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REVISITING PREHISTORIC ARCHEOLOGICAL SITES: ENVISIONING FIRST BUILT ENVIRONMENTS TO REPOSSESS GEOGRAPHICALLY SPECIFIC APPROACHES IN ARCHITECTURE

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Prehistoric-Archeological Sites, Built-Environment, Geography, Archaeology, Architecture.

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REVISITING PREHISTORIC ARCHEOLOGICAL SITES: ENVISIONING FIRST BUILT ENVIRONMENTS TO REPOSSESS GEOGRAPHICALLY SPECIFIC APPROACHES IN ARCHITECTURE

Abstract
Since Prehistoric times, architecture had been a human response to an occurring natural setting. Starting from places of dwelling to buildings that no longer only serve physical requirements for survival. Architectural languages were approached initially as an expression of culture, evolution, and growth of a community within a natural setting. This response resulted in the creation of built environments, humanity’s decision to become sedentary. This decision took place in the Late Stone age, a key phase in our timeline. First built environments were born in a time known as the Neolithic revolution, which shown itself as humans transitioned from hunter-gatherer societies to agrarian based ones. Once Nature shaped man, now man shapes nature. We observe the dynamic created between man the hosting setting. While observing this two sided complex operating system through revisiting prehistoric archeological sites, we can notice how various geographic zones birthed a diversity of built environments. However, by observing the paradigm of duality in our modern world, we can see neglected neighborhoods and cities, and more importantly that we failed to fulfill our fair part of shaping our natural setting and this reflected on the state of our communities as well. By repossessing how to be geographically specific in architecture, we can set the parameters to architectural planning that includes nature as a co-partner and as a result attempt to improve the well-being of our neglected communities.

Keywords
Prehistoric-Archeological Sites, Built-Environment, Geography, Archeology, Architecture.
1. INTRODUCTION

“The stone age is the longest period of human history, lasting from 2.6 million years ago to about 5000 years ago. It is also the period of human history that is the least well known relative to late time periods. This period makes up almost 90% of our human history.” (Strom, C.2019)

In concept, little is known about the Stone age. Consequently, this allows us to underestimate the adapting capabilities our distant ancestors possessed. Even though the dwellers of that age didn’t have the technological advancements we have today, they managed to inhabit rawest natural surroundings. Therefore, allowing us to learn new lessons in sustainability. Our ancestors not only understood their natural setting but also communicated with it. More importantly they didn’t impose themselves as exploiters of the lands they inhabited but rather lived to be keepers and protectors of sacred forests and mountains. First built environments were birthed from the hosting landscapes, with each distinctive geography creating a human made setting in conjunction with its surrounding natural context.

1.1 Research Approach

The combined research of archeological remains, anthropological aspects, and geography presents a valuable study model for an in-depth envisioning of the dynamic relation between human and natural setting that lead to the creation of the first built environment and as a consequence an architectural response.

Despite how scarce physical traces remaining from that era are, we as a species haven’t anatomically changed drastically since the late Stone Age. As distant as we may perceive ourselves from our ancestors, the mutuality in the driving forces of our existence is evident. Rather than two separate entities, modern and ancestral communities are a part of one evolutionary process. The role of architecture has also undergone an evolving characteristic. Worker’s accommodation, hunting stations, summer camps, temples, mortuary architecture, and fortifications are all evident examples of architectural typologies being born from those driving forces that we share till today. (Wilkins, H.2009)

1.2 Problem Definition

Following the industrial age, we find that many of the driving forces that we encompass today have shifted to become materialistic, moreover we forget that the state of our existence also depends on the state of our natural setting and how we operate within it. Despite the architectural wonders we have erected in the best of our modern cities, we often detect neglected areas suffering from poverty and inequality in the same geographic zone.

Fig.1 (Left): The glorious megacity of Dubai
Source: Photograph by D. Cheons

Fig.2 (Right): War torn areas of Yemen and Syria
Source: Ownership of UNDP

The huge footprint of materialist based urbanization activities not only had led to the creation of class divided built environments that do not guarantee the well-being of its users but also affects natural contexts and their endemic eco-systems with threats of pollution and exploitation.
As an example we can observe the paradigm of socio-economic duality of our complex modern world through a window to the middle east in which we find glorious megacities in one side (As shown in Fig. 1), while finding war torn, poverty drenched areas in the other (As shown in Fig. 2).

After the second world war, our understanding of architecture has transformed with the spread of globalism. Unique architectural responses around the world were replaced with monotonous concrete blocks. However, in the beginning such responses were a result of a long trial and error based evolution humans have undergone in each distinctive geography (As shown in Fig. 3).

