



# HISTORICAL TIMBER HEALTH RESORT ARCHITECTURE. CONTEMPORARY CONDITION AND STATE OF CONSERVATION

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#### Abstract

This paper discusses present the types of conservation measures used to protect historical timber health resort architecture in spa towns. The subject is presented on the example of historical wooden buildings in the Polish, Slovak and Ukrainian health resorts. The approach to conservation the historical substance and preserving the architectural expression of the object is presented on the individual examples of historic buildings, mainly spa villas. Efforts towards renewing damaged, transformed and ruined buildings can contribute to maintaining the value of the cultural landscape of localities, the identity of health resorts and their educational value.

Keywords: Wooden spa architecture; Revalorization; Preservation; Restoration; Timber structure; Carpathian health resorts

### Introduction

The spatial layouts of health resorts located along the borderland of the former Austro-Hungarian Empire formed mostly in the nineteenth century. Their development, particularly in mountain resorts, was accompanied by wooden Swiss and Tirol style architecture. This style was used to build public buildings as well as private villas and guesthouses, leading to a harmonious and uniform landscape and an environment that was different from a typical urban setting. At present, the wooden architecture that formed most of the development of these health resorts after the Second World War, has largely disappeared from them.

The objective of this paper is to present the state of conservation and the types of conservation measures used to protect historical timber health resort architecture in spa towns. The problems of the preservation of timber buildings are the subject of numerous scientific considerations [1-6] due to the threat of destruction of historical architecture. Understanding the degradation process and developing the precepts and methods of reinforcing, protecting and conserving wood enable saving buildings at risk of destruction [7-13].

Against the background of the evolution of timber architecture conservation [14-17] discussed the different approaches to preserving the historical wooden development of health resorts based on cases from Poland, Slovakia and Ukraine.

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At present, singular well-preserved specimens of nineteenth-century wooden architecture that have been carefully restored, recreated and rebuilt, are an important cultural element of major treatment spaces in many centres, significantly enhancing their aesthetics. The significance of historical wooden development in the value of the cultural landscape and the identity of health resorts was discussed by [18-20].

### **Materials and Methods**

Research on the transformation of the historical timber architecture of health resorts in Poland by the Cracow University of Technology's scholars has been ongoing since the late 1980s. In the twenty-first century, the team focused on new phenomena that emerged in these spaces largely due to their privatisation.

This paper presents and compares the situations and approaches to nineteenth-century timber architecture in Polish, Slovakian and Ukrainian health resorts. The study focuses on two health resorts located in Lesser Poland, Poland: Krynica, which is the country's only public health resort, and Szczawnica, which was reclaimed by the inheritors of its historical owners in 2005. The research also focused on Slovakian health resorts: Novoveská Huta, Thurzov, Vyšné Ružbachy and Bardejov, as well as the Ukrainian health resort of Briukhovychi, which was from XIX century the most famous health-improving suburban village near Lviv.

Our research of historical buildings was based on collecting photographic documentation and a study of historical literature and sources. It included an analysis of archival materials: photographs, plans, building surveys, sketches and drawings and the respective histories of each building. The study focused on the contemporary form of each specimen of timber architecture and their similarity to surviving accounts, the condition of the buildings' substance and structural systems, the state of conservation of the historical forms, facades and details of the buildings relative to their nineteenth-century original versions and the quality of their context.

### **Results and discussion**

In the second half of the nineteenth century, health resorts, especially those located in the Carpathian Mountains, saw the construction of timber single- and two-storey villas and guesthouses that are described as being Swiss and Tirol style architecture. These patterns were seen as the most fitting for this function, as they had been tried and tested in other health resorts. These were "residential buildings, typically on a masonry plinth, erected out of wood, with a roof with large eaves, the ends of their rafters were carved, their floors, at least from the front, had porches covered by eaves, and were supported by beams protruding from the walls, as columns were not used to support them. The roof was finished with tiles or shingles, the doors and windows had carved surrounds /.../, while the floors could be accessed via external stairs with railings made out of carved boards" [21].

