surrounding is not so appealing. Indeed, a rather dangerous risk can be detected when scrutinizing the layers of discourses about the Danube, called "Dracula-tourism" by heritage experts. When global consumers are "fed" with local "junk narratives" – exaggeratedly horrifying local myths – these unhealthy stories serve as Hollywood-food to be

consumed. For many heritage sites in the Danubian basin from Slovakia to Romania, the plethora of Dracula's adaptations – rooted in Bram Stoker's gothic novel – embodies a temptation, too big not to exploit its enormous popularity, despite the danger, which the Romanian tourism policy makers are well aware (and afraid) of: turning culturally valuable places into "Wild East" Disneyland. This risk is visible in other Danube regions like in Slovakia, where one of the most prestigious cultural export products is the story of the "bloody countess" Elisabeth Báthory from the 17th century. Being accused of bathing in the blood of young ladies, her mysterious legend has inspired American film makers, computer game developers, even postmodern South-American poets to recall the image of the bloody countess. Moreover, well-known Norwegian death metal was named after this Hungarian noblewoman. A worldwide success which the Danube region cannot be honestly proud of: Instead of showing lively and real stories rooting in the region's multi-ethnic conflicts and cooperation, Central and Eastern Europe are globally known through these "junk narratives".

In any case, the contradictory historical mixture of conflicts and cooperation between the Danube nations could also be presented in such a way that it is "edible" for global space consumers (film audiences, tourists, etc.). From a utilitarian perspective of policy-makers in the field of cultural tourism, the peculiar confluences of ethnic and religious relations can be embodied in such easily-readable narratives as the lively stories of the "water towns" or "water districts" of Bratislava (historical Pressburg), Esztergom or Budapest, which gathered a spectacular cultural mix of merchants and craftsmen. These "water towns" had their own biorhythm, own religious communities and rituals – as a "town within the city" – called "Vydríc" in Bratislava or "Tabán" in Budapest, inhabited by Germans, Jews, Croats, Serbs.

"Personal unions" – a kind of political act in the middle ages – can be also regarded as a Danubian cultural phenomenon. In history, personal union meant when two states had the same rulers and thus, merged temporarily. The phenomenon is not so well-known in Western Europe, since personal unions were instable situations there, a kind of first step to form everlasting dominancy. It was the way how Ile-de-France melted its surrounding regions into itself, how Scotland was merged into England, or how the Castilian state grew into the Spanish kingdom. In the Danube region, none of the similarly strong (or weak) power centres had lethally dominant power on the others. Thus, personal unions meant temporary alliances indeed, opening vivid channels among cultural and political elites and among patriarchs and merchants, of course still triggering wars and political tensions, but without the lethal dominancy of either party. Through personal unions, or through water towns, the "stable instability" of the semi-peripheral Central Europe can become a readable narrative. Which "stable instability" it is, it's worth mentioning and already portrayed in contemporary literature of high quality. It is enough to recall the Nobel-awarded works of Herta Müller from the Romanian-Serbian-Hungarian(-German-Jewish) Banat region.

## A POTENTIAL FOR THE FUTURE - CONCLUSIONS

The article shows the intangible and tangible heritage from the Danube region as a potential for the future. There is a common cultural heritage: the river, the natural landscape, the stories and the poems as well as the traditionalist architecture. From the existing cultural experience, it is possible to lead into a sustainable future. The bridge, as a tangible heritage can function as a place of contact, where alliance can be deepened between the two shores of the river. General narratives can be based on the bridge and can start the storytelling and poetry, as an intangible heritage. The fish soup is served on the bridge, the social cultural practice of cooking and consuming is connected to the tangible heritage of the architectural building, while stories of Dracula are frightening the audience, staying on the bridge, with the risk of becoming a "Wild east" Disneyland, too.

From Novi Sad, Serbia we learned, that there is a potential for places under

the bridge for residents of the town, but also to bring the town closer to the river: at the river edge, between two bridges, could be a living lounge, or an event side. At night, one should add some light to eliminate the impression of a dangerous place. It could develop into a public farm boat, located next to the bridge on the river – even offering drinks or food. The place under the bridge, a place for privacy and calmness with a small café, which would not have to be known by everybody in the city, but as a place you love and where one can have a calm rest with close friends.

## IMAGINARIES AND REPRESENTATIONS OF TERRITORIES: TOWARDS SOCIOLOGY OF THE LIVED SPACE

Space is not only a tangible arrangement of infrastructures and natural elements. It is not something that each of us perceive strictly as it is, and that serves as a *support* for social structures. On the contrary, space is at the core of the social world; it is both shaping it and shaped by it. Space is made coherent in individuals' psyche through representations and imaginaries that are framed by social schemes, which are deep-rooted in the collective consciousness. By introducing the term of "lived space" in geography, Armand Frémont extended that of Lefebvre and enabled the discipline to take into account representations and imaginaries in space conceptualization. Space exists insofar as it is experienced, and imaginary structures are the implicit driving forces that make this experience socially meaningful. In order to distinguish between these notions, Bachelard's conception of imaginary seems to be enlightening; for him, imagination is "superior" to representations in the way that the latter are only the images' communication mechanism, while imagination generates them. Thus, the lived space is a social construct, and taking the representations of space as an object enables to grasp the underlying social structures of a territory, which are often invisible for researchers in social sciences from a first sight. What are the space's components that are considered to be constitutive of the territory by local inhabitants? What are its limits, its symbolical dimensions, and what are the connections between the different spaces and social groups? Who prevails in the territory? Those are questions that can be explored to lead the understanding of relationships between people and their environment further.

