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Learning From Vernacular Architecture in Architectural Education

Mimarlık Eğitiminde Yerel Mimarlıktan Öğrenmek

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ABSTRACT

This study focuses on the potential for effectively using knowledge about vernacular architecture in programs of architectural education and it proposes a course as a mean of doing so. The first section emphasizes the importance of vernacular architecture in education through an extensive literature review. In the second section, the details of a course developed by the researchers called Learning from Vernacular Architecture (LF-VA), which consists of the components "learning," "internalization" and "interpretation," are examined along with the outcomes of a questionnaire-based survey that was administered to students who enrolled in the class. The primary aim of the questionnaire was to observe whether or to what extent the course and its methods attained their objectives. The questionnaire results demonstrated that LF-VA not only led to a significant increase in awareness among students about vernacular architecture but also showed that the course proved to be a useful and unique mean of transferring knowledge about how it can be applied.

Keywords: *Architectural design; architecture education; vernacular architecture.*

ÖZ

Bu çalışma, yerel mimarlık bilgisinin mimarlık eğitiminde etkin bir biçimde kullanılma potansiyeline odaklanmakta, bu bağlamda bir araç (ders) önermektedir. Makalenin birinci bölümünde geniş bir literatür incelemesi ile yerel mimarlığın, mimarlık ve mimarlık eğitimi açısından önemi vurgulanmakta; ikinci bölümünde ise mimarlık lisans eğitimi içinde yer alan ve öğrenme, özümseme ve yorumlama bileşenleri ile tanımlanan Yerel Mimarlıktan Öğrenmek (LF-VA) isimli ders, ayrıntıları ile ortaya konulmaktadır. Ayrıca makalede, dersi alan öğrenciler ile yapılan ve dersin ve derste kullanılan yöntemlerin amaçlarına ulaşıp ulaşmadığının anlaşılmaya çalışıldığı anketin sonuçlarına ve bu soruların yorumlanmasına da yer verilmektedir. Anket sonuçları, LF-VA'nın mimarlık öğrencileri için yerel mimarlık konusunda önemli bir farkındalık yarattığını ve dersin yerel mimarlıktan bilgi transfer etmek bağlamında kullanışlı ve özgün bir araç olarak tariflenebileceğini göstermektedir.

Anahtar sözcükler: *Mimari tasarım; mimarlık eğitimi; yerel mimarlık.*

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Introduction

"We're not proposing that you should go back and build like you did before architecture had technology. But maybe there's a way you could build what we call Vernacular 2.0."

BIG (Winston, 2018)

The primary objective of this article is to explore ways of learning from the past for the sake of the future with regards to architecture and architectural education. The researchers involved in this study were motivated by their belief in the power of knowledge and experience drawn from the past (vernacular architecture) as well as the necessity of using that knowledge in architectural education programs.

Many researchers have made the claim that unsustainable and identity-less environments tend to be created as the result of a lack of adequate evaluations of vernacular data, especially in the designing of housing and the planning of urban settlements (Karagulle & Demir, 2010). As a result of the industrial revolution, cities began encroaching onto ever broader swathes of land as they expanded and new lifestyles came into being with the advent of novel modes of production; consequently, problems concerning housing and transportation emerged as major features shaping urban environments in the West. As cities evolved, many important features were lost as the environmental character and identity of urban landscapes suffered in terms of historical continuity. At the same time, the human scale of such environments disappeared, and urban outdoor life deteriorated as well (Velioglu, 1994).

Vernacular building traditions are not the remnants of an underdeveloped or romantic past. Rather, they have been important for and relevant to many cultures and societies around the world. That holds true for the past and present, and it also will be valid in the future (Asquith & Vellinga, 2006). Vernacular principles have evolved over long periods of time in virtually every locale as people develop building techniques ideally suited to the materials available and local conditions such as the climate (Oliver, 1997). As such, vernacular-traditional settlements engender a smart, common sense approach to architecture that is attentive to the needs of people down to the last detail. In that way, artificial materials can also be used in a manner that most closely approximates their natural counterparts without solely drawing upon the surroundings but co-existing with them (Ozorhon & Ozorhon, 2014).

Local building cultures have often been linked to a need that is recognized and valued in local societies: namely, the balance between humans and nature. This ancient quest for harmony corresponds to what is described today as sustainable development, and numerous good examples of this concept can be found across the globe. Unfortunately, because of globalization, this local knowledge has been increasingly discredited and, like a great number of animal and plant species, it now has an endangered status. This does not just represent a loss of cultural diversity and pertinent scientific knowledge that is useful for humanity as a foundation for global perpetuation, but even more so as a basis for local action (Joffroy, 2016). Contemporary architecture and urban design often do not appropriately consider climatic and environmental parameters in the process of project design. This results in the creation of buildings and urban spaces that do not offer the comforts people desire. Although vernacular architecture and urbanism are good examples of climatic design, most modern buildings cannot provide comfortable, healthy spaces and sustainable environments for most of the year without resorting to the use of appliances (Yüksek & Esin, 2013; Khoshsima et al., 2011.). Contemporary architects can learn from vernacularly built environments; developing a clear understanding of such environments (through their construction) will inevitably lead to the creation of sustainable environments because comprehending the vernacular system requires an understanding of spatial and temporal organization and its relationship with people as regards their physical surroundings (Alkhalidi, 2013). In that sense, vernacular architecture can be a source of inspiration for contemporary building designs as we learn from it and try to adapt modern buildings to the natural environment to the greatest extent possible (Yüksek & Esin, 2013; Oikonomou & Bougiatioti, 2011).

The studies of Amos Rapoport, Brunskill (1971) and Paul Oliver, and the book "Atlas of Vernacular Architecture of the World" by Velinga, Oliver, and Bridge (Velinga et al., 2008) are among the most important sources for research being conducted on vernacular architecture. Another influential study is "Vernacular Architecture in the Twenty-First Century: Theory, Education and Practice," which was prepared under the editorship of Lindsay Asquith and Marcel Vellinga (2006). That book, which includes essays penned by leading researchers, is of particular importance for this study because it brings together three critical subjects: theories of knowledge concerning vernacular architecture, approaches to learning from and understanding vernacular architecture, and vernacular architecture as an aspect of architectural education. A review of recent global academic publications related to vernacular architecture (Sözer & Bekele, 2018; Tran, 2018; Mazraeh & Pazhouhanfar, 2018; El Harrouni et al., 2018) reveals that many of them primarily seek to draw correlations between ecological and sustainable architecture and simultaneously learn from vernacular architecture and connect that knowledge to contemporary technologies. In addition to that body of research, there are studies in the literature that investigate examples

of vernacular architecture in terms of facades and mass formations and also attempt to define a set of rules for design while at the same time offering proposals for new structural designs, especially in vernacular environments (Torus, 2011; Tang et al., 2019).