Fig. 3 (a) Top: Materialism Based Architecture
Fig. 3 (b) Bottom: Geographically Specific Architecture
Source: Photographs from Order of Engineers seminar (Ownership of Arch. A. Yeretzian)
1.3 Aim of Study  
Starting from prehistory, built environments were originally a reflection of a given geographic context. Early architectural languages were approached initially as an expression of culture, evolution, and growth of a community within a natural setting. Many still existing vernacular masters pieces are the result of a long evolutionary path initiated by first Neolithic communities. "This research aims to repossess geographically specific approaches in architecture, through envisioning the evolution of first built environments. In order to set the parameters to architectural planning that includes nature as a co-partner and as a result attempt to improve the well-being of our neglected communities."

1.4 Research Hypothesis  
With the paradigm of duality in our modern world at hand, it’s burdensome to propose a divergent outlook on architectural responses to growing megacities with consideration of the socio-economic complexities of our modern world. But what we can do is attempt to create a new approach to architectural planning in areas that are open to change and reconstruction. If equipped with all our collective knowledge we learn about past built environments that were in sync with local geographies, we can attempt to foresee a better future for the ones we have neglected.

1.5 Research Determinants  
This research intends to analyze the origins and evolution of built environments within natural settings in attempt to establish geographically specific approaches in architecture through a multi-disciplinary study involving archeology, geography, and anthropology embodied in architectural responses.

2. LITERATURE REVIEW  
We stumble upon numerous prehistoric archeological sites that witnessed the earliest examples of communal living and the birth of the first built environments during the late Stone Age. This event is known as the Neolithic Revolution. An event that has changed the trajectory of our evolutionary path forever. Taking place after the Younger Dryas (As shown in Fig. 5), a climatic episode in our human chapters that was almost cataclysmic with an Ice Age lasting a thousand years roughly between 12,900-11,800 years ago marking the end of the Pleistocene Epoch. After this climatic episode, change in the global climate and the populations of flora and fauna, triggered the human’s transition from hunter-gatherer societies to agrarian based ones.

2.1 Prehistoric Archeological Sites  
The Fertile crescent was the first geographic region to allow static living after the ice sheets of the late Ice Age starting melting (As shown in Fig. 4). Early humans were able to settle near nutritious rivers such as the Nile, Tigris and Euphrates allowing them to practice agriculture. Many of those sites such as Gobekli Tepe, Catalhuyuk, Jericho and many more are also classified by UNESCO as World Heritage Sites.

Fig.4: Early Civilizations of the Fertile Crescent  
Source: Diamond, Jared (2012).
A. Gobekli Tepe (Şanlıurfa, Turkey) Dating to 10000 B.C: World’s First Cultural Building

Gobekli Tepe, also known as potbelly hill, got its attention for being the first non-domestic built environment, this gives us an idea of the birth of typologies in cultural architecture demonstrated through circular enclosures with limestone T-shaped pillars covered with various engravings of flora and fauna (As shown in Fig. 7). This site was discovered in 1994 by German archeologist Klaus Schmidt. The site is divided into three layers, layer I, layer II, and layer III. The layers are dated to the 10th millennium B.C. The layers demonstrate how hunter-gatherer societies built their first buildings after the last Ice Age, which started out as circular in plan in the beginning, to shift later into rectangular ones. The use of the circular shape is more oriented towards nature. (Schmidt, K.2011)

The Figures presented demonstrate how this area transformed after the last Ice Age. Hosting the first agrarian societies.

Fig. 5 (Top): The Younger Dryas Impact
Source: The cosmic Tusk

Fig. 6 (Bottom): Gobekli Tepe Physical location
Source: Knitter et al. (2019)

Fig. 7 (Top): T-shaped Pillar Art of Flora and Fauna
Source: Schmidt, K.2011

Fig. 8 (Left): Maps showing the climate change in the region
Source: Knitter et al. (2019)
B. Çatalhöyük (Konya, Turkey) Dating to 7100 B.C: One of World’s First Cities

Discovered by James Mellart in 1960s, Çatalhöyük is mostly known for being one of the world’s first cities. This city once hosted up to thousands of inhabitants, with an interesting view on non-central urban layout in which each unit itself is multi-use. The settlers of this area show an unusual mortuary habit of burying the deceased under the flooring. How did the formation of such built environment take place?

