

# Alpine huts: Architectural innovations and development in the High Tatras until the first half of the 20th century

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Article information

Sent: Jan 31, 2022

Accepted: Mar 9, 2022

**Abstract:** For man, the mountain environment was a source of raw materials and a place of economic activity until the end of the 18th century. This paper examines how the exploration of mountain valleys lead from the first ascents to the peaks to today's exploitation of the mountain environment. We are currently following efforts to protect the unique environment of the mountains and to preserve the architectural heritage of the 20th century. In the paper, we look at the architecture of the High Tatras of the first half of the 20th century, which is lost under the coatings of today. The article traces the line of innovation in the 20th century and examines the causes and consequences of the origin and development of architecture in the alpine environment, with a focus on changes in the paradigm of social thinking in the relationship between architecture and the original landscape. The subject of the paper is mapping of the architectural heritage embedded in the unique environment of the world natural heritage of alpine terrains in the High Tatras and the study of the settlement process with innovative technologies and materials that have enabled architecture to enter difficult terrains. As industrialization, mechanization and electrification have greatly simplified and streamlined the construction process, the work identifies not only the development of new design, technological and material solutions, but also the resilience of the environment to innovation. It focuses on the analysis of innovative progress and monitors its development in contact with the mountain architecture from the moment of planning, work implementation and possible construction changes. The work focuses on the typology of mountain huts and the process of their architectural design.

**Keywords:** alpine architecture, innovations, High Tatras, alpine hut, modernism, chalet

## REFLECTIONS ON THE HIGH TATRAS

Mountain exploration and later gradual exploitation has been commented and reflected by architects, journalists, environmentalists, and hikers since the beginning of the 20th century, with some mentions in periodicals from the 19th century. However, the absence of discussion was related to the absence of original settlement structures in the alpine landscape (Moravčíková, 2013, p. 136). The few periodicals in the times of Austro-Hungarian Monarchy were: Karpathen Post and Turisták Lapja. The mountains of the Hungarian Kingdom became the mountains of the Czechoslovak Republic after the socio-political changes brought after the First World War. The popularity of tourism in the High Tatras was still rising along with winter sports activities and spa recreation possibilities. Dušan Jurkovič who deliberated on its previous development and planned to create protected areas in the regions of the High Tatras and other mountains, summarized his ideas in the periodical entitled Prúdy in 1923 from a position of Commissioner for the Preservation of Artistic Monuments in Slovakia (Jurkovič, 1923). A periodical which provides data for studies of the building process in the interwar period is Slovenský Staviteľ. This review offers information on the building process in the High Tatras

and examines the knowledge and availability of new materials and innovative building methods in architecture – gas concrete, reinforced concrete and its new options, eternit, hollow bricks, glass bricks, linoleum, bauxite cement, special bricks for chimneys, and fire proof treatment of wooden structures. Another topic covered by the periodical is innovations which had found its place and application in architecture of the interwar period, with the typology of recreation in mountain regions. In addition to the periodical, there are publications which cover the development of architecture in Slovakia during the 20th century and they are touching the topic of construction in the mountains. The topic is handled either as a chapter dedicated to the High Tatras or within the framework of analysis of the architect's masterpiece. Architektúra na Slovensku 1848-1918 from Martin Kusý offers a view on the beginnings of Tatra's architecture. Kusý characterizes architecture of this period rather as "copying purpose-built tourism buildings from the Alpine areas" (Kusý, 1995) and places the Tatra architecture in the stylistic framework of romantic eclecticism. The work of Ladislav Foltyn – Slovenská architektúra a česká avantgarda 1918-1939– studies the interwar period, focusing on the rise of functionalist architecture and showing how the modern architecture formed architectural appearance of the High Tatras.

The historians and theorists of architecture Henrieta Moravčíková and Matúš Dulla reveal the approach to building process in the mountains. Their extensive publication entitled *Architektúra 20. storočia na Slovensku* offers a complex view on the century which formed architecture in the alpine regions. The authors distinguish between Czech and Slovak contribution to Tatra's modern architecture as "Large scale functionalism" and "Small scale functionalism" (Dulla, Moravčíková, 2002). The work of Henrieta Moravčíková *Stavět v Tatrách*, as a part of the anthology *Tvary formy ideje*, comments on the beginnings of tourism in the High Tatras since the 19th century. It zooms on the changes in social classes, such as mountain visitors, from Hungarian bourgeoisie to Czechoslovakian upper class, and finally working class of the postwar period (Moravčíková, 2013, pp. 131-143). Matúš Dulla writes about the High Tatras as a symbol of the Slovaks in his work *Zapomenutá generace*, stating that architecture should be respectful and subordinated rather than ruthless (Dulla, 2019). Dulla criticizes the architecture as a work of an architect, professional architecture, for its egoistic claims. And due to the architectural inspirations from different nations, the Tatra architecture is described as a transnational work. The publication supports consideration of the absence of original settlements due to no mention of the Tatras in the Slovak folklore tradition.

