CONTEMPORARY DESIGN FROM TRADITIONAL MATERILS

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The Use of Traditional Building Materials in the Contemporary Hungarian Architecture of the 80's-90's

Authors:

Péter Medgyasszay Architect, PhD-Student
Technical University of Budapest, H-1111 Mûegyetem rpt 3. K/227a
Tel: (361)463-3104, Fax: (361)463-3949, E-mail: e.megyo@sc.bme.hu

Miklós Buzás Architect-Museologist, PhD-Student
Szentendre Open Air Museum,
Tel: (3626)312-304, Fax: (3626)310-183

Miklós Cseri Ethnographer, Director
Szentendre Open Air Museum,
Tel: (3626)312-304, Fax: (3626)310-183

The aim of this lecture is to give you a comprehensive picture of the general use of traditional building materials in contemporary Hungarian architecture, and to suggest unique examples which might popularize their application.

We consider "traditional building material" all the materials that are used in their natural condition, or slightly altered by primary energy, without any industrial influence.
Natural materials by this standard are:

1. Wood
2. Stone and pebble
3. Thatch
4. Earth

A general introduction to Hungarian contemporary architecture

In the Hungarian Architecture of the 90's, monumental buildings have primarily been built by banks, to function as their headquarters or office buildings to lease. Originating from the function of these buildings, the investors are calling for more and more unique and modern *constructures* and forms. *In this buildings the use of the traditional materials is very low.*
High technology architecture is, however, quite rare. These buildings, with their sometimes unpleasant architectural looks, are still kept in a higher esteem by the current business trends, just because they feature fashionable, but low-quality *constructures*, which are thought to be modern. Investors today

tend to choose industrialized and possibly dry-technology systems, whether we speak of public or office buildings, or family houses.

The short history of the use of natural materials in Hungary

The description of natural materials should start at the architecture of the 900's A.D., when the Hungarian tribes were migrating, since the architecture of this age has a strong influence on certain trends of the current Hungarian architecture.

The Hungarians lived in migrating tribes before they settled down. And since they kept animals, they needed portable accommodation, which was called a yurt. These tents had a flexible wooden frame with a felt cover.

After the Hungarian conquest, the settlers found vast forests in the territory of the historic Hungary. Wood was easily available, and the use of wood for all parts of a building was common. This style was clearly present in dwelling houses of Western Transdanubia and Transsylvania until the late 19th century. Farm buildings have kept this architectural style even up to present time and can still be studied today.

The reason for the decrease in the use of wood as building material was that the size of the forests in the central part of the country significantly shrank by the end of the 19th century. They started to use wood sparingly, building with it only when the use of other materials was not possible. This resulted in even more limited use, since the well-known techniques of wood construction were forgotten, or the demand for this technique became very specific. They started to build mostly out of stone in the case of more important buildings, and folk architecture started to use mostly earth, though with varying mixtures and technology.

The use of bricks has been significant in town architecture since the 12th century, although its popularization only started after the 1853 brick monopoly had been lifted.

The wooden shingles used for roofs were substituted with reed, or they applied straw for thatched roofs, which was left over as waste after harvesting.

The occurrence of natural building materials in Hungary, and their building techniques

The territory of today's Hungary is abundant in traditional building materials such as stone, which is available in great quantities, earth suitable for making adobe bricks (*about the* 80 per cent of Hungary's land is suitable for this), and reed. Reed is a natural type of vegetation around most of our lakes. By harvesting it every year, we produce a quantity which can even supply the German and Austrian market beyond the domestic demand. (We should mention that reed today is 2 metres long at the most, so the traditional roof, which was made out of 3-metre-long reed and 25 cm thick, can only be made at a thickness greater than 40 cms.)

Wood is used more extensively in constructions than its occurrence in Hungary would make possible. There are relatively few mountains in Hungary, and the lower areas are primarily taken up by agriculture. Thus, the wood and lumber industry is limited.

An introduction of traditional materials through Hungarian examples

The examples mentioned in the lecture can be classified according to the following order:

a) use of material:	Wood, Stone, Thatch, Earth
b) function:	Public Building, Dwelling House, Agricultural Building
c) occurrence:	General, Specific

In this case we can talk about the architectural principles behind the use of them, rather than getting lost in scientific theory on architecture.

1. Wood

Application: fences, walls, ceilings, roofs, covers, furniture

Wood, PB, Gen

Wood is used most of all as roofing material in public buildings, and also as a high-quality floor-cover. The stereotypical use of wood in public buildings is closely linked with the organic architects.