Understanding the stages of erecting such city, it’s and adaptations is important to visualize architectural interaction with the natural context. This area is situated at a high of 1000m above sea level, and on the south to the Taurus mountain range, the climate is semi-arid (As shown in Fig. 13) The plateau is rich with diversity of flora and fauna. But the most important feature is the adaptation those prehistoric architects invented, and that was creating a city with no streets and horizontal axis, but rather transferring the urban space onto the roof, and placing all entries on the upper level in adjustments to flood related scenarios. (Rosen, A. and Roberts, N.2006)
Fig. 14: Geographic Map of the region
Source: D. Filipovic, (2017)

Fig. 15: House Unit Reconstruction
Source: UNESCO

Fig. 16: Site Plan
Source: D. Filipovic, (2017)

Fig. 17: House Plan
Source: D. Filipovic, (2017)

Fig. 18: Catalhuyuk Reconstruction
Source: World Heritage Sites
C. Anthropology Within Natural Context

Looking back at our lost chapters of history it’s hard to tell what the social components of such distant communities were. Many Paleolithic cave art wonders leave us in mystery. What is evident nevertheless is that our ancestors like us experienced the unity and growth of their tribes into more complex communities with time. In attempting to find answers to such inquiry we can observe indigenous tribes. Indigenous is defined by oxford dictionary as: originating or occurring naturally in a particular place; native. Native communities are experts of the natural context they inhabit, and don’t impose themselves as exploiters of the lands but rather as keepers and protectors of sacred natural sites.

Fig.19: Indigenous People
Source: National Geographic

Fig.20: Cave Art

2.2 Lessons Learned from Cultural Landscapes and Sacred Natural Sites

A. Terminology

In 1992, the World Heritage Convention (UNESCO), established the term ‘cultural landscape’ and contributed to its protection legally. The word culture comes from the Latin “Colere” (colui, coltum) which means the cultivation of soil. This action is the first a human does in a natural setting. While the word “Landscape” means to shape the land. The concept of this term is mostly summarized in a balanced two party relationship: Human and the natural setting. With previous prehistoric examples that are classified as ‘cultural landscapes’, we can conclude that the influence of hosting geography played a vital role in shaping the first built environment and as a consequence the human’s influence over nature played a huge role in shaping the terrain. (UNESCO, 1992)
B. Tangible and Intangible Values

From the Book ‘Conserving Cultural and Biological Bio-diversity: The Role of Sacred Natural Sites and Cultural Landscapes’ that clarifies UNESCO regulations in Indigenous areas. It’s also very important to consider the spiritual connection between man and the natural setting alongside the physical conditions. Cultural landscapes hold valuable knowledge of cultural sustainability. They are a great part of our collective identity. They are proof of the creativeness of the creator, in which both social and spiritual growth has contributed to shaping the land itself. With the limitless potential and technological tools at hand, and the lessons learned from those unique sites, we can learn how to plan in accordance with nature in full context. (UNESCO Heritage Sites (Ed), 2006)

C. Linking Tangible and Intangible Values

The 7th session of the book discusses the applications performed in linking tangible and intangible values. With all the knowledge at hand we can take a more holistic approach towards sustainability. An approach that embraces the spiritual as well as the social, economic and scientific realms of our communities. One of the examples emphasizes on the addition of a sacred dimension into the planning of natural sites such as Pachamama, known as the mother of earth in Inca culture. In perceiving nature, mountains and rivers are also foreseen as intangible sacred entities as well as tangible geographic features. Some of those applications include:

a. Continuity of original oral traditions, languages and expressions.
b. Performing social practices, rituals and festive events.
c. Gathering of knowledge of nature and eco-systems.
d. Practice of local craftsmanship and agro-pastoral activities.
e. Protection of natural sites.

Fig.22: Tangible and Intangible Values
Source: UNESCO

Fig.23: Human and Nature interaction
Source: A. Abdulghany, (2020).

Fig.24: Cultural and Natural Value
Source: UNESCO

Fig.25: Linking Tangible and Intangible values
Source: UNESCO
D. Globally Important Agricultural Heritage Systems

The term was initially created by the Food and Agriculture Organization of the United Nations. (GIAHS) are landscapes that combine a wide range of bio-diversity as well as cultural heritage. This approach involves the implementation of a set of features and processes that allow a landscape to conserve its endemic eco-systems as well as serve as a source of life for the inhabiting communities. The approach involves the revival of agro-pastoralism in which a combination of various crop and livestock production activities rather than the exploitation of one particular species. Some of those activities include beehives farming alongside fruit trees for example. Neglected communities affected by poverty and inequality have been for years performing such activities in their local habitats, therefore this can serve as a successful and low cost operating system in geographically specific architectural planning and serve as an empowering force for such communities.

2.3 Built Environment

Built Environment can simply be defined as ‘“man-made structures, features, and facilities viewed collectively as an environment in which people live and work.” (Definition from Oxford Dictionary).

