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Former Austro-Hungarian Fortresses in The Southern Poland as an Example of Problems of Preservation, Restauration, And Adjustment for Public Purposes

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Abstract. As a result of partition of Poland in the year 1772 all the southern and eastern part of the Kingdom of Poland was captured by the Austrian Empire. In the year 1846 the last independent survivor of Poland - small Republic of Krakow - was annexed to Austria. A crisis between Austrian and Russian empires during the Crimean War (1854) forced a decision about erecting two new fortresses, defending the manoeuvre area of the Galicia to the north of the Carpathian Mountains. Fortress Przemyśl defends a strategic way thru the Łupków and Uzsok passes to the Hungarian Lowland. Fortress Krakow defends the main strategic road to Moravia and Vienna. Each fortress was enlarged, reinforced, and modernized multiple times according to the development of artillery, firearms, and modern tactics. In the 1880s concrete constructions were used for the first times. In the 1890s the Austrians used armoured structures - turrets, shields, casemates, protecting artillery emplacements against the projectiles of new types. Each of the fortresses fulfilled their functions during the World War I. Przemyśl has been besieged three times; the 2nd siege was the longest fortress battle in the Great War. Before a capitulation on the 22-nd March of the year 1915 all the forts of Przemyśl were blown up and demolished. Krakow stopped the Russian offensive in November and December of the year 1914. After the war, the army of independent Poland still used the Fortress Krakow and continued the demolition of the Fortress Przemyśl. Many forts fulfilled military and non-military functions during the WW II (this number includes places of the Nazi terror) and during the Cold War. In the beginning of the 1960s the scientific recognition of former fortresses has begun. In 1969 the first former forts were enlisted to the Polish Monuments Register. Moreover, a circular system of the fortress' camouflaging greenery of Krakow was treated in the first time as an outline of the city system of greenery. Today the huge circles of forts, batteries, earthworks around each city and massive complexes of barracks, storages, factories, hospitals, and other post-military structures cause significant problems but, on the other hand, they offer opportunities the cities' government for further adaptations. Union of communes inside the former Fortress Przemyśl started an ambitious program of adaptation of the forts' ruins as an attraction for cultural tourism. The first phase of the project was a success with the financial support of the EU Funds. Parts of more than 140 fortress' objects of the former Fortress Krakow are under adaptation, but a majority of them still lack new functions. Each of the fortresses is a great urban, engineering, and moral problem and challenge. There are great battlefields, blooded by the sons of many Nations of the Central and Eastern Europe. This paper is a report of the state of proceeding of these projects.

1. Introduction and study of sources

Modern fortification of the period of circular fortresses (the Fort System, 2-nd half of the 19th century and first decade of the 20th - after Bogdanowski [1] is a new topic of research on the topics of monument preservation, cultural tourism [2-5], and processes of adjusting old structures for contemporary purposes [2, 6]).



