

The adaptive use of certain ancient water mills as industrial vernacular monuments in Hungary

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Both in architecture and in the field of the preservation of monuments, vernacular architecture is the focus of ever greater attention. Although this concept is well known for all architects and experts at protection of monuments, it is interpreted in different ways at various places, according to local conditions and features. As far as I am aware, vernacular architecture and national architecture are hardly distinguished in some countries, the reason being partly culture-historic and partly ethnographic. Therefore I feel appropriate to state briefly how architects in Hungary and so I, too interpret vernacular architecture.

The concept of industrial architecture is also clear, but the question arises, how old is industrial architecture. To what extent is the statement adequate that industrial architecture is of the same age as industry itself? What demands have activities of industrial character, manufactures located in a given multipurpose building raised against architecture in the course of their development? When did the contemporary notion of industrial architecture emerge? How could we call its antecedents? How and to what extent have agricultural-historical monuments connected or converted to agro-industrial monuments? How do these monuments representing ancient cultures fit into our times, and how can they be preserved and presented in a way retaining the old values but simultaneously ensuring their survival by attaching appropriate functions to them?

These are the main questions I intend to seek an answer to while presenting the examples in my work.

Ever since it exists, architecture has always been the totality of works by the investor, the designer and the building contractor, coordinated by the intellect, the hand and the eye of the designing architect. In vernacular architecture however these three functions do not basically separate not even if various craftsmen segregate and, due to the advancement of craftsmanship, they tend to specialize. Indeed, the collective character of the working process is retained, frequently the owner of the building is the designer and the contractor at the same time.

In Hungary, owing to the advantageous climatic conditions, agriculture and especially the cultivation of grain crops has been significant for centuries. Several watermills operated in the territory of Hungary not only prior to the 15-th century when the economy merely collected the goods produced and these were then consumed by the landlord and his serfs, but also after the 15-th century when economy became centered on production to the market, farms or, with a Latin word, allodia have evolved and developed, as well as amid the capitalistic conditions of the 18-th and 19-th centuries. The keeping of mills had been the right of

landlords from the 14-th century, beside them the church and the free regal towns only could possess mills. Contemporary documents indicate that mills frequently figured as grants. These buildings were mostly built by the operators or the building millers, the majority of them attached to small dwellings and they can be classified among the works of vernacular industrial architecture.

The millers and, since mills involved very significant wooden structures, the carpenters built a mill of average size in about 2-3 months. These carving or building millers later gathered in guilds and from the 19-th century on they often gave sketches, descriptions, smaller plans and costs calculations to the mills being built.

Beside manual mills, watermills constitute the oldest kind in Hungary, they are known to have been used as early as the 11-th century. At the time of the gathering in guilds mentioned above, in the 18-th, 19-th centuries, their number reached several tens of thousand. Their significance was not only economic but also social. Millers were widely respected and the mills served for a long time as asylums beside churches.

Upon this introduction which proved the significance of the buildings to be presented, let us see some examples of particular watermills situated to exploit the energy of smaller rivers and streamlets. The possibilities at hand necessitated a certain selection which cannot help being subjective. I have selected four regions of our country, aiming to present a relatively complete overview.

About 60 kilometers west of Budapest lies Tata a town of ca. twenty thousand inhabitants with the so called "Old Lake" situated in its center. Its water surface is approximately 10 square kilometers large. Numerous small streamlets flow now and have flown for centuries into the lake thus providing excellent opportunities for mill architecture. The most significant monument of the town is the castle which stood as early as 1380. In the 18-th century, Sámuel Mikovinyi designed large-scale water-plans on the invitation of the Eszterházy family which permitted his follower Jakab Fellner to erect three mill buildings. The creation of the baroque character of the town is due to the latter architect. The number of the mills around the lake was more than ten in these times. Among the three above mills, the most beautiful one is the Nepomucenus-mill which he owned from 1758. The two-storeyed, gabled building with its steep roof lies at a picturesque place on a lot between two streets, beside the streamlet Cristal. On the gable, in a niche ornamented by moulding stands the wooden sculpture of St. John Nepomucenus from the 18-th century. At the southern side, there is a gate with a three-centred arch surrounded by stone fences. After the restoration of the building, which was carried out by the National Institute for Monuments, it now serves as a museum of the German minority. Equipment of mill industry and ancient tombs have been exhibited in the court.