# Approach and valuation of 19th century wooden architecture in the second half of 20th century

Poland, the conservation of the historical substance of health resorts came into prominence only in the 1970s, when buildings from the mid-nineteenth century came to be considered historical. This meant that complexes of nineteenth-century timber architecture located in the centres of Polish health resorts became recognised as historical buildings and layouts. This applied both to treatment buildings, such as spa houses, pavilions erected over springs, baths as well as residential buildings like pensions and villas. This perspective contributed to initiating academic studies, assessments and the detailed surveying of buildings and details. The work of specialists was intended to prevent destructive remodelling, demolition or deterioration of distinctive details and change the attitude of local communities and users towards the architectural legacy of health resorts.

During earlier years, specifically in the period immediately following the Second World War, the wooden architecture of health resorts was not seen as worthy of protection and preservation despite its architectural and historical value. Most guesthouses and villas were nationalised and subjected to adaptive reuse towards the end of the 1940s. The change in function was accompanied by introducing internal divisions and the erasure of original layouts in the 1950s and 1960s. As a result, oftentimes only the external form of a building remained original and was primarily subjected to conservation. The pensions from the turn of the twentieth century were adapted into public housing for health resort employees or repatriates from the eastern territories of the Second Republic of Poland that had been taken by the Soviets. Apartments were arranged and amenities including plumbing and heating were freely installed inside the buildings without regard for the original layouts. This was necessary, as most Carpathian health resorts of the interwar period were active only during summer. Other guesthouses were converted into public buildings such as healthcare centres (the "Wanda" Villa in Szczawnica), boarding houses, kindergartens (the 'Limba' Villa in Szczawnica) or schools (the "Wawel" Villa in Rabka-Zdrój, the "Kosynier" Villa in Krynica-Zdrój), linking individual rooms into large halls. These buildings were not properly adapted to introducing these functions and their technical condition considerably deteriorated due to a lack of maintenance [4] and progressive ruination.

Efforts towards preserving historical wooden architecture due to the worsening problem of village and town structure remodelling and low housing standards became visible in the 1960s. The view that the buildings most representative of wooden historical development had to be relocated, preserved and exhibited at open-air museums was predominant. The most precious buildings were recommended for in situ preservation and, following comprehensive conservation, converted into regional chambers that would present the architectural and cultural values of a given village or region. There were also proposals to renovate and adapt entire complexes of historical timber buildings into hotel, tourist and exhibition buildings—an approach partially modelled after Western European practices [14]. One proposal of establishing a hotel preserve concerned the health resort of Krynica, where it was believed that, in contrast to other localities, a maquetising reconstruction could bring positive outcomes [16]. The adaptation or relocation of selected historical architecture specimens was accompanied by the introduction of durable, masonry housing and farm buildings into rural and small-town space.

At the same time, at the turn of the 1970s and fuelled by general progress, there were proposals of replacing wooden health resort architecture with new Modernist masonry buildings. This was done in Krynica-Zdrój, where a nineteenth-century wooden mineral water pump house was demolished and a large, heavily glazed concrete building was erected in its place. A similar fate awaited so-called ornamental villas, following the proposals of a group of Modernist architects. There were appeals to preserve them from the community of arts historians, including Janusz Ross, whose pioneering works on nineteenth-century Carpathian health resort architecture [15] contributed to saving the wooden development of Iwonicz-Zdrój, Rymanów-Zdrój and Krynica-Zdrój.

The placement of the historical timber architecture of the Polish health resorts under study under conservation first took place in the 1970s (Krynica), and later in the 1990s (Szczawnica), when some of the buildings were placed in the monuments register [22]. At present, most specimens of wooden health resort architecture are included in municipal monument records. Despite the establishment of over forty open-air museums (which acted as ethnographic parks presenting wooden architecture) in various regions of Poland up to the 1990s, none of them featured specimens of wooden health resort architecture [13]. Only towards the end of the 1990s did the construction of the open-air museum in Kluszkowce begin in earnest. It now houses the few wooden recreational guesthouses from the area of the Pieniny mountains from the start of the twentieth century. However, these are not typical health resort buildings—such as housing—but primarily those associated with treatment, or smaller structures, such as pump rooms, meteorological kiosks, gazebos, musical pavilions, etc. that had disappeared from the treatment space of Polish spas en masse.

