Research Article GU J Sci, Part B, 10(4): 443-455 (2022)

Gazi University

Journal of Science

PART B: ART, HUMANITIES, DESIGN AND PLANNING

http://dergipark.gov.tr/gujsb

# Similarities in Wooden Architecture between Anatolia and Scandinavia

Can Mehmet HERSEK[1,*]

[1] *0000-0002-7988-5061, Başkent University, Department of Interior Architecture and Environmental Design, Ankara/Turkey*

**Article Info**

*Received: 26/12/2022*
*Accepted: 30/12/2022*

**Keywords**

*Log Buildings,*
*Tradition,*
*Serender,*
*Ambar,*
*Sami Storehouse*

**Abstract**

Anatolian wooden architectural heritage may have relations and similarities considering construction techniques with Scandinavian wooden buildings. The “log houses” of Anatolia are mostly situated on the hillsides along the Black Sea region their usage, their plan types and their roof shapes and details quite same. For example, our larder type storage buildings which are granaries that called ‘serender and ambar’ are very similar or so close to each other with “Sami Storehouse” of Sweeden or “loft” of Norway [1]. Also it is very interesting to discover the similarities between the solid log houses which are built in Turkey and in one of the Nordic Countries. So we have to protect this highly valuable common heritage and craftsman skills for transferring this delicate culture to our next generations.

## 1. INTRODUCTION

Since very early times in the history of mankind different civilizations have settled and developed in Anatolia. According to the findings of the excavations done in the different regions of Anatolia; it was discovered that, the history of some of these dwellings goes back to the Neolithic period. The construction of settlements and houses of "Çatalhöyük" (7000 B.C.) and in "Hacılar" (6500 B.C.) shows well developed structures. At present we have about 113.000 registered monuments and dwellings in our country (from archives of Ministry of Culture and Tourism of Turkish Republic). Most of them are wooden houses and are situated at over 4000 different sites. They can be grouped according to their construction systems and materials. Most of them are made from wood like as timber framed houses, some of them log houses and remains are stone houses and also there are certain amount of mud brick houses and outbuildings.

Anatolia always have been one of the most important bridges between Europe and Asia in many aspects. Consequently, development of a traditional “Anatolian House” had influences of various civilizations neighboring the Anatolia and can be considered as a kind of synthesis and product of different cultures. For example the “log houses” of Anatolia are mostly situated on the hillsides along the Black Sea area and there are many similarities in their construction techniques and building forms with their Northern European counterparts.

## 2. THE CHARACTERISTICS OF TRADITIONAL SOLID LOG HOUSES OF TURKEY

In the hillsides and high plateaus of the Black Sea region of Turkey there is a dense forest. So we can easily mention that in this area whole life was related with wood; such as buildings and ships for fisherman, coaches, tools and traps, furniture and children’s toys. Skill of handling wood was one test of man's estate. The log buildings were must be the first constructions built by the early settlers of this region. There are some examples of log buildings with a room and a porch was attached in front of them (Figure 1, 2, 3). In the meantime, they have bigger log constructions also. Presently many villages of the region have two

* Corresponding author: hersek@baskent.edu.tr

storyed log buildings. In These buildings there are two or three rooms and a hall together with special wc units in the second floors. There are also ground floors used as storage spaces and stables (Figure 4, 5, 6).

***Figure 1.*** *Simple timber building from Uzungöl Region / Eastern Black Sea. (photo belongs to the author).*

***Figure 2.*** *Simple log building Bolu / Mudurnu (photo belongs to the author).*

***Figure 3.*** *A typical log house from "Kızık Village /Bolu" (photo belongs to the author).*

***Figure 4.*** *A typical two storey house from Alaçam mountain village (photo belongs to the author).*

***Figure 5.*** *A typical two storey house from Kastamonu İhsangazi Region (photo belongs to the author).*

***Figure 6.*** *A typical two storey house from Artvin Region (photo belongs to the author).*

In many parts of this region people live in different houses at certain times of the year due to the climatical convenience on the land which has a mountainous terrain characteristic. During the summer time local persons usually migrate from one settlement to another one for finding suitable grass to feed their cattle

and they return their villages in winter time. Therefore the transitory summer houses domiciled only for shorth time are usually build in a simple type of log construction technique. So there are differences in construction techniques and architectural details between summer and winter houses. Also some of summer dwellings are built in a way which is easy to dissemble and rebuild at another site. Constructing the walls from solid timbers continued until the middle of 20th. Century.