First attempts of synthetic evaluation of these fortifications were prepared short after the WWI, by military scientists, as a background for the development of new ideas of a countries' invulnerability [7]. An example of the early study of the Austro-Hungarian fortification is a work of Steinitz and Brosch, issued in the year 1937 [8]. This military path of research of the 19th - 20th cent, fortifications transformed to a form of historical studies and monographies in the middle of 1960thies. One of earliest studies of former Austro-Hungarian fortresses on the Polish territory is the large chapter of Janusz Bogdanowski in the Files of Military History, issued by Polish Ministry of Defense in the 1966 [9]. This trend was rapidly developed in the late 1970s; 1980s and early 1990s. In this branch of historical and fortification studies we can find both Hillbrand's monographic work about fort-towers of Linz [10], as Forstner's doctoral thesis, published as the first summary about Fortress Przemyśl [11]. It is necessary to remember the great effort of the scientific societies, Dutch Stichting Menno van Coehoorn, Deutsche Gessellschaft für Festungsforschung, British Fortress Study Group, Instituto Italiano degli Castelli, Österreichische Gessellschaft für Festungsforschung, German "Interfest" and Polish Towarzystwo Przyjaciół Fortyfikacji (Society of Friends of Fortifications). Long series of the issues "Fort" and "Casemate" in the UK, "Zeitschrift der DGF" in Germany or "Fortyfikacja" in Poland prepared a new, multipurpose direction of treatment of old fortifications. This is a real foundation for a discussion and for the projects for restoration and adaption of this kind of heritage. One of the earliest publications, presenting a wide range of problems of a former circular fortress, is the book of Janusz Bogdanowski from the year 1979 entitled: "Strongholds and Greenery of the Fortress Krakow" [12]. It is the first synthesis of the historical, urban, ecological, and social values of the huge, abandoned military superstructure, covering a large city with its suburbs. This holistic way of studies and projects are developed as in the Netherlands (with the best, brilliant example - a great project of restoration and tourists accession of the New Dutch Waterline), as in the Italy, as in the Republic of Croatia. Here the studies and projects are proceeding, concerning especially the greatest Austro-Hungarian coastal fortress at Pula. In the autumn of 2017 the Juraj Dobrila University of Pula published a monography entitled Models of Valorisation of Cultural Heritage in Sustainable Tourism, edited by Nataša Urošević and Kristina Afrić Rakitovac, dedicated to the heritage of fortifications as the important basis for cultural tourism [3]. The Bogdanowski's book, issued in Krakow in the year 1979 and mentioned, international monograph, published in Pula 38 years later, symbolically framing a time of change of mindset concerning old fortifications. This is a road from the research topic exclusive to military historians, to a wide range of urban, landscape, architectural, touristic, ecological, and economical studies and projects, crowned with realizations [4, 6, 18].

As the elements of this trend, two large projects at the Krakow University of Technology were launched in the 1990thies. These were devoted to two large, former Austro-Hungarian fortresses - Krakow and Przemyśl. Each of these two projects started from a holistic, integrated registration of a current condition of more than 100 objects in each fortress. It has been realised with synthetic chards, recording a shape of each object, the landscape around them and the most important historical, urban and restoration circumstances and conditions ("Chards of a Strategic Landscape" were used successfully for the fortresses Pula and Kotor too [11, 16, 22]).

Registrations of Fortress Krakow and Przemyśl finished in the 1999, it's were the foundations for spatial plans of protection [23, 24]. Plans for Przemyśl were used for a project accepted to the Regional Program supported by EU. The first stage of "Program of adaptation of the Fortress Przemyśl for Cultural Tourism" lead by the Association of the Fortress' Communes was concluded in 2015. Due to this project, more than 16 ruined fortress' structures and more than 30 km fortress' roads were opened for tourist activity. Plan for the former Fortress Krakow has been partly implemented to the strategic document of the city development - the Study of Conditions and Directions of Development of Krakow for the year 2014. The guidelines prepared in the mentioned registration and program now serve for the restoration of 14 forts and 5 non-fortified structures of the former Fortress Krakow [24].

2. Discussion: Kraków vs Przemyśl, or Kraków & Przemyśl? The fortress of Krakow – a repository of fortification and technology of the 19th century

Since the Middle Ages, Krakow played an important defensive role. The monuments and historical spatial layouts related to fortifications were a crucial element of its cultural and natural heritage [9,12].

The fortification of Krakow seemed natural because of its peculiar location at a natural "bridge" (that facilitated trips across the Vistula river); it was also of great interest to every country in possession

of a sensitive (for this part of Europe) passage from north to south.

Through centuries, the fortifications of the capital city of Kraków protected the centre of Polish royal power. Since the 17th century, Kraków remained an important national fortress even after it lost its status of a capital city to Warsaw. About a century later, when Poland lost its independence, Krakow became the centre of the first national uprising. The fortifications on Figure 1 (designed by Tadeusz Kosciuszko, the leader of the uprising and - at the same time - a skilled military engineer of Poland and USA, the designer of the development of West Point stronghold) became the background and centre for the fortress of the Habsburg Monarchy (over half a century later), [9, 12].