Attitude to conservation vs. the exchange of wooden architecture in spas in Slovakia has been based primarily on the technical point of view since the 19th century. This was clearly reflected especially in the case of spas with balneological (hydrotherapy) operation: the originally wooden buildings for medical procedures as well as accommodation facilities designed for year-round operation (hotels, sanatoriums) have been replaced since the 19th century by brick buildings (Piešťany, Trenčianske Teplice, Sliač, Turčianske Teplice, Bardejov, Vyšné Ružbachy). Buildings with wooden structure were built in spa mainly for accommodation during the summer season. Successful therapeutic results of climatic spa resorts located in the mountainous environment caused the construction of private recreational summer houses and villas not only in the High Tatras, but also in other regions of central and northern Slovakia (Liptov, Gemer, Spiš). They were built with a wooden half-timber technology of the Alpine type with a brick infill, rarely with a log technology. Their visual form was similar to that on the polish side of the Carpathians.

The former Czechoslovak Republic, which was established (1918) after the end of the First World War in the territories of the inner arc of the Carpathians did not limit the existence of the spas. On the contrary, the preservation of spas, the support of health resorts and recreation were among the priority interests of the state both in the period between the wars and after World War II. Although, the expansion of spas and recreational services during the 20th century was carried out through more durable masonry technologies, the historic wooden architecture of the spa was respected and maintained. The Great Depression in the 1930s and the events of World War II caused the decline of several spas of local significance. Their historical architecture was subsequently used for other, mostly recreational purposes. The fact that the wooden historic architecture continued to fulfill its original function - short-term accommodation during the clients' recovery stay - facilitated and supported its preservation. The establishment of the Tatra National Park (1949) brought strict restrictions for new construction within the protection of Tatra nature, which supported the preservation of the historic wooden architecture of climatic spas in the High Tatras. In all spa resorts, specific regulatory conditions have been adopted to protect natural conditions and control urban development (called spa zones). Stylish high-quality architectures were included in the Register of monuments and from the 80th years, the territorial protection of selected urban structures - monument zones - began to be applied. Several areas of spa resorts with wooden architecture were included (Tatranská Lomnica, Ľubochňa). Nevertheless, several small buildings of spa equipment, such as gazebos above the springs, conservatories, spa promenades (colonnades) buildings for social events (called kursalons), originally built of wood, gradually disappeared during the 20th century and were replaced by other buildings.

The change of political regime (1989) and the subsequent denationalisation of health care resulted in the removal of state regulation in the field of spa operation, which resulted in the entry of speculative investors into the ownership and management of spas. This was reflected, among other things, in efforts to change the use of land in spas and recreational areas to more commercially profitable development, even at the cost of removing historic buildings, often wooden architecture. From the 1990s, several functioning and popular spas and their wooden architecture in Štrbské Pleso in the High Tatras, Korytnica in the Low Tatras, Novoveské kúpele in Slovak Paradise, Turzov in Slovak Ore Mountains and others gradually disappeared.

### Conservation specificity of timber SPA buildings

The contemporary approach to conservation, restoration, renovation and reconstruction of wooden historical buildings requires interdisciplinary knowledge of biology, engineering, artistic techniques and aesthetics [13]. Wood conservation and proofing methods intended to prevent damage via the use of chemical agents changed along with the development of theory and technology and increasing sanitary and environmental restrictions. The conservation of historical wood that is either already infected or exposed to damaging factors requires the use of disinfectants and anti-insect agents, as well as preventative measures [7, 10, 13]. Fire safety is a separate issue. Fires that affect wooden architectural monuments, both those in open-air museums and at their original sites, do occur. A report by the Polish Supreme Chamber of Control indicates that the majority of inspected specimens of Lesser Poland's valuable wooden architecture were not sufficiently protected against fire. This situation can also be carried over to other wooden monuments, especially as numerous buildings are removed from monuments records and the monuments register due to their utter deterioration [23].

In wooden monument conservation, efforts are also made to preserve historical substance on site. However, this is not always possible in health resorts. The problem of the conservation or preserving historical buildings in these localities is multi-planar. Wooden health resort development degrades not only because of deterioration over time, atmospheric factors, the lack of proper maintenance and proofing, but also because of the impact of balneological treatment on wood surfaces, for instance in the form of mineral water springs, high air moisture levels in pool and inhalation spaces, and the evaporation and accumulation of saline solutions.