The extensive polythematic monograph *Vysoké Tatry včera a dnes* touches the topic of building in the High Tatras generally in the chapters related to the development. Surveying exclusively the architectural process of the Tatras construction and avoiding building without architects, the chapter entitled *Architektúra* stems from the historian Maroš Semančík. His writing is dedicated mainly to the era until 1918, followed by modernism and briefly mentioning developments after the velvet revolutions (Semančík, 2017). The chapter *Tatranské osady do roku 1918* provides a chronological overview of how the urbanization of the Tatra terrain formed first settlements. The authors of the chapter are Ivan Bohuš sr. and Ivan Bohuš jr. Michal Sýkora, Peter Chudý and Vladimír Labuda compiled a publication *Štrbské Pleso v premenách času*, which offers a historical overview of the settlement around the mountain lake Štrbské pleso, its important events and historical photographs (Chudý, Sýkora, Labuda, 2019).

Besides the architectural scientific publications, there are some other professional publications touching the topic of the High Tatras and its architecture examining the rise, life and eventual fall of the neglected typology – alpine huts. The publication *Tatranské chaty, majáky v mori skál a snehu* written by Ivan Bohuš jr. gives us an overview of probably all of the alpine huts ever built and planned in the High Tatras. It shows them on the historical maps, documented with historical photographs (Bohuš, 2007). Another summarizing publication, *Ako vznikali turistické chaty a útulne na Slovensku*, written by Ernest Rusnák, Ladislav Khandl and Eva Potočná is a collection of selected huts throughout Slovakia, again with historical photographs. The book gathers information from the archives of hiking clubs. The value of those works is more of a guidance than architectural critics for us. Both publications draw information from historical periodicals, mainly *Krásy Slovenska*, and publish clippings of historical maps with hut locations.

Markéta Svobodová processes the archive of the Czechoslovak hiking club (KČST) and its building activities in the publication *Hore Zdar!* From a historiographic point of view. The work presents huts of the club in a medallion way along with historical photographs or architectural drawings. The catalog of buildings contains only two huts in Slovakia, of which one is located in the High Tatras (*Chata pod Rysmi*) (Svobodová, 2020, pp. 107-109, 164-167).

## APPROACH AND METHODS

In this research, we study the buildings in context of the alpine architecture of the High Tatras region until the first half of the 20th century. The overall picture is made by development in the 19th century. The mapped objects are mainly non-residential buildings intended for temporary housing. The paper primarily focuses on the construction of alpine huts typology. The High Tatras area is defined by the territory limited by the Slovak-Polish border, by Dolina Kežmarskej Bielej vody valley, and by Liptovské Kopy from the north, east and west, respectively. The alpine territory is usually defined by the altitude limit of 1,000m (Lupták, 2017) (Fig. 1). From the south, the research is limited by a contour line at 1,000m above the sea level (Fig. 2). The examined objects are located at an elevation up to 1,500/1,650m above the sea level in the forest vegetation zone, up to 1,800 m above the sea level in the dwarf pine vegetation zone, and in the zone of alpine meadows and the sub-snow zone.

As used in this paper, the High Tatras architecture means the architecture which was actually erected or planned in the High Tatras. The traditional rural style architecture of log houses is not claimed as being exclusively the Tatra's architecture, just the same as the half-timbered buildings from the second half of the 19th century are not called "the true Tatra" architecture, but could be rather called the first Tatra architecture, as they were the first buildings built by architects in the Tatra territory, strongly inspired by the Alpine architecture. The innovative materials and constructions, their durability and resistance to weather conditions are examined on the mapped objects. The focus is at objects in terms of the arrival of new architectural styles to the Tatra region and how innovations in architectural thinking have been applied to the architecture of alpine huts.

## HISTORICAL DEVELOPMENT

Showing how the construction of the huts was influenced by the development of settlements and technological innovation, the timeline creates a picture of the period context in the High Tatras. The origin and extinction of individual buildings, their eventual restoration and the investors who were behind their implementation are shown in a chronological order. (Fig. 3)

### Till the end of the 19th century

The 18th century was a romantic escape from city life that removed the balance from nature (Pijoan, 2000). References from various researchers show a growing interest in the alpine environment (Towson, 1797). During these early alpine expeditions, the researchers stayed in mountains dependent on existing shelters, shacks and huts of miners, lumberjacks and shepherds, or in fireplaces (emergency shelters under a rock overhang). The researchers and their guides moved along the hunting trails. At that time, residential structures were built exclusively from local materials, not primarily intended for the construction of shelters. The primitive shack of lumberjacks protected its interior from rain and wind by a layer of scuffed bark. As compared to the shacks, the huts of the shepherds were sophisticated one-room log houses. The first Tatra settlement, *Starý Smokovec*, was founded around the healing waters in 1793 (Fig. 4). In 1806, on the west side of the High Tatras, *Kriváň* huts were formed around the *Tri Studničky* site. They were meant to serve as a basecamp for reaching the *Kriváň's* summit.