Figure 1. Bastion N° V of the Fort 2 "Kościuszko" and urban landscape of Krakow. Photo K. Wielgus

After a short revolution in 1846, the Free City of Kraków (after 1815) was absorbed by the Austrian Empire. The Austrian fortifications of Kraków (that have formed the largest ring fortress of East-Central Europe with the passage across the Vistula River Valley) are the main topic of the "fortified Krakow" and its other chapter. The 1870s brought the inventions of new technologies (together with federalism and rise of liberties of the reformed double monarchy): a breakthrough in the technology of firearms construction since its invention. The ring of fortifications was widened to approximately 16-18 km. The 1890s introduced armors, special artillery constructions, ventilation - the upgrades and modernizations taken from the Second Industrial Revolution. The fortress became a consumer of thousands of products of specific technologies of the East-Central empire; today it is thus an enormous, unexplored museum of well-preserved technology: Czech, Austrian, German, Hungarian, and Polish. The process of designing the fortifications required optimization and creative usage of best solutions from all over the world. The Fortress of Krakow is a compendium of knowledge about German, French, Italian and Belgian fortifications [22]. The development of the means of observation manifested in unprecedented masking of the landscape with carefully planted greenery - and became the biggest horticultural investment in the Krakow area in the history of the city. Today, it has become one of the determinants of creating a system of urban greenery [20].

The fortification of Krakow played a major part in halting the Russian offensive in November and December 1914, becoming the farthest point (westward) the armies of Tsar Nicholas II of Russia reached during the Great War. In the interwar period, the fortress has been managed by the Polish Armed Forces, and played a part in combat episodes during the World War II; it was also the background for the crimes of German occupants and Stalin's regime.

Today, the defensive structure of the Fortress of Krakow is a great and complex spatial monument - from the point of view of science and heritage conservation. The layout range of the historic fortress is larger than the contemporary administrative borders of Krakow. It consisted of about 180 important

defence and non-defence (barracks, logistics, auxiliary) buildings. About 106 of those facilities remain, as well as about 30 km of roads (in a condition close to the original), almost 300 hectares of old-growth forest and approximately 1080 hectares of open space areas in the most exposed areas of Kraków. The historic 19th-century defensive structure is now an element of the "landscape stock" of Kraków [24].

Comprehensive protection of the Kraków Fortress area and its landscape remains problematic due to the uncontrolled urban sprawl of Kraków, exacerbated by lax spatial planning regulations. Despite the inefficient heritage protection laws, the years of awareness-raising efforts, including publications, have resulted in a certain awareness level among officials. The Kraków Municipal Office has a Fortifications Team, and the Municipal Buildings Board manages 23 fortification structures and systematically consults experts for conservation works. A framework protection plan of the historical and landscape values of the Kraków Fortress was drawn up for the City of Kraków [24].

However, Kraków residents have for years only noticed those fortification structures which have been converted for public purposes or made available for visiting, while the rest of them remain in obscurity. The forts which are known in Kraków and discernible in its cityscape include Fort No. 2 "Kościuszko" around the Kościuszko Mound, later converted to a hotel and a major radio station, and Fort No. 31 "St. Benedict". Those playing important roles for the local communities include Fort No. 39 "Olszanica", serving as a youth hostel and an equine-assisted therapy centre run by a scouting organisation (MDK Dom Harcerza), and Fort No. 49½ "Grębałów", managed and used by a non-profit equestrian club (Ognisko TKKF Przyjaciel Konika) as recreational horse-riding and equine-assisted therapy centre with educational facilities and an exhibition. Also, Fort No. 49 "Krzesławice" has since 2000 hosted a youth community centre, offering a broad range of educational and cultural activities [24]. Far from being complete, this list of Kraków fortification structures converted for contemporary purposes names those that serve important community purposes and have thus used the opportunity to become known to a broad public rather than only to experts and aficionados. The interest in Kraków fortifications is clearly on the rise. A conservative estimate of the number of people intentionally visiting the Kraków Fortress objects, based on the statistics of visitors of the exhibition in Fort No. 2 "Kościuszko" (located below the Kościuszko Mound, an important landmark in Kraków cityscape), is approx. 120,000 per year [22]. The military subtype of cultural tourism is developing. The Kraków Fortress sites have been among the priority sites selected by the Civic Committee for the Restoration of Monuments in Kraków and play a crucial part in the consequent process of restoration of most precious works of architectural art of the fortresses. The Committee decides on the allocation of the means of the National Fund for the Revalorisation of Historic Buildings and Monuments in Kraków. So far, the Committee has supported 14 defence structures of the fortress (forts, bastions) and 4 non-defence complexes. The District of Kraków, Polish Armed Forces, the Kościuszko Mound Committee, foundations (including "Polish Heritage", and "Janus") and non-governmental organisations also play an important role in the preservation of the monuments of the historic fortress [24].