In the book ‘Introduction: Definition, Design, and Development of the Built Environment Part 1’ it is mentioned that the components that make up a built environment start from the needs of humans as well as thoughts and actions. When those actions are well planned, this reflects on the quality of life, and when the opposite is done uncomfortable situations are created.

Fig.26: GIAHS Model
Source: World Food and Agriculture Organization

Fig.27: Agriculture in Neglected Communities
Source: FAO

Fig.28: Comfortable Built Environment
Source: P. Vink, (2016)

Fig.29: Elements of the Built Environment
2.4 Geographically Specific Approaches in Architecture

In a published research with the title of ‘Geo-archaeology of Phoenicia’s buried harbors: Beirut, Sidon and Tyre 5000 years of human-environment interactions’ (Geomorphology, Université de Provence) a study was done to uncover the dynamic relation between human and his natural setting. By monitoring the changes that occur through a timeline of 5000 years in the coastlines of Lebanon the researcher was able to identify the effect of human sedimentary activities on chosen landscapes.

Geo-archeology would include the study of archeological remains with a reference to geological, geographic, and natural characteristics. It’s very essential to establish the main defining points of this dynamic interaction. (Marriner, Nick, 2007).

A. Geographical elements of a natural environment:
In any region of earth, the elements of a natural context geographically speaking are the same. They are made of the following:

a. Flora: All plant and tree species.
b. Fauna: All animals
c. Air: Climate, Airflow
d. Water: Rivers, waterfalls, sea, ocean etc.
e. Land: Valleys, mountains, deserts etc.

Each of those elements can serve as a decision supporting tool for future architectural planning, from considerations related to the building itself and within it as well as outward to the natural context.

B. Approaches Towards a Better Future for Neglected Communities
Geographically specific Approaches in Architecture are seen in passive, vernacular, earth and sustainable architecture. All of those styles encourage the use of approaches that do earth no harm, as well as the fundamental understanding of how to exist within a natural setting. Most known pioneers in this field are Hasan Fathy, Nader Khalili, and Frank Lloyd wright. In a materialist world, economy dictates the well-being of a community. Areas affected by poverty, inequality and destruction are the most to pay the price. Reconstructing those areas can be done through the implementation of geographically specific approaches in architectural planning of the chosen built environment. Economically speaking, the construction of such spaces and areas is on the lowest side of cost. Providing the poorest communities, the chance to create such habitat. Earth architecture technologies and materials that can create a low cost and easy to construct solution. With the ease of construction, the users of the spaces themselves can play a major role in the creation of their new home.

2.5 Down to Earth: A New History of Raw Earth Architecture
Building with earth has been around for thousands of years, ever since the prehistoric times. Today those methods are being revived. In the past we find many built environments created with merely the earth on site with remarkable consideration to the natural surroundings. A great example is the still existing vernacular town on Sanaa, Yemen. Showing us the ability to respond to population needs through multi-story building as well.

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By observing the multi-stored marvel of earth architecture in Sanaa of Yemen, we can start visualizing a different future for the sake of our built environments. This example proves that earth architecture, an approach very much geographically specific if combined with modern tools can respond to our current issues.

A. A Hundred Classrooms for Refuge Children – Nader Khalili

Architecture Is A Human Right

The Late Nader Khalili, an Iranian born architect, author, humanitarian and teacher is best known for providing shelter in the developing world and emergency contexts through the use of earth architecture. The philosophy of the project emphasizes on the idea of building for refugees and by refugees in the area of Tell Zaatari refugee camp in Jordan. A philosophy that can serve as a suitable solution for the recovering of affected communities.

Fig.31: Earth Architecture Study
Source: A. Abdulghany, (2020).

Fig.32: Gallery of Pictures
Source: Arch Daily
B. Home for Homeless Children- Volontariat

Another example portrays the various ways earth architecture can be combined with recycling strategies and thus creating a hybrid responding to both low cost requirements and pollution disadvantages. The building complex is built in Podinckerry in India by the NGO Volontariat.

2.6 Parameters of Analysis

The following parameters serve as design supporting tools in geographically specific approaches in architecture:

Table 1: Parameters of Analysis

<table>
<thead>
<tr>
<th>Tangible Values</th>
<th>Intangible Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flora</td>
<td>Eco-system preservation</td>
</tr>
<tr>
<td>Local vegetation and trees</td>
<td>Art inspired from Plants and Trees</td>
</tr>
<tr>
<td>Agricultural Activities</td>
<td>Patterns and shapes</td>
</tr>
<tr>
<td>Endemic Species</td>
<td></td>
</tr>
<tr>
<td>Fauna</td>
<td>Eco-system preservation</td>
</tr>
<tr>
<td>Local animal species</td>
<td>Folk stories and tales</td>
</tr>
<tr>
<td>Animal husbandry and livestock Endemic</td>
<td>Animal considering infrastructure</td>
</tr>
<tr>
<td>Species</td>
<td></td>
</tr>
<tr>
<td>Air</td>
<td>Spaces and buffers</td>
</tr>
<tr>
<td>Ventilation considerations</td>
<td>Social Activities</td>
</tr>
<tr>
<td>Thermal Comfort</td>
<td>Rituals and Festivals</td>
</tr>
<tr>
<td>Renewable energy</td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td>Sacred Entities: Rivers, Waterfalls</td>
</tr>
<tr>
<td>Irrigation and water resource</td>
<td>Cleansing rituals</td>
</tr>
<tr>
<td>Water Quality and management</td>
<td>Conservation</td>
</tr>
<tr>
<td>Renewable Energy</td>
<td></td>
</tr>
<tr>
<td>Land</td>
<td>Agro-pastoral activities on site</td>
</tr>
<tr>
<td>Material for construction</td>
<td>Road patterns and connections</td>
</tr>
<tr>
<td>Land covers and types</td>
<td>Urban planning</td>
</tr>
<tr>
<td>Topography and geology</td>
<td></td>
</tr>
<tr>
<td>Human</td>
<td>Belief Systems and religion</td>
</tr>
<tr>
<td>Socio-economic needs</td>
<td></td>
</tr>
<tr>
<td>Physiological needs</td>
<td></td>
</tr>
<tr>
<td>Cultural needs</td>
<td></td>
</tr>
</tbody>
</table>

3. METHODOLOGY

In this paper, four types of research methodology were used. The first method is the inductive method, which consists of a gathering and presenting of data concerning the chosen case study; ‘Qadisha Valley’. This data is composed of environmental studies to fully understand the given natural context. Topographic and geographic studies are performed as well as a part of understanding the physical state of the valley. As well as a historical study, which presents the archeological excavation taken place at the chosen site, and how both states of static and nomadic
existence is found at the site. The second method, field methodology consists of the photographs and notes taken by the author after performing site visit combined with a questionnaire that was distributed on a sample of specialists in the field over the study of the dynamic relation between man and the natural context since its beginning. The third method, analytical method will include analysis of the given data, as well as a performed analysis of the results given by the questionnaire. Finally, in the deductive method, as a combination of all methods and extracting conclusions and the process of deduction of geographically specific approaches in architecture for creating a better built environment within the natural context. Those four mentioned methods are presented in the research as follows.

3.1 Introducing the Case Study of ‘Qadisha Valley’ in Lebanon

Site Selection

Qadisha Valley holds one of the many undiscovered earliest settlements of Neolithic peoples, the Natufians. Those peoples are one of the first proto civilizations that emerged right after the human’s transition from hunter-gatherer societies to agrarian based ones. In the chosen site, we find a natural context that has its unique tangible and intangible values qualifying it to be classified as a cultural landscape and a World Heritage Site by UNESCO. This can serve as a virtual study model for the in-depth envisioning of the dynamic between human and natural setting. With collective knowledge and technological tools and parameters at hand we can create a draft for geographically specific architectural planning to learn lessons that can be at aid in responding to our current difficulties in the built environment.

The study area is considered a mountainous region, which is 47 km away from Tripoli at the coast and about 115 km from the Capital Beirut. The study area could be divided into two topographic layers:

- The Valley: This layer includes the Valleys of Qadisha and Qanoubine including the Qadisha river, it has an altitude ranging from 900 to 1400 m.
- Elevated Areas: This layer includes the mountain ranges. This part has an altitude range between 1400 to 1900 m.

Fig.34: Map of Lebanon
3.2 Archeological Study

Traces of the Natufian people, one of the first sedentary cultures in the Levant and the world were found in the region (As show in Fig. 37). The excavations were performed under the title of ‘Qadisha Prehistoric Project’ from 2004-2008. A group of caves was studied with activity dating back to 20000 years ago, thus allowing us to have a sample of the Paleolithic living (Hunter-gatherer) and Natufians (First agrarian societies). The site is also rich with more recent heritage value of the followers of the Abrahamic faiths with many religious buildings, saints, and sacred burials. The site was used as a refuge for believers escaping persecution, as well as it being a renowned pilgrimage destination as well as a great attraction of tourists and nature lovers.

