Ještěd – Heritage Site between Landscape and Engineering[1]

Petr Vorlík

In 2018, it was 45 years since the Ještěd Mountain Hotel and Television Transmitter was opened to great fanfare. The most famous of the post-war Czechoslovak works of architecture, Ještěd Tower regularly emerges as the favourite in polls among professionals and the public, and even today it remains a reflection of the political thaw and the atmosphere of social and cultural ferment that characterised the 'golden' 1960s. It represents a unique technical experiment, resistance to the pressure that prioritised quantity, a step away from the industrialised approach to construction, a distinctive gesture, and the dream of a generation of architects. The emotional connection it forms between a beautiful landscape setting and a thoroughly executed technicist vision is today the symbol of the town of Liberec and even of the entire region. As a national cultural monument, the tower enjoys the highest level of protection, and since 2007 it has been on the Czech Republic's list of sites to be nominated for inclusion on the UNESCO World Heritage List.

The mountain

Liberec's magical mountain had captured the attention of locals since time immemorial. The first crosses were erected on it back in the 18th century and the rise of tourism in the 19th century led to the construction of first a log and then a stone cabin, an observation tower, and eventually, in 1905, to the construction of a hotel. In this mostly wooden building, Liberec builder Ernst Schäfer mixed modern Secessionist forms with the Romanticism of the more Germanic border region. Popular with tourists, the building survived at the peak of the mountain until one fateful day in 1963. Architect Miroslav Masák recalls its end: "In the early evening of 31 January 1963 the hotel caretaker used a blowtorch and later even burning newspaper to defrost the heating pipes. It worked. The hotel erupted into a bright flame. And as tends to be the case in this country, there wasn't a drop of water in the fire tanks."[2]

Liberec architects and patriots reacted immediately to the devastation and within several days announced an internal competition for the construction of a new building. In addition to a hotel, the competition's organisers added the construction of a transmitter tower, an addition that had been considered even before the fire in order to respond to the growing demand for the transmission of television signals. Among the designs submitted to the competition, which were drawn up with staggering speed to meet the deadline of February 25, the project that most clearly stood out was the one by Karel Hubáček, who in order to reduce the mass united both functions – hotel and TV tower – within a single structure, which with its carafe-like shape forms an extension to the existing silhouette of the mountain.

The tower

The architect's modernist vision was not met with understanding by the general public and he had to explain it at length in various discussions. Nevertheless, nostalgic memories of the earlier, romanticised hotel faded beneath the weight of his arguments, and the new tower ultimately won enough support. The professional community also began to become aware that something altogether extraordinary was being planned in Liberec and the very complex and unique project slowly began to gather numerous enthusiastic collaborators and supporters.[3]

Fig. 1: Photograph of the construction process (© archive of Vítkovice a. s.)