The inscription of the Kościuszko Mound with its surrounding fort on the list of Historical Monuments of the Republic of Poland, and the initial consultations about the cross-border inclusion of selected fortresses of the historic Habsburg Monarchy (the Fortress of Kraków was the largest one) in UNESCO's World Heritage List is an excellent prognosis for the historic fortress to return to humanitarian service (19, 20, 24).

3. The fortress of Przemyśl - the Verdun of the eastern front of the 1st World War – a phenomenon of the fortified landscape

Since the Middle Ages, the city of Przemyśl had a crucial defensive function: the protection of communication routes (North-South and East-West). The natural passage in the narrowing of the San river valley and dip of the hills of Pogórze Przemyskie (Przemyśl Foothills) became what was called "Brama Przemyska" ("The Gate of Przemyśl"), figure 2, [9, 11, 23].

After the 1st Partition of Poland (1772), Przemyśl has been annexed by the Austrian Empire. The first mentions about the necessity of fortifying Przemyśl (i.e. making it a modern fortress) date back to 1810; the official decision about the construction itself, however, was made in 1850. The individual stages of the development of the fortress were a response to the important European and world conflicts and made use of the groundbreaking inventions of the Second Industrial Revolution that had a direct impact on the development of military, construction and communication technologies.



Figure 2. Fort VIII "Łętownia" in the rural landscape of the Fortress Przemyśl. Photo W. Sokolik/
ZGF TP

The first stage of the development of the fortress took place during the Crimean War (1854-55); the second - in the times of the Balkan Crisis (1876-78) and the development of rifled artillery. The third stage (the construction of the fortress in its solid form, i.e. with the use of concrete) happened in 1879-87 - the works accelerated with the outbreak of Bulgarian conflict. Changes in construction technology and development of small arms have also played a crucial part in this stage. Further developments in artillery and metallurgy boosted the construction of the fortress in 1888-1890. The ultra-modern armoured forts were built in those years [8] e.g. figure 3. Final modernisations that took from the experience of the Russian-Japanese War (1904-1905) have been made at the beginning of 20th century. On the eve of the World War I, Przemyśl was one of the ten largest European fortresses. The construction of the fortress definitely contributed to the development and enrichment of the city; it has, however, also caused enormous suffering of the defenders and civilians during the World War I. The first siege - the Russian siege (September 17 - October 10, 1914) was victorious for the defenders. The second siege took place between November 5, 1914, and March 22, 1915, and was the longest defence of an isolated fortress in the history of modern warfare. [9, 11]. The fortress finally surrendered; the destruction of all important defence devices and reserves was its final act of defence. It was also the beginning of its destruction. The fortress was relieved by the allied German and Austro-Hungarian forces during the third siege (May 18 - June 3, 1915) - the majority of forts (provisionally repaired by the Russians) were heavily strafed [14]. It was the second act of the destruction of the fortress. Przemyśl played a military role for another two years, although the third act of its destruction - its demolition - was initiated by the Austrians themselves. The forts were demolished by the Poles during the interwar period, and the process continued till the 1980s. Simultaneously, the first research and attempts at preserving the fortress as an enormous monument complex began at the end of the 1950s; Janusz Bogdanowski - architect and professor of the Kraków University of Technology - was one of the pioneers of this initiative. The spatial layouts of the fortress, its road system, hectares of masking greenery were preserved despite the massive demolitions; the ruins of the forts remain impressively monumental. The authentic landscape, formed and shaped for defence purposes, that has - at the same time - become a gigantic battlefield, is the unique and outstanding value of the Fortress on the river San [23].