Of course, architects are not proposing a return to pre-modern living. But some are challenging the idea that vernacular architecture is antithetical to progress and they are combining local practices with the latest technology, engineering and aesthetics (Holand, 2017). As prominent architect Raj Rewal(2016) has pointed out, modern architecture can solve urban crises brought on by swelling populations and satisfy the requirements of development with the help of vernacular know-how concerning local cultures and climates. Among the adherents of that approach, Egyptian architect Hasan Fathy is one of the most notable architects applying the tradition of vernacular architecture in his projects. Fathy's work does not just repeat or imitate; he filters vernacular architecture through his own aesthetic sensitivities (Ozorhon & Ozorhon, 2016). Other major actors in the current architectural scene also refer to vernacular architecture/local architecture in their statements. For example, Bjarke Ingels (BIG) has noted that he wants to create new styles of vernacular architecture (Winston, 2018), and his approach is known as Vernacular 2.0. For centuries, even millennia, people have found ways to use locally available materials and local techniques to respond to conditions in a way that creates an exciting architectural vocabulary: "In the flatlands in China, you have houses where, by making sunken courtyards, you can shade spaces and protect houses from the prevailing winds. You have the Greek villages, where the white color reflects heat and the flat roofs allow the inhabitants to go up on the roof in the evening, when you have the cool breezes" (Holand, 2018).

Research Framework Methodology

According to Rapoport (1990), vernacular traditions are manifested directly or unconsciously in the physical form of culture, needs, and values, as well as individuals' dreams, desires and feelings (Masrour & Karbaschi, 2015). While vernacular buildings truly do appear to fit with regional conditions, this is not the result of intentional planning or reasoning; indeed, the practices involved, which have been utilized for thousands of years, are merely being repeated. To put it another way, although it may appear that every environmental condition has been taken into consideration, this is not a calculated outcome but rather anonymous intelligence that has been passed down through the centuries (Tanyeli, 2018). At the same time, vernacular buildings/settlements preserve a rich accumulation of knowledge concerning a wide variety of subjects within a reality that is being lived out, and as such they are reminiscent of a library we live inside in which reason-outcome relations can be directly observed (Sakınç, 2010).

Since the introduction of formal architectural education in the mid-nineteenth century, the teaching of vernacular architecture and the conservation of our built heritage has been an essential component of most architectural programs. Teaching vernacular architecture to future architects is a legitimate approach and it need not only address the many problems that are increasingly placing vernacular traditions under threat, as it can also make use of the various features and valuable lessons those practices offer (Asquith, L. & Vellinga M. (2006)). Studying and analysing the dynamics and transformations of vernacular responses, as well as their successes and failures, will enable the identification of general principles and mechanisms that may lead to important insights into the nature of design and, as such, offer lessons that will be of use to those involved in the development of more sustainable environments (Asquith & Vellinga, 2006). What is required for that to happen, however, is a move into what Rapoport calls the "next stage" of vernacular research. He notes that so far the field of vernacular studies has been in a "natural history" stage, "describing and documenting buildings, identifying their variety, classifying them and so on." However, if the vernacular is going to offer lessons that are relevant to the future, a more problem-oriented stage is needed, one that is comparative, integrative and leads to explanatory theory (Asquith & Vellinga, 2006).

It is widely accepted that there is still much that contemporary architecture can "learn" from vernacular buildings (Ulusoy & Kuyrukcu, 2012). The most pressing concern is related to the use of vernacular architecture technologies in the design of sustainable buildings. In that context, a key challenge in the twenty-first century is learning the basic rules and principles of vernacular architecture and finding ways to incorporate these rules into development plans to enhance existing habitats and create new ones (Masrour & Karbaschi, 2015). The first issue concerns the development of systematic research that brings together innovation and tradition (as architect Álvaro Siza Vieira has said, "tradition is a challenge to innovation"). Innovation will be impossible unless we take into account the fact that new practices arising in a manner that is independent of history will be incompatible with the present (Ulusoy and Kuyrukcu, 2012).

At this point, certain questions arise: In light of the particulars specific to vernacular architecture (Bektaş, 2013), is it possible to come up with new designs that are in accordance with nature, environmental conditions and life while adhering to logic and reality? Can we engage in design by searching for solutions from the inside out that

ensure interior-exterior harmonization? Is it possible for architects to take an attitudinal approach to design that accounts for flexibility, harmony, ease of use, and human dimensions and sensitivities while using local materials and building methods and applying the abovementioned points to the architectural production of healthy living environments? This article is rooted in a general questioning of such issues in relation to architectural design and it seeks answers to those questions within the scope of architectural education. The fundamental questions here, which are based on the issue of whether it is possible to learn from vernacular knowledge in architectural design within the scope of the realm of research, are based on the following: Can we indeed learn from the vernacular and if so how can that be achieved in architectural education? While the first question creates a large environment for the first problem, the second question is derived from the first one in a way. When we contemplate the fact that each occupational education has a two-way interaction with the target profession, the second question can be considered as a mean of searching for an answer to the first one.

While this study attempts to answer the questions discussed above, it also aims to consider findings from the course (content, method) Learning from Vernacular Architecture (LF-VA) and the outputs of that course. Within the context of this study, the course LF-VA is examined closely in terms of the methods it employs and the components it includes (Fig. 1). Furthermore, a questionnaire-based study was carried out for three consecutive years with architecture students who have taken the course (2015,2016,2017) and the outcomes of the questionnaire were comprehensively evaluated. That pilot study was conducted to test how vernacular architectural knowledge can be introduced in architectural education through a novel approach and how that knowledge can be transferred to design.

An Interface From Vernacular To Architectural Design: LF-VA

All forms of architecture (contemporary, vernacular, or otherwise) are dynamic and complex, and they possess some qualities that are sustainable and others that are not. Holistic, integrated and critical studies that are interdisciplinary in nature may indeed reveal lessons that can be learned from vernacular architecture as regards to what has worked in specific traditions and what technologies, forms and materials could perhaps be expanded upon or incorporated into contemporary architectural practices. At the same time, they may indicate what does not work and the mistakes that have been made by builders in the past, as well as what should be done to avoid making those same mistakes again (Velinga, 2013).

