

The Spatial Changes of Syrian Courtyard Houses from Traditional to Contemporary

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Submitted to the
Institute of Graduate Studies and Research
in partial fulfillment of the requirements for the degree of

Master of Science
in
Interior Architecture

Eastern Mediterranean University
January 2020
Gazimağusa, North Cyprus

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ABSTRACT

The Syrian traditional courtyard houses, especially sampled in Damascus, remained an impressive source with regard to architecture, as they had, and still have appropriate features fulfilling human needs. In these houses, trees, flowers, beds and interior fountains (Bahras) are commonly enjoyed. The Syrian traditional courtyard house is a distinct architectural entity that reflects the socio-cultural, climatic, and physical needs. It is in line with the raw materials available in Damascus and its adjacent mountains. At the same time, Damascus is rich in many types of handicrafts and human skills, which is kept alive throughout successive generations. These also take place in the courtyard houses. Today, contemporary buildings have replaced the traditional Damascus courtyard houses mainly, in which generations of the family have lived. Therefore the residents of the courtyard house have left their homes for various reasons and these houses have been replaced by other residents. Also, today the traditional Damascus houses are suffering from other problems. The new residents no longer take care of the courtyard houses as their original owners took care of, especially after the death of the original owners. The owners of the houses became many, for example. They no longer take care of the houses as before. In addition, reciprocity of contemporary life styles applied to the courtyard houses led to some changes. The reasons behind these various changes can be increased. For these reasons, the this research is structured to shed more light on these courtyard houses, which are valuable in terms of world cultural heritage. The contemporary life and its effects on these houses are researched. Factors of change referred to in this study as globalization, culture, privacy, materials and method, technology affected these courtyard houses. This has been focused throughout the study. To confirm their effect,

the research made a direct observation of the courtyard houses in Damascus, and it became clear that the factors of change have affected the courtyard houses in different ways, and each factor had an effect that differs from the other. The concept of privacy, for example, greatly affected the courtyard house formally and ideologically; and led to a change in the spatial origination of the courtyard house. Accordingly, it can be said that contemporary life brought to the courtyard house becomes factors that affected the spatial changes in house.

Keywords: courtyard houses, traditional Syrian houses, social factors, physical factors, contemporary life.

ÖZ

Şam'ın geleneksel avlu evleri geçmişte ve hala daha insanların ihtiyaçlarını karşılayan özelliklere sahip olduğundan mimarlıkta etkileyici bir kaynak olmayı sürdürmektedir. Bu evlerde ağaçlardan, çiçekliklerden ve iç süs havuzlarından keyif alırız. Suriye'ye özgü geleneksel avlu evleri sosyo-kültürel, iklimsel ve fiziksel ihtiyaçları yansıtan belirgin bir mimari varlıktır. Şam'da ve yakınındaki dağlarda bulunan hammadde ile uyumludur. Aynı zamanda Şam, başarılı jenerasyonlar tarafından canlı tutulan çeşitli el sanatları ve insan becerileri bakımından da zengindir. Bugün, çağdaş binalar birçok aile jenerasyonunun yaşadığı geleneksel Şam evlerinin özellikle avlu evlerinin yerine geçmiştir. Bundan dolayı avlu evlerinin sakinleri birçok sebepten evlerini terkedip diğer sakinler tarafından yer değiştirmiştir. Ayrıca, bugün geleneksel Şam evleri birçok problemden sıkıntı çekmektedir. Yeni ev sakinleri özellikle eski ev sahipleri öldükten ve ev sahipleri çoğaldıktan sonra artık eskiden asıl ev sahiplerinin dikkat ettiği gibi avlu evlerine özen göstermemektedir ve ev sahiplerinin sayısı da çoğalmıştır. Önceki gibi özen göstermemelerine ek olarak, günümüz yaşam biçimini avlu evlerine uygulamaları evlerin değişimine yol açmıştır. Bu değişikliklerin arkasındaki sebepler artabilir ve çeşitlendirilebilir. Bu nedenle, araştırmacı dünya kültürel mirası olarak bu değerli evlere daha fazla ışık tutmak için bu araştırmayı yapmaya karar vermiştir. Günümüz yaşamı ve bu evler üzerindeki etkileri araştırılmış ve bu çalışmadaki değişim faktörleri olan küreselleşme, kültür, mahremiyet, malzeme ve yöntem, teknolojinin bu evleri nasıl etkilediğine odaklanılmıştır. Etkileri onaylamak için çalışmada Şam'daki avlu evlerinde doğrudan gözlem yapılmıştır ve değişim faktörlerinin avlu evlerini farklı yollarla her faktörün etkisinin birbirinden farklı olacak şekilde etkilediği belirginleşmiştir.

Fakat mahremiyet konsepti, avlu evlerini şeklen ve ideolojik olarak büyük ölçüde etkileyerek avlu evlerinin mekan organizasyonunun değişmesine yol açmıştır. Bundan dolayı, çağdaş yaşamın avlu evlerini ve içindeki değişiklikleri etkileyen faktörleri ortaya çıkardığını söyleyebiliriz.

Anahtar Kelimeler: avlu evleri, geleneksel Suriye evleri, sosyal faktörler, fiziksel faktörler, çağdaş.

DEDICATION

This thesis is dedicated to my parents for their love, endless support and encouragement.

ACKNOWLEDGMENT

First and foremost, praises and thanks to the God, the Almighty, for His showers of blessings throughout my research work to complete the research successfully.

I would like to express my deep and sincere gratitude to my research supervisor Assoc. Prof. Dr. Ayşe Banu Tevfikler for giving me the opportunity to do research and providing invaluable guidance throughout this research. she has taught me the methodology to carry out the research and to present the research works as clearly as possible. It was a great privilege and honor to work and study under her guidance. I am extremely grateful for what she has offered me. I would also like to thank her for her friendship, empathy, and great sense of humor.

There are many other great people who in many ways contributed to the success of this thesis. I would like to thank all the interview and the owners of the houses from Damascus for their valuable time, contributions and kind participation in this study.

I am extremely grateful to my parents for their love, prayers, caring and sacrifices for educating and preparing me for my future. Also I express my thanks to my sisters, brother, for their support and valuable prayers. My Special thanks goes to my brother Mohammad Sahlabji for the keen interest shown to complete this thesis successfully

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Chapter 1

INTRODUCTION

1.1 Study Background

Traditional architecture represents the residents' social character, enabling one to think about their social life, habits, and lifestyles (Ettehad, Karimi Azeri, & Kari, 2005). Therefore, traditional architecture is influenced by the memories of past events of societies, and their absence often means the loss of common memory (Rehabimed, 2007). Traditional architecture is also associated with individuals' personal memory, and it is also the environment for the practices they seek to maintain and retain (Lea & Runcie, 2002). The traditional architecture house attributes great importance to the house. We can describe traditional architecture generally as regions of self-cultivated organic growth rather than utilizing previously planned urban grids (Badran, 2002), as the size of the family is the main determinant of the creation of the house. We consider certain architectural styles that include several individuals, such as the courtyard house, originating from the tradition of occupying the same public space with the main family. Family relationships play a major role in creating a sense of security, affiliation, and confidence (Rapoport, 1969).

Courtyards are closed outdoor spaces which usually open to the elements at their top; another concept of the courtyard is "an unroofed area that is completely or partially enclosed by walls or structures, generally one that is part of a castle or a large house" (Lea & Runcie, 2002).

Old houses in Syria in Damascus are palaces in the full sense of the word. What separates these houses from others is more than one item; the first thing that may render these houses museums or galleries, for example, are the paintings that decorate the walls of these houses. In fact, the old Damascene houses were the resting places of the people, offering their artistic pleasures and reflecting them in their social life (Reda, 2015).

Courtyard accommodation dates back to the start of the third millennium BC, when it appeared between two rivers, Tigris and Euphrates, in the buildings of Syria and those of the world. Throughout their journeys and stays in the desert, Arab nomads used the idea of a courtyard (Amini, Mousallam Sakka, 1993). They would set up their tents around a central area that would provide their cattle with shelter and protection.

The courtyard became an integral typological item with the growth of Arab-Islamic architecture. The former nomadic lifestyle of Arabs in the desert is likely to have a strong influence on their permanent accommodation (Rabbat, Nassar, 2010). Therefore, the courtyard fulfills a deep-rooted need for an open living area, as can be seen in many examples of damasked courtyard houses (Ferti, M. Salim, and Mandour, M. Alaa, 2008).

Finally, the old Damascene houses are an important wealth because of the architectural items, which were originated and developed in this city over hundreds or even thousands of years. They are the product of the Damascene human interaction with its environment and surroundings. He used the local building materials of clay, stone and wood, to create his place of residence, commensurate with his social, economic, and

religious circumstances. He added artistic touches which increase the house beautiful and magnificent.

1.2 Problem Statement

Recently, many households focused on multi-story apartments as an option for affordable housing compared to large courtyard houses (Al Khalaf,2014). Changes in the family structure of lifestyles and changes in concept are the likely reaction of such traces as the necessities of the modern world. Thus, in contemporary architecture, the courtyard house of the Arab world with its inner courtyard has been unusual and almost disappeared.

On the other hand, aspects of the traditional house concept in architecture are absent from nearly all Syrian houses over a period of time (Kuloglu & Serap Durmus, 2014) for many reasons: social factors, globalization, lifestyle, privacy, physical factors, rapid development led to the use of foreign materials and methods, technology.

While the modern-day lifestyles may seem to fit better in various types of houses, one of the best options for family life is still "courtyard houses". Nevertheless, other ideas suggest the court serves as a place for contact for all family members, and allows the family to behave as a group and support public social interaction in the garden within the courtyard. This study would challenge the ability of courtyard houses from conventional to contemporary to find the solution to a transition and transformations of courtyard houses in Syria. There's a lot of research concerning courtyard houses in Syria, but really little effort of research has been done involving the changes in our contemporary era and how it influenced the layout of the courtyard houses.

1.3 Hypotheses

Contemporary life has caused changes in the courtyard houses in Damascus. The researcher assumed that social and physical factors caused changes in the courtyard house, and the researcher conducted this research to see how these change factors affected the courtyard house in order to determine the extent of its impact. Accordingly, this research was conducted in Damascus to find out to what extent the factors of change affected the courtyard houses still inhabited in Damascus.

1.4 Aim and Objective

The research seeks to investigate the changes that have occurred in the current era in the Syrian courtyard buildings. Because of several reasons such as globalization, society, privacy, materials and methods, and technology, people have made changes in courtyard houses to enable them cope with their lives.

This study also defines the objectives below:

- To awaken the awareness, not to the architects but to the residents, of the importance of preserving the courtyard houses to extract the variables of our present world and to know how they were architecturally inserted into the courtyard house to make it fit with the age in which we live.
- To use the Arab house features and extract useful sustainable procedures from it, in this study we try to figure out how could we apply current dweller needs without causing traditional courtyard houses to lose their aesthetic and be distorted.
- To protect the origin of the house, how it was long ago, and draw attention to houses and that they are still livable and must be taken care of.

1.5 Methodology and Data

The thesis is mainly based on two directions: the first direction: qualitative by using (literature review) collecting data through books and articles to reach the research gap. In addition, the literature was used to search for the factors of change and their impact on the Arab world in general, Damascus in particular. The researcher then conducted direct observation through visiting the courtyard houses in Damascus and doing interviews with the owners of the house to investigate the effect and the degree to which the factors of change extracted from the literature affected the courtyard houses of Syria.