Introducing treatment devices, technologies and methods of their use that, due to the space they occupy, make it impossible to administer therapy in historical interiors is also an essential problem. It requires the remodelling of internal wooden building structures.

Apart from problems that stem from the structural material's own fragility and the generally used methods of its reinforcement, proofing and conservation, wood proofing agents must be safe for human health, both when used in buildings that offer patients permanent stays—such as sanatoriums, guesthouses and hotels—and occasional stays, such as natural therapy facilities, pump rooms or baths. Thus, wood proofing agents should meet high health standards. Meanwhile, those that were in general use throughout the twentieth century often included substances with adverse effects on human health. Due to their toxic, allergenic and cancerogenic effects, a range of effective fireproofing and fungus proofing chemical agents was banned from use in the 1980s. At present, only agents based on non-toxic, pro-environmental compounds are permitted.

The preservation of the aesthetic value of public treatment spaces of health resorts is another crucial aspect.

We also cannot ignore economic determinants, as these buildings are now predominantly the property of private individuals, hence any construction projects are associated with business and focus mostly on accommodations and hotel-related functions.

These conditions are shaped and distinguished by precepts of preserving, protecting and conserving wooden health resort architecture.

### Case studies

During the study of the Krynica-Zdrój and Szczawnica health resorts, several such approaches and conservation measures, along with their causes, were identified.

One of the oldest wooden buildings to exist in Krynica-Zdrój is the Chinese Pavilion, designed by engineer Johann Burggaller and built in 1806. This building, which covers the Main Spring and takes on the form of a circular gazebo with a roof topped with a lantern, was replaced in 1863 with a much larger building (Fig. 1). The pavilion was relocated to Park Słotwński, located on the northern side of the health resort complex, where it now acts as a pump house for the Słotwinka spring that is located there. A covered walkway that was initially its integral part was demolished already in the nineteenth century. The pavilion itself was renovated several times and consequently lost its initially light and open form and its ornamental sculpted details (Fig. 2). Despite this, its original size, proportions and shape are still legible.



Fig. 1. The first pump room from 1806, near the main promenade of Krynica-Zdrój (Photo in archives of J. Wojewody, https://na-szlaku.pl/article/krynica-zdrojhistoria-zabytki, 02.02.2021)



Fig. 2. Słotwinka Pump Building in Park Słotwiński, 2019 (Photo on https://www.polskieszlaki.pl/pijalnia-slotwinkaw-krynicy-zdroj.htm, 02.02.2021)

In 1868, a wooden Swiss and Tirol style pump building was erected above Zdrój Główny, near the promenade, in place of the Chinese Pavilion. It was designed by architect Feliks Księżarski and had a spacious internal walkway. This initially light and openwork structure that was gradually enclosed and glazed, survived for 100 years. It was demolished despite being in relatively good technical condition and in 1971 it was replaced with a Modernist glass-and-concrete pump building several times its size, that featured an interior winter garden.

In the 1970s and 80s, a series of fires damaged wooden guesthouses and ornamental villas in the centre of Krynica's health resort. The villas named "Litwinka", "Tatrzańska" from 1855 or "Stefania" from 1886 burned down completely, while "Korona Węgierska" from 1880 or "Witoldówka" from 1888 suffered damage. The "Witoldówka" Villa, occupying an exposed site near Dietla Boulevards along the Kryniczanka Creek (Fig. 3), and which used to be a treatment facility of dr Bolesława Skórczewskiego, was severely damaged by a series of fires. After long discussions within the conservation community in the middle of the 1980s, it was decided to rebuild it with masonry walls, with wooden cladding and a recreation of its facades following surviving patterns. The wooden siding, the roof truss structure and furnishings were proofed against fire (Fig. 4).