The oldest mill of Tata is the Cifra-mill whose name appropriately describes it (cifra = ornamented). It stood as early as 1587. Although its present form is of baroque character, the proportions of the building, the arrangement of its window recesses, the global formal properties indicate its earlier origin. Research is still being carried out, led by the head of the Institute of Architectural History and Theory of the Technical University of Budapest, Prof. Dr. Mihály Zádor. The building is two-storeyed and the roof structure is held in its three-nave working space by five wooden columns with volutes, indicating a high level of craftsmanship. Although I promised in my Abstract to dwell upon the special questions of restoring the wooden structures, this proves to be impossible in the given limited frame. The restoration of the building is still in progress. Its suggestive mass has been a characteristic, indispensable element of building up the site of the lake since centuries and so it is a basic part of the townscape.

In the same town, south of the Cifra-mill, on the eastern shore of the lake is the Pötörke-mill, whose mass is much smaller than that of the former ones, it is of agitated appearance. With its beautifully restored wheel house from the 18-th century, it perfectly fits its environment. The restoration was carried out by the National Institute for Monuments and today it functions as a rest-house of the institute. A parlour with restaurant has been established in the ground floor, and in the roof space attainable from the gallery guest-rooms are situated.

The different new functions of the three above mills of the town indicate the possibility of their adaptive use befitting the buildings and their environment.

Further 50-100 kilometers south-west, north of the Lake Balaton, in county Veszprém, there were 546 mills as late as 1951, regrettably in rather deteriorated conditions. Among them, every size was present from mills with a single wheel to ones with 8-10 wheels, their capacity ranged from a few hundred kilograms to several tons in 24 hours. The so called brown mill stood in the county town; its restoration is questionable, practically nothing is reminiscent of its original function. It is still presented here, because in spite of all these, the original, agreeable building achieved a new function to ensure its survival: today it houses the outer conference-room of the town's council.

The so called Frick-mill is already apparent on a map of the town dating from the 16-th century. In the course of the restoration, a wine-house has been established in it.

Toward the Balaton from Veszprém lies Csopak, a significant holiday resort. According to a document from the 13-th century, there were 4 mill buildings in this neighbourhood. The building of the present Csopak Inn formerly belonged to the Episcopacy of Veszprém, its mediaeval origin is indicated today by its left chimney only. The other existing mill of Csopak is the so called Plul-mill whose fundaments are also of mediae-

val origin. Its last rebuilding occurred about 1910. After restoration, since its internal outfit has been preserved in good state, it was turned into a mill-museum.

A spectacle of the same neighbourhood is the watermill at Örvényes which attracts many visitors in holiday seasons by the museum installed in its reed-thatched building. Progressing further west, the former Count Zichy mill stands at Monostorapáti originating in the 19-th century. The finishing touches of restoration are being carried out on the building, it will serve as a pension. The installation of the space in the second storey as a communal space devoid of any reminiscence, but still of agreeable atmosphere is of questionable value.

The Upper-mill at Tapolca also belonged to the Episcopacy of Veszprém. Its origin dates back to 1250. The building, which had been rebuilt several times, last at the turn of the century, houses a hotel today.