Mountain spa, hiking, and recreation in the mountain environment was gaining popularity. From the middle of the 19th century, the Rainer family contributed to the development of proto-tourism, which in 1850 built the first two-storey brick hotel in *Starý Smokovec* and the first alpine hut in 1865. The hut served

not only as a utilitarian alpine shelter, but also provided basic refreshments and accommodation. The next one was built in 1871. Eduar Blássy colonized Velická dolina valley with alpine hut and created a basecamp for the Gerlachovský štít peak. These beginnings of architecture in the Tatras are documented by artworks, paintings, engravings, and later by photographs. The first buildings were traditional log cabins, like many in the foothills in the territory of northern Slovakia. At that time, the Tatra region was not yet considered a profitable centre of tour-

ism. The planned line of Košice-Bohumín Railway (KBŽ, 1871) was to fulfil the business plans between the east and the west of the monarchy, and to protect the northern borders of the Kingdom of Hungary (Chudý, Sýkora, Labuda, p. 20). While the Halíč area was part of the Hungarian Kingdom, a water canal was planned, which would connect the river Váh with the river Poprad. The reservoir and the buffer pool were to be filled with water from the mountain lake Štrbské pleso (Chudý, Sýkora, Labuda, p. 27).



Fig. 1. Alpine areas in Slovakia. (Author: Mária Novotná)

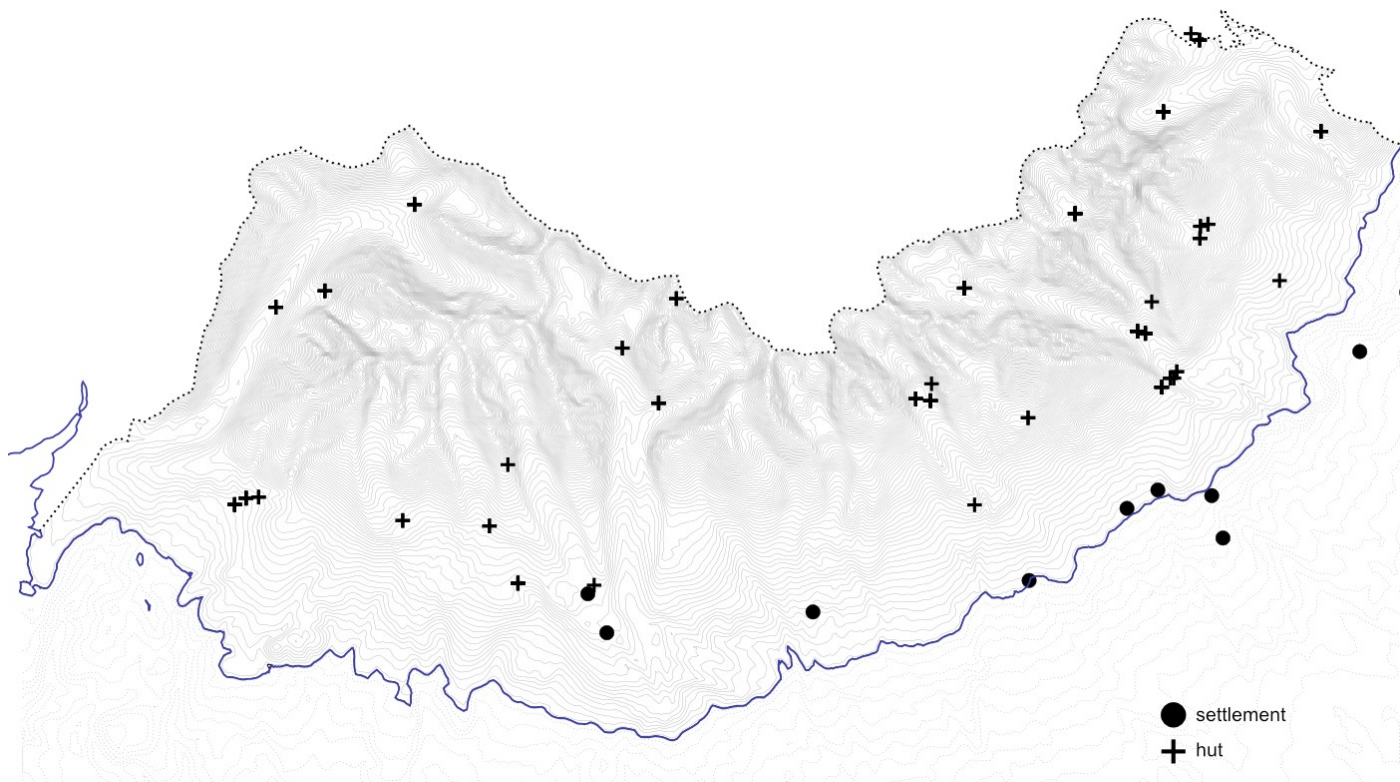


Fig. 2. High Tatras area with huts and settlements. (Author: Mária Novotná)