Data Collection

Across the research process, Data collection is an important element (Hart, 1998). In planning the literature review, the researcher will develop an understanding of the theoretical history of the research field and will also be able to establish the validity of their entire presence, which is not to be believed unless it is presented in the light of such a review (Wolcott, 2001). The literature reviews, which represent the first phase of the investigation to reach the goal of the research, include many literature references and books related to research. These references aim to reach an understanding of the research problem. while the second chapter, collected the types of traditional Syrian houses in general and carried out to explain more about the history of the courtyard house in Damascus and how influenced by changes in historical periods. The third chapter gives a closer look at the courtyard house and a more in-depth explanation of the interior architectural elements. In this part of the research, the researcher relied on references and literary books related to the previous topics and on the Arab literature references and articles published in the Syrian Arab Society, Branch of Architecture, in addition to books in Arabic about the courtyard house that is especially located in

the library and publishing houses of Syria. Moreover, Syrian writers talk about traditional Syrian houses. The fourth chapter reviewed the factors of change that will be evaluated later in the courtyard house. All this information was taken from various sources of literature review to understand the emergence and evolution of factors of change and globalization, culture, privacy, methods and materials and technology helped to understand the variables in general and how they affected the world as a whole. After that, the researcher made a summary of the outputs of the second, third and fourth chapters and linked them to the courtyard house through which the researcher analyzed literature review to be studied later in the courtyard house in Syria with interviews conducted.

Data Analysis

After collecting information about literature and making a table of the criteria that will be evaluated in the courtyard house in Syria, the researcher conducted an analysis of the courtyard houses in Damascus. Today, by traveling to Damascus and going to Bab Touma to interview the residents and take pictures of the house, the house will be chosen according to its function which is accommodate because in this time many courtyard houses changed the functional for it from a houses to restaurants or hotels. Observation is particularly useful in (a) gaining a better understanding of the context studied, (b) gaining new perspectives, (c) getting closer to the people encountered and building a better relationship with them, (d) recognizing and assessing the attitudes and actions of individuals or groups in order to achieve a full view of the context studied, (e) enabling the observer to be inductive and discovery oriented (Patton, 2002). In this thesis direct observation is the approach used in qualitative research to collect data. Many terms are used to conduct ' field-based observations, ' such as '

participant observation, qualitative observation of fieldwork, direct observation, and field research ' (Lofland, 1971) cited in (Patton, 2002).

As for the interviews, they were open questions about the date the house erected to find out what time the house dates back, how many generations lived in the house, and how they used the courtyard area in the past and today, and what changes have occurred in the rooms of the courtyard house in general, especially in the bedrooms, what are the changes in the house of the courtyard, and what they want to change if given the opportunity. The researcher interviewed the largest individual in the house because he lived in the old time and today, he is facing the changes that have occurred in the world and how they affected the courtyard house using the method of verbal history. In addition to drawing the old and recent plans for the house today by the researcher to make a match between the criteria of change and what the researcher found during the observation, analysis and interviews to reach the goal of the study.

When the researcher performed a direct analysis of the houses, people were welcome to do the interviews, as the choice of houses was random by the researcher, and the researcher did not know the owners of the houses in addition to the people in the streets and alleys of the owners of the shops tried to help the researcher to find houses. In addition to the fact that it is worth praising the hospitality of the owners of the houses that were visited, but at the same time they were somewhat discreet to photograph the rooms on the second floor and the bedrooms in particular because they are considered a private space.

1.6 Research Question

How does culture influence the traditional lifestyle and form of traditional houses?

What is the effect of transition influences, such as social factors and physical factors, on the architecture of the courtyards that have designed them today?

What are the different styles of Syrian traditional houses?

What are the major causes of changes in the courtyard houses is it globalization, society, privacy, materials and methods and technologies taken place and if it is how?

1.7 Limitation of the Study

This thesis will determine in terms of the place where it will focus on the courtyard houses in Damascus for the ease of finding the courtyard houses in old Damascus in addition to the researcher from Syria will be given an opportunity to know more in this region. The reason for choosing the Toma area in old Damascus is because the straight street in Bab Toma is one of the oldest streets mentioned from the Ayyubide period, so the researcher chose his examples from that region. The type of house (the house of the courtyard) was chosen despite the presence of other types of traditional Syrian houses, such as the primary house - the Rewaq house - the liwan house, and so on because it is one of the most beautiful types of houses throughout history, and because we can find such houses in the old Damascus nowadays. Moreover, the houses still used as a house will be chosen. There are many courtyards houses whose functions were changed in Old Damascus but the focus was on houses used as a house.

1.8 Organization of the Thesis

The thesis will consist of major six chapters. The first chapter explains the aims, problems, hypotheses, aim, methodology, data collection, data analysis, research question and limitation of the study. the second chapter investigates the historical

background of traditional houses especially in terms of architectural features of the period in Syria the study will include information about the main area in Syrian courtyard house and a historical overview of the urban development of Damascus and its impact on the traditional housing structure, the third chapter examines of courtyard houses in Damascus in details such as architectural and interior element in the courtyard damascene house houses . The fourth chapter examines the changes and transformations of courtyard houses from the traditional to contemporary through providing the factors of change that effect in the traditional Syrian houses the fifth chapter providing examples form damascene courtyard house and makes an evaluated to the examples selected from Damascus .in the sixth chapter the conclusion and recommendation.

Table 1: Explanation of the research design. (by author)

Chapter 1: Introduction						
Study background	Problem statement	Hypotheses	Aim and objective	Methodology and data	Research question	Limitation of the study
Chapter 2: Literature review						
Types of Syrian houses				A historical overview of the courtyard Damascus houses		
Chapter 3: Literature review						
General description of traditional courtyard Damascus house						
Chapter 4: Factors of Change						
Globalization	Privacy	Culture	Materials and methods	Technology		
Chapter 5: Chosen example						
Interviews				Direct observation		
Chapter 6: conclusion						
Conclusion				recommendation		

Chapter 2

THE HISTORICAL BACKGROUND OF TRADITIONAL HOUSE TYPES IN SYRIA

2.1 Traditional Syrian Houses

Building styles in Syria are rich in diversity; they can vary by region and lifestyle. Two dominant lifestyles, however, produce a significant building and house difference: nomadic and sedentary (Ragette, 2003). The first lifestyle is called nomadic and as a daily economic activity depends on pastures; in search of pastures and water, it requires constant migration from one place to another. These people are called "Bedouins". The second lifestyle is the sedentary lifestyle that is usually associated with towns and countryside. Depending on the location (seaside, mountain, valley, etc.) The internal partition divides the house into two areas: one for the occupants and one for the animals. In this greenhouse, seasonal vegetables are usually grown. (Levant, Traditional Syrian Architecture, 2004) In this chapter an overview of the styles of traditional Syrian houses starts with a tent in the courtyards.

2.1.1 Non-and-Semi-Sedentary House Types in Syria

the Near East desert plain is the natural habitat of nomadic and semi-nomadic herds where sheep graze until the beginning of summer. Thus, the shepherds led their flocks into the cultivated plains when rain was scarce (Inceruh,2012).

2.1.1.1 Tent

The tent is the cultural heritage of the nomadic Bedouin tribes that exists only in desert and semi-desert areas, where there is low rainfall, and social relations are on a tribal basis, with lots of movement, and travel communication. The tent construction meets the need for seasonal movements in orderly manner. The nomads whose main source of livelihood is sheep and goats have developed this simple structure through the use over thousands of years of materials available to them (Inceruh,2012). They are typically a family tent and are divided into two parts, men's and women's, by setting up reed mats. Each of these areas has a fireplace, one for making coffee and the other for cooking. People are sleeping on the ground's carpets laid on mattresses. Daytime use of the interior space reveals the extraordinary character of the living space design of a Badouin. Through opening the whole length of one wall, people enjoy the shaded open space, and by doing so, nearby outdoor areas become part of the living and working environment that blends well into the Bedouin way of life (Hariri,1996).

Tents are used for multiple purposes they can vary in size depending on the assigned role or use having separate guest portion. Some other tents, including the kitchen and cooking, are small for household tasks. Thus, the tents of the one family are grouped around the open space for family gathering that the open sides of these tents overlook. The crude forms of the courtyard were this well-defined space and the open side of the tent and it's Riwaqs in the sedentary forms of the house (The CORPUS, 2003).

2.1.1.2 Dome Houses

The design of the dome or cupola is commonly used in northern Syria and in southern Turkey's Harran plain. This Near East area is where clay and significant water are available to build this style of house. This style is seen in a region of more settled rural

mode of life (with Bedouin background) lingering with small village agricultural activities or near small towns serving as centers of Bedouin tribes (Ghiyas, 1984).

The cupola house has a central courtyard, surmounted by vaults, surrounded by rooms. In this courtyard, the household usually gathers. It is the first multi-functional type of courtyard used as a central area for living and planting while, in addition to the separate kitchen and in some cases a toilet is seen, its sides are used for bread oven firewood. Thus, the more developed rural form, which has a defined entrance, has brought more separation of activities on the actual plan. The houses that are still visible today are 40 or 50 years old, but this type is much older and dates back to the dawn of time (Besenval, 1984).

The dome's shape could be seen as symbolically evoking the tent, the earthen dome house originated and evolved over time. Thus, the owner-builder translates certain social and cultural needs into his house.

Single-Dome Structure

This is the simplest type of housing where the interior is arranged to meet all domestic requirements. One part has a 20-25 cm high floor covered with mats or carpets, which is the space for living and sleeping in a corner with blankets and sheets food, drinking water, tools and kitchen utensils are stored (G. A. 2012).

Twin-Dome Structure





The household unit is most often combined with a single cell. The nucleus may occur in isolation or with a perimeter fence surrounding it. Even in cases where there are no perimeter walls or explicit boundaries surrounding a courtyard, implicit signs (surface

or ground level changes) are always present to announce the residence's progressively private domain (Dipasquale, Camilla and Fernando, 2007).

Multi-Dome Structure

In the more advanced form of living unit, dome sets are arranged in line on one or more quadrilateral sides, a dome used as a house cannot be differentiated from that used as a granary or stable. Therefore, the same typology of architecture is that the house area usually has an elevated terrace (Mastaba) at the house's main entrance. (Levant, 2004). The use of a permanent tent near the house can be used for livestock accommodation, straw and firewood processing, or milk products preparation (Alyundi, 1984).

Table 2:Dome types in Syrian houses (by author):

Dome types	Picture of the dome types
Simple dome	 <p>Figure 1:simple dome. (Levant C. , 2004)</p>
Sultan dome	 <p>Figure 2:Sultan dome. (Levant C. , 2004)</p>
Transition dome	 <p>Figure 3:Transition dome. (Levant C. , 2004)</p>
Domes on the flat-roof	 <p>Figure 4:Domes on the flat-roof. (Levant C. , 2004)</p>

2.1.2 Sedentary (Rural and Urban) houses Types in Syria

This category of houses consists of rectangular types of house, Liwan, Riwaq, and simple styles of courtyards. Generally, either walls or buildings enclose each house to secure the privacy of women's household works. Massive building and wall system strengthen the micro-climate of populated areas and protects people from the sun, wind and dirt (Inceruh, 2012).

2.1.2.1 The Basic Houses

This is the most basic typology and the most basic house type. These origins of this type of house are quite old it was constructed until the beginning of the 20th century. This is made up of four walls made of stone or mud, and earth roofing connects joists and beams, and within arches are posts. It is clearly the most basic, original and traditional house in the Near East. The house is fashioned from thick load-bearing walls, built from on-site materials (Asali & Iyas , 2016) .