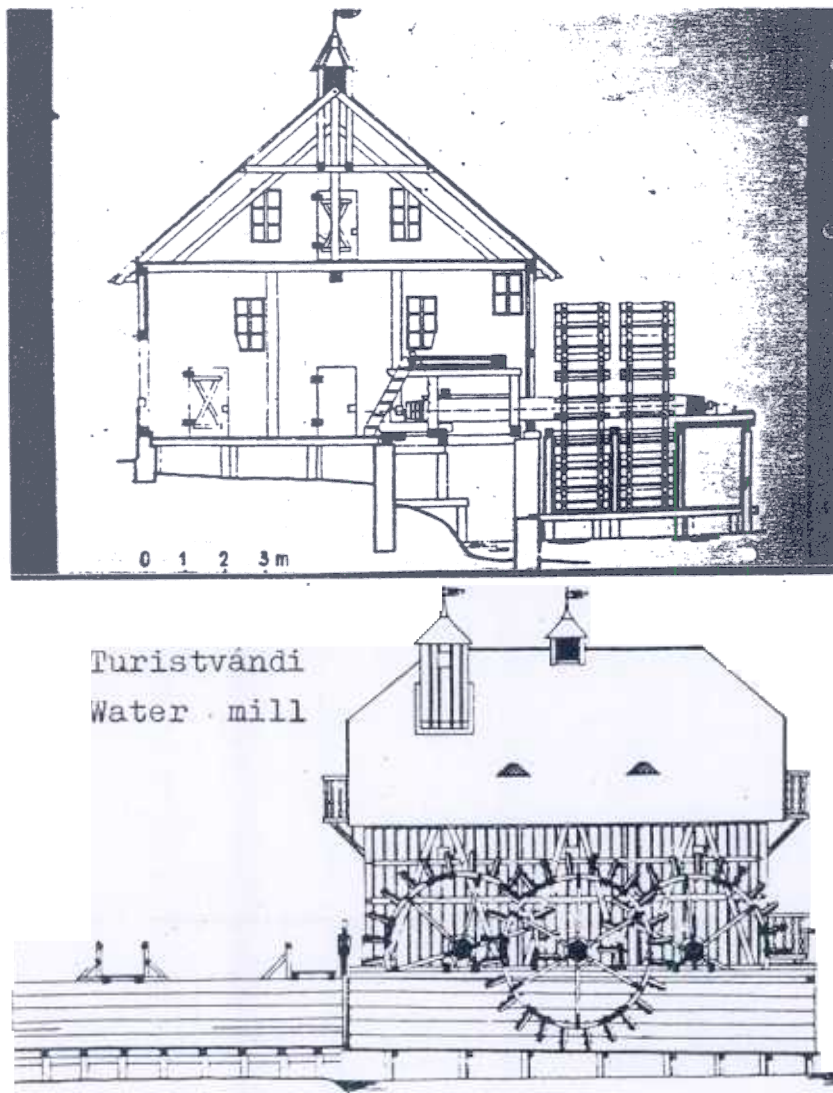
Finally I pick out some examples from the eastern and western boundaries of Hungary.

Túristvándi is a little hamlet in the Upper Tisza-region (the Tisza is the second largest river of Hungary). In this region, the whimsically winding streamlets of variable water output as well as the whirlpools emanating from the wheel channel frequently undermined the river wall, so the water mills have been built upon piles. One of the most beautiful example is the watermill in the village built on piles with three under-shot mill wheels. Its restoration was carried out in the years 1962-65, based on the design of Ferenc Mendele, presently the director of the National Institute for Monuments. The present building of the mill stems from the end of the 18-th century, but documents tell of a mill situated at its place since 1315. In 1899 its structure was replaced as also its internal outfit was partially substituted and renovated, starting in 1904. Its environmental features, the wooden building fitting the surroundings and its outfit preserved in good conditions enabled it to become a monument still functioning and widely visited.

Velem is one of the most westerly settlements of Hungary, its history dates back to the Bronze Age. Today it is a popular holiday resort and beauty spot. According to oral tradition, there was a mill here as early as the 15-th century, but it is first mentioned in archival documents in 1568. It has obtained its present form in 1919. In the course of its restoration, the basic aim was to retain the mill and its environment in the condition brought about by the one-time designers and millers during history. The building standing in a wonderful environment reflects the features of the region. On the farther side of the mill wheel there is a little, reed-thatched presshouse partially stretching underground where the miller used to sell wine to his clients waiting for grinding. In another building of the compound, there is a mill museum.

Before finishing my presentation I wish to introduce two further curiosities I encountered while on a photographic tour. Millers' apprentices had to wander for three years to better acquire the knowledge of trade, so they could learn the techniques used by various craftsmen. The booklet shown in the slide dates from the beginning of the 19-th century. It was the property of a wandering apprentice with the masters certifying therein the time succesfully spent at them. The importance and country-wide significance of mills is verified by the altitude signs constituting the elements of the national geodetical network. The water-gauges served to verify that the miller does not harm the grinding capacity of the mills further downstream.

I judge that the above examples clearly prove the possibility of the survival and adjustment to our times of these buildings with a history of several centuries, but to realize this possibility requires individual assessment, careful study of the environment, a choice of function conforming to economical interests, too and a high level of architectural and monument protectional work.



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Summary

Vernacular architecture is nowadays gaining ever wider recognition in architecture and protection of monuments. This concept is well known by architects and experts at protection of monuments, although it is interpreted in different ways by various people, sometimes it is identified with national architecture. Ever since it exists, architecture has always been the totality of works by the investor, the designer and the building contractor, all coordinated by the architect. In vernacular architecture, these functions do not separate, not even in the case of specializing "craftsmen"; frequently the builder, the designer and the contractor is one and the same man. The dividing line between industrial and vernacular architecture is even sharper, the examples cited in my presentation show how agricultural monuments become agricultural-industrial ones and later vernacular industrial monuments. Their preservation, restoration and adjustment to our times are possible only if they obtain an appropriate function.