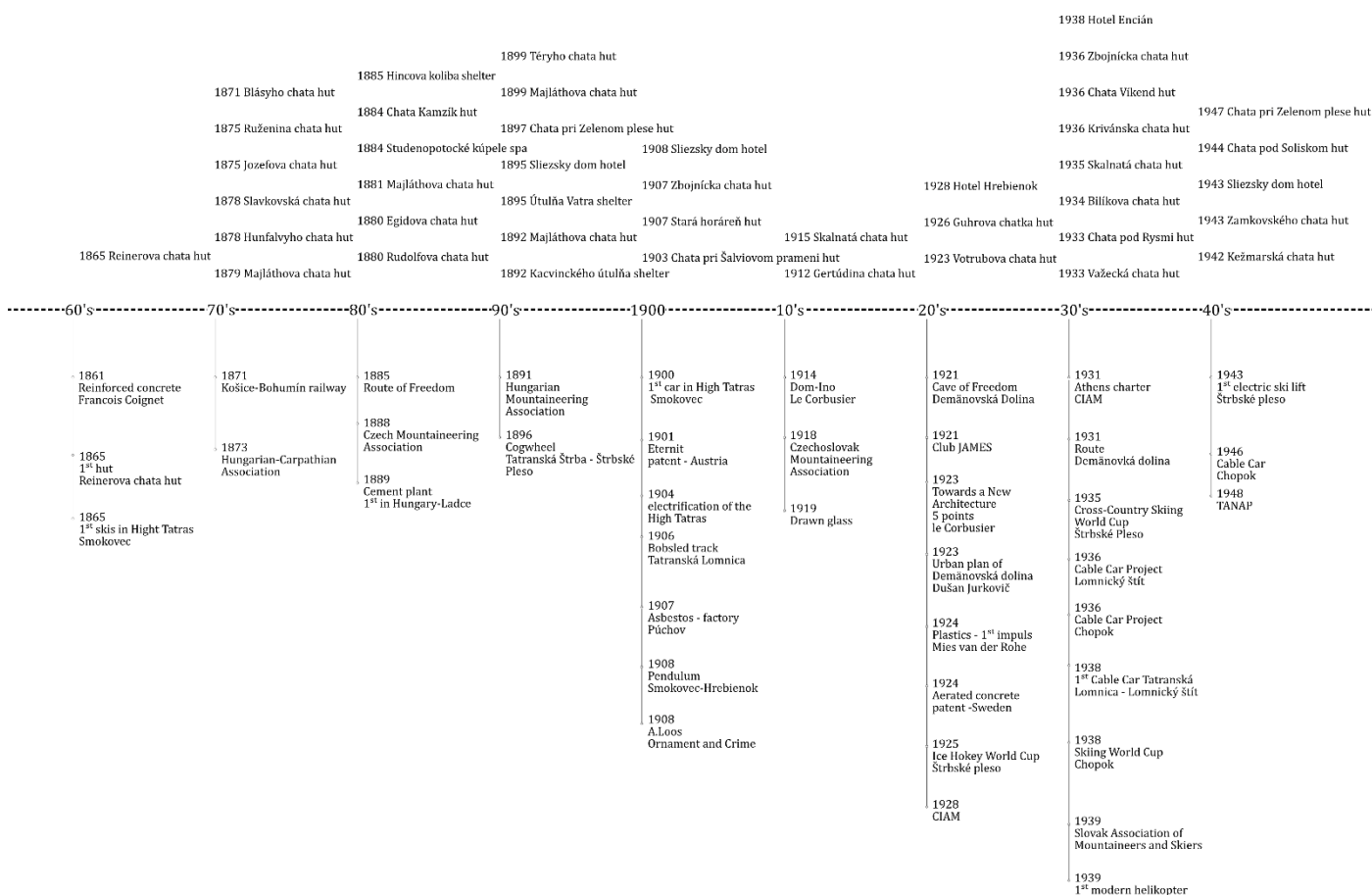


Fig. 3. The construction timeline of the huts in the High Tatras. (Author: Mária Novotná)