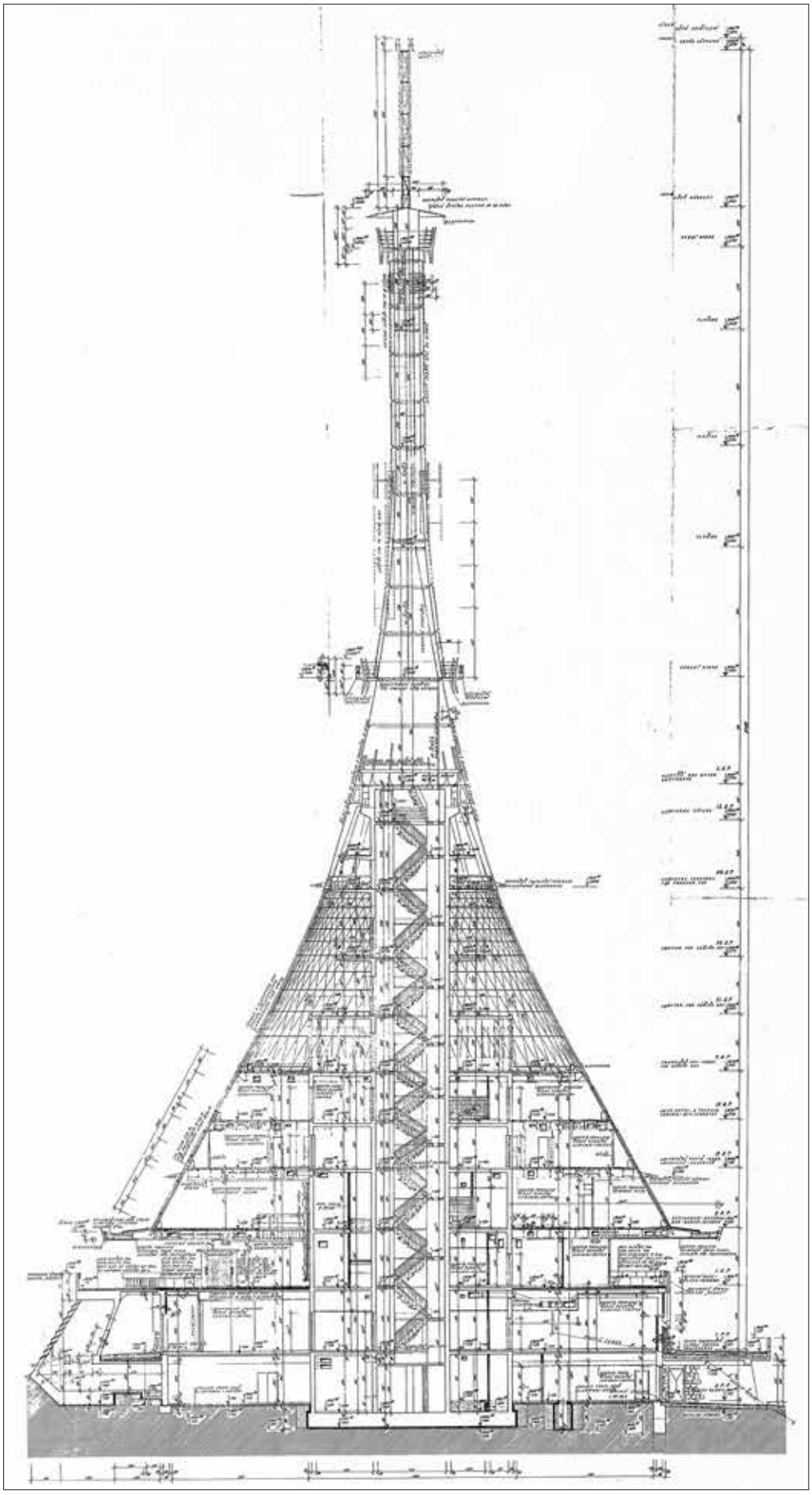

Fig. 2: Cross-section (© archive of the National Technical Museum, donated by SIAL)

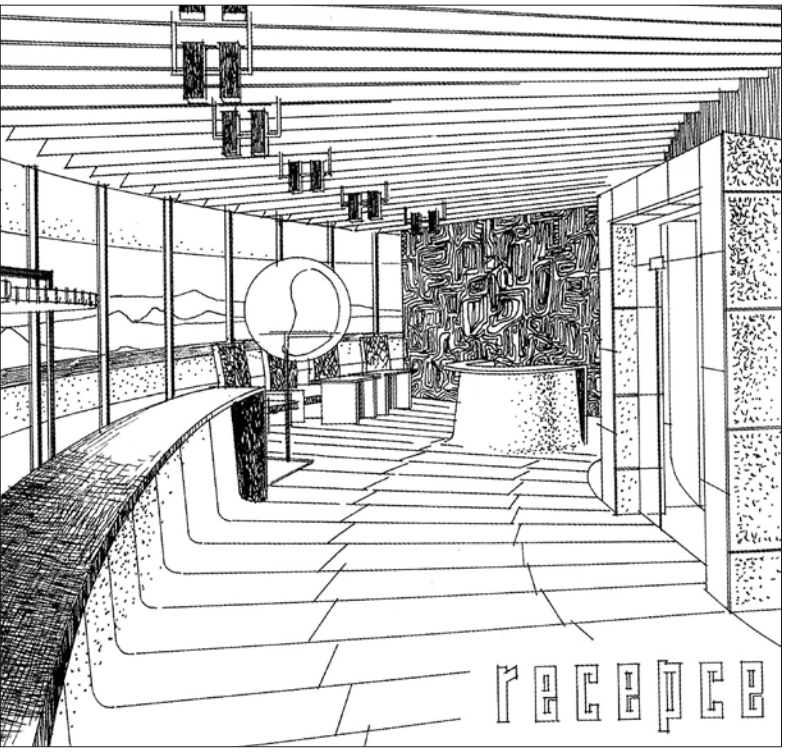

Fig. 3: Third and final design for the reception (© personal archive of Otakar Binar)

Fig. 4: The completed interior of the restaurant (© personal archive of Otakar Binar)

In the ensuing years the design of the tower was refined and polished. Its originally segmented appearance quickly coalesced into a compact and firm architectural gesture that formed an extension to the mountain's peak, but with a caesura that clearly separates it from the ground. In collaboration with structural engineers Zdeněk Patrman and Zdeněk Zachař, civil engineers Václav Bůžek, Vlastimil Křupka, Josef Patrman, and a number of contractors and suppliers, the extraordinarily complicated structural design was also fine-tuned, requiring, among other things, a number of patents. Eventually the project was also joined by Otakar Binar, the architect who designed the interior, and by Karel Wünsch and several artists, who designed the interior furnishings and artworks.