Investigating the unique features related to vernacular-traditional buildings both contributes to the continuity of cultural heritage and represents an important source of knowledge in architectural education (Perker & Akinciturk, 2011). In contrast to the engineering sciences, it is difficult to discuss absolute accuracy in architecture. Despite this, almost everyone recognizes the sway that ancient knowledge holds over the vernacular. In architectural education, knowledge about vernacular architecture is discussed in various ways. For example, in courses about

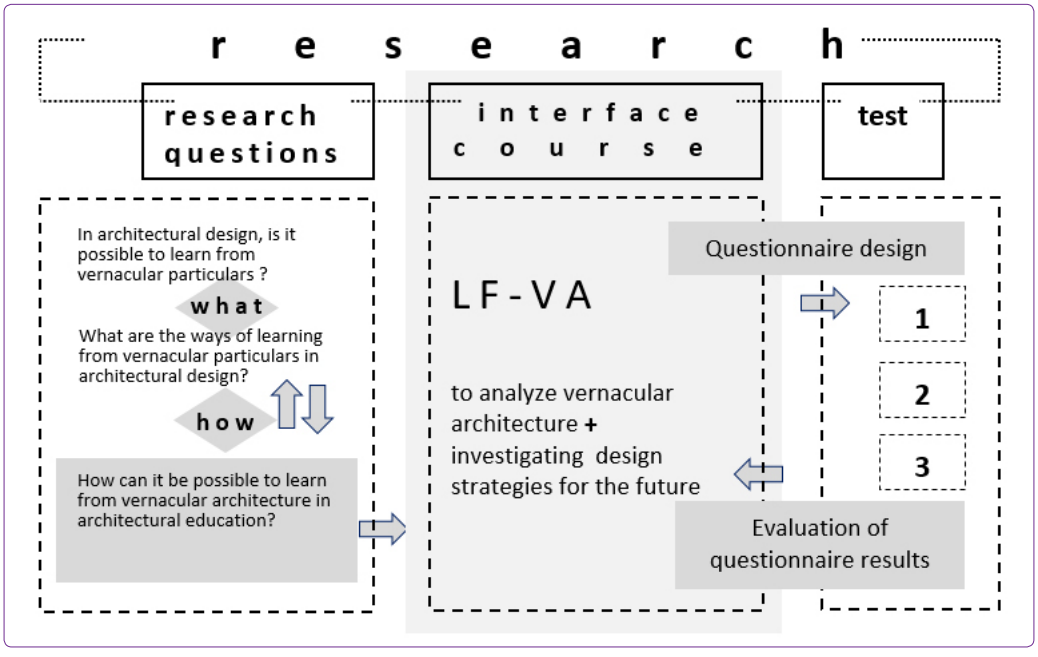

Figure 1. Questions of paper and research framework.

protection, detection work, relief and restoration, trials are carried out or students in architectural design studio courses are asked to come up with designs related to the vernacular architecture in vernacular environments. Workshop studies based on analyses of vernacular systems for which students directly refer to vernacular architectural knowledge are quite successful in helping them develop an understanding of and learn about such systems in an integrated way. Furthermore, when accreditation institutions for national and international architectural schools enumerate the skills that students should get from an architectural education, they place marked emphasis on local/vernacular issues. For example, the 10th article of the 34 criteria identified by the NAAB (National Architectural Accrediting Board) (2015) reads as follows: "Understanding National and Regional Traditions: [Students shall develop] a grasp of national traditions and the local regional heritage in architecture, landscape design and urban design, including vernacular traditions." The 5th article of the 11 criteria of the RIBA (Royal Institute of British Architects) (2018) states: "Graduates shall have an understanding of: 1) the needs and aspirations of building users; 2) the impact of buildings on the environment, and the precepts of sustainable design; 3) the ways in which buildings fit into their local context." The 10th article of the 35 criteria of the MIAK (Architectural Accreditation Board / Turkey) states: "National and regional architecture: Understanding the effects of national traditions and historical heritage in national and regional architecture, landscaping and urban designs as including vernacular architecture." However, one would be hard-pressed to say that nowadays architecture students have a firm grasp of the vernacular architectural knowledge that is required during the course of their education. Perhaps one of the reasons why architectural problems arise these days is related to a lack of knowledge, foresight and expertise on this point.

That question and similar issues led the researchers to propose a new course titled Learning from Vernacular Architecture (LF-VA). One of the fundamental aims of the course is to help architecture students acquire knowledge and insights about vernacular architecture. Another goal is to have students take a course in which they can see how that knowledge can be applied in a useful way and how that knowledge should not be used. As such, the course is not merely theoretical; rather, it seeks to provide an opportunity for students to investigate/discover how to benefit from "vernacular architectural knowledge" in architectural design and make it possible for them to take an active part in the process. This has necessitated comprehensive research and development about the content of the course and methods of application, and it was discovered that different routes can be followed in that regard.

LF-VA was designed as a 3-hour elective course for 3rd and 4th year undergraduate students enrolled in an architecture program. LF-VA deals with Anatolian settlements, providing a general overview of them and looking at housing issues in particular. In that context, the course explores settlements in Anatolia from the past until recent times with a focus on different periods and how they are related to the various civilizations and cultures that have existed in that geographical area. In that way, the general characteristics of vernacular architecture are discussed through regional examples. As an elective course, Learning from Vernacular Architecture is held two hours per week for a period of fourteen weeks. The course structure (including ways of investigating the topic of vernacular architecture) consists of three modules (Fig. 2): (1)Learning|confrontation: The sharing of vernacular architecture knowledge; (2)Internalization|analysis: Conducting research to develop an understanding of the