The vernacular construction methods can be classified into categories due to their binding methods. However the oldest and, in a way, historical method of construction is called "çantı" (log house). These are one-bay houses built from logs; and they are used as summer houses and barns today. These structures rests on the stones or stone walls. The whole trank of beams forming the walls with only the bark removed are left bare on the exterior. We know that before assembling the structure logs were notched close to ending points because it was the only way to tie the pieces together for building a stable structure. During the construction process, timber logs are laid onto each other one by one, and logs are interlocked to each other by fitting notched points together at the corners. The ceiling is usually made of timber elements which may have wooden shingles on the roof or sometimes flat stones used as a covering material (Figure 7, 8, 9). In Anatolia the principals for woods used in construction were fir, spruce and pine. In some examples different kind of woods were also used for different parts of a building. Oak always preferred for the lowest wall beams which supported the entire construction.

***Figure 7, 8, 9.*** *Details from joining connections of different log buildings located high plateaus of Anatolia. (photographs belongs to the author).*

Another technique is the construction is similar to the "çantı", whereas the logs are processed on timber planks 4 cm. thick, 20 cm. wide, 1.5 to 2.5 m. long are used as main elements. The structure rests on a 60 cm. wide stone wall or on top of the timber posts lifting the whole structure, and has a height of 1.5 to 2. m. it has a shutter at top and can be conceived as like a large wooden chest which can be carried and reconstructed at another place if it is necessary (Figure 10, 11).

***Figure 10, 11.*** *Timber plank connection details from different buildings located high plateaus of Anatolia (photographs belongs to the author).*

In Black Sea Region larders are the second type of separate structures and they are called “ambar” or “serender” acording to their construction types. Ambar’s used for storing fruits and grains. Their constructions are similar to the log buildings of first group, whereas generally the logs and are processed to be in rectangular shape on timber 4 cm. thick, 20 cm. wide, 1.5 to 2.5 m. long are used as main elements. During the construction the craftsman used axes for the initial rough shaping. Trunks which were intended to use for wall beams were shaped on two or four sides with axes. After the wall lengths were determined, the corner joints were cut. The wood was measured to ensure that the joints were correctly placed on all beams. More than one kind of different forms and acuate angles are used to create a solid and rigid structure at the joists. Ambar type of buildings are look like a wooden chest and they are built on short timber pillars or rests on stone bases (Figure 12, 13, 14, 15)