The project was commissioned by the Ústí nad Labem Regional Investment Department and by the future main occupant, the Prague Radio Communications Authority. It was not yet determined who would end up running the hotel, and the architects were thus able to work with considerable freedom. Construction commenced with the laying of the foundation stone on 30 June 1966 and after a long series of standard delays and complications the hotel was officially opened on 21 September 1973. The architects, who were out of favour with the new normalisation regime, were not invited to the ceremony, despite the fact that the study for the project had received a number of domestic awards and in 1969 the then still unfinished tower won the prestigious international Auguste Perret Prize for the creative use of technology in architecture.

In lectures, historian Rostislav Švácha has described the tower's experimental character as "the pragmatism of honest Czech engineering". Hubáček's colleague architect Miroslav Masák referred to it as "home-spun high tech".[4] It was only because of the sophisticated design of the support structure and facing that it was even possible to build the elegant and compact hotel on the mountain's peak.

The two underground floors are made of a combination of cast concrete and a wide range of prefabricated parts. Above that is the massive reinforced concrete core of the structure formed by two concentric and interlinked cylinders. Suspended from their perimeter is the subtle mesh of the steel ceilings of the hotel's floors (i. e. the first to fourth above-ground floors). At the height of 26 metres a steel ring encircles the reinforced concrete core and the sandwich laminate facing that covers the transmission technology is suspended from that ring (i. e. the fifth to seventh above-ground floors); and at the height of 33 metres there is another ring that supports the delicate steel shell that is reinforced with vertical ribs. At the height of 70 metres there is a unique patented damper of horizontal vibrations, and a self-supporting top extension made of patented coiled laminate.

Not even the tower's geometry is as simple as it may look at first glance. It is a reflection of the diverse mixture of structures: the wide cylindrical floors in the lower section of the tower transition to a truncated cone in the middle suspended section and then into a fiberglass and steel circular hyperboloid, terminating in a cylindrically shaped structure again at the peak.

The composition of the facing is equally complex. The technical and entrance floors at the bottom are covered with reinforced-concrete panels, exposed concrete, stone cladding, and large glass walls. Suspended steel-aluminium

Fig. 5: The completed interior of the café (© personal archive of Otakar Binar)

Fig. 6: The completed interior of a room (© personal archive of Otakar Binar)

panels cover the exterior surface of the hotel and restaurant floors, which are thermally insulated with polyurethane foam (which at that time was an innovation and had to be prepared under improvised conditions right at the construction site) and feature Stopray Gold windows imported from Belgium. The middle section, encasing the high-power transmitter, is covered with a light laminate facing, which to enable signal penetration is supported only with prestressed laminated rods and is held together using only plastic screws.[5] The facing on the top section of the tower is formed by the steel support shell itself and a self-supporting laminate extension.

Fig. 7: Karel Wünsch and the tableware he designed for Ještěd (photo Petr Vorlík)

In addition to the experimental design of the structure and the facing, it is necessary to also draw attention to the tower's composition: Karel Hubáček inventively combined the light technicist morphology of the upper part (silvery paint, white fiberglass, and machinist windows) with an almost naturally raw plinth (exposed concrete, the stone pavement on the ground runs from there in a smooth arc up onto the wall cladding).

This established the structure's basic theme of carefully constructed dualities – the uniting of 'earth and sky', 'nature and the work of man', 'earthiness and airiness' – which were also thoroughly reproduced in the design of the interior and the focus of the works of art.