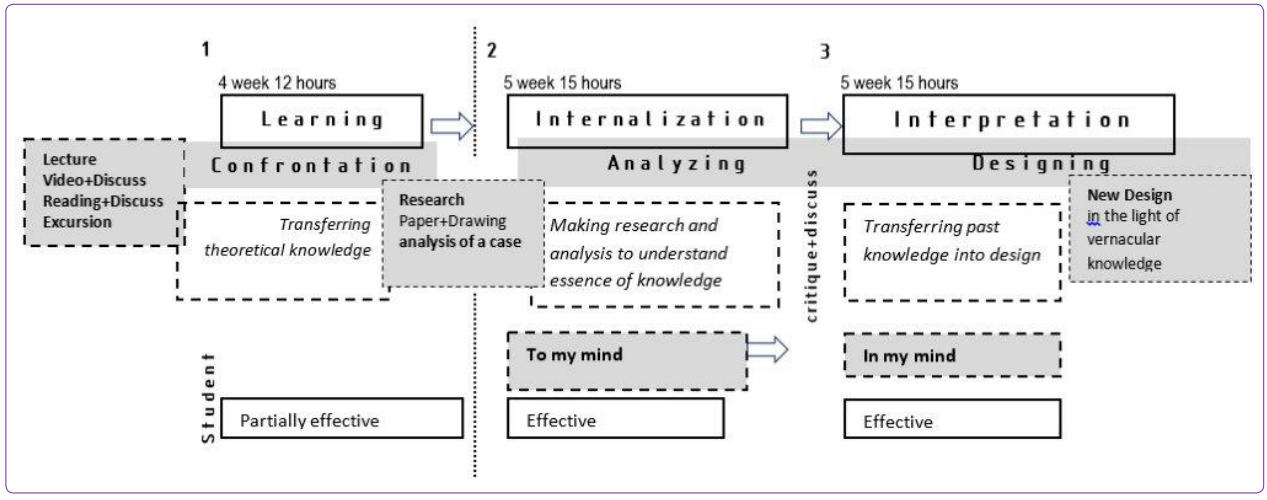

Figure 2. Phases of LF-VA.

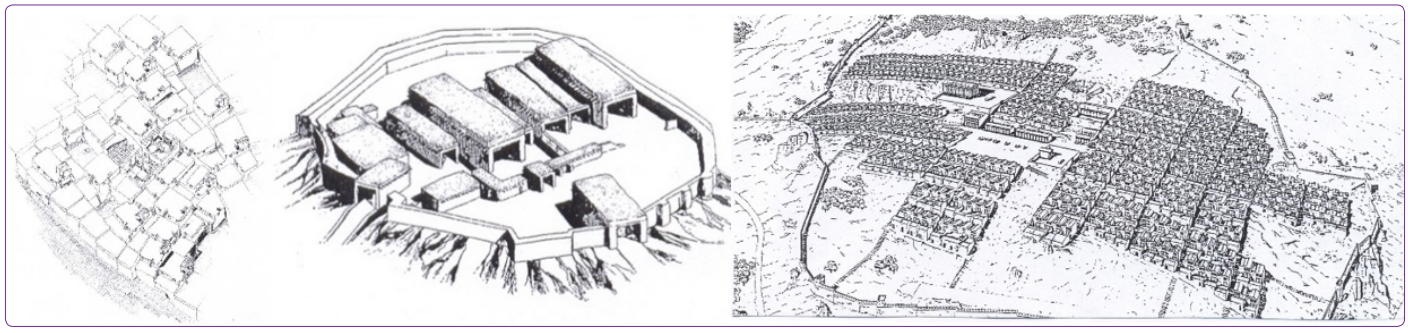

Figure 3. Catalhoyuk, Troia, Priene.

essence of that knowledge; (3)Interpretation|designing: Transferring that knowledge into architectural design.

The Components of LF-VA

LF-VA Module 1: Confrontation (Learning)

In the first module, students are taught about vernacular architecture with examples from Anatolia in a chronological fashion. This section is crucial with respect to having students see how different civilizations that arose in the same geography built up a settlement culture (with examples of the comprehensive architectural culture in Anatolia) and how the products of those cultures developed by overlapping one another. In the first weeks, the course examines early-era settlements in Anatolia (Catalhoyuk, Troia, Priene, Didim, Milet) (Fig. 3) and afterwards it looks at examples of vernacular settlements with different social and environmental features within a cause and outcome relationship. In this way, students discover that the products of vernacular architecture can be investigated in terms of how they are correlated with a variety of subjects and thus see how they can learn from vernacular architecture and apply that knowledge in their own designs.

In the next section of the course, vernacular architecture is explored through visual presentations, articles and videos. The subjects and topics are analysed in terms of the concepts of context, time, authenticity, and continuity. Furthermore, students are expected to conduct research about certain concepts and spatial factors which are used or not used nowadays. In this part of the course, documentaries about vernacular settlements are screened and afterwards discussion sessions are held about the documentaries (Figs. 4, 5).

LF-VA Module 2: Analysis (Internalization)

In the second module, students are asked to carry out systematic research about a particular subject or region and thus consolidate their knowledge. This personalizes students' approaches to the subject and by presenting their out-of-class research, which invariably covers a wide variety of topics, students are exposed to numerous topics.

For example, in the spring semester of 2016, Göynük, a district in Bolu province, which is a good example of a

Figure 4. Examples from students's presentations.

Figure 5. Exhibition of documentary during the course.

vernacular housing settlement, was selected as an area of research. By taking a trip to the settlement, students were able to carry out observations and analyses. Before the trip, students examined research and read articles about the settlement and thus they were well-prepared before embarking on the field study. The settlement area was investigated with the guidance of an official assigned

by the local administration and detection studies were carried out with maps, photos, and videos. After the trip, students reviewed the authentic features of the settlement area (in terms of 1. Spatial organization, 2. Structural factors and 3. Building systems, materials, and unique architectural aspects) and they compiled their detection work, observations and interpretations in a systematic manner. Between 2015 and 2017, students investigated examples of vernacular settlements in other areas of Anatolia (Cumalikizik, Mardin, Antalya, etc.) which they personally visited with the aim of examining local features as regards to spatial formations (Fig. 6), and they carried out their work in that direction.

Anatolia has many examples of vernacular architecture that are in accord with the unique regional features of the environments in which they are located. For example, there is the timber-based architecture of the eastern Black Sea region, the cubic stone architecture in the Mediterranean region, the limestone structures in south-eastern Anatolia, the stone-adobe brick buildings of central Anatolia, and the buildings of the central Aegean region which often have stone-built ground floors and timber upper floors. These differences are not only evident in the choice of materials used but can also be observed in the way that the settlements are built up in harmony with topographic features, and spatial organization and building mass are formulated in consideration of local sunlight and wind patterns in addition to the views afforded by their particular locations (Ozorhon & Ozorhon). Students share the in-depth research that they conduct in various parts of Anatolia with their classmates via presentations, which helps them understand the multi-dimensional richness of the region.