Those values - registered and described within the Program of the General Historic Preservation Office in the 1990s - became the basis of a project called "The Development of the Fortress of Przemyśl for its Availability for Cultural Tourism". The first stage covers about 20% of the area and buildings of the fortress complex - as a selection of the vital problems, thus becoming a sort of laboratory for finding the solutions applicable to the whole fortress. Despite its limited area scope, the first stage is the largest project of the kind in the country - in terms of its range and complexity of activities in the field of

revitalization of post-military and post-industrial complexes. The project was completed with the participation of EU funds in 2016. It contributed to the drafting of a proposal by the Subcarpathian Province Monument Conservator of an inclusion of the city and Fortress of Przemyśl in the list of historical monuments of the Republic of Poland. The cooperation with Ukraine is ongoing because a part of the Fortress of Przemyśl belongs to the territory of Ukraine. The Association of Fortification Districts of the Fortress of Przemyśl manages the fortress complex of Przemyśl, [23].



Figure 3. A full size model of the M.94 *Minimalschartenkanone* into an original, restored armoured casemate, molded in the year 1898 in the Emil Skoda Factory at Plzen. Photo K. Wielgus

4. Conclusion

Both fortresses complete each other, creating an outstanding historical, memorial, and spatial complex. The ring of forts of the Fortress Przemyśl, encircling relatively small, however valuable, picturesque, and famous historical city consists of demolished military structures. Here are remains of the great battles in the 1914 -15 and post-war demolitions. However a phenomenon of the strategic landscape - the fortress' roads, camouflage greenery and open areas, moreover, traces of field fortifications (trenches, batteries, craters of shelling) - is still well preserved. On the other hand - the forts of Krakow were relatively well preserved, including unique armoured turrets, shields, cupolas, casemates and other sophisticated technological equipment. A big amount of monumental military complexes is located here - former barracks, depots, offices, military factories - inside the city. Fortified and non-fortified fortress' buildings are well accessible for tourists. However, the rapidly developing city of Krakow with sprawling suburbs demolished the large parts of the military landscape, in to-day perception - the park landscape. Now a remainder of this green belt around Krakow is treated as a big chance for a system of city greenery.

Without ruins and beautiful landscape of Przemyśl, we cannot recognise the reality of the great fortress in the Great War.

Without Krakow's well-preserved forts, around the most popular, touristic city in Poland, we cannot recognise a unique technique of the Middle Europe of the times of Emperor Frank Joseph the 1st.

Together, Przemyśl and Krakow create a special, common, scientific, touristic and architecture-landscape project that is important for our part of Europe [5, 17, 19].

The fortresses of Kraków and Przemyśl meet all the criteria of the potential cross-border inclusion of the fortresses of the former Habsburg Monarchy in UNESCO'S World Heritage List, as presented during the 7th session of the World Heritage Committee in Poland (Warsaw, January 27, 2010.)

The values of the potential inscription include:

- the fortresses belong to a non-existing state (absence of chauvinist or militaristic themes),
- supranational character,
- military character, with no connection to the tyranny of power and occupation,
- the largest fortresses - Kraków and Przemyśl.

Outstanding Universal Value:

- the reflection of European technological developments with adjustment to local conditions and optimisation of already familiar technical solutions,
- the inscription covers ten nationalities,
- the absence of further reconstructions due to the fall of the state and loss of military function/defence character.

Robert Choma, the President of Przemyśl and the president of the Association of Fortification Districts of the Fortress of Przemyśl and Prof. Jacek Majchrowski, PhD, the President of Kraków have issued a joint letter in 2017 to the authorities of those cities of East-Central Europe which had functioned as fortresses of the former Austrian Empire and Austro-Hungarian Monarchy regarding a proposition of cooperation in the joint efforts of protection and promotion of outstanding and universal values of common tangible and intangible cultural heritage such as historic defence systems, battlefields and war cemeteries - with having efforts of their inscription on the World Heritage List in perspective.

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