

## Architecture without Architect, An Example from Çukurova: Huğ

Z. Hale TOKAY

The Faculty of Architecture, Mimar Sinan Fine Arts University, Istanbul, Turkey

\*Corresponding Author:

E-mail: zeliha.hale.tokay@msgsu.edu.tr

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### Abstract

In Anatolian lands where many civilizations have been settled, a local residential architecture has been evolved in every region which has its own characteristics with its climate characteristics, characteristics of settlement area, local material possibilities and community structure.

Huğ Evi, an example of vernacular architecture made of wood, reed and mud based organic materials, is the oldest type of house in the region of Cukurova and Eastern Mediterranean Basin, especially around Adana, Mersin and Tarsus.

This local architecture and traditional construction technique has been developed continuously to the 20th century, but unfortunately for many reasons there are only a few examples left. Thus, to take the necessary actions for the conservation of these rare buildings is of the utmost importance.

**Keywords:** Cukurova, Eastern Mediterranean Basin, Traditional Construction Technique, Huğ House, Local Material, Adobe, Wood, Cane

### INTRODUCTION

On the land of Anatolia where many civilizations have been born, different traditions and beliefs have articulated to each other in centuries, each district has developed an individual housing architecture due to its climatic conditions, the topographical features of the settling area, local material facilities and the social structure.

The traditional housing architecture that is the subject of this paper has a long-lasting past in Anatolia. This housing architecture built by using timber, reed and mud-based organic materials is still being used in Central and Eastern Blacksea Region, Trachea, The Balkan Peninsula and Çukurova. The concrete findings obtained from surface research and archeological excavations within these districts prove that this kind of architecture has been used since very ancient times.

At the excavations directed by Professor Önder Bilgi from İstanbul University in the İkiztepe Tumulus located 7 km away from Bafra in north-eastern direction in Central Blacksea Region, this kind of architectural layers from BC. 3000s during the first Bronze Age has been discovered. As no foundations made of stone or adobe have been found, it is understood that the buildings in İkiztepe were made of wood. Trunks of various dimensions that have not gone through any process have been used for the construction of these buildings and these have been covered with clay from inside and outside.

Under the scope of Thrace Archeological Project directed by Professor Mehmet Özdoğan also from İstanbul University, remains of buildings with no foundation where load bearing poles cut off from trees knitted with binding

tiny twigs make up a skeleton and is generally called as “twig-knitting”, have been revealed on each building layer between the years BC. 5500 and 4000. These kinds of buildings are still being used for different functions in this district today.

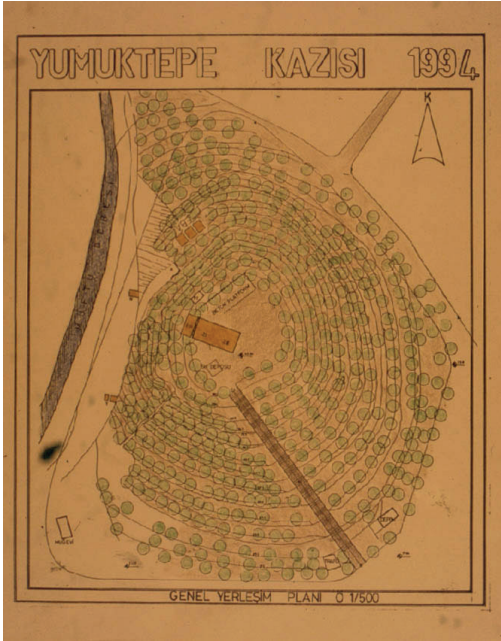
### THE HUĞ HOUSE

#### History

The Huğ House is a traditional rural house type particular to that district and especially common around Adana, Mersin and Tarsus within the Çukurova Region and East Mediterranean Basin known as Cilicia during ancient times. It has been built with timber, reed and mud that are the natural building materials of this district.

The Huğ House is the oldest house type known within this district in Adana and Mersin in particular. Its history extends back to 9000 years from today. This data has been confirmed with the findings obtained during the archeological excavations in Mersin Yumuktepe Tumulus.