Fig. 3. "Tatrzańska" and "Witoldówka" villas seen from Dietla Boulevards in 1977. Traces of remodelling are visible in the different forms on the guesthouses' ground floors—they were adapted for commercial use [24]



Fig. 4. The "Witoldówka: villa seen from the side of the Kryniczanka post-reconstruction, 2018 (Photo by M. Wdowiarz-Bilska)

The 'Stefania' Villa was rebuilt following the same principles, with the reconstruction of the 'Tatrzańska' Villa currently ongoing. It is being rebuilt using a masonry structural system and wooden finishes, with a detailed recreation of its historical form. The carefully restored form of the building, its recreated historical details and facade articulation, unified balconies, doors and windows with traditional proportions—all this has restored the historical appearance of the building that is currently a guesthouse-hotel.

The 'Romanówka' Villa, built in the second half of the nineteenth century as a guesthouse, has remained unused since the 1970s, resulting in its natural deterioration. In 1990, the building was dismantled. Its individual elements were subjected to conservation and later the entire structure was relocated and, in the years 1992–1994, assembled anew on the site of the 'Litwinka' Villa (that burned down in 1968) in the formal centre of the health resort along Dietla Boulevards. At present, it houses a museum dedicated to the painter Nikifor.

Conservation and relocation of historic buildings or its reconstruction in accordance with the historical forms and recreating details serves to preserve the historical form of the urban layout and to maintain the attractiveness of the spa center. This is of great significance to preserving the cultural landscape of the town and maintaining the identity of its space, in additional to educational efforts.

The restoration of the health resort of Szczawnica took a different course. Since 2005, it has been the property of the State Treasury. The resort's poor transport accessibility and the lack of public funding for renovation and modernisation contributed to the resort's treatment infrastructure and public space being neglected. Treatment was offered in substandard conditions in deteriorating buildings from the 1970s. Some of the historical wooden buildings were in poor technical condition as a result of neglect or abandonment, while some were either entirely or partially burned down.

In 2001, the descendants of the last owner of Szczawnica, Count Adam Stadnicki, petitioned the Polish government for the return of the health resort, which had been nationalised in 1948. After reclaiming the health resort, its owners prepared a strategic plan of its renewal, which assumed restoring the complex to its former glory and bringing it up to par with recognised European health resorts. The plan, which featured the recreation of a cohesive resort space in a uniform, harmonious style along with reconstructed elements of Pieniny architecture and decorative ornamentation, is being systematically carried out by French architects with the approval of Polish conservation services. Following the philosophy of the resort's new owners, it is not formed by singular buildings, but primarily its public space, green areas, forest complexes as well as close and distant views and landscape outlooks [25]. Thus, in 2011–2012, a renovation and conservation of the resort's green areas was performed in cooperation with the Municipality of Szczawnica and support from European Union funds. The renovation covered Park Dolny, Park Górny and the main promenade connecting Główna Street in Szczawnica proper with Józefa Dietla Square in the resort. As a part of this revitalisation, the pump house above Magdalena Spring was reconstructed. The building replaced a Modernist, glazed pavilion on a hexagonal base that had been covered by a distinctive canopy from the 1970s. It was built on the site of a demolished wooden structure from the 1860s. It was a covered, rectangular walking gallery with open arcades and openwork panels. It was placed on the site of an original, small hexagonal gazebo from 1839 that covered the spring.

In 2007, work began on the renewal and reconstruction of the complex of the Main Mineral Water Pump Facility, the "Holenderka" and the previously rarely used walking hall. After a fire in 2002, the pump house had a completely burnt dormer and damaged roof structure. The building was rebuilt, carefully reconstructing the detail and ornamentation characteristic of 19th-century architecture of Szczawnica (Fig. 5). Renovated buildings created a functionally and spatially attractive walls of the now-restored Dietla Square. Two years later, a new wing of the "Holenderka" was opened for use, which had been built on the site of the former water bottling plant and in which a Health Resort Museum was established. The facility

was built with a form, detail and ornamentation that referenced the historical development of Dietla Square, forming a new street frontage that extends the formal space of the resort.



Fig. 5. The Main Pump Facility, as seen after the Mańkowski family's reclamation of the resort - view from Dietla Square 2005, (on the left) and present-day state after renovation - view from the Park Górny- 2010 (on the right) (Photo by M. Wdowiarz-Bilska)

The largest project was the reconstruction of the Guest Manor. The original, formal resort building, made out of larch wood and sporting a compact form with avant-corps highlighted by turrets, was built in 1884. The building was Szczawnica's architectural jewel and the resort's cultural and social centre. In 1962, a fire completely consumed the entire wooden structure down to its masonry foundations. Despite renovation and modernisation designs of the Guest Manor being made, it was fully reconstructed only in 2011.

