

## THE CULTURE OF ADOBE USAGE IN ANATOLIA

### ANADOLU'DA KERPIÇ KULLANIM KÜLTÜRÜ

Fatma SEDES\*

**ÖZ:** Anadolu'nun köklü tarihinde kerpicing yapı malzemesi olarak kullanımı M.Ö. 6000-5000 yıllarına kadar gitmektedir. Anadolu'da Çatalhöyük ve Yumuktepe gibi arkeolojik kazılarda erken Anadolu'luların evleri için kerpiç tuğla yaptıkları anlaşılmaktadır. Kalelerini, tapınaklarını ve kamu binalarını da kerpiçten yapmış oldukları kazı sonuçlarından anlaşılmıştır. Evler çoğunlukla dikdörtgen şeklinde yan yana inşa ediliyordu. Halen Orta ve Doğu Anadolu'da aynı teknikle kerpiç kullanılarak ev yapımına devam edilmektedir. Adobe tekniği sadece ev inşa etme yöntemi değil, aynı zamanda bir yaşam tarzıdır. Bir köyde kerpiç ev yapılırken bütün insanlar bir araya gelmekte, şarkılar söylenip yardımlaşan bir törene benzemektedir. Modern hayatta olmadığı için, bu kadar samimi bir toplantıya nadiren katılabilmek mümkün olmaktadır. Kerpiç binalarda yaşayan insanlar Anadolu'nun bir deprem ülkesi olduğunun bilincindedir. Yanlış inşa edilen kerpiç binaların ciddi bir deprem sonrasında kolayca çöktüğünü çoğu kişi bilmektedir. Pek çok üniversite, inşaat tekniklerini ve malzemelerini artırmak için araştırmalar yapmakta ve hala kerpiç evlerde yaşamakta ısrar eden insanlara eğitim vermeye çalışmaktadırlar. Aslında kerpiç yapılar mimari mirasımızın bir parçasıdır. Ahşap, taş veya duvarcılık gibi diğer temel teknikler gibi korunması gerekir. Pek çok şarkı, şiir, masal, atasözü ve romanda kerpiç genellikle ana konudur. Bu, köy halkının malzemesi olmasının yanı sıra büyük bir kültür de oluşturur. Bir şairin dediği gibi: "Mezarımı kerpiçten yapacaksın, ama sonra insanlar oraya kerpiç tuğladan ev yapacaklar."

**Anahtar Kelimeler:** Kerpiç, Kültür, Anadolu, Anadolu Mimarlığı, Anadolu Kerpiç Şiirleri

**ABSTRACT:** In long history of Anatolia, usage of adobe as a material of building goes to 6000-5000 BC. In archaeological excavations in Anatolia such as Catalhoyuk and Yumuktepe, it is found that early Anatolians made adobe bricks for their houses. They also made their castles, temples and public buildings of adobe. Houses were mostly built side by side in rectangular. It continues to build houses in Middle and East Anatolia in the same technic using adobe bricks. Adobe technic is not only a way of building houses but it is also a living style. All people get together while building an adobe house in a village. It looks like a ceremony, singing songs and helping each other. As non-in modern life, one can rarely attend in such a sincere gathering. People who live in adobe buildings are conscious that Anatolia is a land of earthquakes. Everyone knows that, wrongly built adobe buildings easily collapse after a serious earthquake. Many colleges make researches to increase the technics of building and materials and try to teach people who still insist to live in adobe houses. As a fact, adobe buildings are part of our architectural heritage. As other main technics, such as timber, stone or masonry, it must be protected. In many songs, poems, tales, proverbs and novels adobe is generally the main subject. That creates a great culture besides being a material of village people. As a poet says: You will make my grave with adobe, but later people will use it as bricks making homes.

**Keywords:** Adobe, Culture, Anatolia, Anatolian Architecture, Anatolian Adobe Poems

\* Dr. Öğr. Üyesi.-İstanbul Aydın Üniversitesi Mimarlık ve Tasarım Fakültesi Mimarlık Bölümü/İstanbul-fatmasedes@gmail.com (Orcid: 0000-0002-4064-7381)

## Introduction, Research Questions and Purpose

Mud brick (earthen material) has not only made an impression in Anatolia as a building material. It has taken part in the life of Anatolian people in the songs, ballads, myths, rhymes, and fables. I want to begin with the meaningful verses of famous philosopher and poet Omer Hayyam from neighbour geography:

*"When darling soul went off our body  
As a few earth covering our grave;  
One or other day, for making grave to someone else  
The men going to cast adobe will remain with soil from us."* (Hayyam, 2018).