LF-VA Module 3: Designing (Interpretation)

The second module is closely related to the course's third module. In the third module, students explore/discuss how they can transfer the knowledge they have assimilated through a detailed investigation with an eye to the future and they experiment with this in a design exercise.

This section encapsulates the final weeks of the course and constitutes the final study. It is also the most important part of the course as it commemorates the courses unique formulation, which differentiates it from similar curriculum courses in the architecture programs. This part of the course, which focuses on the continuity and transfer of knowledge in architecture, can be summarized in terms of carrying out research to discover out how past knowledge can be used for current architectural projects. In the spring semester of 2016, in this section of the course students were expected to imagine a new housing settlement in the Goynuk region, which they had comprehensively learned about through trips and research. In the spring semesters of 2015 and 2017, students were expected to do the same for the other settlements they have investigated. This settlement was originally planned as a housing environment established on the basis of current needs and facts, while also taking into account the past of the area, including past architectural knowledge. By considering the limitations of the course and related difficulties, students were expected to express their opinions/interpretations mainly as regards to concepts and principles instead of creating a finished architectural project. At this stage, students discussed their ideas about how vernacular architectural knowledge can be useful for the future and they prepared sketches and collages, which were shared with their classmates for the purposes of getting their opinions and suggestions before finalizing it. As the conclusion of the course, it was observed that instead of searching for a rigid/fixed definition of good/correct architecture for the future, it would be a powerful way to take advantage of key concepts related to vernacular architecture. Thus, in order to benefit from vernacular

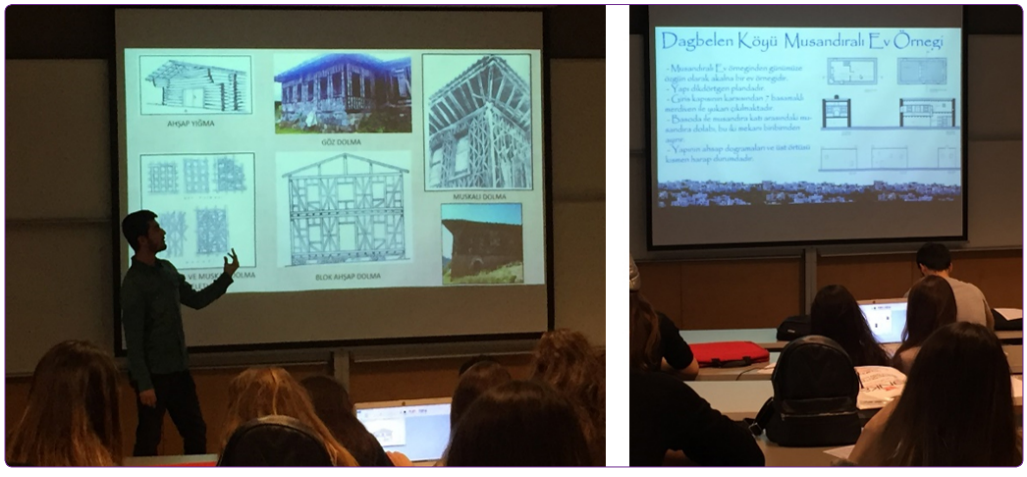

Figure 6. 2. Module-Examples from student studies.

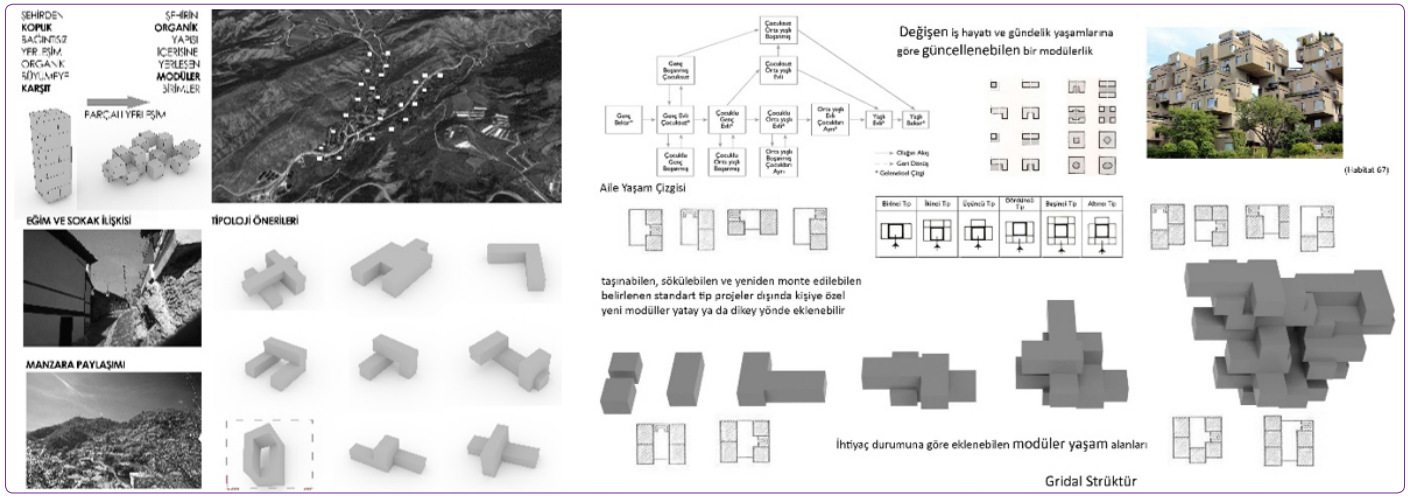

Figure 7. 3rd Module-Example of the students works, 2016 Gokoglu Image Yasar.

architectural knowledge in the workshop, a method based on "conceptualization" was implemented. Within this framework, students formulated their remarks regarding the future through concepts/searches and in the posters, they created, they used various images corresponding to those concepts, thereby concretizing the knowledge they acquired.

Students developed their own proposals based on the assumption that certain situations in the unique structure of vernacular architecture can be part of current architectural projects and that this continuity can even provide answers for particular problems that arise in architecture today (such as scale and context). For example, Gokoglu formulated his proposal based on a critical reading of an existing settlement (i.e., current examples) and proposed a sectional and extended mass approach (as in the case of vernacular Goynuk houses) instead of single and vertical section blocks (current ones) as well as one that interacts with its environment instead of being disconnected (as in the past) (Fig. 7a). Yasar critiqued the issue of drawing from vernacular architecture to turn a figural approach into a form. Instead, she emphasized that it is necessary to search for an "essence" and that living culture, climatic conditions and material usage in vernacular architecture could lead the way in that respect (Fig. 7b).