Mersin is generally known as a new city founded in the 19th century. However, in contrast to this belief, the history of the city extends back to 9000 years from today to BC. 7000s. Yumuktepe Tumulus that has been hidden among the suburbs located in the northern region of Mersin is the most important witness of this history lasting for thousands of years. The Tumulus is restricted by Müftü Stream (Efrenk-Soğuksu) from west and Demirtaş neighbourhood from north and east. The height of the hill that covers an area, the diameter of which is approximately 300 meters, has decreased from 25 meters to 22 meters today. (Figure 1-2)



**Figure 1.** The general layout plan of the tumulus



**Figure 2.** A general view of the tumulus, 1998

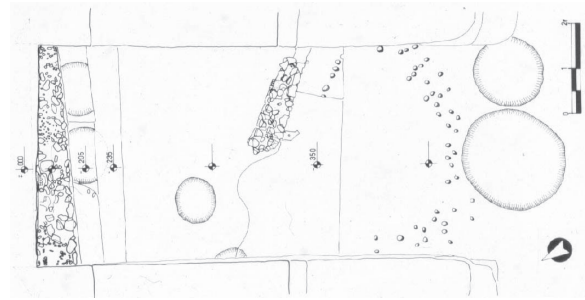
Yumuktepe holds a unique position in the world of Anatolia and Asia Minor because it is a hard-to-find establishment that had been settled for 7-8 thousands of years without having been abandoned at all. It means that this tumulus has been composed of the ruins of 30-40 establishment that were founded and collapsed one after another during thousands of years (from Neolithic to Islam). As it is clear, Yumuktepe Tumulus is a unique cultural asset and an outstanding place of ruins that has witnessed the rooted past of Mersin. (Sevin, 1995)

The first excavations at the tumulus have been started by an English archeologist- John Garstang in 1936 and continued until the year 1947 with some intervals. In 1992, a team under the leadership of Professor Dr. Veli Sevin from İstanbul University has started the excavation again. (Köroğlu, 1993) The excavation is still being carried out by the cooperation of Rome La Sapienza University and Mimar Sinan Fine Arts University.

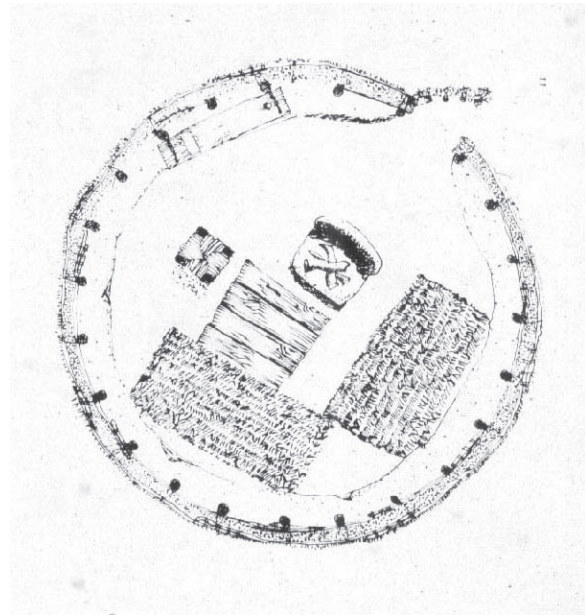
The findings belonging to the houses built with Huğ

construction technique that has a very rooted past have been seen in Yumuktepe Tumulus since the earlier Neolithic period. We have found out from the findings revealed during the excavation works in the year 1998 that this housing technique has been used by Hittites during the second millennium BC. (Figure 3)

From the findings obtained during the excavation, we have understood that these houses were built in the form of cottages with a circular plan, no foundation and with load-bearing wooden poles – as we learn from the traces on the ground and carbonized little pieces of wood. It has also been understood that like the shelters of very ancient times, these houses with a circular plan and a flat base were made of fitted wooden poles cut off from trees, and tiny twigs and reeds knitted like basket were placed between these poles and covered with mud. (Acar, 1996) (Figure 4-5)



**Figure 3.** The findings that belong to the houses of Hittite Period and have been revealed during the studies in 1998



**Figure 4.** Circular shelter plan

Evliya Çelebi who had passed by this region in the 17th century, has mentioned the existence of the Huğ Houses in Mersin in his “Book of Travels”. And in the Adana Almanac of 1860s, a description such as “a little village that consisted of a few “Huğ”’s among the greenness of myrtle trees inside” has been used.