Even an Anatolian poet Murat Yanç says;  
*"They didn't show my tender hands' callus to anybody,  
In my childhood, the roofs of earthen houses were stay to me. . . .  
In the brewed tea of an old teapot,  
My tears became rain on the sky with steams."* (Yanç, 2010).

With the aim of emphasizing and strengthening, some expressions in Turkish language are using material names, which is made naturally or on the hands of human, for instance:

*"Like a stone strong,  
Clear like a glass,  
And smooth like marbles."  
In the sentences of "Like as adobe fragile",  
Scattered like an adobe. . ." (Anonymous).*

As well, the adobe appears, as it has been quite fallen into contempt as it used as a natural building material in Anatolia and in many countries. Whereas Anatolia has been made with earth. In Anatolia, adobe is not a building material in vain. It has constituted a culture. Because, generally it has been made with co-operation, it symbolizes a solidarity and relationship. The soil is a sacred entity that stores these high values. A person who is aware of the piece of land he lives on will also be aware that the light that these values have scattered from underground for thousands of years has protected Anatolia. Mevlana Celaleddin-i Rumi Says: "As long as you are like an adobe brick, you cannot fly or soar; but if you break, roll, and become a particle, you can fly and stretch.

If you do not break yourself, the One who molds and makes you will break and disintegrate. If death breaks you, how can you become a single pearl?" Soil has been accepted as the yeast of man, since its existence, as Aşık Veysel said, it has been the "loyal lover" of humanity, giving home and bread to those who know how to work it. Many words have been said,

poems have been written. In addition, as in many branches of art, soil has taken its place in literature (URL-4).

Like the concrete buildings in cities, it is not solid and soulless. Nevertheless, as a construction practice and building material its use is considerable problematic. Whereas it is made and used correctly is life saving and extends the lives. In East Anatolia and Central Anatolia, after the earthquakes happened in the villages or towns we see always the same sentences on the headlines: "Again adobe killed." (URL-3)

Unfortunately, as the core of local construction art, adobe has been despised, insulted, and scorned. Adobe is the material of rural. Palaces, pavilions have not been made by adobe. Whereas in our day, in almost all areas of the life, it has been talked about turning to nature and practiced as far as possible. Holding many chemicals within them the colours are unhealable diseases; it must be accepted that one of the most important reasons is the synthetic whitewashes covered our houses intoxicate us. In modern age, all we eat, drink, wear and use are artificial. Of human beings' accommodation to such an artificial world, so many can be called as a miracle. However, the price of this miracle was heavily. While the reasons of rapidly increasing diseases discussed, it must be accepted that one of the most important reason is the synthetic materials we have obliged to breathe them, this is a fact. Synthetic- artificial materials surround us from all sides, in house, school, etc. By the way, there are advantages and disadvantages of adobe brick. Advantages and gains of adobe brick can be listed as follows: The adobe structure balances the humidity of the interior space by using the humidity in the air, which contains the inherent structure of the adobe dough. The production cost is low and no facility is required for production. No mechanical energy is required during production and use. Adobe brick provides protection of heat and humidity due to its heat retention feature. It provides a more livable, clean and healthy bioclimatic comfort within the structure. Soil, which is one of the best energy storage materials after water, collects the heating energy from the formation of the walls that provide the building as a building material. It provides regular protection of the systems by using the intermittent heat for a long time after the heating be cut off. It protects the structure from unwanted heat or cold outside. However, adobe generally has some defects (Çavuş, et al., 2025).

Adobe brick is a natural and sustainable building material. In addition, it has heat and sound insulation properties. Some of these are; low compressive strength, weak resistance to water. It is stated that Anatolian lands have a house architecture that has changed since the Neolithic period. As in the example of Çatalhöyük. It is also stated that these adobe houses, which have no doors and are entered from the roofs, have the qualities that can meet the sheltering needs of human beings. There were enough adobe houses with rectangular plans adjacent to each other to form a large settlement. "Earth has been one of the primary materials used by humans for shelter since ancient times. Even today, the majority of people living on

Earth reside in houses made of earth. This is partly due to the fact that earth is readily available and abundant as a building material almost everywhere, and partly because structures made of earth are more advantageous in many ways compared to those made of other materials. Earthen structures were once seen as a material used out of necessity in regions and periods where no other options were available, and one that should be abandoned once societal well-being improved and alternatives became available. However, current social and economic conditions have brought the beneficial aspects of earth for construction back into focus. Today, earth construction is one of the most studied and researched topics worldwide, from the least developed countries to the most advanced industrialized nations” (Kafesçioğlu and Gürdal, 1985).