Fig. 4. Starý Smokovec at the beginning of the 19th century. (Source: Ivan Bohuš, Tatranský kaleidoskop, Osveta, Bratislava, Slovakia, 1977)

### The free will of eclecticism

The KBŽ railway was a historical landmark in the Tatra development. After the railway was finished, the settlement of Štrbské Pleso was founded, and architects found their way into the attractive environment, replacing rural buildings with architectural opinion and bringing the "Swiss-style" from other mountain areas of Europe, especially from the Alps (Semančík, 2017, p. 464). For the first time, we witnessed the recognition of a half-timbered structure as an architectural intention, was a hotel in Starý Smokovec in 1872 (Semančík, 2017, p. 465). Later, the architecture of the settlements began to form a mixture of imported styles from Bavaria, Tyrol, Switzerland, Romania, Scotland, England, Norway and to a limited extent from Poland (Semančík, 2017, p. 457). We could call it alpine or Tatra eclecticism.

(Fig. 5) The beginnings of Tatra spa saw a limitation of tourism to summer seasons. Building construction mostly took place in winter, as an off-season activity, and the structures did not have a long service life (Semančík, 2017, p. 464).



Fig. 5. Starý Smokovec at the end of the 19th century. (Source: Ján Gašpar, Tatra, Region of Poprad, Slovakia, 2002)

The Hungarian-Carpathian Association (UKS) took over the patronage of mountain hiking in 1873 and started a network of huts in the High Tatras. Tourists came to Velická dolina and Studená dolina valleys from Smokovec. The starting point for the mountain lake Zelené pleso was Tatranské Matliare which later in 1885 moved to Kežmarské žľaby. Krivánske koliby huts at Tri Studničky became a decaying base for entering the long Kôprová dolina valley, where a hut for Rudolf Habsburg was

built in 1880. All these huts were built without any connection to the architectural events “down in the settlements”. At that time, they did not reflect fashionable half-timbered constructions with carved railings. Huts were traditional buildings built from materials available on site, stone and wood. Either they were log huts with a gable shingle roof or stone huts, some of which had a simpler shed roof.

The most accessible and attractive valleys for tourism were Studené doliny. In 1884 the UKS built better-equipped and larger Chata Kamzík hut close to Rainerova útulňa hut, and in 1883 the Spišská Sobota forest company had the Studenopotocké kúpele spa complex built. Štrbské pleso became a base for hiking in Mengusovská dolina valley, where the second Majláthova chata hut stood next to the mountain lake Popradské pleso. Deeper in the valley, in the early years of mountaineering, the UKS built Hincova koliba hut, which was better situated for the summit goals. The UKS saw the potential in the locality of the mountain lake Zelené pleso, and the hut standing there was permanently under repair and refurbishing over the decades. UKS created a construction committee, which oversaw the refurbishing of the damaged buildings and the construction of new ones, ensured higher quality within economical limits and oversaw the construction of roads and sidewalks (Zvarinyi, 1884).

Chata Kamzík hut, initially a simple log house with a gabled roof, was the first two-storey hut in the High Tatras. Studenopotocké kúpele spa was built according to the model of magnificent spa houses in the Tatra settlements with half-timbered technology with dormer roofs and turrets. The other huts remained utilitarian single-storey buildings. In 1891, the Budapest-based fraction, the Hungarian Tourist Board (MTS) separated from the UKS. MTS did not like the exclusivity of the upper classes with a German predominance in the UKS. In 1895, the Silesian section of the UKS built another, larger tourist hut at the Velické pleso mountain lake due to its growing popularity. The Sliezsky dom house was probably the first building in the Tatra alpine environment, which showed an architectural opinion in the context of the place. Its author was Gustáv Husz, a builder from Poprad (Bohuš, 2007, p. 58), who built the cottage as a ground-floor building to better withstand the gusts of wind from the valley. It was masonry work, we assume a stone building with a flat roof, plastered with lime plaster. It was the first plastered hut in the High Tatras. Until then, plaster was only used on the buildings of the Studenopotocké kúpele spa. Until 1928, these were the only buildings plastered from the outside. Opinions on the justification of plastering buildings in the alpine environment differ, especially due to the complexity of transport (Majunke, 1900).

In the meantime, material and technological innovations arrived in Slovakia. A professional production base for reinforced concrete construction was established in Bratislava in 1884 with the Pittel and Brausewetter company. In 1889, the first cement plant in Slovakia was opened in Ladce. In 1896, the mantra of modern architecture was formulated: form follows function. In the western part of the High Tatras, two huts were built, Kacvinského útulňa shelter in 1892 to the west from the mountain lake Štrbské pleso and the hut named Vatra at the end of Kôprova dolina valley. Hincova koliba and Krivánske koliby huts thus lost their meaning and soon became completely decayed. The facilities in the settlements of Smokovec and Tatranská Polianka allowed a comfortable entrance to Velická dolina valley and so another cottage, by the mountain lake Slavkovské pleso, ceased to be visited and fell into disrepair. Kacvinského útulňa hut responded to the architectural proximity of Štrbské Pleso and was built with half-timbered technology. However, gray masonry was not used as a filling between the castles, wooden boards were used instead.