If understanding the lived space is important for social sciences' development, it is also fundamental in the decision-making process. In order to implement policies or programs that would be compatible with inhabitants' ways of living, it is necessary to previously shed light on the way the territory is actually being appropriated by them, to understand what are its key features, its boundaries, its myths, and to consider the way it is symbolically being reified as a territory – establishing a common identity. Offering a view of the way territories along the Danube are expressed and lived in their dwellers' inner reality – namely the lived space – is particularly valuable for decision makers, local stakeholders and urban planners. Thus, taking social representations and imaginary seriously is a key step in the transition toward a sustainable development model, inasmuch as the latter has to take the popular appropriation of territories in account.

In the field of tourism, the lived space is all the more important as it represents in itself a common heritage to be further promoted. As developed in this article, building a sustainable brand of tourism cannot rely on narratives created by occidental cultural industry, which are contently distant from the territories' history and people's daily reality. Therefore, as being defined by those wide-spread narratives – which are actualized in social interactions through tourists' stereotypes – implicitly means that the local heritage is silenced. It reveals the territories' inability to be sovereign, and to independently define what should be put forward as the common heritage. This is a form of symbolic violence that has to be acknowledged and fought in the transition process toward sustainable tourism. Considering the symbolic dimensions of spaces would also strengthen our comprehension of the lived space, especially by enlightening symbolic ratios of power that are underlying tourism.

A genuine empowerment should take in account the lived space as a starting point to build a sustainable future in accordance with dwellers' views on their territory. Popular narratives, stories and representations form a collective heritage exploitable for collective development. Imaginaries and representations are relevant tools to disclose the real common heritage as well as underlying ratios of power, and they can be a sound common ground for a progressive and fairer sustainable development.

## ACKNOWLEDGEMENTS

*We thank all our partners, the dwellers who accepted to be interviewed in the framework of our research, Maël Alonzo for his support in the interpretation, Michael Anranter and Luisa Eser for supporting this publication with their background in intercultural studies.*



# REFERENCES

ANRANTER, Michael; DUMREICHER, Heidi; KOLB, Bettina and LEVINE, Richard S. 2015. Exploring Spaces of Possibilities for Arts, Culture, Public Space, and Civil Society. The International Journal of Social, Political and Community Agendas in the Arts, 10(3), ISSN 2326-9960.

CARAGIALE, Ion Luca. (1879) 2003. O noapte furtunoasă ("A stormy night"- trad.n.). ed. Casa Radio, Bucharest.

DELEUZE, Gilles and GUATTARI, Félix. 1980. Mille Plateaux: Capitalisme et schizophrénie. Éditions de Minuit (coll. «Critique»). Paris.

DUMREICHER, Heidi and KOLB Bettina. 2003. Seven theses on town and city quality. In: BENZING Brigitta and HERRMANN Bernd. (ed.), Exploitation and Overexploitation in Societies Past and Present. Münster: LIT, pp.241 – 262.

FISCHER, Alden-L. (Editor). 1969. The essential writings of Merleau-Ponty. San Diego: Harcourt, Brace & World.

KOLB, Bettina. 2008. Involving, Sharing, Analysing—Potential of the Participatory Photo Interview. Forum Qualitative Sozialforschung / Forum: Qualitative Social Research, 9(3), p.1. Available at: <<http://www.qualitative-research.net/index.php/fqs/article/view/1155>>. Date accessed: 24 jan. 2019. doi:<http://dx.doi.org/10.17169/fqs-9.3.1155>.

MERLEAU-PONTY, Maurice. 1964. Le visible et l'invisible. Ed. by Claude Lefort. Paris: Gallimard.

MERLEAU-PONTY, Maurice. [1945] 1993. Phénoménologie de la perception. Paris: Gallimard.

PALLASMAA, Juhani. (2005) 2015. Privirea care atinge: arhitectura si simturile. Trad. Pandelescu, I. Aura, Bucharest: Arhitext Design.

STAN, Angelica. 2012. Devenirea peisajului ("The Landscape Becoming"- trad.n.). Ion Muncu Ed.. Bucharest.

STAN, Angelica. 2016. Spații intermediare. Editura Tracus Arte. Bucharest: Tracus Arte.

UNESCO. What is Intangible Cultural Heritage? 2016, (Accessed: 24 jan. 2019.), Available at URL: <https://ich.unesco.org/en/what-is-intangible-heritage-00003>.



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**BOOK**

**ON THE UNEXPLORED  
CULTURAL HERITAGE  
IN COMMUNITIES  
BY THE DANUBE**