### **Literature Review**

In the Torah, the origin of language is based on a story related to Babylon. “And all world’s language and word were single. In addition, occurred that when they migrated in the east, they found a plain and placed there. Moreover, they said each other that: *“Come let’s make adobe and well cook it. Instead of stone”*, they had adobe and instead of mortar, they had pitch. Moreover, they said: *“Let’s not disperse all over the earth, for this we would construct a tower and let’s make a fame”*. In addition, Adam and all of them have a language; and what they had begun to make is that and nothing of any what key now intended to make will be precluded to them.” *Come, let us go down and shuffle their language, there that they cannot understand each other*”. In addition, the God dispersed them the overall earth from there; so that, they leaved to build the city. Therefore, it was called Babylon; because the God mixed the language of overall world...” (The Torah, the Old Testament, Book, 11/1-9).

By the Anatolian people, the adobe culture has carried it into ballads, rhymes, and poems. It has become a natural part of life. With static reasons, and reasons like status, material and climatic conditions it is not being encountered with adobe architecture in Istanbul and near it. In many Anatolian cities (except Van, Elazig-Harput) there is not a tradition of masonry adobe house. As well as the adobe construction is ‘vernacular’, it fits to “as found” ECOLE. The core of the job is doing something with the material being on the hands. Soil, water, straw are the materials that human can find at any time, and at his elbow. In all aspects, adobe is rural; it cannot urbanized (Fig 1). Because of the errors, which made during the practices it, was the material most accused after the earthquakes. Today pursuing the “organic” fruits and vegetables people even though it was too late have understood the worth of a natural material like adobe. Being a natural construction material adobe has been accused after earthquakes because of over loss of lives. Here the main reason was false manufacturing and wrong practices. As it is known when reinforced concrete, steel, even wood is wrong applied then claim the lives. When it is said folk construction, art after wood and masonry third most used material is adobe (Fig 2).

## Methodology

From the beginning of primitive ages, used adobe is one of the most important natural construction materials. There was mud in the base on top construction traditions in the history. It is a material can found and handle under all kinds of conditions. That material continues its feature that it is one of the most important construction materials for centuries as it has been developed after adobe, brick and ceramic varieties. According to the data obtained from the mound excavations in our country; in Anatolia, the first use of soil in the construction occurred by plastering the dry branches with mud, which built around the wooden constructions that constituted with trying them, each other. For instance, in the Çayönü excavations; it has been encountered with the first adobe houses made by casting adobe mix onto the base on a stone platform, which a stage is coming after the subsequent stage of soil usage. This technique can be explained as the wet adobe is lasting into a mould and compressed beginning from the base. While the level of adobe is some dried and became rigid then the mould was lilted so the wall formed. In the course of time, it has been begun to make adobe with straw mix, the like is used nowadays too, which used after manufacturing in small moulds in the open and drying. In Çatalhöyük, it has been seen that adobe was supported with bonding timber and pillars (Özdoğan and Schwarzberg, 2020).

Fig 1 Making adobe bricks



Preparing adobe bricks (Anonymous, 2018)

Fig 2



View of Safranbolu (Pehlivan, 2019)

Because of the insufficient stone and wooden material for use in constructions in arid Mesopotamia, and difficulties of bringing the stone from Taurus Mountains in the constructions in general has been used

unbacked adobe. Stone and backed brick have been used only in very special situations. In the beginning as in, the Çayönü was clay mortar has been compressed in the moulds, so the walling technique used. Due to wood was not sufficient amount in the region, and its application difficulties this method has been abandoned, and afterwards it has been passed to make unbacked brick. During the excavations taken out compressed soil and the walls made by unbacked bricks resemble more one another. As more resembling, it was made ones the (*mudbricks*) sometimes dried under the sun and again like in Egypt handled on the stratum with clay mortars. Nevertheless, this was not a way that used more in Mesopotamia. In the architecture of Mesopotamia, the mudbricks mainly were handled while they were in clay form without drying completely, after building one line they were left to be dried. Most of the time, without putting any bounding mortars, welding of the adobes were provided with their own moistures. Sometimes it has been made canals on the walls for drying large bulks. When needed the walls were supported by bonding timbers partly 22 cm. in height and 12 cm. in length (Figure 1).