The walls in the simplest form usually do not have large openings. The interior design contains various levels that outline the house's functional characteristics; bedrooms, living rooms and food storage spaces are elevated with several stairs that clearly define these areas. Many external tasks such as cooking, baking, sleeping during the summer, and storage of agricultural products are assigned to an external area also connected to it by an outhous. (CORPUS, 2003).

2.1.2.2 The Houses with A Riwaq

The word "Riwaq" in Arabic is translated as a gallery, loggia or portico. In Roman or Italian house (Arch and column series) this may give an impression of element. These architectural features of these elements suggest that these buildings in the Near East were down and origin. The word Riwaq used here refers to a crude type of space that, through a series of supports, is open to the outside (Rabat, 2002).

The Riwaq house is, in principle, a rectangular / basic house extension. The Riwaq, however, serves as an open entrance space, as an extension of the interior space, and as a connecting space for single rooms combined into one unit. Another significant Riwaq feature is to provide the family with a shaded space as an outdoor living and work place. North is the most common orientation (Asali & Iyas , 2016).

The Riwaq house is used primarily for household purposes. The main room is in a central location behind the Riwaq. Certain domestic needs are met by the side rooms: sleeping, cooking, etc. In rural surroundings, the ground floor is used to shelter animals and store tools (CORPUS, 2003).

2.1.2.3 The Houses with a Liwan

The expression "Liwan" is of Persian origin, originating from the Persian word "Aivan," which originally meant open space, and is mostly seen in courtyards houses, as in the major inland urban centers of Lebanon, Syria, Iraq, Iran, and southern Turkey. The Liwan is a core area that consists of a very wide arch: it plays a key role in arranging and distributing the various rooms and the house. To one side, this central space is open-air and is surrounded by two rooms (Jäger,2012).

The liwan was initially Persian, and can also be seen in some courtyard buildings, such as Damascus or Aleppo, as well as in some courtyard rural houses. The iwan is a place to rest and relax, beyond its role as a central area Iwan's house is mainly a family (Rabat,2002).

The iwan is in a central position at all times. For domestic life, the two side rooms are used: sleeping, cooking, etc. The iwan is sometimes an area for work activities, storage of tools, shelter for animals. The doors of the side rooms open onto the iwan but the

windows from the opposite walls, opening the rooms to open air and exterior light. Most domestic tasks, such as cooking, baths and toilets, were outside as well as part of the agricultural job (Asali & Iyas , 2016). This house's Persian roots may go back to the 11th century, but this is not the case with houses still existing today: they date back to the 18th century until the middle of the 19th century (Corpus, 2003).

2.1.2.4 The Courtyard Villager Houses

The Courtyard Villager House has two models:

First Model: A flat-roofed house in the villages of the Syrian suburbs, you can find a style of houses with a variety of shapes so dimensions that have courtyards. And there are plenty of convenient rooms around the courtyard that we can use (Al Abidin, 2004).

Access to the house is through a large main entrance that connects the corridor to the courtyard, where several rooms surround the corridor. The courtyard's existence allows the response to the needs of the people and the use of air and sun. There is an aquarium and a large area of trees and roses in the middle of the courtyard. The house often contains an Iwan, which takes you all the way up to the top floor, where there will be plenty of bright rooms facing the east (JÄGER, 2012).

This renders the houses separated into two parts, one is the upward part of the winter, where the other is the ground part of the summer. There are many agricultural tasks in this house, including a stable and a place to store crops. The rural character of such houses is expressed in the design elements' absence of decoration and simplicity (Corpus, 2003).

Second model – Dome houses have a wide range of sizes. The small house consists of one section and contains an exterior space dividing the rooms around it (Al

Abidin,2004) where the dome is located at the top of each room. As for the place of the animal, it is located on the west end where there is part of the farm. On the east side, there are rooms for services such as kitchen, toilet and storage room. And there's the living room on the north side (Levant,2004). The large house consists of two sections, a section specializing in farming and agriculture. The other section is family-specific (Corpus ,2003).

2.1.2.5 The Urban House with Courtyard


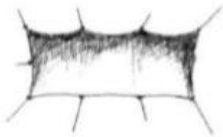








One Courtyard House The urban court house is ancient and has developed into a more urban intra-muros model over the years. The original urban fabric is still somewhat preserved today, but the oldest houses date back to the period of Ayyubide. Some are, and many are, from the Mameluke period, from the Ottoman occupation (Corpus ,2003). In the largest Syrian towns and cities (Damascus, Aleppo, Homs, Hama ...), the urban court house is quite common. Generally, the house and its rooms are built around one or more courts; it generally has one or more levels (ground floor + first floor) and a basement vault (Abdulac, 1982)Attached to this house we usually find: a summer living space (liwan) about two levels high, oriented north, the central fountain and trees inside the courtyard, a reception room or hall , rooms on the upper floors, usually including a very ornate reception hall (Ragette, 2003).











The key concept of courtyard house is: indoor open, outdoor closed. The interior of the houses is organized around the central courtyard, which accesses the various rooms surrounding them. Connection to the floors are by side staircases. In order in have reasonable thermal comfort, the court house is built. A central found in with a few trees help hold a comfortable temperature; west winds often add a little humidity to the whole house. Rooms are used in terms of temperature depending on the season and comfort (Dunham, 1960).

Two Courtyards House House with two courtyards contain two doors, one in the eastern wall and the other in the northern wall, surround the gateway. They link Al-Charkieh to a wide corridor that ends at the northern building, while another southern corridor distributes the big rooms, apartments, and Iwan. The southern section is wide and contains a large hall decorated with various sculptured marble and wood elements (Edwards,2006). Both of these rooms are built for reception and entertainment. The northern part opens to the courtyard, is not as wide and is dedicated to family life. It consists of a series of rooms, a small iwan, a kitchen and servants' rooms. It's decorated and carved as well (JÄGER, 2012). There is a stone staircase behind the floors that leads to the bedrooms, Machareks and corridors, particularly in winter, are places to sleep. Al-Haramlek (dedicated to women) is in the northern part (Corpus, 2003).

Three Courtyards House They originate in the traditional urban fabric and are found in the centres of the most important cities in Syria (Helmedag & Jäger, 2012) .All these factors contribute to the conception of the traditional house, as this type of house is open to the inside, and at the same time closed to the outside. From inside, this house opens onto a main platform that is attached to and connected to many rooms, on two levels. The side stairs are the link between the floors. In the case of three courtyards, one of them will be for residents, for guests, and the other for personal services, while the third is for women (corpus, 2003)

Table 3: Assessment of types of traditional Syrian houses (by author):

Type	Courtyard area	Plan
Tent	 <p>Figure 5: Courtyard area in the desert. (CORPUS, 2003)</p>	 <p>Figure 6: plan of tent. (CORPUS, 2003)</p>
Dome house	 <p>Figure 7: dome house. (Dipasquale, Mileto, & Vegas, 2009)</p>	 <p>Figure 8: plan of dome house. (Dipasquale, Mileto, & Vegas, 2009)</p>
The basic house	 <p>Figure 9: Basic house. (AL ASALI & I, 2016)</p>	 <p>Figure 10: Plan of basic house. (AL ASALI & I, 2016)</p>
Riwaq houses	 <p>Figure 11: Riwaq house. (AL ASALI & I, 2016)</p>	 <p>Figure 12: Plan of Rewaq house. (AL ASALI & I, 2016)</p>
The house with a liwan .	 <p>Figure 13: house with liwan. (AL ASALI & I, 2016)</p>	 <p>Figure 14: Plan of house with liwan. (AL ASALI & I, 2016)</p>

<p>The courtyard Villager House</p>	 <p>Figure 15: Villager courtyard house. (Levant C. , 2004)</p>  <p>Figure 16: Villager courtyard house with dome. (AL ASALI & I, 2016)</p>	 <p>Figure 17: plan of villager courtyard house. (Levant C. , 2004)</p>  <p>Figure 18: plan of Villager courtyard house with dome. (AL ASALI & I, 2016)</p>
<p>The urban house with courtyard</p>	 <p>Figure 19: urban house with one court. (corpus, 2003)</p>  <p>Figure 20: urban house with two courts. (corpus, 2003)</p>  <p>Figure 21: Urban house with three courts. (corpus, 2003)</p>	 <p>Figure 22: plan of Urban house with one court. (corpus, 2003)</p>  <p>Figure 23: plan of Urban house with two courts. (corpus, 2003)</p>  <p>Figure 24: Plan of Urban house with three courts. (corpus, 2003)</p>

Since the dawn of time, a courtyard space has been a prerequisite for Syrian residents. When they used tents as a shelter for them, they assembled their tent to create a space for a family gathering in the dome houses in the middle the first multifunctional courtyard type was used as a central living. The first conception of a courtyard with this type was originated in urban areas in ancient times when people resided in simple houses.

This creation was as a human need for their privacy. They begin to understand the concept of privacy at the same time. The Riwaq house is a rectangular / basic house addition. It was an open entry space, as an expansion of the interior space where the

ground level began to be incorporated. In the iwan house, a closed space is a start to attach to the residence. The iwan is always in the middle of the house, flanked by two living rooms and housework spaces; This is sometimes used as a working space, for food storage or for animal shelter. It was upgrading for iwan house in the Villager House with Courtyard, where the courtyard area was closed. In the center, they create a narrow area. The courtyard makes it possible to respond to the needs of the people and to use air and sunlight.

2.2 A Historical Overview of the Urban Development of Damascus and its Impact on the Traditional Housing Structure

Syrian architecture, especially Damascene, passed through a long history from ancient times to the 21st century. Contemporary life assigns architects with certain tasks, foremost of which is the preservation of ancient heritage. Among the many cultural influences that have taken place on the land of Syria, it should be noted that the impact of the Roman, Arab, Turkish and French civilizations has been particular.

In this chapter, the historical roots of the formation of the traditional Damascene residential house has been highlighted by studying its development during nine major urban eras which are namely Umayyad period, Abbasid Period, Fatimid Period, Seljuk Period, Ayyubide Period, Mamluk period, Ottoman Period, The Baroque or post-Ottoman Period and Damascene Baroque.

2.2.1 Umayyad Period (635 AD - 750 AD) (14-133 AH)

The Umayyad period is the golden era that Damascus experienced throughout the ages. It is worth mentioning that thanks to the satisfying policy of Caliph Muawiyah for forty years who is the founder of the Umayyads in Damascus and the first caliph, the stability prevailed in the Levant and the Islamic rule was consolidated. Due to the

efforts of the Caliph Muawiyah (Hillenbrand, 2017). Damascus has become a prominent place and was transformed from the center of the Vilayet to the capital of a sprawling State. For a century, it became a source of cultural enlightenment for the entire Arab and Muslim world, whose borders extended to the outskirts of China and southern France. The Umayyad period was truly as the golden covenant of Damascus (Al-Rihawi, 2000).

With the prosperity and development of civilization that took place during the Umayyad period, especially in Damascus, the capital of the caliphate, and under the reconstruction movement known by the Islamic State to construct mosques, houses and palaces, and the emergence of new architecture reflecting the taste and ideals of Islam, the Islamic House emerged as the best example in those Umayyad palaces. The palace is only a big house or a group of houses with common attributes. The influence of the religious factor appeared on the design of these houses and palaces, and they looked completely closed on the outer perimeter, and open to the interior where the vast Sahn was surrounded by Rewaqs and rooms (Abidine, 1998).