Gedeon Majunke, a member of the UKS building committee, was commissioned in 1891 to oversee the restoration of the hut at the mountain lake Zelené pleso (Fleischhacker, 1891), but the design and construction was carried out by an architect from Kežmarok, Juraj Cornel Schwatz, in 1895 (Semančík, 2021). The first version of the cottage had a flat roof, but soon received a hip roof, which gave the cottage with a square floor plan the expression of a typical vernacular square family house with a centrally located chimney. In 1899, a new hut was opened thanks to the initiative of MTS Vice President Dr. Téry in Malá Studená dolina valley. It was the highest-elevated hut in the High Tatras until the interwar period. The basic project was designed by Jozef Pfinn and the architectural project was developed by the architect Majunke (Bohuš, 2007, p. 93). Téryho chata hut was a pioneering representative of the typology of mountain huts, which underwent a complex process of architectural design.

Although the architecture of the Tatra settlements at the end of the 19th century was subject to a gradual eclecticism, the omens of modern architecture were visible in the additions by Majunke. During the restoration of the buildings, he designed and built flat vegetation roofs and glass verandas (Semančík, 2017, p. 466). The “typicality” of dormer roofs met with the innovation of simplicity. In contrast to the free will of eclecticism that shaped the Tatra settlements and covered them with ornaments, the huts were excluded from this historicist tradition. The architecture of alpine huts was mostly loyal to the vernacular tradition. Their form was shaped by the architecture of necessity, not of a need for a presentation that brought economic returns. They were adequate for the vegetation zone. In the lower elevations, in the forest zone, there were log cabins. In the alpine meadows sub-snow zone, they were built from stone.

## UNTIL THE END OF THE MONARCHY

The first years of the 20th century brought innovations to the settlements in the form of motorization, electrification, canalization and flushable toilets (Kollárová, 2017). The construction technology returned to traditional masonry, which offered a higher quality of construction in comparison with half-timbered buildings. This type of improved construction allowed all year-round usage, including winter. The development resulted in increased aesthetic requirements for the interiors where ornamentally innovative style was implemented (Semančík, 2017, p. 486). The stronger relationship with winter sports was supported in 1906 by the construction of a bobsled track in Tatranská Lomnica. In 1912, Getrúdína chata hut was added to the bobsled track above Tatranská Lomnica as a base for sportsmen. Thanks to Michal Ghur, Velická dolina valley has also become a winter sports centre. He organized international winter sports competitions, maintained ski slopes and built ski jumping ramps (Bohuš, 2007, p. 65). At the end of Veľká studená dolina valley, a hunter's shelter was built in 1907, which later became known as Zbojnická chata hut. In the same year, the Tri Studničky site was restored as a tourist base. Finally, in 1908 a pendulum cable car to Hrebienok was built. In the last years of the monarchy, Rudolfova chata hut was symbolically replaced by a hut built by the state forest administration in 1912. Later, in 1924, the Czechoslovak Tourist Club (KČST) renamed it to Mühlmannova chata cottage (then chairman of the Slovak commission of the club). The buildings of the first years of the new century were still equally utilitarian, built by traditional techniques, without architects. According to historical photographs, the only buildings in Hrebienok show elements of half-timbered buildings from the settlements, and the Kiosk building shows elements of Art Nouveau. (Fig. 6)

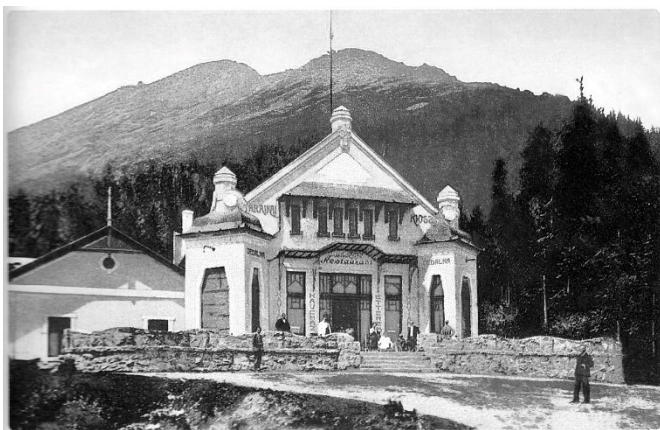


Fig. 6. Kiosk, the restaurant at Hrebienok. (Source: Ján Gašpar, Tatry, Region of Poprad, 2002, Slovakia)