The interior

The design of the interior was developed directly alongside the project for the tower. The primary objective was to unite two hard-to-reconcile worlds – that of the structure as a firm and cohesive gesture arising out the grandness of the surrounding landscape, and the more minutely-scaled segmentedness of the hotel's interior, where the designers endeavoured more to achieve the cosy and welcoming atmosphere that characterises accommodation in the mountains. To this end, in the first stages of the project Otakar Binar prepared several sketches of the interiors for Hubáček that were intended to test its underlying ideas – emphasising the breath-taking and unbroken panoramic view from the windows (e.g. the radial interior layout opening in the direction of the exterior, or the height of the furniture

Fig. 8: The exterior (photo Petr Vorlík)

Fig. 9: Laminate facing (photo Petr Vorlík)

below the level of the parapet), the continuous 'interior landscape' (e. g. the 'infinite' circular layout, the glass partitions, and the transparent stairway leading to the restaurant), and the tension between the poetic realms of 'earth and sky'.

A single interior brought together cosy earthiness and natural materiality of the internal walls and flooring (e.g. coarse moss-green carpeting, exposed concrete of the core, metal relief work, tapestries) with technicist lightness and 'ethereal' airiness (e. g. white leatherette wall covering, panelling and soffits in natural aluminium, details done in white enamelled sheet metal, glass).

And even in the interior, the designers did not shy away from experimentation. The vast majority of the furniture and lighting was custom-designed and manufactured, again using a carefully compiled array of engaging materials and shapes and with surprising, lightly technicist details. These included the rotational standing ashtrays produced by the wind instrument company Amati, the innovative polycarbonate panels of the bannisters, the ceramic tiling by artists Děvana Mírová, Marie Rychlíková, and Lydie Hladíková, the bespoke furnishings and lights by Otakar Binar, the atypical ceramic Rako tiling with cavetto moulding in the corners, the similarly styled ceramic hooks and soap dishes, the light blue bed linen with a white snowflake motif by Karel Wünsch, and so on. Wünsch also designed the restaurant furnishings and materials, such as the menus, the logo, the glassware and stemware, and most notably the ceramic dinner service made from an experimental material called Vitral, normally used for high-voltage isolators and employed here for a more robust appearance. The special 'honeymoon' suite was also marked by playfulness and levity, with surprising Louis XVI-style historicising furniture.

The atmosphere of the interiors was embellished with works of art, which unexpectedly in an admired technicist structure were based on Jungian psychological motifs, and on the closeness of the countryside, nature, and outer space. Examples include the hammered metal reliefs incarnating the 'earth's vibrations' by the hypersensitive artist Miloš Koška, the concrete and glass relief 'Falling Meteorites' by Jaroslava Brychtová and Stanislav Libenský, the motif of a burning sun on a tapestry by Vladimír Křečan, or a rural-rustic wrought-iron grille by Jaroslav Klápště, composed out of parts of agricultural tools collected from a St John's Eve fire. The artists that worked on Ještěd adapted to the structure's overall intensive atmosphere and the intentions of its architects. In the interest of ensuring a total experience they designed and executed work that was unique within the context of their creative output (e.g. concrete from the glassmaking duo Libenský / Brychtová, the metal grille by graphic artist and painter Klápště, textiles and ceramics from the glassmaker Wünsch).

The structure's image as a romantic 'palace in the clouds', detached from mundane reality and everyday socialist life, reached its peak in the interior. For this reason, it is necessary to highlight even beyond the altogether unique technical design the poetry and humanism of the resulting work, which has perhaps been best characterised by architect Lubomír Reml: "Karel Hubáček won the Perret Prize for his tower in Ještěd deservedly. He's a good man and architecture is a reflection of a person's soul".[6] The interior by Otakar Binar analogically, substantively, and precisely gives material form to the central theme of late modernism – bringing rationality and humanity closer together.

The present day

In this balanced and made-to-measure composition, every original component has its place, and any insensitive, inappropriate modifications, additions, or new forms come across as very unfitting and significantly decrease the overall optimistic impression. Unfortunately, Ještěd was negatively impacted by 45 years of intensive use. Despite the minimal investment and interventions in the structure during the normalisation years, as well as the somewhat insensitive and typically neglected maintenance, fortunately most of the elements have survived in their uniquely authentic state.

On the exterior, some of the most striking alterations were that the windows were switched from their originally bronze shade to clear glass, the chimney and laminate attachment were changed, a glass enclosure around the originally open loggia was subsequently introduced, and the tangle of transmission equipment that hung on the outside. Also the amount of peeling paint on the metal facing, the protective white cling-film covering the laminate central section of the tower, and, last but not least, the not very successful, provisional repairs to the damaged exposed concrete.