The organic architects:

> Organic architecture appeared in Hungary in the 1960's, originating primarily from ideological sources, when during the communist regime, our architects turned towards ancient Hungarian values and forms, trying to counterbalance the socialist ideology. These architectural endeavours were supported by large numbers in society and, together with other activities, such as the folk music and dance-house movement and the revival of folk costumes, they became the symbol of people striving for national identity and protecting ancient Hungarian values. Different layers of society were influenced differently by this approach, but it resulted in the rediscovery and revision of the values of folk architecture by the 1980's. Among the spiritual leaders, the names of Imre Makovec and Gyorgy Csete need highlighting, whose personal examples, as well as their architectural studios (Makona, Pecs-Group), had a profound influence on both contemporary Hungarian and world architecture.
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> Its formal speciality is that, in the face of the usual German-American-Finnish masculine hard and straight-lined constructions, organic architecture is characterized by softer lines, more feminine buildings, representing a more advantageous static condition of the building materials. These attempts have aroused great interest as something exotic among foreign professional circles (Seville pavilion, Paks Church), but are hardly present in the general constructional techniques of the Hungarian architectural scene.

The most important medium in designing buildings in this style is wood, which presents certain problems environmentally, because of the great amount of trees and wood this architectural style uses, it cannot become common, since we would face a shortage of this building material.

There are several studies on the Hungarian organic architecture. So, instead of a detailed evaluation, I am going to continue by describing some of these buildings:

-Paks Church (Ill.)
The Catholic church, which was built in 1987, is the forerunner of the Seville Pavilion in many ways. Makovecz already managed to express in this building the crystallized and redefined values of folk architecture and ancient forms, surprising the visitor with the unique spatial atmosphere that the natural wood-covered interior offers.
-Well-house and Sun Church in Pécs-Orfû (Ill.)
The building was built in 1970 designed by György Csete. The building standing in a forest is the right place to the meditation and to recall the Hungarian national traditions.

-Dancing Barn, Nagykallo-Harangod (Ill.)
Dezsõ Ekler designed this building in 1986. It was covered with wood. Its form shaped a Hungarian battle-helmet from the age of 900's.

Wood, DH, Gen

The use of wood is very common in dwelling houses of the 90's. The building of state-sponsored housing estates, and blocks of houses has stopped because of the recession, and the people mostly build family homes from private sources. As the flat roof fad of the 60's and 70's is outdated now, almost 100 per cent of the builders finish their houses with high-roofed wooden structures. Concerning the buildings themselves, wood loses its significance, and plastered brick walls and various covers are ever-present, so we are not going to describe them in more detail.

Wood, DH, Sp

As the personal preferences of the builder completely determine the design of a dwelling house, family homes sometimes turn into unique, sometimes unusually fascinating or extremely radical houses. The following *examples* show some interesting homes, which are the dwelling houses of either artists or white collar workers living in the country. *The furnitures are made from root.*

- Kristóf Nagy - Szentendre (Ill.)
- György Kálmán Tisza - Köveskál (Ill.)

2. Stone and pebble

Application: fences, walls, wall covers, covers, experimental pebble tiles

St, PB, Gen

Most of the elite Hungarian architects fondly use stone in their design, together with high-tech building structures and materials.
Stone is first and foremost used in public buildings in the historical parts of towns, or traditional building such as churches, where stone is an architectural tool to achieve historical ambience.

-Ferenc Török: Greek Catholic Church - Edeleny (Ill.)

The church and the parsonage are located close to the 18th century L'Huiller-Cogurg manor house, in one of the centres of Edeleny. The church follows the traditions of Byzantine architecture, with its

central, hexagonal building. The walls are faced with Rakaca limestone, and the floor is paved with polished slabs of the same material. There is a visible timber framework for the roof and a skylight resembling a lantern. Holding to the rites of the Greek Catholic Church, everything is formal and reserved.

St, DH, Sp

It is really important to speak about this house built in Budapest designed by István Janáky. The walls were built from brick with the thickness of 25 cm, and they were coverd in the ground floor with limestone, and in the first floor with wood. Around the building by some window the rustical limstone change to fine limstone, wich is from the same material, but this stones were sawn. There is able to see the trail of the saw on its surface.

- István Janáky: Villa in Budapest (Ill.)

The dwelling houses and holiday homes of the organic architects, or other designers with their influence, represent somewhat different looks from the usual architectural practices.