In Mesopotamia, backed brick and mortar have been used only in the place's moisture disturbing it. As being under the impact of rain, the yards' base slabs and the surroundings of underground galleries have been covered with backed brick tiles. On each brick block there were the seal of the king who has made it. In this region during excavations it has been encountered with numerous bricks that carrying the seal of Nabukadnezar. Together with the use of backed brick, we also encounter with mortar. Backed brick can be used only with mortar. In Nemrut and Kars Castles, it has been identified that lime mortar was used. Adobe or brick have been used in many parts of the construction. Instead of digging out foundations to the constructions in Mesopotamia, the construction has placed on the ground, but for providing the carrying process between the construction and ground, and to could distribute the loads to more wide areas they have made an artificial hill by creating a base bulk, which is equivalent to today's "*Radie General. Depending*" on the bigness and feature of the construction it has been seen that this hill rose up to 15 m. in height. Those artificial hills were not on ordinary earth fill, more of them show a real masonry labour which made by run soils processed in clay forms. Most commonly known usage place of adobe and brick without doubt is the walls. On the walls in the featured parts of the construction, completely dried brick has processed together with clay mortar. The facades of constructions generally have been plastered with clay or plaster that which supported with seesaw, and sometimes they have been plastered with lime plaster. Within the further periods of structuring adobe and brick material became one of the most important materials of dome and vault manufacturing's of constructions too (Fig 3-4).

Fig 3 An example of mud brick filling



(Sedes and Pehlivan, 2019)

Fig 4 Two story house in Safranbolu



(Sedes and Pehlivan, 2019)

By his meaningful poem, Murat Yanç explains the piece of adobe in Anatolian culture and folklore as:

*"Plant a seed,  
Falling into the time  
With the callous of anchor  
From millennial wheat tradition to passion  
Add its milk  
Of hook horned  
Mountain goats  
To the soil heritages which sink the hand  
Cut earth to my arid climate!  
Cover the arid roof  
From the aching sides  
To the places, nobody go. . .  
Idea,  
While cannot beat our dreams  
Primary  
To my eyes' scaffold  
When you turned Moon time to flood  
In my reproach  
For my endless walking."* (URL-1).

We encounter with the story of adobe in religious books too, as following:

Now, in Turkey newly it is understood that 'traditional materials and methods' which comes from millennium's construction culture up to now can also be a sustainable material that considering the environment, and when it is correctly used then it will not be affected from the earthquakes(Fig 6). An architect Beyazıt Büyükyıldırım tells us the historical adventure of "adobe" and how it constitutes an "ecological richness". Most important

feature of adobe, which separate it from the other traditional materials, is that adobe has a ‘philosophical’ deepness. As the most meaningful evidence, Beyazıt Büyükyıldırım recalls Yunus Emre’s following stanza to mind:

*“I put earth into the boiler,  
I boiled it with northeast wind; to the ones asking what it is,  
I dipped and gave my core...”* (Rado, 1980).

It can be said as:

*‘I put adobe brick in the cauldron  
And boiled it with the northerly wind  
To those who asked what it was?  
I gave them my tape ’* (Rado, 1980)

### **Results and Conclusions**

As defining adobe as the “core” of life for this historical saying a sociologist Sabahattin Eyüboğlu makes an interpretation as “...adobe and the north-east wind; what appear from these entirely opposite beings? The epitome of human, the mud that is breathing. As a “breathing” construction material down the ages, adobe wraps human’s “breath” too, so much so that it gives the most ‘wise” lessons of dependence to the nature, environment and health, in such a perfect manner that even passes today’s most expensive “ecological technologies”. As an example, in Konya, Şükran Residences the main building material of the houses is adobe. In addition, natural materials such as wood, stone, wicker and reed are also used. Using the extremely healthy, sustainable building materials that do not have radioactivity and do not harm nature is the right choice in terms of ecological design criteria (Arslan, 2021).

Fig 5



Konya, Şükran Village (Ulus, 2021) (URL-2)



Fig 6



Adobe House in ITU Campus by KerpikAkademy –Kerpic –Tubitak 622 (2025) (URL-5)

Adobe building material is evaluated positively especially in the Şükran Residences settlement, where the continental climate is seen and the temperature differences between day and night are quite high. Because the walls made of adobe bricks store heat and provide protection against sudden temperature changes in the interior and are a good sound insulator. Since the main building material of adobe, soil, does not burn, it is also highly resistant to fire.

Even giving examples from him designed and made a new “adobe house” in Korkuteli as a “architectural practice” architect Büyükyıldırım in a nutshell tells this fabulous material’s “Sustainability” as following:

First; with its “organic” feature which originated from “soil, water and straw”, “it does not give damage to the nature and human”. It can be used thousands of years; it is recycling and has almost no cost; anyone can make a new building with its rests as well.

Second, “it is the friend of modernity.” It is compatible with all construction materials; it is an organic togetherness of the soil and straw. It is not destroying reverse of the concrete and iron in time.

In addition, third, it is fed with “societal culture” and lives together. Because, it does not require very special and an advanced technical training. Poor, rich, educated or illiterate, it suits all peoples’ common construction material. . .

Here! With these features and with its “non- artificial chemicals - inclusive” pattern adobe provides “most healthy” spaces to human, also, it is on a path that it will also pass all exams of history successfully in the matter of “earthquake proofing”.

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