***Figure 12.*** *A typical ambar structure Kasabaköy / Kastamonu (photo belongs to the author).*

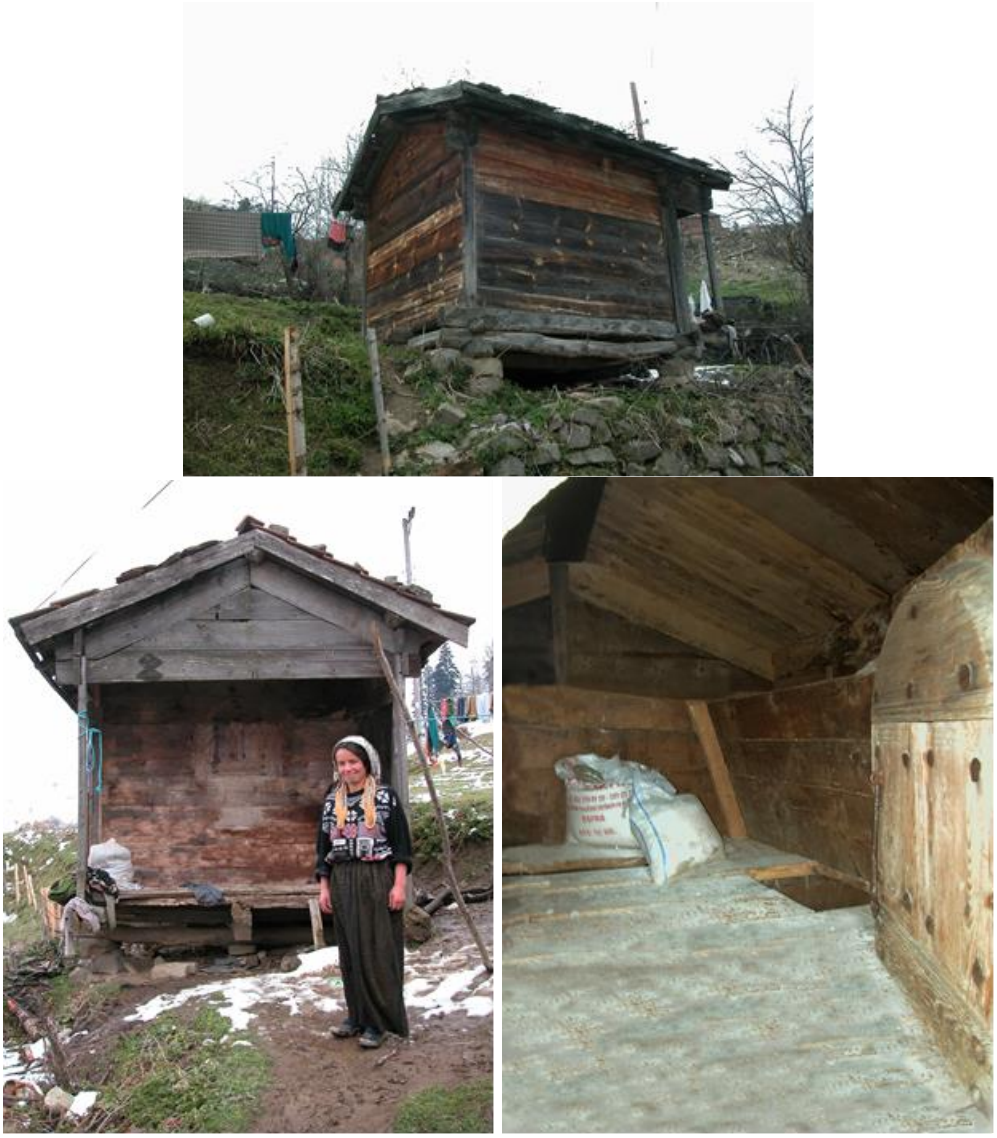

***Figure 13, 14, 15.*** *A typical ambar structure Madenler Village – Alaçam / Samsun (photographs belongs to the author).*

Serender is another unique construction in Eastern Black Sea Region of Turkey. It is a kind of multifunctional granary, which is usually located close to residential building. They are in use for storing multiple sorts of grains. In different districts of Turkey, this structure is called as serendi, seren, serende, serenti, serenter, serentir and serentire [2]. Serenders are usually two storey and rarely three storey structures build on wooden pillars. Number of pillars may be differing four, six or nine according to the size of structure [3]. Serender, type of structures, also has original architectural features. Generally these structures rest on top of the timber posts lifting the whole structure and has a height of 1.5 to 2. or 5m. from ground or on a 60 cm. wide stone walls (sometimes on boulders), it has a shutter at the top and is designed as a large wooden chest which can be carried while dissembling to rebuild at another site whenever it is necessary. The wood planks which used in the construction of walls and floors are brought together by leaving gaps to ensure air circulation. Thus storage space provides cool and dry atmosphere for the stored products. Also there is a special detail on top part of pillars. All the pillars have the cylindrical or conical stone or wooden plates/ wheels at the top end. They are usually made in a circle form and 60-70 cm diameter. Their fundamental role is to block animals and especially rats from climbing the granary (Figure 16, 17, 18).

***Figure 16.*** *A typical serender structure Kaabaköy / Kastamonu (photo belongs to the author).*

***Figure 17, 18.*** *A typical serender structure Kastamonu (photos belongs to the author).*

## 3. THE CHARACTERISTICS OF TRADITIONAL LOG HOUSES OF SCANDINAVIAN COUNTRIES

It is very interesting to discover the similarities between the traditıonal houses which are built in Northern Anatolia and in Northern European Countries. In Scandinavian folk architecture vernacularly the main building material is also wood like as northern part of Anatolia. Solid timber buildings with similar constructions can be seen all around the Northern European Countries such as Sweeden, Norway, Lithuania, Finland, Rusia and also in Poland. For example, old granary houses of Sweeden resembles the Anatolian ones [2]. Perhaps climatical conditions and flora fauna must be the main factor for this result. For example, Norway is one of the Scandinavian countries which is located in the north of Europe. In its geographical structure there are mountains, plateaus, lakes and forests and valleys as seen in Black Sea region. In both country people are migrating from winter houses to summer houses during the seasons and they are living in the dwellings which are belongs to scattered settlements (Figure 19).