Owing to its advantageous climatic conditions, the cultivation of grain crops in Hungary has been significant for centuries, and grain and mill industries have developed accordingly. The location of water mills was primarily determined by the little rivers and streamlets rich in energy which covered almost the whole country. I have chosen to emphasize four regions in my presentation.

The first one is the town Tata with the so called "Old Lake". Already in mediaeval times, several mills operated in the town and its present baroque character had emerged simultaneously with the creation and realization of the water-plans in the 18-th century. Its oldest mill is the Cifra-mill which existed as early as 1587. Although its form today is baroque, its proportions prove its mediaeval origin. Its restoration is still in progress. Perhaps the most beautiful mill of the town is the Nepomucenus-mill in picturesque surroundings which houses a museum of the German minority. In the small but agitated building of the Pötörke-mill, a guest house has been established.

The second region is somewhat loosely termed as the highlands of the Lake Balaton. Most of the mills here belonged to the Episcopacy of Veszprém and are partly of mediaeval origin. In Veszprém, a conference room and a wine-house, in the vicinity in accordance with the touristic character, a village inn in Csopak, a pension in an other village, a hotel in Tapolca and museums at several other places have been established from the mills.

The third and fourth region are the eastern and western edges of our country. The mill at Túrístvándi is built on piles and has three under-shot mill wheels in accordance with the strong current of the waters here. Today it serves as a museum. The mill at Velem along with the nearby mill press-house is also a museum. The main aim at its restoration has been to preserve its harmony with the landscape. It is still capable of working.

L'utilisation adaptée de certains moulins à eau anciens de l'architecture industrielle populaire en Hongrie - Résumé

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Dans le contexte de l'architecture et de la protection des monuments on parle de plus en plus de l'architecture populaire. Dans le processus de création de l'architecture populaire, les fonctions différentes de l'architecture, l'élaboration des plans et l'exécution des projets, ne sont pas séparées; elles sont souvent menées à bonne fin par la même personne. La différence est encore plus prononcée entre l'architecture industrielle et l'architecture populaire, comme je l'ai illustré par mes exemples: les monuments purement agricoles prennent un aspect propre à l'industrie agricole et deviennent à leur tour les monuments de l'architecture industrielle populaire. Leur conservation, restauration et adaptation aux exigences de notre époque ne peuvent être assurées qu'en leur fournissant de nouvelles fonctions appropriées.

Les conditions climatiques de la Hongrie favorisent la culture des céréales; la production abondante donnait lieu très tôt à un développement rapide des industries connexes, telles que le traitement des céréales et la meunerie. Les lieux de construction des moulins, déterminés par les rivières et les ruisseaux du pays, étaient très nombreux dans toutes les régions. Je n'en traite que quatre dans cette conférence.

La première région est celle de la ville de Tata et du lac voisin nommé "Öreg tó" / Lac ancien /. La ville comptait plusieurs moulins à eau déjà au Moyen Âge; son aspect actuel de style baroque s'est développé en même temps que la planification et l'exécution des projets d'eau fluviales du 18^e siècle ont été réalisées. A présent on restaure le moulin le plus ancien de la région, le "Cifra-malom", qui date de 1567 et dont l'origine médiévale est incontestable, vu ses proportions, bien que son aspect actuel soit baroque. Le plus beau moulin de la ville est situé dans un endroit pittoresque. Ce moulin / nommé "Nepomucenus" / héberge aujourd'hui un musée de la minorité allemande. Le petit moulin "Pötörke" qui a une masse mouvementée, a été transformé en auberge.

La deuxième région traitée s'étend dans le haut pays du lac Balaton. La majorité de ses moulins date du Moyen Âge. L'utilisation contemporaine des moulins à Veszprém comprend une salle de conférence et une taverne. Aux environs de la ville, le rôle adapté des moulins est déterminé par le caractère touristique du pays: à Csopak le moulin est transformé en auberge; dans un autre village il est utilisé comme pension. La troisième et la quatrième région se trouvent respectivement à la frontière orientale et occidentale du pays. Le moulin sur pilotis de Turistvándz, ainsi que celui de Velem sont utilisés comme musées; ce dernier est encore dans un état parfait de fonctionnement. Naturellement, pendant sa restauration on a tenu compte de l'harmonie du paysage environnant.