It has prospered Arab Art and Architecture dates back to this era, the Umayyad Mosque became a prominent architectural monument of this period. It was built in 705-715 AD and it is still in existence to this day. during the Umayyad Caliphate period, the mosque was close to the Caliph's palace (Flood, 1997).The construction of the Umayyad Mosque in Damascus was confirmed in Arab architecture for a long time. The style of the mosque was multi-column or the house is with the arched Rewaq. This mosque was built by the Arab caliph Al-Walid bin Abdulmalik who Damascus ruled from 705-715 AD. It was built by the most skilled architects and craftsmen and 12 thousand workers has participated in its construction for 10 years (Grafman &

Ayalon, 1999). The Umayyad Mosque embodies the fame and greatness of the Arab Umayyad state; its magnificence and beauty are surprising and admiring to this day. The floors are tiled with marble and the walls are coated with onyx, the Mihrab is coated with gold and decorated with precious stones and the ceiling is painted with gold (al-Qalansi, 1983).



Figure 1:Umayyad Mosque (by author)

The Umayyad Mosque was exposed to six fires, but each time it was restored and rebuilt again to become more beautiful until it became a masterpiece of Damascene architecture (Behrens-Abouseif, 2004). The mosque has three entrances. The large rectangular courtyard with the row of columns forms the center of architectural composition. The arches of the columns, Rawaqs and facades are decorated with mosaics on a golden background and they reflect palaces, gardens, landscapes and white and blue squares. Prayer hall is Rectangular with two rows of arched Rawaqs on marble columns with Cornish Crowns, and the tomb of John the baptizer is located in the middle. During the Umayyad period, the style of the Islamic religious building, whose main parts consisted of a rectangular open courtyard, Rawaqs on a row of arches, and a multi-column prayer hall, was designed and achieved (Cleanl, 1985).



Figure 2:Umayyad Mosque Square (by author).

The symmetrical and consistent repetition of slender column trunks and semi-circular arched windows create an endless feeling and an effective, abstract space corresponding to a religious conception of the perfection of the universe created by God Almighty calling for prayer and reflection. The mosque remains a prominent monument and a masterpiece of Arab Art (Sawaf, 2017).

2.2.2 Abbasid Period (750-968 Ad) (133--358 Ah)

In 750 AD, Damascus lost its value as the capital of the Arab Umayyad Caliphate, which was moved to Baghdad. Damascus continued to play an important role as a commercial and cultural center, but the dynasty of the Abbasid Arab rulers that replaced the Umayyads (750-1258 AD) even sought to withdraw this feature from the city, and this would have led to changes in the city's layout (Kennedy, 2016). Many turning streets and multi-storey houses appeared side by side. Until the 10th century, the city did not go outside the castle wall. In this period, the urban fabric of the city was changing and its neighborhoods consisted of winding sub-alleyways with multi-storey houses (Al-Rihawi, 2000).

The Damascene Arab architecture provided the human being with optimum protection such as the heat and cold due to the climatic conditions (Herzfeld, 1943). In the Arab House, the reception rooms were separated from the residential rooms where we find the house with an internal courtyard. Therein the rooms are clustered around an open courtyard – Ard Al Diar - located at the depth of the large main hall. As for its sides, they were occupied by the service areas and the guest rooms, and in the Damascene house, there was a separation of the rooms according to the functions. Large halls are distributed in the lower floor. On the top floor, there are rooms for rest and sleep (Asaker, 1996). Water and greenery in the inner courtyards provided coldness and created a certain local climate. In order to get rid of the heat, the walls were high. The following building materials were used: The ceiling is made of wooden beams, sometimes covered with a mixture of mud and straw at the simple people (Herzfeld, 1943).

As for the rich, the longitudinal beams were fitted with transverse beams that were later decorated. Not only are the walls constructed of raw bricks but also, they are constructed of stone, and the marble is used in cladding walls and floors (Al-Rihawi, 2000).

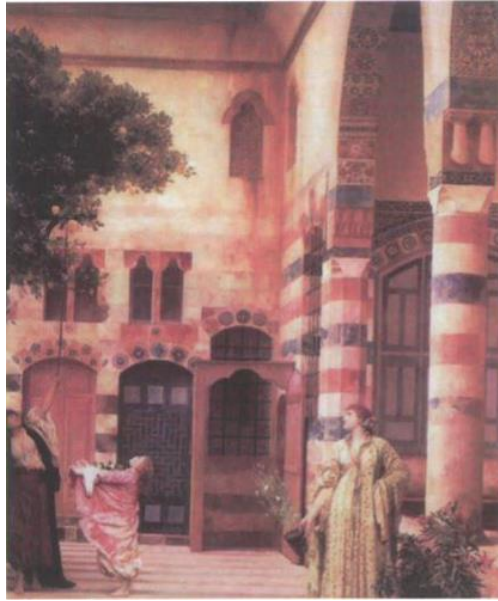


Figure 3: The photo shows the courtyard for the rich in the Abbasid Period. (Sawaf H. Z., 2017)²⁴

2.2.4 Seljuk Period (1075-1174 AD) (468-570 AH)

During this period, people in Damascus became reassured since the arrival of the Seljuks, the Sunni (religious) cult has become the official (religious) cult, which prevented the Crusaders from occupying Damascus, fighting against them at one time and concluding a truce with them at other times (Burns, 2019). People began looking forward to those who save them from the Crusader danger and considered the Nouredine who was the Seljuk military ruler in the Seljuk period as the leader sought by the souls. He came and entered Damascus in 1154 (549 AH). The muqarnas were used for the first time in this period as an architectural and decorative element, especially in the corners of the domes in order to move from square to round shape (Kabrit, 2001).

The time from 1150 to 1250 saw an unparalleled explosion of figural art in the former Seljuk Empire's politically divided territories. At the essence of this phenomenon, which included extending figural representation to a wide variety of portable arts,

literature, and architecture, is the artistic evolution of human representations conceived in conjunction with the current popularization of metaphysical notions about man's capacity for greatness and microcosmic role in life. This thesis aims to examine the intersection of humanistic movements and the transformation of figural art in the late Seljuk period, producing a widespread new human image (Ogel, 2008) .

2.2.5 Ayyubide Period (1174-1255 Ad) (570 - 658 Ah)

Damascus began to return to the scene of world events in this period as the capital of the two great leaders of the Islamic world Nouredine who was the Seljuk military ruler Salahuddin who was a military commander founded the Ayyubide. During their reign, Damascus experienced a degree of pride, glory and prosperity that restored its lost status since the end of the Umayyad era (Humphreys, 1977).

The Urban and economic movements were active. In that era schools and houses that Damascus had never experienced before were built. In this period Christians established their houses in the north-east of Damascus, and Jews in the south-east and Muslims occupied everything else especially its western section, but the design of the Damascene house remained one despite the different sects such as openness to the interior and the absence of outlets on the outside except the public entrance (Kabrit, 2001).

It is known that the construction of schools is widespread and spread in this period and before. The general layout of these buildings was similar to that of the house, A Sahn with a pond, surrounded by halls and iwans, and a group of rooms on the top floor, accessed from a door leading to a vestibule. Many of the famous schools in Damascus were originally houses and houses. The walls of the interior are decorated with Wooden and plaster eaves (Frieze) and colored marble, and mosaic on a golden

background as in the Umayyad Mosque, The use of stones in the construction and care of sculpture and the use of muqarnas (Herzfeld, 1942).

Arabs quoted from ancient times the tradition of public baths, However, it is possible to follow the succession of the ages, but of course it was not the breadth that prevailed, but there is the same schematic organization of the space, which means (Al Barani) the outer lobby allocated for rest and undress, and (Al Gwani) the interior section of the hot bath (Hammam) and the middle section of hot and frosty baths and the function of the Hammam was not only bathing, but it was a place of communication (Sibley, 2007). The Ayyubide period in Damascus ends with the arrival of the Mongols in 1259 AD (658 AH), who were brought out by the Mamluk Sultan of Egypt Al Muzafar Qutz after triumphing over them at the Battle of Ain Jalut (Sawaf, 2017).

2.2.6 Mamluk Period (1259-1516 AD) (658--992 AH)

Damascus gained a prominent place in this era and remained the second capital of the state in which the sultans reside to defend it against the crosses, Tartars and others. The Urban movement thrived, mosques and schools were built, roads, souks (market) and canals were repaired. The Royal Houses were built and followed by individuals, and commercial stations were established that were the nucleus of residential neighborhoods such as the Midan neighborhood (M.Juha, 1993).

At the beginning of this reign, the Sultan Alzaher Baybars, the founder of the Mamluk built his most prestigious palace in the Green Square, Asaker described it built of black and yellow rock stone, and the course of this accessed from the vestibule it has a bridge on the nodes on the course of the valley to Ewan Barani and then accessed to the palace from the vast corridors that include royal halls with colored marble camouflaged with

gold and the lapis lazuli, gilded lazurite, marble to the roofs and the Grand House has opposite iwans (Asaker, 1996).

There has been less attention to the use of carved stones, this became limited to the main facade of the building, whereas traditional building materials in Damascus, such as brick, mud and wood, returned (Kabrit, 2001). Some kind of balance, harmony and aesthetics appeared in the facades of the houses and buildings and were characterized by the decorative elements of muqarnas and others (Tarawneh, 1989). The facades of the buildings are covered with a wooden decoration, colors and interlocking stones, as well as the use of stones of alternating colors in the composition of the facades' courses. The doors of the buildings have become high and luxurious, always crowned by a half-dome decorated with muqarnas (Burns, 2019).

In all references of technical criticism, it is stated that this period did not leave any structures worth mentioning. Many buildings were either destroyed or rebuilt, in 1400 AD, when Tamerlane forces arrived in Damascus. After a month of battles, he captured the city and destroyed it so brutally that Damascus became barren in half a century (Grehan, 2003).

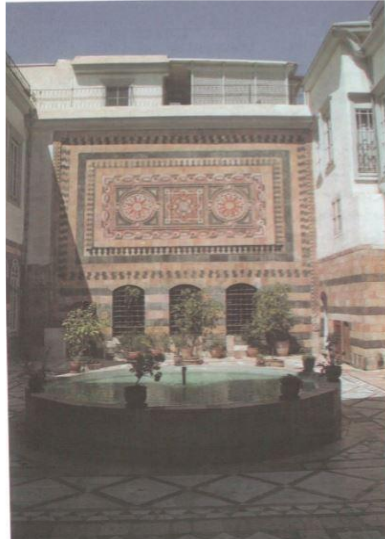


Figure 4: Akkad House in Souk El Souf, a rare model of Mamluk houses architecture in Damascus. (Sawaf H. Z., 2017)

2.2.7 Ottoman Period (1517-1918 Ad) (922 - 1337 Ah)

Damascus developed in the Ottoman period, which was the longest reign and lasted four full centuries (from the end of the sixteenth century until the beginning of the twentieth century). Where Syria and Damascus became part of the Ottoman Empire (1516-1918) (Meier, 2004). During this period, Syrian architecture and Art developed according to the taste of the Ottoman Empire. Damascus was rebuilt and became the capital of an important region and a major center where caravan routes meet. Damascus in that period was named with admiration (Sham-Jannat Ma Sham!) i.e. Damascus is full of paradise fragrant (Sawaf H. Z., 2017).