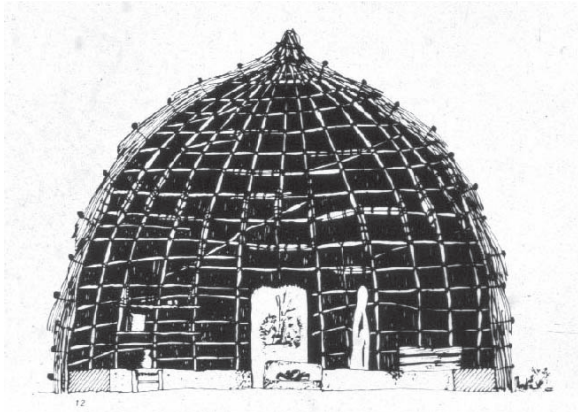


Figure 5. Circular shelter section

**Building Technique and Material**

Huğ that can be pronounced as “Kuh” in Arabian accent means jerry-built shelter. The buildings were made of quicksand bulrush, reed (kargı), twigs of myrtle tree (murt), zanzalak (zırınzak) tree (Zanzalak is a local name. To which tree it refers has not been found out yet. The pith of this tree does not become worm-eaten as it tastes bitter, it becomes very hard and strong when dried.), eucalyptus and katran tree (Katran tree is also a local name.), and clayey soil mixed with straw. (Vural, ...)

The first houses of Mersin are these buildings called Huğ. These houses built of reeds obtained from the canes growing along Müftü Stream set an example for the rural buildings before urbanization with their primitive elevation.

Reeds that spontaneously grow in nature are cut off during winter and stored. These have been used either in the construction of houses and service buildings (sheep-fold, loft, depot, fence, wc...) as constructive elements (Figure 6-7) or between garret beams (rafter) as covering or in place of lath in lath-and-plaster walls of traditional houses of the district and Mersin in particular that had been built in subsequent periods. Reeds are still being used today as one of the main building materials in the construction of shelters (houses) belonging to the people that have come as a result of immigration between cities and seasonal workmen. (Figure 8)



Figure 6. Reeds that spontaneously grow in nature 1998



Figure 7. The detail of masonry bond of traditional Huğ House, 1998



Figure 8. The shelters of immigrants and seasonal workmen, 2000

Foundations: As the buildings within this region have been built with lightweight materials such as timber and adobe mortar, they are not heavily loaded. For this reason, they do not need a continuous and deep foundation. In most of the examples examined, a continuous foundation pit has been dug for some walls and elsewhere a hole has been dug for each wooden pole that makes up the skeleton. So a continuous foundation has not been built. For load-bearing poles, holes with a diameter of 50-60 cm and a depth of 30-50 cm have been dug. As poles have been placed, they have been supported with small stones around. After having been wet with water, they are filled with soil and compressed (Figure 9).

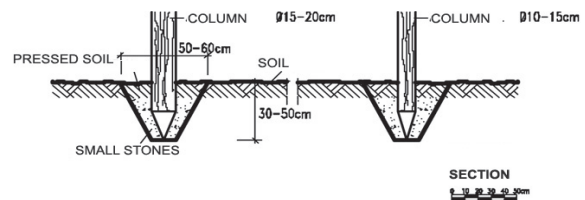


Figure 9. Foundation detail

Floors: A smooth floor is formed when a soil layer of 5-10 cm thickness is laid and compressed after the undulating areas on the ground have been cleaned and made smooth or when the surface of natural ground is covered with adobe mortar. As the floor is frequently renewed, the thickness of it gets higher in time. Then a mat is laid over the floor made of compressed soil or adobe mortar.

Walls: Trees of a large section (□□ 20 cm), trees with a small section (□□ 10-15 cm) and reeds, bulrush and shrub are used besides tiny twigs (□□ 4-5 cm).