Fig.35: Archeological Data

Fig.36: Qadisha Valley
Source: G. Per

Fig.37: Map of Natufian Dwellings

3.3 Visualizing the Geography

Creating a virtual model for study with all of the available data concerning all aspects of the chosen geography can be a great aid in creating a simulation for future geographically specific architectural planning. A set of studies of the environment and the geographic area were performed by the UNESCO and the JICA group. The goal of the study was to help develop and improve the chosen area. The studies done by the organization is a valuable asset in the research of the given site. By understanding all the various elements of the area and the site we can start to set a more proper foundation for laying down conclusions.
Fig. 38: Qadisha Valley 3d Reconstruction
Source: A. Abdulghany, (2020)

Fig. 39: Site Plan and Section
Source: A. Abdulghany, (2020)

Fig. 40: Weather Data
Source: JICA, UNESCO

Fig. 41: land cover Map and Location of Sensitive Eco-systems
Source: JICA, UNESCO
### Table Showing Natural Data

<table>
<thead>
<tr>
<th>Species</th>
<th>Common Name</th>
<th>Places Found</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Apodemus mystacinus mystacinus</td>
<td>Field mouse</td>
<td>Cedars, Bcharre</td>
<td>No apparent danger</td>
</tr>
<tr>
<td>2 Apodemus sylvaticus</td>
<td>Common field mouse</td>
<td>Bcharre</td>
<td>No apparent danger</td>
</tr>
<tr>
<td>3 Crocidura suaveolens</td>
<td>Lesser white-toothed shrew</td>
<td>Bcharre, Cedars</td>
<td>Rare</td>
</tr>
<tr>
<td>4 Ellomys melanurus</td>
<td>Black-tailed dormouse</td>
<td>Bcharre</td>
<td>No apparent danger</td>
</tr>
<tr>
<td>5 Hyaena hyaena sylva</td>
<td>Striped hyaena</td>
<td>Zgharta</td>
<td>Vulnerable</td>
</tr>
<tr>
<td>6 Marles foica sylva</td>
<td>Stone Martin</td>
<td>Hadath El Jibbie</td>
<td>Vulnerable</td>
</tr>
<tr>
<td>7 Microtus nivalis hermonis</td>
<td>Snow vole</td>
<td>Bcharre</td>
<td>No apparent danger</td>
</tr>
<tr>
<td>8 Microtus guentheri guentheri</td>
<td>Levant vole</td>
<td>Bcharre</td>
<td>Growing</td>
</tr>
<tr>
<td>9 Sciurus anomalus sylva</td>
<td>Squirrel</td>
<td>Bcharre, Enden</td>
<td>Very close to extinction</td>
</tr>
<tr>
<td>10 Sus scrofa lyricus</td>
<td>Wild boar</td>
<td>Hadath El Jibbie</td>
<td>Growing</td>
</tr>
<tr>
<td>11 Canis lupus</td>
<td>Wolf</td>
<td>Bcharre</td>
<td>Very close to extinction</td>
</tr>
<tr>
<td>12 Canis aureus sylva</td>
<td>Jackal</td>
<td>Bcharre</td>
<td>Growing</td>
</tr>
<tr>
<td>13 Vulpes vulpes palaeatina</td>
<td>Red fox</td>
<td>Bcharre</td>
<td>No apparent danger</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Species</th>
<th>Type</th>
<th>Places Found</th>
<th>Elevation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Quercus callipinosa</td>
<td>Palestine Oak</td>
<td>lower elevations</td>
<td>1000-1500m</td>
</tr>
<tr>
<td>2 Quercus infectoria</td>
<td>Aleppo Oak</td>
<td>on the slopes of the valley</td>
<td>higher altitudes</td>
</tr>
<tr>
<td>3 Quercus callipinosa</td>
<td>Palestine Oak</td>
<td>on the slopes of the valley</td>
<td>higher altitudes</td>
</tr>
<tr>
<td>4 Cytisus sylvarus</td>
<td>Flower : Cytisus</td>
<td>Forests</td>
<td>1100 and 1500m</td>
</tr>
<tr>
<td>5 Adenocarpus complicatus</td>
<td>Flower : Adenocarpus</td>
<td>Forests</td>
<td>1100 and 1500m</td>
</tr>
<tr>
<td>6 Holmiun umbelatum</td>
<td>Umbel-flowered sun rose</td>
<td>Forests</td>
<td>1100 and 1500m</td>
</tr>
<tr>
<td>7 Cedrus libani</td>
<td>Ever-green tree</td>
<td>Elevated Areas</td>
<td>1500 and 1800m</td>
</tr>
<tr>
<td>8 Cuculit ferris</td>
<td>Ever-green tree</td>
<td>Elevated Areas</td>
<td>1500 and 1800m</td>
</tr>
</tbody>
</table>