Damascus has long been a center of doctrines, the most important one is the Sufi doctrine which began in the eighth century AD and continued throughout all the Middle Ages forming doctrines and religious currents to be gradually subsided by the tenth century AD. Sufism is a form of Islamic faith, and it aims to integrate with absolute. This is the basic meaning of life and the lofty goal of the passer-by (Barbir, 2014). The word of Sufism is of Arab origin as the word of wool, and it means the

wool clothing for the passer-by. Square-shaped Mosques were built (according to Sufi doctrine) with large hemispherical domes surrounding small domes with domed Rewaqs on arched arches along the facade of the inner courtyard, with elegant sharp minarets from the top. The Interior decorations of mosques, schools, khans, palaces and luxury residential houses have become more elegant. New neighborhoods have arisen because of the growing population of the city. With the development of trade in Damascus, Souks have become a landmark. The use of stone mosaic appeared in the formation of walls and floors (Sirriyeh, 2004).

The typical Ottoman-era house of the wealthy Damascene citizen (arguably even the palace) consists of several two-storey buildings clustered around an inner courtyard (or two or three courtyards). The house overlooks the street (Al Hara) with solid walls and a normal entrance (Van Leeuwen, 1999). The interior Art is framed with arched Rewaqs and windows with perforated nets. The courtyard is tiled with marble. In the center, there's a fountain where water flows, and the trees and ornamental shrubs give a wonderful coolness. A fine example is the Azem palace, built in 1749 (1163 AH), where the basic distribution of salamlak, haramlik, and khadamlak, including courtyards, Rewaqs, Iwans, water fountains and others, came in the original Damascene architecture (Al-Shihabi, 1997).

In Ottoman buildings, new architectural elements such as muqarnas crowns and arches of opposite-curves, that are previously unknown in Damascus, are observed. Local decorative styles were mixed with styles and arts coming from Istanbul (Gross, 1979). In addition to marble mosaics and carved marble, a new type of mosaic based on the method of excavation and download, commonly known in Damascus as Ablaq, is popular. It is made by digging stone according to different geometric forms filled with

colored paste. Decorating the walls with ceramic plates, known as Qachani, became a hallmark of Ottoman architecture in Damascus and elsewhere. As soon as Istanbul, the Ottoman Caliphate, opened its doors to Western artistic currents in the nineteenth century, these currents found their way to Damascus to introduce a French style of decoration known as "Rococo" and another Italian one known as "Baroque" (Kabrit, 2001).

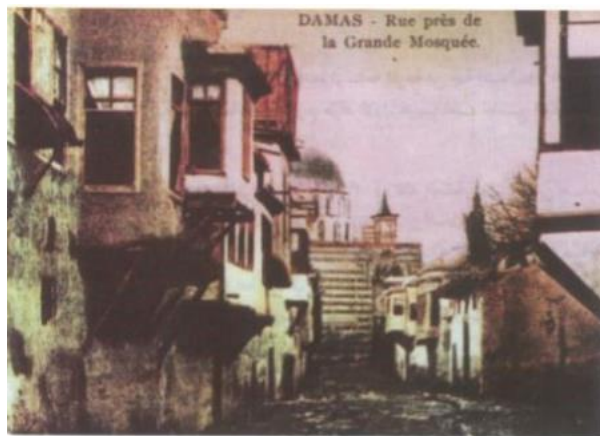


Figure 5: Street near the Great Mosque of the Ottoman era. (Sawaf H. Z., 2017)

2.2.8 The Baroque or Post-Ottoman Period and Damascene Baroque

In the 1930s, Damascus became a modern city with amenities. Modern residential neighborhoods, villas and multi-storey buildings have emerged in the city. Parks were established and campuses, hospitals, hotels and sports stadiums were constructed (Khoury, 1984). In this period in particular, new architectural elements emerged in Damascene architecture. The language of architecture changed from 'Ottoman style' to 'Baroque style' during the reign of Abd al-Hamid II who is the 140th successor of the Muslims and the thirty-fourth Sultan of the Ottoman sultans (1876/1909), (Muhsni, 1986).

Baroque (an Italian word, and it means strange, odd, repulsive, corrupt). It is one of the most difficult and most meaningful terms in the history of architecture. Baroque refers to a series of historical-regional art styles in 17th-18th century European art, the last critical stages in the development of other styles, anxious romantic tendencies and thinking about expressive and turbulent forms (Nietzsche, Wolfflin, Benjamin, & d'Ors, 2010) .at the same time Baroque is called the art of illusion. Such an illusion (deception) can be traced even in the (Damascene Baroque), where as a result of the realization of the architectural space, the Baroque style arose the organic growth of forms, as well as the mechanism, irrationality, and dominance of the vertical over the horizontal which formed the living beginning of architecture. One of the first indicators of Baroque the overflow of means and the integration of scales, doors and windows are many times the length of man (Reilly, 2011). Reinforcing the irrationality of architecture led to the facade no longer talking about what was inside the building, on the contrary, it obscured the building and became ornate. As for the inner space, with its magnificence, size and extraordinary dimensions, was a surprise to the beholders. The calculation was based on the element of surprise, contrast and lack of expectation (Al-Rihawi, 2000).

The center of Damascus was divided into lanes that were closing their doors, where they had their guards and protectors. Through the many buildings in Damascus, the influence of European architectural culture can be observed, especially the Baroque style that spread in Europe in the seventeenth century reached 200 years later in Damascus from the nineteenth century Even at the end of the eighteenth century, the influence of European tastes was observed in the decoration. Baroque decoration appeared, with walls and ceiling included the framing of mirrors (Muhsni, 1986) . In the 19th century ceilings were sometimes covered with cloth. These influences gave

rise to a new style in Damascene architecture. The extravagance and boast of the baroque decoration was according to the tastes of the citizens. It was a special vogue: the implementation of the decoration of Damascene residential houses in a Baroque style (al-Qalansi, 1983).

The shapes formed in the architecture such as columns, arches and domes have been minimized and became elements for the decoration of furniture and products made of copper, marble and wood, props, and decorative wrinkles, and the decorative frames are all elements of assistance (to immerse the space), The blending of many means of artistic formation (selectivity with baroque shapes) has resulted to switch from outside to inside, from exterior decoration to interior decoration, and from horizontal to vertical. (Blunt, 1976) Instead of wood-beamed ceilings, trimmings and ornate wooden ceilings were replaced by oil paintings, The shape of the interior courtyard fountains has also changed Instead of octagonal and hexagonal fountains, elliptical-shape and sometimes complex elliptical fountains were established, such fountains can also be found in the interior decoration, mirrors became an integral part of the interior decoration, and under the mirrors, there are baroque-shaped tables (Balty, 1988). Soft furniture also changed and looked more and more agile and elegant. The walls are characterized by their attractive color spectrum in this era. The color has become pale, opaque, proportionate, blended and more complex in terms of mix. Green color is often used in the interior decoration with white and white with cyan and emerald with golden and pink or gray (Muhsni, 1986). One of the advantages of the Baroque is that the wall seems less valuable visually and it became an illusory cover, and a bright side in a generously decorated frame. The columns in their Corinthian shape and their wavy frieze, sometimes prominent and skewed volumes, and light and dark processing to enhance the effect all together create a sense of mystery. The columns in their

Corinthian shape and their wavy frieze, sizes prominent at times and perverted at other times, and processing to light and dark to enhance the effect, all this together created a sense of ambiguity (Sawaf H. Z., 2010).

In this period, it became possible to have kitchen rooms on the second floor, near the small salons for ladies and bedrooms where such places were strictly located on one level with the guest rooms (Blunt, 1976). As for the inner courtyards, greenery and fountains remained as prevalent as before. There may not be the same paving (pruner). Arched Rewaqs disappeared. All facades of the inner courtyard have a frieze or one eaves with very elegant shapes, and this was also not a feature of the Ottoman era buildings. At the end of the 19th century, Syrian merchants, businessmen and employees frequently visited Europe and especially France. In Syria, European citizens live (Burns, 2019).

The architects repeatedly invited from Europe also brought with them the European academic spirit of the 19th century, and local architects were dispatched to study in Europe. As a result, the influence of the European school spread. This period is called (post-Ottoman) or (Damascene Baroque). In Arabic sources, this style is called the (Ottoman Rococ) style (Kabrit, 2001).

The population of Damascus in that period reached more than (150) thousand people according to the results of the census in 1871 and there were 14696 houses in Damascus. With the development of trade, new rich classes emerged in society such as the business and intellectual elite. Modern neighborhoods appeared outside the boundaries of the city wall (Muhsni, 1986).

In 1946, Syria became an independent state, which stimulated the pace of construction, and the orientation towards western models of architecture remained as many young architects had graduated from Europe. All of the aforementioned evidence is found in the Damascene palace architecture at the end of the 19th century - the beginning of the 20th century (Al-Mubarak, 1890). The Damascene Baroque made a significant contribution to the history of Syrian architecture. It is difficult to determine where the Baroque style begins in Damascene residential buildings and where it ends (Sawaf H. Z., 2010).

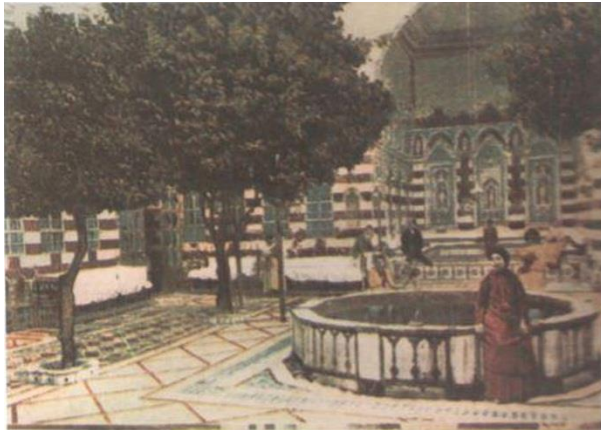


Figure 6: The Courtyard in the Baroque Period. (Sawaf H. Z., 2017)

Table 4: Evaluation of how courtyard house had been affected through different periods (by author)

periods	Periods Description
Umayyad period (635 AD - 750 AD)	<ul style="list-style-type: none"> • Religious impact (closed on the outside perimeter and accessible to the inside) • Symmetrical. • The arched windows are semi-circular. • Rectangular open courtyard, arches of Rewaqs.
Abbasid Period (750-968 AD)	<p>Changes in the architecture of the city. Consideration of weather conditions. A division of the rooms by purpose. The materials were used: (wooden beams, covered with mud and straw) in the houses of simple people (longitudinal beams were equipped with transverse beams) in the houses of rich people, raw, bricks, stone and marble.</p>
Seljuk Period (1075-1174 AD)	<p>The muqarnas were used as an architectural and decorative element for the first time in this period, especially in the corners of the dome to move from square to round shape.</p>
Ayyubide Period (1174-1255 AD)	<p>The economy expanded. New buildings such as mosques, shrines, Hammams (Public baths), hospitals and schools have been built. Public baths cited from the ancient Arabs were not just a bath, but a place of correspondence. The buildings were typically dome-shaped cubic. Lack of external sources except for the public entrance. The materials: eaves of wood and plaster (Frieze) and polished marble, and mosaic on a golden backdrop, use of stones in sculpture design and treatment, and use of muqarnas.</p>
Mamluk period (1259-1516 AD)	<p>Roads, canals and souks have been fixed. The Royal Houses (royal halls) were built. The façades and the houses doors were distinguished by muqarnas and other decorative elements. Materials: typical building materials in Damascus, such as cement, mud and wood, returning blocks, black and yellow bricks, wooden decorations, colors and interlocking stones, as well as the use of contrasting colored stones, gold, lapis lazuli, gold lazhar and marble. More attention was paid to the use of carved stones.</p>
Ottoman Period (1517-1918 AD)	<p>New neighborhoods have developed as a result of the city's expanding population. The houses consist of several two-story buildings clustered around an inner courtyard (or two or three courtyards) where Salamlak, Haramlik, and Khadamlak's basic distribution was created. The Interior decorations have become more sophisticated. Different architectural features include crowns of muqarnas and opposite-curve arches. Materials: marble mosaics and carved marble, a new type of mosaic known as Ablaq in Damascus, is common, decorating the walls with ceramic plates known as Qachani, mosaics appeared in the wall and floor structure.</p>
The Baroque or post-Ottoman Period and Damascene Baroque 19th century	<p>Modern neighborhoods were designed in the architectural style of France. In arranging the interior space, the symmetry became a special feature. The house was divided into two halves: a section for men and a section for women vertically. The building's façades are fitted with wide and expansive windows and conspicuous balconies. Baroque decoration emerged, with walls and ceiling featuring mirror frames often lined with cloth) extravagance and baroque decoration boast. Soft furniture also changed, increasingly looking agile and elegant. The forms developed in the architecture, such as columns, arches and domes, have been greatly reduced and have become elements of decoration. The kitchen appeared in the second floor. In the courtyard, the pavement (pruner) and Arched Rewaqs disappeared. Materials: using plastering and bricks. A coat of plaster also lined the massive walls of brick and stone.</p>