## TATRAS IN CZECHOSLOVAKIA



Fig. 7. Dr. Holzman Sanatorium, architect: Fridrich Weinwurm. (Source: Archive of the Architecture Department of the Historical Institute of the Slovak Academy of Sciences in Bratislava, Slovakia)

Functionalism surpassed the Czech official style of rondocubism and firmly anchored in the territory of young Czechoslovakia. The ideas of CIAM came here, Le Corbusier's 5 points of modern architecture, and Mies van der Rohe considered light, cheap and insulating materials, thus creating a background for the arrival of plastics. Loos' manifesto *Ornament and Crime* (1908) began to take effect. The changing borders after the First World War made it more complicated for the members of the Czech Tourists' Club (KČT, 1888) to access mountain terrains in the Alps, thus turning their attention to the High Tatras. The initiator of the first hut in Czechoslovakia was Václav Dusil, a major in the Czechoslovak army of Czech origin. Votrubova chata hut was built at Biele plesá mountain lakes for strategic reasons, so that they could secure the northern borders against Poland's claims (Bohuš, 2007, p. 121). In 1928, the Šport Hotel was built in Hrebienok with a significantly reduced ornament on the facade, as an addition to the Art Nouveau Kiosk. With the easy pendulum transport, the atmosphere of Hrebienok was closer to the atmosphere down in the settlements than the silence around the alpine huts.

The 1930s began with the declaration of the Athens Charter and ended with the invention of the 1st modern helicopter and the beginning of World War II. The transnational architecture of the

High Tatras continued with the Czech contribution in the first half of the 20th century. Their large-scale architecture manifested functionalism in Slovakia most significantly in the Tatras (Dulla, 2019, p. 329). The Czech influence allowed the Tatra architecture to dispose of the ornament. The works of Czech architects are a recognition of the theme of early modernity in an alpine environment and solve the problems that the modern age has attempted to eliminate. Functionalism, which unequivocally condemned eclectic symmetry, but settled for a floor plan as a functional scheme, was already reflected in the design solution of the TBC Sanatorium in Vyšné Hágy. There it manifested the priority of function and the modern age over the manner of functionalism. Instead of a functionalistic asymmetrical solution, a solution that provided the equal area for recovery in the women's and men's blocks of the sanatorium. The functionalistic dialog between the exterior and the interior was implemented in the concept of sanatorium Morava by Bohuslav Fuchs. Open floorplans and dematerialized facade should respond to the unique and dramatic nature with a contrasting addition of straight and horizontal lines with a regular grid of facades (Foltyn, 1993, p. 133).

Architects of Slovak origin implemented "small-scale functionalism" on the buildings of family villas, guest houses and small sanatoriums. (Fig. 7). Fridrich Weinwurm also contributed to the removal of the ornament with the construction of a sanatorium for Dr. Holzman. The building was an example of a work that created a contrast between the modern open floor plan and the possibility of intimate space on sunny balconies (Moravčíková, 2014). The upcoming focus of Tatra functionalism with a high concentration of modern manifestations was set to be the settlement of Nové Štrbské Pleso (1905). Ján Móry, nephew of the founder Karol Móry, had ordered a design for a functionalist extension to the Móry Hotel. During the construction, significant changes were made for unknown reasons, causing the idea of a functionalist steamer boat over an artificial lake to be transformed into a more conservative building which, as an extension, was consistent with the historic building of the original hotel. The ideals of early modernism were implemented in the design of a private villa, a "folk" hostel lodge for backpackers and an octagonal cafe. In contrast to the fashion of tubular railings, flat roofs, white plaster and large area glass windows, there were alpine huts, which were still built using traditional technologies. In the 1930s, the network of cottages at the level of the long-distance hiking trail Tatranská magistrála was expanded to include Važecká chata, Krivánska chata, Furkotská chata and Bilškova chata hut. In this decade of changes, the shelter by the mountain lake Skalnaté pleso has become Skalnatá chata hut. By type, the emergency shelter was upgraded to a hut with service.

Markéta Svobodová describes the 1930s as a period, when the KČST started to build smaller, but higher and technically innovated mountain huts (Svobodová, 2020, p. 163). Téryho chata hut (2,015 m.a.s.l.) was surpassed in altitude by Chata pod Rysmi hut (2,250 m.a.s.l.) in 1933. Zbojnícka chata hut was adapted for year-round operation by the innovative technology of asbestos (1907 factory in Púchov) plaster as a thermal insulation layer (Bohuš, 2007, p. 88). Other huts went through innovation by extension. The cottage near the mountain lake Zelené pleso has undergone construction changes. Two wings were added to the original stone building with a hip roof. One wing was constructed as a log house and the other was half-timbered with gray masonry infill. In the 1940s, the roof was rebuilt in order to increase capacity. Votrubova chata hut was extended with another building, Kežmarská chata hut, designed by Alexander Hanuš in 1938 (Svobodová, 2020, p. 163). Sliezky dom house also waited to receive an expansion in 1942. Originally a simple ground floor building with a flat roof was given a log extension with a gabled roof and an accommodable attic. The

innovation of involving an architect in the planning and design process appeared also in 1943, when Ladislav Foltyn designed a hut for Štefan Zamkovský which was built by Jozef Šašinka.