***Figure 19.*** *A typical sertelment in Ayder Plateau / Black Sea Region (photographs belongs to the author).*

Today we can claim that there are big similarities in construction techniques of traditional log buildings. Generally, in whole countries log structures, solid wood logs are stacked on top of each other and logs are interlocked at the corners with a notched connection. Perhaps the local differences can be noticed at a closer range. In the houses in Anatolia the logs are not so closely fitted together as in Scandinavian log-houses. The North European buildings are constructed completely tight, by "wood meeting wood", with the slith underneath the logs (Figure 20, 21).

***Figure 20.*** *A traditional way of corner binding in Lithuanian log house (photo belongs to the author / 2001).*

***Figure 21.*** *A traditional way of of preparation of timber log before construction in Lithuania (photo belongs to the author / 2001).*

If we want to make comparison between the buildings with Anatolian and Scandinavian ones. First we must mention 'stabbur' or storehouse, located near the house. It is a granary consisting of a single small space and it is exactly same with Turkish ambar building (Figure 22, 23, 24). It is placed on legs to protect it from moisture, animals and mouse as usual. Also we can compare serander with Sami store house (Sweden) or lofts (Norway). We can mention that there are also remarkable similarities (Figure 25, 26).

***Figure 22.*** *A storehouse from Skansen Museum Stockholm / Sweeden (photo belongs to the author).*

***Figure 23.*** *A storehouse from Skansen Museum Stockholm / Sweeden (photo belongs to the author).*

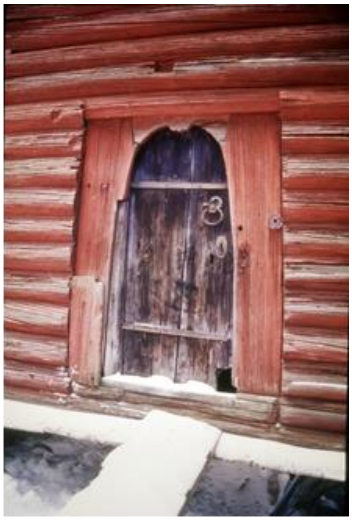

***Figure 24.*** *Gate of storehouse from Upsala / Sweeden (photo belongs to the author).*

***Figure 25.*** *Two storey storehouse from Skansen Museum Stockholm / Sweeden (photo belongs to the author)*

***Figure 26.*** *Thre storey house from Upsala / Sweeden (photo belongs to the author)*

From the examination of village houses in Scandinavian Countries, timber, woodworking, binding techniques and decoration of the masters shows that they are technically so successful. However, similarities are not only in storage buildings, for example barns are also good examples to prove these resemblances (Figure 27).

***Figure 27.*** *Barns from Kastamonu Region (photo belongs to the author)*

## 5. CONCLUSION

Traditional timber buildings which we have forgotten in today's contemporary life style are important cultural heritages. Also it is very interesting to discover the similarities between these houses which are built in Anatolia and in Scandinavian Countries. For example, it is a surprising fact that seeing the similarity of the traditional log buildings of Sweeden which were constructed almost in the same way with the Black Sea region of Anatolia. Their usage, their plan type and their roof shapes and details are almost the same. Although there are some differences of the buildings of different countries. Regional differences mainly appear in joint details for binding of logs and relative proportions of constructions. We know in the history there is not any a unique culture and always there were some connections between different countries. Perhaps the carpenter guilds played an important role for transferring their knowledge from one country to the other one.

Finally it can be stated that Scandinavian wooden architectural heritage may have relations and similarities considering construction techniques with Anatolian wooden buildings. So we have to protect this highly valuable heritage and transfer this delicate culture to our next generations.