The courtyard house has undergone several changes influenced by all the periods mentioned above. Until after the Baroque era, people began to move out of old Damascus and began to build multi-story houses, resulting decrease of the courtyard houses number. In addition, a new concept of social and physical life appeared where the theses will study how this factor of change influenced the courtyard houses.

Chapter 3

EXPLANATION OF COURTYARD HOUSES IN DAMASCUS IN DETAILS

Architecture in old Damascus is the best and sincerest stereotypical representation of the reality of the people who lived in those times with all social, cultural and economic components, and deal with them with the utmost realism. The ancestral architecture was a real response to their needs and in response to different climate challenges and a clear and explicit title to their reality and age with all its potential. The Damascene House, which was originated at a certain point in the history of Damascus during a period of economic and political transformation, was a unique model worthy of attention and follow-up.

In this chapter, an explanation about the courtyard houses in Damascus by presenting it in three parts. In the first part, Items of internal distribution such as (the entrance, Sahn, Iwan, hall, kitchen, bathrooms, bedrooms). In the second part, architectural elements of the Damascene house such as (doors, windows, columns, arch and water elements) and others important elements in courtyard houses. In the third part, raw materials and methods of installation for the walls, floors, and ceiling. in the courtyard houses in Damascus.

3.1 Damascene Life and Description of Traditional Damascus

Courtyard House

The house, which included the whole family, was called the Big House and it was the basic foundation of the family's business where the son went with the father in his work and learnt the craft, so family members remained with the same craft and the nickname extended until it was affixed to the person, even if he did not later practice the same craft. Being a member of the same family and holding its name, he played a major role in increasing ties between family members, family members maintained certain traditions that they maintained (Qasemi, 2000) . The word family included all the male and female family members and the marital family branch, which includes the husband, wife and children. The large family often lived in one house and the house had a number of rooms and each house was called a house and it included father, mother, sons, daughters, nieces and grandchildren. so "BietFullan" (X) house was called to indicate the family that was living there (Al-Azmeh, 2002).

The son was living with his wife in a room of this house, while single children as well as girls had one large room. When the number of children increases, the married son moves to a neighboring house by buying or renting according to his financial ability. If he does not find accommodation near the family house, he is forced to move to a new neighborhood (Grehan, 2011). The documents show that the expansion of some families led to the purchase of a full alley, which was dubbed their name, as the review of the boundaries of the house shows, relatives lived next to each other (Al-Azmeh, 2002) . The power within the Damascene family was in the hands of father or grandpa, with regard to economic matters and the decision of social and household matters, so he was the head of the family who supervised and managed the property and worked

and distributed the work to the family members, and bore their material and pension needs. Supervision of the internal affairs of the family was the specialization of the head of the family: mother, grandmother or aunt (Qasemi, 2000). The Damascene family enjoyed a shared life and everyone ate together and the women cooked in one kitchen and the big lady of family distributed work at house (Al'idlbii, 1996).

The first thing that faced the interior of the Damascene house was the modest character of its entrance, a narrow low-ceiling corridor, which breaks at a right angle at the end to open on the Sahn of the house with a pond in the middle and a fountain emanating from the center of this pool sending a permanent spray, and there were a variety of trees spread around it, the most important of which are usually lemon, narcissus and citron, and some rose bushes tastefully coordinated in the corners of the courtyard (Edwards, Sibley, Land, & Hakmi, 2006). In the south of the celestial courtyard, there is a wide open arch, the Iwan. It has a height of two floors and not topped by another building. This Iwan is usually decorated with floral motifs framing its arch. Inside, it is a square or rectangular projected space whose floor is lavish and on the courtyard level for a short distance and then rises one or more degrees above the level of the courtyard. The narrow strip at the courtyard level is a corridor that connects the two reception halls on either side of the iwan, while the high section of the floor is a dewan style furniture on its three sides, forming the most used summer living room in the house (Holod, Renata, & Rastorfer, 1983). The eastern and western Pavilions of the courtyard contained additional reception rooms such as the square, the lounge and the service area, which includes the kitchen, toilet and pantry, which is usually half-buried in the ground, and a number of stairs leading to the first floor. The first floor usually consists of a covered Rewaq that revolves around the three northern, eastern and western Pavilions linking the multiple rooms through each other (Kabrit, 2000).

The southern Pavilion is usually occupied by the high iwan without a first floor above it, and the main hall opposite the Iwan was sometimes treated itself and covered the height of two floors, leading to the division of the first floor into two separate Pavilions, climbing from two stairs on the ground floor (ABIDIN, 2004). The first-floor rooms were allocated to different family units for the large family. This was made possible by their separation from each other in the area of movement and their openness to the Rewaq. As a true expression of its architectural status, it was enveloped on three sides with glass windows and used in summer and winter as a living room (Sharbaji, 1988).

The Damascene House has major general parts and detailed internal items:

- 1 - Salamlek or reception Pavilion - men - (Albarani).
- 2- Haramlak or living Pavilion – Harem (women) - (Algwani).
- 3- Khadamalak or Service Pavilion – Servants. (Edwards, Sibley, Land, & Hakmi, 2006).

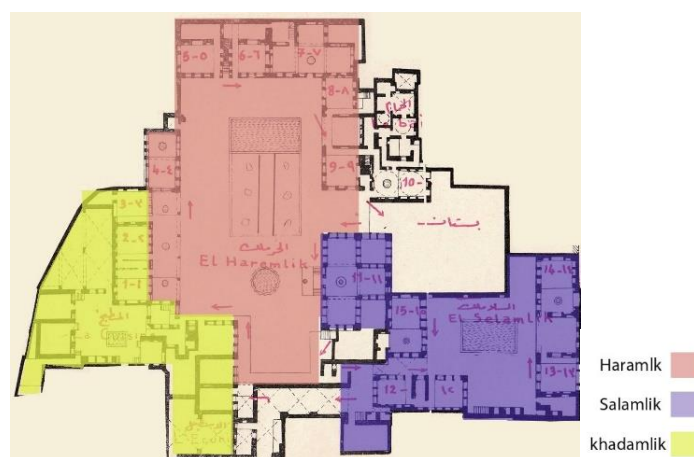


Figure 7: Plan of courtyard Damascus house (edited by the author) retrieved from General Directorate of Antiquities and Museums.

Items of public distribution of Damascus House:

1- Salamlek Pavilion: It is the guest Pavilion, which occupies the direct and near part of the entrance of the public house. In the middle of this Pavilion is a large courtyard with its beautiful fountain and trees. The rooms of this Pavilion all overlook it. The most important ones are the hall and the iwan with its various levels and multiple levels (ABIDIN, 2004) ; (Edwards, Sibley, Land, & Hakmi, 2006) .

2- Al Haramlek Pavilion: It is a family living suite that we reach with a winding path from the reception suite to ensure privacy and cover. In the center of this Pavilion, there is also a large courtyard with a pool, fountain and plantings and then the rooms are around it. The most important of which are the hall and the iwan, where they meet from the north and south, then the kitchen and services. The construction of the Harem (women's) section was abandoned when people used to build the upper floor on the northern side of the courtyard, so it was assigned to them (Edwards, Sibley, Land, & Hakmi, 2006); (ABIDIN, 2004).

3- Khadamalak or Service Pavilion : It is a suite dedicated to the servants, such as a guard, a servant, a chef, a politician and others, where the small rooms of a kitchen, a pantry, a bathroom, a toilet, a servant's rooms, etc. gather on a small Sahn and a small pool. This suite has a special rear entrance, including a door leading to the stable and often takes a space away from the sight of visitors. These three main items emerged in this order in the houses of the governors and the rich on one ground floor, Sahns and multiple entrances (ABIDIN, 2004); (Edwards, Sibley, Land, & Hakmi, 2006).

As for the houses of the Damascene families, the order of these items came in two or three floors with a large courtyard and one entrance as follows:



Figure 8:interior of courtyard house (by Al Naum) URL 1.

Ground floor: The reception pavilion comprises the hall on the north side, the iwan on the south and two halls on the sides. Then the kitchen, services and stairs descending into the cellar, and the stairs ascending to the first floor. All these items are mediated by the wide Sahn with all its details (Mohamed, 1998).

First floor the living suite comprises the multiple rooms of the family residence, which open onto a shaded Rewaq overlooking the House Sahn, overlooking the south side to receive the sun in winter, and sometimes other rooms come next to them or face. It is climbed by stone stairs hidden in a roofed place sometimes, or visible in some aspects of the Sahn, with balustrades of iron or wood (Aesh, 2004). It is noted that the height of the staircase stands exceeds the usual limit. The openings abound in the upper floor in the desire for more light and the sun and the view of the Sahn until it became composed of smooth facades of glass windows, some were provided with a small iwan to sit (Mohamed, 1998), and others were provided with a roofed corridor in front of the rooms overlooking the Sahn to reach the rest of the rooms upstairs using one staircase. The rooms on the upper floor were allocated for different family uses, which was made possible by their separation from each other in the movement and opening to the hall (Sawaf, 2010).

The cellar includes one or more rooms for storing supplies and water, where the heat settles within the limits of moderation, and it is often located under the level of the high hall of the Sahn of the house, come down to it with a staircase, and the cellar is a room or a roofed-hall with a cellar, and has windows on the Sahn in the ground level at the bottom of the front of the hall, and it is used to save supplies because of what keeps from moisture (Mohamed, 1998).

The exterior facades of the Damascene House are simple enough to be extraordinarily modest compared to the magnificence and beauty of the interior. They are low openings and the windows are narrow and high relative to street level. The walls are built of brittle stone in their lower parts and brick, mud and wood in the upper parts (Zard, 1992); (Melnik, 2008).



Figure 9: The exterior facades in old Damascus (by author).

The internal facades of the courtyards were built using long or colorful colored stone courses lined up on top of each other in a beautiful geometric manner. The stones were used in different colors and alternating lengths. The stones were very intensely decorated in a number of ways, either by engraving them in exquisite geometric or

prophetic shapes, or by inlaying them with colorful ornaments, or both (Shehabi, 1999).