Due to the absence of detailed documentation, plans or survey of the building, the reconstruction process began with a detailed analysis of archival photographs of the building's external mass and each of its interiors. The height and proportions of the building were calculated based on the assumed height of a man posing for a photograph in front of the building. Due to the size and cost of the building, the Guest Manor was reconstructed using concrete and finished with wooden siding. The external wooden siding was oriented vertically as in the original building, yet due to the contemporary mass and mechanised board processing procedures the texture of the facade is less visible. This is a problem that is increasingly often raised by conservators [12]. It has a similar size and 95% of it is identical with the original. The details are highly similar but not identical with those seen on archival images. Missing elements include crossed maces on the side turrets—symbols of the Jagiellonian University, which was the resort's owner at the time.

Processes of rebuilding and reconstructing historical timber architecture are accompanied by intense development of new hotel and guesthouse buildings maintained in a contemporary version of the Swiss and Tirol style. At the same time, original nineteenth-century and turn-of-the-century wooden villas, which are listed in the monuments register and placed under strict conservation, remain on the sidelines of this process (Fig. 6).

Some of them, such as the "Marta" Villa, or the villas by Szalay, are used as hotels, guesthouses or tourist homes and are regularly renovated or maintained in good technical condition. However, in the case of monuments that have not been used or renovated for years, such as the "Świerki" sanatorium, the "Limba", "Boży Dar" or "Wanda" villas, the process of the deterioration of wood and their respective structural systems and general ruination is progressing increasingly quickly. There are fears that, in a few years from now, there will not by any of their historical substance left to save, and these beautiful buildings, each of great significance to identity and cultural wealth, shall be rebuilt using concrete.



Fig. 6. Villa 'Boży Dar' one of monuments under strict conservation that have not been used or renovated, 2018 (Photo by E. Węcławowicz-Bilska)

Novoveská Huta is a specimen of destruction of a traditional health timber resort "Iglofüred" (Fig. 7) situated in Spiš region in the eastern part of Slovakia. This small climate spa was established in 1892 after the decline of mining industry. The whole complex consisted of seven hotel buildings. They all were characteristic in a distinctive wooden architecture with timber and timber-framed constructions with brick fillings. Several attractive villas were designated for accomodation of spa guests which were included in the original health resort. In 1944 the spa was plundered and been never use for spa purpose. Afterwards, in 1948 a pioner camp had settled into *Vila Kozákova*. The historic spa buildings gradually collapsed due to lack of maintenance. In 1989 they were completely demolished. On the site of the former spa were built new family houses. Only a small wooden chapel and two of spa villas have remained. Both 'Villa Kozákova' and 'Lovecký zámoček' are used for private events.



Fig. 7. The spa in Novoveská Huta, on the left in 1908, source: [24, p. 131] and the current state of the spa area replaced by new family houses since beginning of the 20th century on the right, 2021 (Photo by M. Vaščák)

The spa in Thurzov was the climate and water health resort named after Alexej Thurzov, the owner of an old castle in the town Gelnica in Spiš region. This spa was established in 1890 by the town and specialized in the treatment of upper respiratory tracts and neural diseases. In the 19th century was erected the main spa building "Fürdoház" (later Pionier) and used for hydrotherapy and inhalation cures. Afterwards, were built exceptional spa villas: "Thurzoház", "Tatra", "Praha" (Fig. 8), "Bányaház' (Baník), and the villa "Budapest" and the one-storey dining room.

The bell tower with a timber structure was very rare. The spa was popular mostly by Hungarian guests from Budapest. The "golden age" of the Thurzo's spa finished due to decreased attendance caused by the WWI. In 1920s was the spa sold to a private owner and later nationalized by Czechoslovakia. Since early 1930s the spa had started to collapse due the great economic crisis caused by the decline of the Slovak iron industry. After the WWII this area was providing recreation for adolescents and workers of nearby factories. Between 1960 and 2007 was used as so called "the school in nature". In 1992 was The Pionier with half-framed structure already listed in the National register of monuments of the Slovak Republic. In 2011 the town Gelnica sold the area, including the buildings and forests, to a private owner. Since that time, the downfall of the area had started. Almost all of the traditional spa buildings were not used and they are currently in a very bad technical condition. (Figs. 8 and 9) In 2021 an initiative of the town has started to gain the damaged spa area back into town's property as a highly potential for the tourism industry.