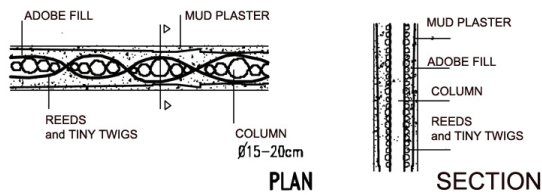


Figure 10. Wall detail

The main poles that make up the skeleton of the building have been chosen from zanzalak, eucalyptus or kratan trees that are much resistant and common in this region. Then trees with smaller sections are placed and these poles are combined and consolidated with tree binding elements that act as a horizontal peripheral tie. Finally, the space between the main load-bearing elements and partitions is filled with reed, supple myrtle; oleander or poplar-tree knitted like mat and make up the wall skeleton. The empty space within the skeleton is filled with adobe mortar from inside and outside and both faces of the wall are covered with this mortar. The thickness of the wall varies between 20-25 cm. (Figure 10)

The traditional method of preparing adobe is difficult. The clayey soil that shall be used as adobe mortar is wet and left to rest. The humus layer that forms on the surface is taken away. Then, a ditch is opened and the clayey soil that has turned into sticky mud is laid inside this ditch. Small pieces of chopped weed, straw, cotton and other materials in the form of aggregate when necessary are added and mixed until it becomes a homogeneous mixture. The top of the ditch is covered for it not to be affected by natural conditions and the mixture is left to rest until the day it shall be used. On the day that it shall be used, the amount needed is taken, diluted again or mixed with straw until it reaches the required maturity. The walls are first filled with this adobe mortar until the wooden skeleton is completely covered, and then covered with a second layer of adobe mortar and a smooth surface is obtained. In wooden skeleton construction system, adobe is not used for load-bearing, it is a filling material. The adobe used for filling surrounds the wooden material and protects it from weather conditions. This causes the wood to last longer. Furthermore, as the adobe has become a light and hollow material as a result of vegetal additions, it is heat-insulating, hygroscopic and makes its environment a healthier place.

**Roofs:** The roofs within this region are built as either ridge or inclined towards one direction according to the formation of the building. The ridge roof can be built either with truss or without truss – with a central crown post. Reed or tiny twigs are knitted between the wooden skeleton of the roof and bunches of rye, straw or a local herb called “topuk otu” are laid above. This bunches arranged in a row with their stems up and ears down are tied up with a bond made of bulrush or grass and fixed. However, as a result of the unresistance of the covering against the effects of time, the original roof covering of only a few buildings could have survived today, and tile, zinc and asbestos-cement have taken their place. (Figure 11)