## REFERENCES

[1] Karpuz, H. (1999), " 'Serander' ve 'loft': Türk ve Norveç halk mimarisinde eşdeğerli iki yapı", METU Journal of the Faculty of Architecture, Vol. 19 Nos 1-2, pp. 71-82.

[2] Yazıcıoğlu, F. & Alkan, S.N. (2020), An analysis on building elements of a wooden structured granary "Serender" in Turkey's Eastern Black Sea Region, International Journal of Architectural Research, Vol. 14 No. 1, pp. 77-89.

[3] Batur, A. (2005), Doğu Karadeniz'de Kırsal Mimari, Milli Reasürens T.A.Ş, Istanbul.

[4] Arorisson, A., Broström, I., Larsson, H. & Lindahl, P. (2002), Tradition i Tra, En resa genom Swerige, Traditions in Wood, A Journey Through to Sweeden, Svenska föreningen för byggnadsvård och Byggförlaget Byyforlaget, Stockholm.

[5] Bayram, Ö.F. (2014), "Doğu Karadeniz Bölgesinde geçmişten günümüze vernaküler mimari", master's thesis, Yıldız Technical University, Istanbul.

[6] Çakır, S. (2000), "Geleneksel ahşap konut yapım yönteminin çağdaş teknoloji açısından değerlendirilmesi", PhD thesis, Karadeniz Technical University, Trabzon.

[7] Demir, N. (2004), "Trabzon ve yöresinde serenderler", Erdem, Vol. 14 No. 41, pp. 99-118.

[8] Eruzun, C. (1977), "Doğu Karadeniz'de Seranderler", Birinci Uluslararası Türk Folklor Kongresi Bildirileri, Ankara, pp. 125-140.

[9] Eskiçırak, D. (2009), "Doğu Karadeniz Bölgesi geleneksel konutlarının değerlendirilmesine yönelik yapım sistemi ve malzeme kullanım analizi-örnek konutların mevcut durum değerlendirilmesi", master's thesis, Istanbul Technical University, Istanbul.

[10] Felek, S.Ö. (2020), Doğu Karadeniz Yerel Mimariye Ait Serender ve Dünya'dan Benzer Yapılar Karadeniz İncelemeleri Dergisi, (28): pp.525-546

[11] Günay, R. (1998), Tradition of the Turkish Houses and Safranbolu Houses, YEM, Istanbul.

[12] Kaya, M. (1999), "Anadolu Kültüründen Dünya Kültürüne Ambarlar", Ege Coğrafya Dergisi 29 (2), pp.321-344, İzmir-TÜRKİYE

[13] Özgüner, O. (1970), "KöydeMimari-DoğuKaradeniz", ODTÜMimarlık Fakültesi Yayınları No. 13, Ankara.

[14] Sümerkan, M.R. (1990), "Biçimlendiren etkenler açısından Doğu Karadeniz kırsal kesiminde geleneksel evlerin yapı özellikleri", PhD thesis, Mimar Sinan University, Istanbul.

[15] Shabani, A., Hosamo, H., Pleveris, V. & Kioumarsi, M. (2020), "A Preliminary Structural Survey of Heritage Timber Log Houses in Tonsberg, Norway", 12th International Conference on Structural Analysis of Historical Constructions SAHC 2020, All content following this page was uploaded by Amirhosein Shabani on 04 October 2021.

[16] Şensoy, Al, S., Kukoğlu, S. "Doğu Karadeniz Kırsal Mimari Örneği Serenderlerin Ekoloji ve Sürdürülebilirlik Bağlamında İncelenmesi", Inonu University Journal of Art and Design, pp.25-44.

[17] Tuna, C. (2008), "Orta Karadeniz Bölgesi Sahil Kesiminde Geleneksel Mimari", Arkeoloji ve Sanat Yayınları, Istanbul.

[18] Werne, F., Böndernas Bygge, Traditionelt byggnadsskick pa landsbygden i Swerige, WIKEN, 1993.

[19] Yeşilyurt Tunç, Z. (2019), "Trabzon'da serender yapılarının incelenmesi ve yeniden işlevlendirme önerileri", master's thesis, Maltepe Üniversitesi, Istanbul.