\Fig. 8. The spa Villa Thurzoház in 1901, source: [25, p. 112] on the left side and the current state condition due to lack of maintaince and after the fire in 2021 on the right side (Photo by M. Vaščák)



Fig. 9. The spa Villa Pionier in 2021, listed in the National Register of Monuments (Photo by M. Vaščák)

In Slovakia, there are twenty-one spas out of former one-hundred locations which are still used for health care purposes. M. Kasarda [27] To the most exceptional balneological spas with wooden architecture belong to the health resorts in the towns Vyšné Ružbachy and Bardejov, both situated in northeastern part of Slovakia near the state border with Poland.

In the middle of the 16th century the spa in Vyšné Ružbachy was very popular by the hungarian and polish nobility. At the beginning of the 20th century were built three spa villas "Švajčiarske", domy I – III, with a timber structure which are these days used for accomodation of spa clients. (Fig. 10). The great age of the spa development had taken place in the 1920s and

1930s. After the WWII, the spa was nationalized by Czechoslovakia. New spa houses: "Travertine I" and "Travertine II" were built in 1979 (close to the historical structures, but in small isolation).



Fig. 10. Švajčiarske domy I-III, the timber structured buildings still used for accomodation of spa clients, 2021. (Photo by M. Vaščák)

In Vyšné Ružbachy, also other traditional timber spa buildigs are listed in the National register of monuments e.g. the wooden altan dated back to the 1890s, the spa house 'Kriváň' with a timber structure completely plastered, the villa "Mária" (Fig. 11) and the spa hotel "Dukla" features by great wooden balconies on façade. The spa house "Kriváň" is currently in a reconstruction process, but lacking the complex solutions of humidity, sanations and installations etc., exception are the new replaced windows in traditional appearance. Majority of the building's structure is in a bad technical state.



Fig. 11. The spa Mária on the left side on a postcard around 1910, source: [26, p. 86] and on the right in 2021. (Photo by M. Vaščák)

The spa in Bardejov, situated nearby the Town monument reserve listed in the WHL of UNESCO, is dated back to the 13th century and belongs to the one of the most popular Slovak health resorts. According to the historic map from 1768 the spa had already served as medical treatment resort with built wooden cabins, bathtubs and twelve houses with a timber structure near the Inn [29]. At the beginning of the 19th century, the great age of the spa development, was built shelter of the main spring water with a timber promenade. Later were erected three modern spa houses: "Deák", "Szechényi" and "Alžbeta" [27]. The spa was ranked among the

most developed spas in Austro-Hungarian Empire. A process of renovation had started in the 1950s due to the state policy in the former Czechoslovakia. In the 1960s and following 1970s was built a massive socialistic functional spa architecture featured by concrete, large glass and marble structures. Nevertheless, several historic accomodation houses with wooden structures have been preserved. For example, "Villa Fontána" (Figs. 12 and 13) with authentic timber facade decoration. In 1970s, former three independent buildings were putted together with respect to previous space layout in an adaptation process. In 2011 in the spa park was opened a footbridge "Lávka priateľstva" as a new architectural intervention with its unique timber structure.

Bryukhovychi is an example of a health resort, where the lack of appreciation and timely revaluation of the spa's wooden architecture prevented the preservation of the valuable heritage from the turn of the 19th and 20th centuries. From 1889 Bryukhovychi, began to develop as a recreation area of Lviv. The spa, established in the natural forest, was included in the official list of climatic health resorts. Houses and villas were built of wood or stone with many wooden details. Pavilions for recreation camps and resorts were built in the forest. On the map of Bryukhovychi in 1914 there are 132 objects mostly wooden villas and health complexes [28-30]. Many villas were belonging to famous people, like Leopold Henrik Staff, which house burned down in 1918 or Ignatius Drexler Jr. His house, it was a Polish American timber pavilion, from General National Exhibition in Lviv in 1894. Purchased and moved to Bryukhovychi, it was known as "Villa America"