Figure 10: Iwan walls in Alashqar house (by coffee and faith) URL 2.

On the upper floor, the building material and cladding change to be clay blocks with wooden columns. Then it is made with red clay and a layer of white calcite is placed over the red clay. The facades are interspersed with beautiful windows on both the ground and first floors, through which all rooms breathe (Halbouni, 1996).

The sophisticated and balanced architectural harmony of the facade overlooking the courtyard and its aesthetic decorative elements and carefully crafted details make the interior of the house a miniature paradise of the finest architectural and artistic levels. The Damascene engineers and craftsmen excelled in highlighting the floral motifs, exquisite geometric lines, and the exquisite writings and geometric formations that appeared on the walls surrounding the House Sahn.

3.2 Interior Spaces and their Distribution in The Traditional

Courtyard Houses of Damascus

The courtyard contains the main interior spaces such as (entrance, Sahn, iwan, hall, kitchen, the bathrooms, the bedrooms) where these are the main interior spaces that the residents spend most of their time. In this chapter, there is an explanation of the interior space in detail, its location in the courtyard house, its relationship to the courtyard, how it is used and what are the elements made up of it. Azem House was chosen as Azem Palace provides a wonderful example of Damascene ancient houses.

This palace was built in the middle of the eighteenth-century AD to be the house of 'Wali' (governor) of Damascus, the Ottoman Asaad Pasha al-Azm. Today, the palace has been converted into a museum of folk traditions. The Al-Azem museum still contains all the important internal spaces, and for this reason it was chosen in order to identify all the internal spaces.

3.2.1 The Entrance

Generally, the entrance is considered one of the main architectural items of the Damascene House. It represents the process of linking (moving) between the exterior (the Lane) and the interior (the courtyard). It is the only link with the activities of external social life. It is transferred from the atmosphere outside (the Lane) to the atmosphere of the house to privacy (Kabrit, 2000). Entry into the house from the main exterior door in one corner of the outer walls is opened to the inside, and in this shutter, a small door is often opened, called Khawkha (Amene, 2018) .

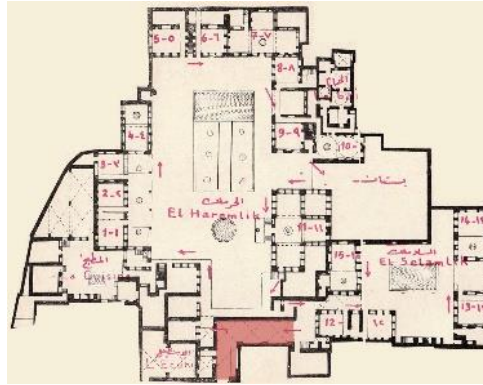


Figure 11: the location of the entrance in the courtyard house (edited by the author) retrieved from General Directorate of Antiquities and Museums.



Figure 12: The entrance is in a Damascene courtyard house taken from a video URL 3.

The entry to the ordinary house is from a small normal exterior door decorated or without decorations about 80-90 cm wide. The first following door is the entrance that connects to a small hall or vestibule that accesses inside. The vestibule is often long and narrow and sometimes winding to achieve the purpose of separation and cover and prepare the people of the house for reception. This vestibule leads directly to the Sahn of House (M.Alabiad, 1988).



Figure 13:Khawkha door in old Damascus (edited by author) (Amene, 2018)

Vestibule: It is also an architectural element that influenced the formation of the Damascene House. The visitor does not rush when entering the depth of the courtyard; So that women can go out to half of their house (It is a small curved corridor) (Sawaf H. Z., 2017) .

The entrance consists of the following items:

- Entrance Door: It consists of two shutters of olive wood or other opening inward, surrounded by a frame of alternating stone courses, and there are Mandaloun over the door to secure the lighting for the entry space.

- The entrance space: is the space prepared to enter the house, a space that provides the link between the space of the lane and the space of the courtyard, and often the level of the entrance space is lower than the space of the lane and has several forms.

- The opening leading to the courtyard: is the opening that connects the entry space with the space of the courtyard, and is usually equal to the size of the door to enter, but without the presence of a door, surmounted by a stone arch (Melnik, 2008).

3.2.2 Sahn (Courtyard)

The Sahn in courtyard damascene houses considered as the main section in the house, and the house cannot be ordinary familiar without it, it is the paradise of the people of the house and their park in the summer and winter, and the place of their care in terms of arrangement, cleanliness and decorations. The area of the Sahn and its architectural details vary depending on the level of the house, from a large Sahn paved with exquisite colored marble decorations and a large marble pool, to a smaller Sahn paved with black stone formations and others, and a medium stone or marble pool except the flowerpots and surrounding trees(M.Juha, 1993) .The importance of the Sahn from the designations, such as (Wasat Aldar), (Ard Aldar), (Aldyar), or (Aldar) and others, and these designations emphasize the importance of the courtyard as a center of family life, and show this importance architecturally through the role of the courtyard as a mediator between the various rooms of the house that open it without any internal communication (AL ASALI & Shahin, 2016) .

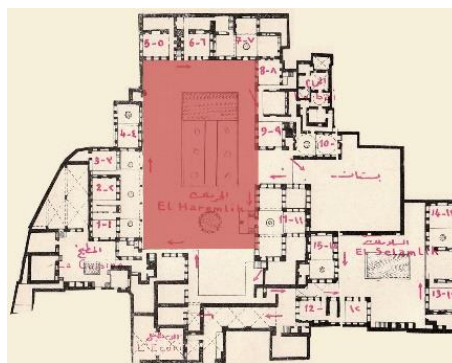


Figure 14: the place of the courtyard in the courtyard house (edited by the author) retrieved from General Directorate of Antiquities and Museums.

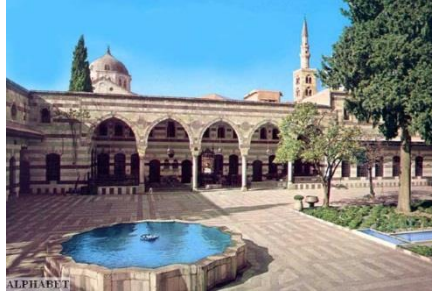


Figure 15: the courtyard in Damascus courtyard house URL 4.

We can say that the Sahn of the house is another world that contradicts the external environment of the house. It obscures the inhabitant of all external factors of nature and leaves him/her the absolute enjoyment of the sky, and the water through the sink and the well and stone decorations on the walls and above its windows and doors (Bassiouni, 1981). The plants in the Damascene house come in two types: the first is an ornamental plant such as roses, jasmine, Sambac jasmine, tulips and others, and the second is citrus trees such as citron, oranges, lemons, naranges, mulberry trees, pomegranates, grapevines and others (Rehaoui, 1969).

This courtyard allows the family to meet there while retaining their privacy and to move between other parts of the house. We can say that the Sahn in the Damascene house is a key element and has a great place in the style of housing and living, surprised the person entering it with a sense of a sudden transition from the frame of simplicity to an atmosphere rich in all aspects of beauty and delight for what he/she sees in the Sahn and its items and facades surrounding of great care architecturally and artistically (M.Juha, 1993). It should be noted that the functions of the shelter to achieve security, comfort and privacy, and these things have a close relationship to the comfort of a human psyche, has been found that the house with the inner courtyard is the most efficient houses to achieve this reassurance and psychological comfort. A person must

achieve a time of privacy commensurate with the pressure of the time of his work so that he can regain his activity and achieve the continuation of his work (Zard, 1992).

It has been found that the courtyard, with its highly auxiliary features, achieves this point "stability point" and gives psychological support that brings us to serenity and tranquility with its plant, water and pleasant atmosphere as well as the ever-changing celestial perspective. Also, the courtyard gives a life in which the renovation eliminates the boredom (Rehaoui, 1969).

3.2.3 Iwan

One of the most important architectural items in the Damascene House, which is open to the Sahn of the house at the same level and sometimes even higher than the level of the floor of the Sahn. The existence of Iwans on the southern facade is due to the religious enthusiasm of the Seljuks for Sunni doctrine, they quote the idea of making an iwan under the qibla in mosques that opens directly on the Sahn (Iafe, 2004) . In large houses, there is sometimes another iwan on the north side that is suitable for the winter, where it is exposed to warm sunlight. It is located to the right and left of the iwan two symmetrically opposite rooms. Sometimes there is an eastern and western iwan. The iwan is surmounted by a large, high arch decorated with plant stone carvings that resemble and fit with the decoration of the walls of the Sahn and iwan. This arch has two pillars decorated with hard stone. The decoration is then harmoniously connected to the walls of the iwan, around the doors of the halls and around the windows overlooking it (Sharbaji, 1988).

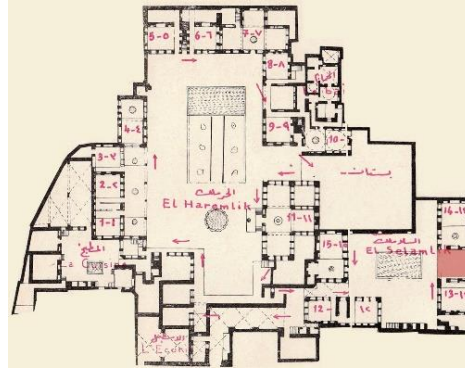


Figure 16: the place of the iwan in the courtyard house (edited by the author) retrieved from General Directorate of Antiquities and Museums.



Figure 17: the iwan in Damascus courtyard house site it in URL 5.

The Iwan also provides the needed depth to protect the inhabitant from direct heat radiation reflected from the ground, and protects the eyes from the glare of reflections of light, in the hours of intense heat during the day (Zard, 1992). As for the floors located directly in front of the iwan, they are characterized by using the colored marble in geometric shapes. All this shows the importance of iwan in the damascene house (Sharbaji, 1988).

It is always open to the north and heads to the southern facade for climatic reasons, it is shady, the Iwan is the summer outlet for the inhabitants of the house, it is intended

for summer reception and for family seating because it is shady and protected from direct sunlight (Mohamed, 1998). Iwan is used in summer to sit during the day and spread low-couch, at night the family sleeps there. Iwan side halls are usually used for accommodation in winter or for food and sometimes to sleep (Kabrit, 2000).

The main constituent items of the iwan:

1 - Arch One of the most important architectural items of the iwan is located on the open facade on the courtyard, and it is a stone arch and is often completely covered with various motifs depending on the different items of the arch or may have stone courses.

2 – Openings: These are pamphlets and windows, and pamphlets often top the walls of the southern iwan, the windows are on the east and west walls of the iwan if there are halls adjacent to the iwan.

3– Al-Tazar (levels): The iwan is often divided into Tebh or Tazar, which may rise one or two degrees above the ground to reduce excess moisture due to the lower ground level. (M.Juha, 1993).

3.2.4 Hall

The hall part of the traditional courtyard house is very important. It is intended for activities like living and celebrations. There were usually two types; summer hall and winter hall (M.Alabiad, 1988). As for the summer hall, it is usually on the south side of the courtyard in order to be open to the north to receive its cool breeze. It has watering scattering water and gives the atmosphere a refreshing moisture. As for the winter hall, it is located on the north side of the courtyard where it faces the warm sunlight (Shiller, 2016). As for the walls of the hall, they are covered with slabbed

marble, inlaid with seashell or with stone reliefs rich in art and creativity. The ceilings of the hall are magnificent and rich in decorations and colors, and they are very similar to Ajami carpets which are decorated with marvel dormer decoration. Nice muqarnas sometimes overhangs from them, ending with carved and painted wood lanterns consistent with the ceilings decoration (Albhansi, 1999).