### Elements of the Given Geography

**Source:** A. Abdulghany, (2020)

**Fig. 42:** Tables Showing Natural Data

**Source:** JICA, UNESCO

**Fig. 43:** Elements of the Given Geography

**Source:** A. Abdulghany, (2020)
3.4 Linking Tangible and Intangible Values- Qadisha Valley

From the 8th session of ‘Conserving Cultural and Biological Bio-diversity: The Role of Sacred Natural Sites and Cultural Landscapes’ that clarifies UNESCO regulations in Indigenous areas, Qadisha Valley is suggested as an example in the process of linking tangible and intangible values as well as ways of managing of an Associative Cultural Landscape (World Heritage Site Classification). The proposed suggestions are as following. (UNESCO Heritage Sites (Ed), 2006)

a. Creation of cultivated terraces (Agro-Sylvo-Pastoral Activities)
b. Combining agricultural traditional activities with the Mediterranean geography.
d. Dividing intro zones of forest populations and zones of agro-sylvo-pastoral activities.
e. Preserve cultural heritage from prehistoric adaptations to religious asylum seeks of Abrahamic faiths.
f. Revive the use of the local ancient Syriac languages.
g. Preservation and management of soil.

![Image: Gallery of Components]

Fig.44: Gallery of Components
Source: A. Abdulghany, (2020)
3.5 Site Visit
A site visit was performed in the attempt to physically experience the given natural context, in which both nomadic hunter-gatherer dwellers in caves and static agrarian societies in the valley existed. By visualizing both settings we can get a better view of the transition humans took thousands of years ago.

- First observation: Existing signs indication the locations of the burials of sacred persona.
- Second observation: Despite the municipal effort to conserve the area, the site has witnessed vandalism actions and lacks management.
- Third observation: Some of the existing built structures such as roads with vehicular movement lead to the killing of a unique reptilian species.
- Fourth observation: High-lands of Paleolithic Cave Dwelling (Nomadic).
- Fifth Observation: Low-lands of Neolithic Sedentary activities (Static).

3.6 Questionnaire
An anonymous questionnaire was designed and distributed on 100 educated people of archeologists, historians, anthropologists, geologists, architects. The questions tackled questions related to the knowledge of prehistoric sites and the transition humans took. The questions were as following:

1) As a history researcher, can you say that previous events and cycles repeat? (Yes, No, Other)
2) What other than geographic conditions triggered the human to become sedentary and transition from hunter-gatherer societies to agrarian based ones? (Short Answer)
3) If sedentary activities were triggered by the convenient natural conditions, can the opposite (Cataclysmic events, Near extinction level events, etc..) turn us back into nomadic hunter-gatherer like societies again? (Yes, No, Other)
4) In your opinion, were the first built environments geographically specific? (Yes, No, Other)
5) From archeological findings and recorded activity during the stone age, can you say humans were more aware of the natural setting? (Yes, No, Other)
6) In a site like Catal Huyuk, a decentralized urban layout was used without any emphasis on specific buildings, does that imply the absence of social hierarchy in first societies? (Yes, No, Other)
7) In your opinion, can the social structures of the indigenous tribes be considered a valuable study model linking us with our forgotten ancestral social structure? (Yes, No, Other)
8) In your opinion, what was the building typology of Gobekli Tepe? (Ceremonial Site, Temple, Astronomical Observatory)
9) Can architecture benefit from the study of those stone age sites in finding more harmonious languages in building within nature? (Yes, No, Other)
10) What were the most frequently used materials and building technologies used in stone age human-made surroundings? (Long Answer)
Some of the responses to the given questions were as following:

1) ‘Maybe because our evolution does not have a strictly linear path, that’s why it feels like repeating.’

2) ‘It wasn’t an event. It was a long transitional process influenced by a number of factors.’

3) ‘The scarcity of resources due to increasing population accompanied with a larger rage of diversification in mass wants and needs’

4) ‘Only if population levels drop precipitously’

5) ‘No because the knowledge we acquired over the years helps us to steps ahead’

6) ‘They were picked based on critical trial and error experiences, so yes they were specific and appropriate.’

7) 64% replied ‘Yes’, 36% replied ‘No’

8) ‘Yes, it gives off a reassurance that human tribes were like an extended family; commonly used spaces and a built environment that behaved like a home.’

9) 68% replied ‘Yes’, 32% replied ‘No’

10) ‘Maybe they approached all the above as one idea.’

11) ‘Indeed it can!’