- Sándor Dévényi: Pécs Villa (Ill.)

3. Thatch

Application: fences, thatched roofs, insulation, wall plaster support

Th, PB, Sp

As public buildings, there are some romanticized tourist centres with a thatched roof in the country. Though these buildings are not designed by the most reknowned architects, the level of construction and the forms used are of high quality.

Th, DH, Sp

The majority of house builders consider reed an outdated and problematic building material (fire safety, bugs, durability, building skills). Only a few ardent romantics choose it as their roofing material for their permanent homes.

- György Géro - Helvécia (Ill.)

Th, AB, Sp

Ócsa is located 20 kms to the South-East of Budapest. The wine-cellars of the area are still built the old-fashioned way, carved in the earth and covered with a thatched roof. The barrels stored underground age in an ideal microclimate, and the thatched roof solves the dual function of heat insulation and water drainage.

4. Earth

Application: walls, domes

Earth architecture has a longstanding tradition in Hungary. According to the various techniques and materials, we differentiate between layered, rammed, wood-framed, abode and wattled earth walls.
By the 1960's, earth architecture was entirely substituted with brick construction. But starting from the 70's and 80's, building with earth has become popular again. A lot of houses have been refurbished, instead of being totally destroyed, and *with the assistance of the organic architecture, and* other representatives of environmentalism, have started to build new earth houses.
Mud bricks have always been in use to a lesser extent, but extensive studies on this technology only appeared after the first ecological-villages came into being. One of these settlements is in Gyürüfû, in southern Hungary, but there have been several other experiments in different parts of the country. The construction of adobe houses is limited though, since builders pick this particular material mostly for ecological reasons. This special demand normally comes from only a small group of environmentalists, ecologists or people with a keen sense of environmental protection, so the use of mud bricks cannot become widespread among ordinay builders.

Ea, PB, Sp

Mud, as a material symbolizing traditional values, plays an important role in the construction of public buildings built for touristic reasons.
In Jásszentlászló, they have built a creative farm for city artists of the applied arts.

-Gábor Ónodi: Handicraft Farm, 1995 (Ill.)

In the construction process of the four houses, the builders used three different kinds of earth building technique, nicely underlining the adaptability of this material.

Ea, DH, Sp

We must mention the BioEco system developed in Hatvan (60 kms to the North-East of Budapest). The inventors of the system were also led by ecological thinking when they created pressed panels and bricks that can be made on the spot to build earth houses. On their Hatvan grounds, for example, they employ mentally handicapped workers to produce mud panels on a small industrial scale. They have already built several houses, usually on various estates, in a 30-40 km diameter of Budapest. (Ill.)

Another similar venture is Naturbau in Zalaegerszeg in the South-West of Hungary, which primarily produces wood-framed, light-mud, hollow-walled buildings copied from the techniques of modern German mud-construction. (Ill.)

One of our outstanding architects, Balazs Nagy has applied and popularized a very interesting traditional technique, which creates traditional layered walls without the use of cradling or ramming, but which are still self-contained pure earth walls. His own house was awarded the "Dwelling house of the year" award in 1992. (Ill.)

The above-mentioned BioEco system is the only comprehensive answer to the ecological problems, but the houses can only be built on vacant plots because of their unique architectural character. Peter Medgyasszay, however, has elaborated possible solutions to this problem in his university diploma paper, which studies environmental autonomy in a village setting. There is serious interest in his ideas among young intellectuals who have moved to the outskirts of Budapest. (Ill.)

We must also speak about the architects of the Agricultural University of Gödöllõ, whose studies, projects and constructed buildings all aim at extending the use of earth architecture in the agricultural sector. The names of Dr. Gábor Reischl, Gábor Ónodi, and Dr Miklos Szûcs must be mentioned, all who published numerous manuals on this topic.

Finally, we should also emphasize the influence of the Terra '93 conference in Portugal, and the Out of Earth I-II conference in England, which brought 25-30 architects together. They all grouped around the Szentendre Open Air Village Museum, and want to popularize and study earth architecture, and join other grand world projects.

To summarize, traditional building materials play an important role in contemporary Hungarian architecture, first and foremost in family homes, and to a lesser extent in public buildings, as well as some examples of agricultural buildings. The extent to which they are used can be explained by people's demands for high-quality materials, the 1000 years of tradition in Hungary, and the limited financial possibilities.

We hope our lecture, which touched on numerous topics, managed to arouse your interest in Hungary's contemporary architecture.