As a conclusion, students tried to understand those settlements in which they found the opportunity to investigate their place within the context of the course, and they also had a chance to think in-depth about how new designs can be related to that form of architecture and how it can benefit from local expertise in future architectural projects. As such, they were able to improve on their ideas. Instead of engaging in formal repetition, they tried to grasp the dynamics constituting these types of architecture and they became more aware of the fact that continuity of this knowledge in architecture can only be possible by understanding how those dynamics can be concretized.

Survey

Within the context of this study, a questionnaire-based survey was carried out in different semesters with the students enrolled in the LF-VA course. The aim of the survey was to see if the course and the methods used in the course were serving their purpose. The researchers based the questionnaire on three fundamental points related to the transfer of architectural knowledge to design in a hierarchical manner (Fig. 8). Accordingly, the goal was to reveal whether students had developed awareness about vernacular architecture, gather information about the effectiveness of the course's final study in terms of the transfer of knowledge concerning architectural design, and bring to light the contributions of the course's context, purposes and methods to this process.

The findings of the questionnaire, in which 78 students participated, are as follows:

– While all of the students stated that vernacular architectural knowledge is important for architecture/architectural design and that it can be a guide for current and future designs, 38% of them emphasized that obtaining such knowledge is more or less required for architects.

– The students were asked why architects/architecture students should learn about vernacular architecture; some of their answers are given below:

- "I believe that a better direction can be given to the future with the support of accumulations [of knowledge] coming from the past."
- "You cannot build the new without understanding the old."
- "Designs that are created by correlating the past with

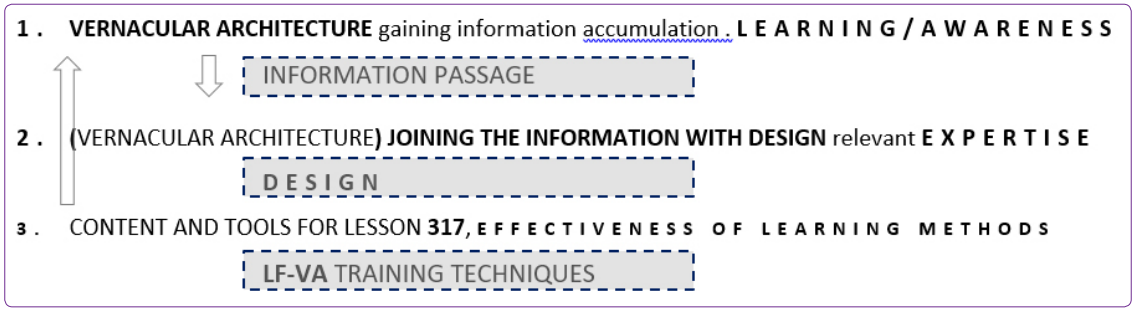

Figure 8. Design of survey.

the future will be those that can best be harmonized with that region and [its local] texture."

- "They created the most practical solutions for most of the critical questions and the adoption of these solutions can be seen as key to solving the most complex design problems."
- "Generations that don't understand the past cannot understand the future."
- "I think that when a new design is created, factors related to vernacular architecture can be a reference point. I believe that we should consider the past, present, and future in order to be able to create timeless and sustainable designs."
- "I believe that without learning about the structures from our past with them being completely based on reason and causal relations, we cannot proceed towards the future. I believe that we should adapt our history, culture and traditions to our current architecture and continue with them in this way."
- "Humankind only considers the period in which it lives to be important and of high quality. They cannot perceive history and the accumulations of thousands of years. Above all, vernacular architecture is an accumulation and a fermentation [of ideas]. It is the product of communities, craftsmen, labour and local materials, not of architects. Unfortunately, nowadays an architectural perception without this synthesis and geographical difference is getting more and more popular."

– 67% of the students responded positively when they were asked whether they had encountered information about vernacular architecture during the course of their architectural education. When the students were asked where this encounter took place, the answers were predominantly related to courses about the history and culture of architecture. One student mentioned the course Physical Environmental Control, and two students referred to restoration work in which they had participated as interns. Only two out of seventy-eight students participating in the questionnaire stated that they learned about vernacular architecture in their design courses.

– Another question asked in the questionnaire sought to elicit information related to the subjects involved in design work and whether students used the knowledge they had acquired about vernacular architecture in the LF-VA course. 86% of the students answered this question with reference to climatic factors, 83% of them mentioned material selection criteria, 69% of them referred to topographic data and 69% of them mentioned spatial organization.

– When students were asked to express their opinions about whether they would later use the expertise they acquired through the LF-VA final study in their future designs, 82% of the students gave positive replies. Some of the students who replied positively pointed to sustainable architecture as a way to transfer their acquired knowledge to the future and they emphasized passive design principles. Some of the students stated that their awareness has increased when it comes to the importance of understanding the characteristics and spirit of places in an integral way in terms of building in particular locales. Another student stated that if he had the opportunity to build in vernacular environments, he would benefit from the experience a lot. Students who replied negatively to the question stated that they did not consider it to be realistic for this notion and similar sensitivities to be utilized in current architectural practices and even in architectural training at studios.

– When asked about which topics in the LF-VA course raised their awareness, 83% of the students replied that they learned about correlating knowledge concerning vernacular Anatolian architecture with current architectural problems, and 62% of them stated that it was about vernacular Anatolian architecture.

– When asked about the resources they used for the research they carried out during the course, 90% of them mentioned websites on the internet, 83%

of them referred to dissertations/theses related to these subjects and 59% of them made mention of books. Furthermore, some of the students stated that they used maps and one student stated that he drew from discussions he had with architects who carried out work in that area of research.

– A final question asked in the questionnaire concerned an evaluation of the teaching methods used in the LF-VA course. According to the answers given to this question, it appears that students thought that the most effective aspect of the course was the final study. In particular, students highlighted the implementation method of the study that was realized in the final weeks of the course, saying it effectively facilitated the transfer of knowledge to the design process (during which time the lecturer and students discussed the design on the desk.). In addition, the students stated that the research they carried out increased the efficiency of the course. Students thought that the theoretical approaches and showing of documentaries, which were among the course components, were less effective with respect to the final study and critiques and research conducted during the course.