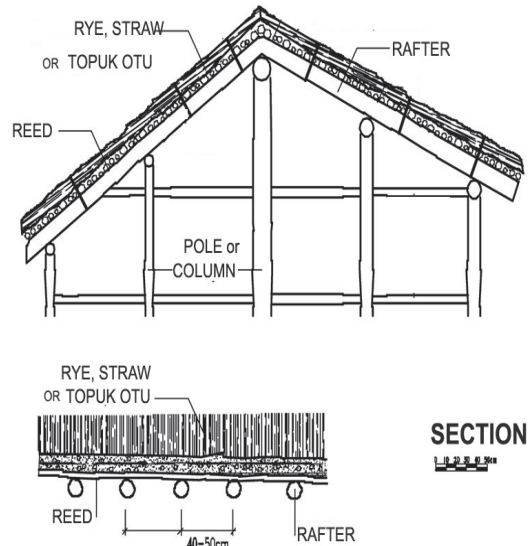


Figure 11. Roof detail

### Examples

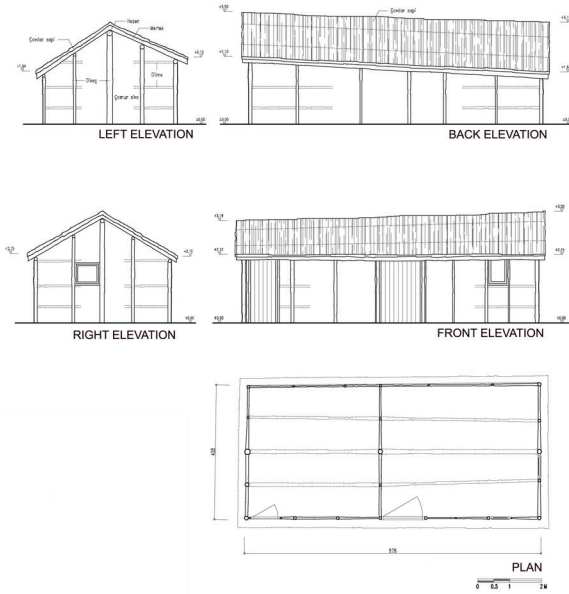
Although most of the buildings constructed with the Huğ technique usually have one-storey (Figure 12 – 14), there are also two-storey composite examples of these buildings that could have survived today (Figure 15 – 19).



Figure 12. One-storey Huğ House wall and roof covering, Adana, 2000



Figure 13. Side elevation of the registered Huğ House next to Mersin Yumuktepe Tumulus, 1998.



**Figure 14.** The Huğ House next to Mersin Yumuktepe Tumulus. This house is the only registered example. (plan, section, elevation)



**Figure 15, 16.** Ridge roof construction without truss, and reed covering material. Adana, 2000 and Huğ House's wall detail, Mersin, 1998 (demolished in 1999)



**Figure 17.** Two-storey Huğ House, Kayışlı Village, Adana, 1999



**Figure 18.** Two-storey Huğ House, Adana, 1999



**Figure 19.** Two-storey Huğ House, Saribağçe Village, Adana, 2001

## THE CONDITION TODAY - CONCLUSION

This vernacular architecture and traditional building technique has continuously been developed and used until the 20th century, but unfortunately these buildings have decreased very much in number because of the rapid urbanization today. Huğ houses and the buildings constructed with this technique can only be seen in some suburbs of the city, gardens nearby the sea and in some villages, and they also face the threat of extinction day by day.

Mersin that has gone through a rapid development and change since 1830s has gained importance as a coastal city and harbour, become a cosmopolitan centre of commerce in time during the second half of the 19th century. Trade with foreign countries has caused an increase in the foreign population (Christians, Arabians, Maronites, people coming from Egypt and islands such as Cyprus, Crete, Rhodes, Europeans, Byzantine Greeks, Jews...etc.), consulates of foreign countries have been opened. A brand-new ethnic and cultural mosaic has been formed within the city. (...1978) This mosaic has naturally been reflected to urban structure and traditional Huğ houses and establishments made of this technique have slowly left their places to the buildings of a new style and a different urban texture in European style that includes houses, streets and monumental buildings has been formed.

These buildings in Mediterranean Levantine architectural style that came out in the 19th century in Mersin are far away from reflecting the traditional architecture of Mersin lasting for thousands of years. It is not possible to make a judgment of Mersin's development by just taking a look at these buildings of the 19th century and to understand the urban development within Mersin and Çukurova district by ignoring the traditional architecture.

The immigration from other cities towards Çukurova Region, new building period and the unhealthy development of cities have caused the traditional architecture of this district to enter a period of rapid extinction. For this reason, the very few examples of this architecture that could have survived today should be handled and evaluated in a systematic and detailed way.

In the direction of this aim, the very few examples of these Huğ buildings that are so fragile in the aspect of structure, unresistant to the effects of nature and people and can easily face extinction should be found, registered and taken under conservation. Only the one-storey building next to Mersin Yumuktepe Tumulus has been registered, unfortunately the other buildings within this district have not been registered yet.

There should be important lessons for us to learn from this architectural tradition that has the ability to adapt natural conditions of the past, and the knowledge and experience in using material. In my opinion, this tradition, knowledge and experience shall be the base in the formation of our comprehension of technique and art today.

As a result, this traditional architecture and building technique should be protected and it should not be forgotten that this architecture with its living, actual, concrete assets could contribute to the creation of contemporary architecture.

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