The biggest changes inside the tower were understandably in connection with the quickly outdated technological equipment, i.e. for the transmission services and the technical facilities. Similarly, the interiors were also impacted by the natural process of physical and moral obsolescence, and most notably by the failed privatisation in the 1990s, which ended with a significant portion of the furnishings being sold off. Generally, it can be said that the elements in the interior that survived best were the ones that were firmly connected to the structure itself, i.e. the surfaces of

the walls, the lighting, and the built-in furniture. Their relatively favourable situation benefitted from the sophisticated spatial and technological design, which made it difficult to exchange them for standard elements, but also from the far-sighted choice of good-quality, visually exposed materials and an emphasis on the solid, easy-to-maintain craftwork of the originally designed elements. The exception to this were some of the technologies popular at the time – especially plastics – which suffered considerable damage and changes in colour.

Nevertheless, as in the case of other historical structures, a significant amount of the less fixed surfaces and elements in the mountain hotel were damaged or became outdated in the course of many years of service and were not very sensitively repaired (using new and different paints, plastering and wallpapers) or replaced (PVC coverings, carpets, textiles, blinds instead of curtains, objects furnishing the bathrooms and toilets, door handles, electrical fixtures). In the future, all the more attention should certainly be paid to some of the unique details that have survived, representing the authentic fingerprints of the time in which they originated. The loose furniture has been heavily impacted by insensitive renovations and unfortunately some items have been irretrievably lost (tables and chairs are missing from the restaurant, bar, cafe, and lounge, as well as serving tables, standing ashtrays, armchairs from the entrance hall, the slot payphone, the fountain, some of the room furnishings, etc.). The furnishings of the one hotel suite are no longer used today and are kept in a museum.

It might be said that these changes have been necessary and reflect new demands and changing lifestyles. However, Ještěd's furnishings were custom-designed for and are a fundamental part of the structure and its powerful atmosphere. Moreover, there has been no change in function and ultimately hotel rooms still need the same standard set of furnishings – bed, night table, chair, small table, etc. By making radical changes and gradually diluting the originally objective, we thus lose what's most important – an authentic, consistent experience.

Fig. 10: Entrance hall and stairway leading to the restaurant (photo Petr Vorlík)

Fig. 11: Stairway leading to the hotel rooms and originally designed ceramic tiling (photo Petr Vorlík)

Fig. 12: Hall of the hotel with wrought-iron grille by Jaroslav Klápště (photo Petr Vorlík)

Since 2008, however, research has been conducted at the tower, most notably under the titular direction of the Research Centre for Industrial Heritage at the Czech Technical University's Faculty of Architecture in Prague, whose task is not just to describe the technical condition but also interpret Ještěd's role in the history of Czech culture and draw attention to the changes and shortcomings caused by development in recent years. Liberec Region and the Museum of North Bohemia in Liberec are also working to preserve Ještěd and its qualities. A crucial role is also being played by the Ještěd 73 civic association, which was founded in 2012 and is gradually refurbishing parts of the interior using financial donations from the public. In cooperation with Otakar Binar the association has partly restored the impressive appearance of the lounge, the hotel halls, the bar, and recently also two rooms through repairs and the introduction of copies of original furnishings. Unfortunately, the other rooms are at the same time being transformed in a 'retro sixties' spirit, which is completely blurring the original concept, but is evidently more aligned with the ordinary demands of visitors.

The structure itself and the technology of the tower have in recent years been approaching the end of their physical lifespan and general refurbishment is planned. Therefore, under the direction of Ještěd 73 a consortium was set up in 2016 that brings together representatives of the region, the hotel's operator, and the owner, České radiokomunikace a.s. The tower has been surveyed in detail; technical and building-history research has also been conducted, and in the summer of 2017 an expert committee selected an architect in a small invitation-only competition. Step by step the time is approaching when Ještěd tower will again begin to shine in full force.

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[1] The text was written at the Faculty of Architecture, Czech Technical University in Prague, as the outcome of the project *Architecture in the 1980s in the Czech Republic – the Distinctive Quality and Identity of Architecture and Parallel Reflections against the Backdrop of Normalisation* (DG18P02OVV013), conducted under the NAKI II programme of applied research and development of the Ministry of Culture of the Czech Republic (principal investigator: Petr Vorlík).

[2] Masák, Mezi Expy, 2006, p. 27.

[3] Cf. the origin of the famous Liberec Association of Engineers and Architects / Sdružení inženýrů a architektů Liberec = SIAL.

[4] Masák, Mezi Expy, 2006, p. 29.

[5] This patented system was supplied by the Žďár nad Sázavou Fishing Union and Ejpovice Ore Mines.

[6] Vorlík, Lubomír Reml, 2006, p. 127.