Fig. 12. The spa Vila Fontána, around 1905



Fig. 13. The spa Vila Fontána, 2021

In the period after the Second World War in Bryukhovychi there was still a number of balneological sanatorium-resort complexes in the Art Nouveau style. The turbulent times of the twentieth century did not always lead to a favourable fate for rest homes and sanatoriums in Bryukhovychi. Changes of states borders, and political systems have led to the demolition, reconstruction and alteration of old resort buildings, especially wooden villas, and their timber elements. Only a few wooden buildings have remained close to their original appearance, but most of them have been reconstructed as a result of which they have lost many of their values.

Unfortunately, too late attempts to determine the architectural value of wooden villas in Bryukhovychi did not allow to fully preserve the valuable architectural heritage of this period and its beautiful territory. An example of a villa, which has been preserved in some fragments since its foundation, is Villa Bogomyluvka (Fig. 14).

Despite its small size, the villa has a very extensive form. Its two-storey core is connected with a three-storey wooden towers covered with a hipped roof and a one-storey veranda with decorative details carved out of boards. a two-story openwork porch with an ornamented wooden structure leads to the building. The current technical condition of the villa is bad, due to the destruction of wooden elements, loss of decorative details, damp walls and missing plaster revealing the timber construction (Fig. 15). Renovation works carried out in part of the villa do not ensure proper preservation of the historical substance.



Fig. 14. Villa Bogomyluvka until 1914 [28] and in 2021 (Photo Y. Kryvoruchko)



Fig. 15. Destruction of external wooden elements of the Villa Bogomyluvka, 2021 (Photo by Y. Kryvoruchko)

# Conclusions

Historical wooden buildings located in health resorts deteriorate both due to the passage of time and its associated weakening of their structural material due to the impact of the biotic and abiotic environment, fire and changes in treatment methods that require larger spaces or the development of their respective complexes and the necessity of replacing smaller buildings with larger ones. As a result of research performed in Polish health resorts, several types of conservation measures that had been taken in spa treatment centres over the period under study were identified:

- the preservation of singular specimens of wooden health resort architecture or complexes thereof, surrounded by a fully contemporary setting.
- adaptive reuse of historical buildings, involving a use that is not directly associated with spa treatment.
- disassembly of buildings and their relocation to a different part of the resort, accompanied by subjecting wooden elements to conservation.
- a largely faithful reconstruction of buildings consumed by fires, typically employing new construction technologies while using traditional and available materials.
- a comprehensive resort reconstruction and renovation programme, involving a uniform style and typically evolving towards a maquetisation of space.
- leaving historical wooden buildings as they are, without proper preservation and unused, which typically leads to their complete deterioration.

Efforts towards renewing damaged, transformed and ruined buildings can contribute to maintaining the value of the cultural landscape of localities, enhancement the identity of health resorts and their educational value.

Preservation of historic wooden architecture in spas in Slovakia has serious legislative, methodological and supporting preconditions based on a scientific approach to the protection of monuments. The following protective measures in spa areas have been identified:

- entry in the register of the monument fund and comprehensive protection of the area of the spa areas through urban and architectural regulation,
- correct regular in situ maintenance and correct renovation of buildings, usually for the original purpose/function supported by the monument office services,
- simplified or non conceptual in situ renovation of the building for the original purpose, which does not affect/respect the complex context acting on the historic wooden substance of the building and does not prevent all attacking factors,
- adaptive in situ renovation, either for the original or for the changed purpose, when it changes the layout of the building or its appearance, does not always respect the services of the monument office,
- postponement of maintenance and renovation of historic wooden buildings, leaving the building and leaving it unused, which usually leads to its degradation. In many cases, this is the owner's intention to release commercially attractive land.

The unique implementation of correct maintenance and the restoration of historic wooden buildings in situ in spa areas confirms the prospect of sustainability of their values in the future. However, they do not always apply.

The fate of spas and their architecture (not only wooden), which are currently in the hands of entrepreneurs, depends on the cultural and mental attitudes of their owners: whether and to what extent they want / are willing to respect the cultural values of their spa property.

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