However, technological innovations have also made their way into the alpine environment. The project of the first cable car in Slovakia, which set several period records, was implemented. These were objects at the altitudes of the alpine environment in all vegetation zones. We could consider this an exemplary adaptation of functionalism to the conditions of the alpine environment. It can be considered an extraordinary form of regionalist functionalism. The basic form of cable car construction was dictated by the technical requirements of Weisner Chrudim company. While architecture was the work of Dušan Jurkovič, his choice of materials and dealing with the means of expression "represents" the cultural intervention of man in nature." (Bořutová, 2010) In 1943, the first electric ski lift in Slovakia was installed on the slopes of Solisko. The dome called Becvařova kupola was installed as the first shelter for ski lift operators at the exit station. It got there from the reinforced concrete terrace of the café at the Grandhotel in Štrbské Pleso (Chudý, Sýkora, Labuda, 2019, p. 249). A year later, Chata pod Soliskom hut was built near the exit station. The first hut keeper was František Bujak, who was also an owner of a functionalist villa in Nové Štrbské Pleso. Although Chata pod Soliskom was built in the traditional way using log technology on a stone foundation, unlike the ski lift "shed" at the lift boarding station, it had a flat roof and for the period of building relatively large windows without partition. However, we do not yet have additional documents to assess its overall architecture from the time of the original state. It seems that the steps of early modernism were stopped in the ascent to the mountains by the rugged terrain and the possibilities of material transport. However, the construction of mountain huts represents more of a modernist idea of innovations in leisure and free time activities. They act as the background for these activities in a 100% sunny and illuminated area of the original landscape. Functionalist objects that have become a cover for modern activities have remained with all their typical means of expression in the Tatra settlements.

## FROM IMPROVISATION TO INNOVATION

The architecture of solitary buildings in the original landscape of the alpine areas in the High Tatras reflected contemporary

architectural events only exceptionally. Usually, architecture followed the tradition of log and stone masonry buildings, one, two and three-room houses. The scale of the buildings depended on the popularity of the site and the level of terrain difficulty, while the construction and material were based on the vegetation zone of the site and the available building material. There were typical wooden buildings in the vegetation zone of the forest and stone ones in the alpine zone. Cooperation with an architect would also be a significant innovation in the construction of the alpine huts. The huts rarely went through the process of architectural design, a significant exception being Téryho chata hut, the essence of which by the author Gedeon Majunke is preserved to this day. The absence of historical architectural elements in eclectic Tatra settlements maintained the purist expression of the huts. Innovative materials have entered mountain architecture sporadically and with a delay compared to applications in the lowlands of the Tatra settlements. Likewise, the fashion of innovative architectural elements has found its way to the mountainous environment to a limited extent. Interior equipment innovations took place as modernizations, or rather as redevelopments of the layout, after they found their place in the typology of spas and hotels in settlements.

Mountain huts arose more from the enthusiasm of tourists than the architectural incentives to create in the original natural landscape. Therefore, architecture, or rather buildings, were often erected as a result of improvisation. If the meaning of the huts was proven, they went through a process of innovation. However, the architecture in the hard-to-reach terrains remained resistant to architectural innovations, true to tradition and reflected the essence of the necessity of a shelter. (Tab. 1) In the period of early modernity, innovations in mountain architecture manifested themselves as a reaction to innovative social phenomena of recreation. However, the invention of the helicopter and the innovation of access roads have forever changed the thinking about building materials in the alpine environment. Reduction of materials to the necessary minimum, use of the construction potential of the site and the adaptation of the layout of the terrain have become past. In the following period, the alpine landscape is approached by a brick, aerated concrete, heavy building machinery and other standard building methods from the urban areas. Another part of the research will examine how mass recreation has changed the view of the architecture of alpine areas and how tourist huts have been innovated after privatization.

Tab. 1. The huts through the 19th and first half of the 20th century. (Author: Mária Novotná)



## Acknowledgements

This paper was published within the project VEGA no. 1/0286/21 "Innovations in architecture of the 20th century in Slovakia" dealt with at the Faculty of Architecture and Design STU and at the Institute of History of the Slovak Academy of Sciences (Bratislava, Slovakia).

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