An Evaluation of LF-VA and the Survey

Only two of the students noted the existence of a relationship between knowledge about vernacular architectural and design courses. If we consider the fact that students participating in the questionnaire had completed 75% of their architectural education with an average outlook (the students were in their 3rd and 4th years), it becomes apparent that they had not had any experience before the LF-VA course about correlating vernacular architectural knowledge with current architectural practices. This outcome shows that the LF-VA course and similar courses can fill an important gap in that respect.

The literature about vernacular architecture often underscores the idea that fundamental features of this form of architecture can be correlated with sustainable architecture. As was emphasized in the introduction of this article, various lines of research stress that there are still particular subjects which can be learned about from vernacular architecture with regard to sustainable architecture and that it would be useful, and perhaps even necessary, to refer to vernacular architecture when determining strategies concerning the future. In fact, this means that learning from the past and from experienced particulars, as well as learning from the local/vernacular/rural, comprise these points as well. It would not be an exaggeration to say that by the end of the course, students had developed the ability to correlate vernacular architectural knowledge and current issues, especially regarding sustainable architecture.

The significance of the exploratory trip that was taken during the course is apparent. By making that trip, students had a chance to see examples of vernacular architecture in real settings with their ongoing dynamics of life. In this way, they both gathered concrete data and became aware of the difficulty of protecting such examples of architecture in light of current needs and paths of urban development. They observed that it is not possible to construct vernacular architecture in the same way as before given the pressures of population growth, land development, and environmental dynamics, and they became more aware that sensitivities inherent to vernacular architecture can lead the way for current architectural production in various regards.

Based on the results of the study, it is clear that students felt that those parts of the course in which they took on active roles and interacted with the lecturer and their classmates were more efficient compared to the parts of the course in which they were relatively passive. This indicates that it is right to deem “interaction” an integral part of the natural structure of architectural education and an important part of course formulation (design).

Conclusion

Raising awareness among students about the importance of vernacular architecture in architectural education is of utmost importance with respect to the establishment of future architectural environments, during the course of which they will play a part and be effective actors. The course LF-VA, which has been evaluated in this article, is an outcome of that belief. Knowledge about architecture is based on accumulation and expertise. The roots of today’s architecture (and of the future) are embedded in the past and past expertise. The development/evolution of the profession of architecture, which has gone hand in hand with the development/evolution of humankind, always comes to the fore with successful examples of the work it does. Architectural products, which are a part of the culture and lives to which they are related, cannot be considered apart from their context. Therefore, it can be firmly stated that previous architectural knowledge is a key part of architectural education. However, another issue that should be emphasized here is that this knowledge must go beyond passive architectural knowledge. Understanding, reading about, and keenly observing instances of vernacular architecture are surely the most important steps involved in the transfer of architectural knowledge to the future. But to take this one step further, it is necessary to investigate how this information can be made useful. Utilizing knowledge about vernacular architectural as a resource for future

architectural production is only possible if we are able to look beyond (visible) buildings and settlements and differentiate between abstract cases and concrete particulars. The only way to grasp the principles of vernacular architecture is by understanding the dynamics that created it. In other words, the relationships involved in vernacular architecture are not established by repeating existing patterns but by understanding and sustaining the attitudes that brought such forms of architecture into being. The main issue here is understanding the approaches and principles that have come about through years of experience and bringing them into the present by correlating them with the facts of the century. As Bektaş (2018) has suggested, "It can only be bound with traditions through modernism." The transmission of vernacular knowledge from generation to generation is similar to how people learn from their families and relatives without having to make a concerted effort.

Anatolia has been home to many civilizations over the course of history and all of them developed by adding their expertise and knowledge to the total accumulation pool of the landscape they inherited. Every civilization has developed its own building principles by drawing on accumulated knowledge and taking them one step further. Learning from the past and from past expertise and the transfer of knowledge have been key factors in the building traditions of Anatolian civilizations. The richness of the LF-VA course carries on that tradition. As a result of the effects of modernity, urban specialists and architects often focus on finding quick solutions for current problems, but temporary fixes lead to new and even bigger problems in the long term, and as such they have lost the essence of this tradition of passing down knowledge. This tradition should be promptly revived and the fundamental principles that are at the heart of this tradition such as intelligence, scale, integral environmental perceptions, harmony with nature, sustainability, continuity (cultural/spatial), and the placing of people at the centre should be blended with life dynamics and technology. It would not be amiss to say that the people of our day and age who have been tasked with establishing protected and useful spaces in accordance with environmental conditions have more potential than ever before. Under the guidance of science and technology, every step and every decision that is made in the short and long term will have impacts that can be analysed in many ways, and design ideas can draw upon those analyses on every scale.

It was observed that when students took an active role in the course, they were directly a part of the production of the course instead of being passive learners, and when discussions were encouraged, students displayed an increased interest in the course material and that was reflected in the studies they carried out. Even though it was not one of the aims of the course, another form of awareness that the course generated was the discovery of the importance and power of the processes involved in architectural design as regards the outcomes of products, and in fact that discovery is one of the building blocks of architectural education.

The final study, in which an evaluation was carried out about how vernacular architectural knowledge can be correlated with current architectural production, was the most important and unique aspect of the course. In this way, students thought about vernacular architectural knowledge within the scope of design problems and they tried to understand the accumulation of knowledge beyond what can merely be seen. As such, the final study went beyond just being a design experiment and, more importantly than that, it was finalized with a design research project. This experiment should be considered as a beginning, not an ending, with regards to learning from the past and past expertise. As per the outcomes of the questionnaire that was realized within the context of this study, it can be said that LF-VA is a useful tool for creating awareness about vernacular architecture in architectural education and for transferring knowledge from vernacular architecture to the present.

The course LF-VA is in fact one of the early products of research that the authors conducted while searching for means and methods of learning from vernacular architecture. As a result of this study, the LF-VA course will be further developed and all its components and processes discussed here will be taken to the next level. The aim is to enrich the course in the years to come with international examples and expertise. Furthermore, plans are underway to prepare a postgraduate course in which LF-VA, which is now part of the undergraduate architectural program, will be evaluated in a more comprehensive and intensive manner by the authors. The researchers will continue to search for alternative paths and approaches to transferring knowledge from the past to future living environments as part of the progress of architecture and especially architectural education.

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References

Architectural Accreditation Board (Turkey). (2018, May). https://www.miak.org/.

Asquith, L. & Vellinga M. (2006). Introduction, L. Asquith and M. Vellinga (Eds.), Vernacular architecture in the twenty-first century: theory, education and practice, (pp. 1-20). Taylor & Francis.