12) ‘clay and straw’

13) ‘I do believe they had more technologies than we think but regarding the materials I think they built with local materials’

3.7 Findings

In a raw natural setting such as Qadisha Valley, the site visit provided a closer look into the circulation patterns found in a natural setting. With mountainous elevations reaching up to 3000m above sea level and deep valley enclosures reaching down to 1000m above sea level, we can experience a different perception of our human scale. The lower a visitor descends into the valley, the more micro he/she will feel. The existence of forest land, wetlands, terraces and elevated lands allows us to plan updated circulation patterns that include the various layers of a geography as well as existing eco-systems.

Furthermore, from the questionnaire we can conclude that humans were more aware of their natural setting, even though different from our perception today. Moreover, in order to survive the rawest natural settings, humans adapted by noticing and interacting with each and every aspect of the natural context. Primarily climate resulted in the transition from nomadic to static, yet we can’t underestimate the human factor when built environments were created. It’s a process initiated by convenient natural conditions infused with human emotion, evolution, and increased population. Yet it’s time we re-evaluate this relation, we are visitors on this planet and not exploiters of the lands we inhibit.
3.8 Discussion

Now that we can visualize the geography with all of its biodiversity, and also have acknowledged the tangible and intangible values, we can start planning the virtual study simulation in which clusters of units are proposed to be situated depending on the function and activities of each unit as well as its location in terms of geographical and natural context. With addition to the application of the GIAHS model of mixed agriculture (As shown in Fig.47).

![GIAHS Model for Mixed Agricultural Use](image1)

**Fig.47: GIAHS Model for the Given Geographic Region**
Source: FAO

![Key Plan and Section](image2)

**Fig.46: Key Plan and Section**
Source: A. Abdulghany, (2020)

<table>
<thead>
<tr>
<th>Layer</th>
<th>Unit Type</th>
<th>Elevation</th>
<th>Location</th>
<th>Reason</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>River Basin</td>
<td>Cultural Center</td>
<td>Lowest Point</td>
<td>Nearer to river</td>
<td>Core of settlement</td>
<td>Central and connected to all</td>
</tr>
<tr>
<td></td>
<td>Healing Units</td>
<td>Middle Point</td>
<td>Nearest to river</td>
<td>Water is a healing body</td>
<td>Source by UNESCO C.I.</td>
</tr>
<tr>
<td></td>
<td>Residential Units</td>
<td>Highest Point</td>
<td>Middle parts</td>
<td>All Row and sunlight</td>
<td>Unit face south for most sun</td>
</tr>
<tr>
<td></td>
<td>Crafting Units</td>
<td>Lowest Point</td>
<td>Near to River Basin</td>
<td>Worker stations</td>
<td>For rest/healing/trading</td>
</tr>
<tr>
<td>Cultivated Terraces and Forest</td>
<td>Agricultural Units</td>
<td>Mixed</td>
<td>South side of valley</td>
<td>Most amount of shade</td>
<td>Shade is needed for food storage and also fire is used, daylight is necessary for learning activities</td>
</tr>
<tr>
<td></td>
<td>Food Units</td>
<td>Highest Point</td>
<td>North side of valley</td>
<td>Most amount of daylight</td>
<td></td>
</tr>
<tr>
<td>Mountain Heights</td>
<td>Learning Units</td>
<td>Lowest Point</td>
<td>Both sides of Valley</td>
<td>High altitudes for spiritual activities</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Spirit Units</td>
<td>Middle Point</td>
<td>Both sides of Valley</td>
<td>Religious personnel took mountain heights as places of prayer</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refuge Units</td>
<td>Highest Point</td>
<td>Both sides of Valley</td>
<td>Nearest to neighbouring towns</td>
<td>For post-apocalyptic refuge</td>
</tr>
</tbody>
</table>

**Fig.48: Proposed Program**
Source: A. Abdulghany, (2020)

By applying the parameters of analysis of geographically specific architecture we can formulate a program that responds to all of the existing geographic layers as well as the tangible and intangible values of the cultural landscape. In future planning, many tools such as GIS and virtual reality can help us not only bring those natural contexts to life virtually but also to make use of all available data related to the natural conditions for geographically specific approaches in architecture.
CONCLUSION

As we are reaching the dawn of the age of information, despite all technological advancement and progress, we find ourselves stranded further away from our natural setting. The effects of the following have contributed to the depletion of earth’s natural resources, destruction of valuable eco-systems, and the weakness of our communities in both the health aspect and the social aspect.

In planning our future, with all the knowledge we possess and the technological tools, we can find various ways in shaping our future built environments and reviving the ones we have neglected. Perhaps finding a new holistic approach to sustainability in which even the most marginalized communities can be a part of is as essential as all of the previous attempts made in that area. These approaches not only can eliminate inequalities and raise communities from poverty, but also allow us to imagine an alternative future in which architectural planning of our built environments that is in conjunction with the hosting natural context.
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