Alkhalidi, A. (2013). Sustainable application of interior spaces in traditional houses of the United Arab Emirates. Procedia - Social and Behavioral Sciences, 102, 288 – 299. https://doi.org/10.1016/j.sbspro.2013.10.743

Bektaş, C. (2013). Türk Evi, Yapı Endüstri Merkezi Yayınları.

Bektaş, C. (2018, May 22). Geçmişin evinden geleceğin evine bir yol var mı?, Eko IQ Yeşil İş. http://ekoiq.com/2015/07/09/gecmisin-evinden-gelecegin-evine-bir-yol-var-mi/.

Brunskill, R.W. (1971). Illustrated handbook of vernacular architecture, Universe Books.

El Harrouni, K., Ben Aicha, M. & El Harrouni, R. (2018). Parametric modelling and traditional architecture: improving the thermal comfort of the traditional courtyard house in Morocco, MATEC Web of Conferences, 149/ 02051. https://doi.org/10.1051/matecconf/201714902051

Holand, O. (2018, May 22). What traditional buildings can teach architects about sustainability? CNN. https://edition.cnn.com/style/article/vernacular-architecture-sustainability/index.html.

Joffroy, T. (2018, May 22). Learning from local building cultures to improve housing project sustainability. Unchronicle. https://unchronicle.un.org/article/learning-local-building-cultures-improve-housing-project-sustainability.

Karagülle, C., Demir, D. (2010). Yerel verilerin konut tasarım sürecinde değerlendirilmesi: Mardin örneği. İTÜ Dergisi/a mimarlık, planlama, tasarım, 9(2), 83-94. http://hdl.handle.net/11527/8492.

Khoshsima, E., A. Mahdav &S. P. Rao Nila Inangda (2011). Learning from the past: case study of traditional architecture of Southern Shores of Caspian Sea Region in Iran. International Journal of Applied Science and Technology, 1,pp.11–9.

Masrour, M. & Karbaschi, M. (2015). Comprehending vernacular architecture in the architectural educational system in Iran. American Journal of Civil Engineering and Architecture, 3(2), 45-5. https://doi.org/10.12691/ajcea-3-2.

Mazraeh, H.M. & Pazhouhanfar, M. (2018). Effects of vernacular architecture structure on urban sustainability case study: Qeshm Island, Iran. Frontiers of Architectural Research, 7,11-24. https://doi.org/10.1016/j.foar.2017.06.006

National Architectural Accrediting Board. (2018, May). https://www.naab.org/.

Oikonomou, A. & Bougiatioti F. (2011). Architectural structure and environmental performance of the traditional buildings in florina, NW Greece. Building and Environment, 46(3), 669–689. https://doi.org/10.1016/j.buildenv.2010.09.012

Oliver, P. (1997). Encyclopedia of Vernacular Architecture of the World, Cambridge University Press.

Ozorhon, G. & I. F. Ozorhon (2014). Learning from Mardin and Cumalıkızık: turkish vernacular architecture in the context of sustainability. Arts, 3(1), 175-189. https://doi.org/10.3390/arts3010175.

Ozorhon, G. & Ozorhon, I.F. (2016). Learning from experience in architecture: Fathy, Correa, Cansever. International Review of Social Sciences and Humanities, 11(12).

Perker, Z.S. & Akıncıtürk, N. (2011). Geleneksel Cumalıkızık evlerinde ahşap konut sistemi, Uludağ Üniversitesi Mühendislik-Mimarlık Fakültesi Dergisi, 16/1, 41-51.

Rappoport, A. (1990). History and Precedent in Environmental Design, Illustrated. Springer.

Royal Institute of British Architects. (2018, May). https://www.architecture.com/.

Sakınç, E. (2010). Kapadokya'dan öğrenmek: uplandown. Mimarlık Eğitiminin Dünü, Bugünü, Yarını, Selçuk Üniversitesi. 251-259.

Sözer, H. & Bekele, S. (2018). Evaluation of innovative sustainable design techniques from traditional architecture: a case study for the cold dry climatic region in Turkey. Architectural Science Review, 61(3), 143-155. https://doi.org/10.1080/00038628.2018.1457509.

Tang, P., Wang, X. &Shi, X. (2019). Generative design method of the facade of traditional architecture and settlement based on knowledge discovery and digital generation: a case study of Gunanjie Street in China , International Journal of Architectural Heritage, published online, pp.13-15 doi: 10.1080/15583058.2018.1463415.

Tanyeli, U. (2018, May 22). Geleneksel bir anadolu evi bugün neden aynen inşa edilemez ? Eko IQ Yeşil İş Yeşil Yaşam. http://ekoiq.com/2015/07/10/geleneksel-bir-anadolu-evi-bugun-neden-aynen-insa-edilemez/.

Torus, B. (2011). Learning from vernacular Turkish house: designing mass customized houses in Mardin. Intercultural Understanding, 1, 105-112.

Tran, V.K. (2018). The integration of traditional and advanced design in the formation of sustainable new rural housing solutions. IOP Conference Series: Earth and Environmental Science. 143. https://doi.org/10.1088/1755-1315/143/1/012053.

Ulusoy, M. & Kuyrukçu, E.Y. (2012). The meaning and importance of the traditional architecture in architecture education; Gönen winter school model. Procedia - Social and Behavioral Sciences, 47, 2120 –2126. https://doi.org/10.1016/j.sbspro.2012.06.960.

Velioğlu., S. (1994). Türk mekan kültürüne ait örnekler ışığında bazı kavramlar ve güncel tasarımlara yansımaları. Mimarlık Dergisi, 9, 34-38.

Vellinga, M. (2013). The noble vernacular, The Journal of Architecture, 18(4), 570-590. https://doi.org/10.1080/13602365.2013.819813.

Velinga, M., Oliver, P &Bridge, A. (2008). Atlas of Vernacular Architecture of the World, Taylor & Francis Ltd, Routledge.

Winston, A. (2018, May 22). BIG wants to create new styles of vernacular architecture, says Bjarke Ingels, Dezeen, https://www.dezeen.com/2015/05/26/bjarke-ingels-in-our-time-lecture-metropolitan-museum-new-york-new-vernacular-architecture/.

Yüksek, İ. & Esin, T. (2013). Analysis of traditional rural houses in Turkey in terms of energy efficiency. International Journal of Sustainable Energy, 32(6), 643–658. https://doi.org/10.1080/14786451.2013.769992