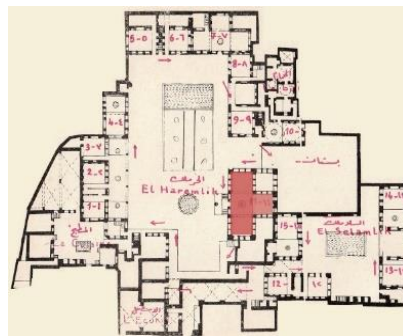


Figure 18: the place of the north hall in the courtyard house (edited by the author) retried from General Directorate of Antiquities and Museums.



Figure 19: the north hall in Damascus courtyard house URL 6.



Figure 20: the place of the south hall in the courtyard house (edited by the author) retried from General Directorate of Antiquities and Museums.



Figure 21: the south hall in Damascus courtyard house (by author).

Take a look at the walls of the hall, which consists of eaves muqarnas on the top, holds the frames of the doors of the windows and libraries (Yuk) various capacities, these eaves, frames and wooden doors are decorated to suit the decoration of the Ajam ceilings, which rely on the drilling and download and coloring in bright and gilded colors. In the space on the walls between the wooden ring and the wooden ceiling, geometric decorations appear on the sculpted attachment, which is similar to the decorations of the walls of the iwan in most cases, or the blank remains white in it (Halaq, 1985).

3.2.5 Kitchen

The kitchen in the traditional damascene courtyard houses is always located on the ground floor, overlooking Sahn of the house, and contains various elements (Kabrit, 2000), and the well is sometimes close to it. The kitchen consists of three main elements:

1- Hearth (Al-Kanon): It is the place of cooking food and is the most important element made of brick and consists of:

- Al-Wejaa: A place where the stone may be grounded or slightly raised.
Working aperture: stone arc opening on the width of Canon.
- Chimney: air puller element.

2 - Water source: It is done by a watering can in the kitchen to provide water for washing, rinsing and cooking the pond is provided with water by Al-Taleaa.

3- Pantry (Beit Al Mona): It is a place where foods are preserved and it is underground in the cooler place "Basement " or be next to the kitchen warehouse or above the kitchen "roof" (Sawaf, 2017).



Figure 22: the place of the kitchen in the courtyard house (edited by the author) retried from General Directorate of Antiquities and Museums.



Figure 23:Beit Al Mona in courtyard house (by Sana) URL 7.

3.2.6 Bathroom

In the courtyard houses in Damascus, there are lack of presence of Al-Hammam (Bathroom) in Damascene house due to the availability of Hammamat Al Souk (Public bathrooms) spread widely in various neighborhoods of Damascus, whether within the wall or outside (Kabrit, 2001).

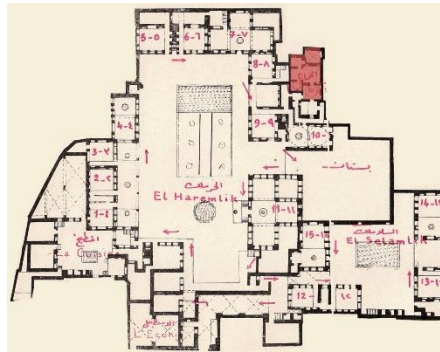


Figure 24: the place of the bathroom in the courtyard house (by the author) retried from General Directorate of Antiquities and Museums.



Figure 25: bathroom the bathroom in the courtyard house URL 8.

Al-Hammam, Public Bathroom consists of four sections:

1. The outer section (Barani): consists of a single tazar (level) surmounted by a high arch, and a threshold of marble in the middle of it there is a pond with a dome topped with glass windows. The temperature of this section is normal.
2. The middle section: a small room with a high marble Dekka, the northern wall is decorated with a muqarnas Mihrab from which a waterfall descends and connects with the marble foskia with fine fountains in the center.
3. Inner section (Goani): the building consists of a space in the middle of it an arch, and two compartments furnished with marble, their walls were equipped with hot and cold-water taps pouring into marble Gorns, this section is intended for showers and it has high temperature.

4. Al Khazaneh (Al-Omaym): This is a place dedicated to heating water, and has a separate entrance in the eastern side of the palace to provide fuel, these sections are connected by narrow and winding corridors to prevent the direct impact of outdoor air on bathers, and to purify blur vision (Al-Kayal, 1986).

3.2.7 Bedrooms

The bedrooms are mainly distributed on the second floor parallel to the south, and they are lighted with windows sometimes overlooking on arched hallway, in the winter, people sleep at the top, while summer sleeps at the bottom where the rooms are cooler. The bedrooms generally came upstairs, facing the south side, and open with glass windows on the hallway overlooking the Sahn of the house, to receive warm sunshine in winter, where the angle of inclination of sunlight is reduced in this season, its rays goes deep into the rooms, helping to brighten the rooms, and purify and warm the air (Sawaf H. Z., 2017).

In the bedrooms, (Al-Faresh) and (Al-Lehuf) and others are placed in a large wall closet closed with wooden doors full of decorations types, which are of two doors called (Al-Yuk). (M.Juha, 1993) . On the upper floor (Al-Dwar), which is a glass corridor on the bedrooms, there is a (Al-Mamsha) or (Al-Mmshaya) corridor between the rooms, and the hallway prevents rain from reaching the bedrooms (Kabrit, 2000) .

3.3 Architectural Elements of the Damascene House

Architectural elements mean the elements that make up the courtyard house such as (doors, windows, archs, columns, water elements). The courtyard house is rich with architectural elements. In the previous eras, these houses were the pride of the notables and great families of Damascus, as they were spending their ages and fortunes in

building, decorating and caring for them. In this chapter, there is a detailed explanation of the most important architectural elements, the purpose of their use and their types.

3.3.1 doors

The door is the entrance that you can enter the house and is the boundary that separates your inner sacred from the outside worldly world. Throughout history, Damascene houses had been characterized by archaeological doors that have left the imprint of their makers, where used in the doors the arts of carving, drawings, mirrors, Islamic oriental inscriptions, and the interior doors of the rooms were made of gold and silver paper and the beautiful Damascene colors (Kabrit, 2000).

The Damascene door is made of municipal wood, and consists of one or two shutters often the upper end of the door is in the form of a semicircular arc or a tendon. Doors are divided by type into internal and external doors, in terms of material, thread doors and wooden doors are engraved, Tewan wooden flaps and wood inlaid with marble (Bassiouni, 1981).

Exterior doors: The facades of the Damascene Arab house from outside are often simple and do not reflect the size or richness of the house so the Damascene houses were simple and unadorned from the outside, the exterior doors were the only element that could be decorated to a certain extent from the outside (Amene, 2018).



Figure 26: Exterior door of courtyard Damascus house. (Amene, 2018)

Interior doors: Floor doors are generally similar in terms of their wooden quality and design and decoration, narrow outlets are usually low in height to prevent heat or cold. The decorative patterns above the door and the marble threshold play a role in indicating the quality and importance of the rooms leading to it, there is no access from room to another, so the communication through the house Sahn, which overlooks all rooms. The upper doors are wooden and simpler in design and quality (Amene, 2018).



Figure 27: The upper openings of the external doors. (Amene, 2018)

3.3.2 windows

The window has three basic forms, either a functional window, which is the normal rectangular window, or a functional and decorative window, which is a decorative

window with different arches or a deaf window that is used for decoration only (Herzfeld, 1943).

The windows are divided into four sections in the Damascene House:

External Windows

Since the Damascene House is characterized by belonging and opening to the interior mean on the Sahn of the house, the external windows have been neglected in terms of inscriptions and it reduced by side the number and became at small size except for its level height about ground (Amene, 2018).

Mashrabiya is one of the elements of Damascene residential architecture with social function: Protecting the inhabitants of the house, especially the female half, from the outside eyes, unlike people on the street who can't see what's going on inside (Abidine, 1998) . Mashrabiya consists of two parts upper and lower: the lower section has small holes, so nothing can be seen from the street. The upper section is designed to cross the air where the wooden grid has large openings (Amene, 2018).The name Mashrabiya is derived from the Arabic word “Mashrab”, which originally means the place of drinking, in the past, it was a protruding space with a sieve hole a small water jars is placed into it to get cool caused of evaporation resulting from the movement of air through the hole (Abidine, 1998).

Mashrabiya generally has five jobs, several models have been developed to meet different requirements for one or more of these functions. These functions adjust the light passage- adjust airflow-reduce the air current temperature-increase the humidity of the air stream and provide privacy (Sawaf, 2017).

Interior Windows

The windows of the courtyard facades were considered an architectural element with a special style, shape and various functions such as lighting-prevention of summer heat-renew air and maintain moisture- the entry of sunlight in winter - raise the temperature inside the rooms and isolation of winter cold (Amene, 2018).



Figure 28:Interior windows on the first floor. (Amene, 2018)

The Basement Windows

These are located near the floor of the inner courtyard and were used to light bathrooms and secondary rooms such as pantries (Herzfeld, 1943) .

Qamaria Windows

These are small openings in the wall above the door or the top of the windows, as in the two side halls of the iwan to bring light into them, resembling the full moon or the full moon in its rotation, allowing light or air or both to pass less than the normal window allows. Their shape varies between a full, half-lunar, semicircular or elliptical circle (Herzfeld, 1943).

3.3.3 Colum's

Vertical columns supporting Roofs, walls, arched arcades and balconies, can have different forms: square, round, rectangular and semi-circular. The column consists of the stem, the crown of the column and the base (Kabrit, 2000) .

Multiple forms of columns:

- Octagonal column, bell-crown and beveled base.
- Octagonal column, muqarnas crown from one collar.
- Octagonal column, column crown of muqarnas with two basins and octagonal base.
- The octagonal column, the (bell) crown of the pillar, base is shifted from the bell-crown and the octagon.
- Circular column, crown column, (bell-crown), the base is bell-crown and circular.
- Column circular, crown column - Andalusia.
- Circular column, crown column - bell-crown with large muqarnas, base - simplified bell crown (Amene, 2018).

3.3.4 Arches

To talk about arches, they should be classified into:

- Forms, types and methods of drawing and executing arch.
- Arch function (Kabrit, 2001).

Arch function:

- The function of the arch as a structural element:

The composition of the Rewaq, which holds the second floor.



Figure 29: The function of the arc as a structural element. (Amene, 2018)

- Separation of spaces:

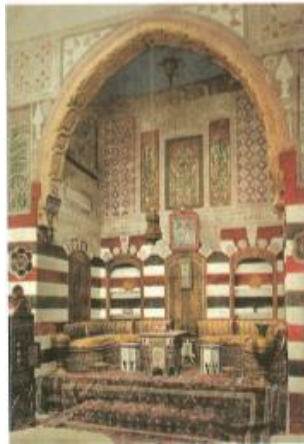


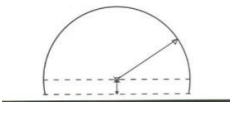

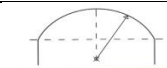

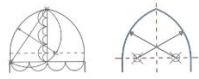


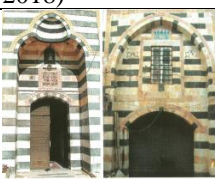
Figure 30:the using of arch to Separation of spaces in the hall room in courtyard Damascus house. (Amene, 2018)

- Aesthetic function (windows / doors / writing / collar / decoration.....)



Figure 31:The Aesthetic using of the arch as a window and decoration in courtyard Damascus house. (Amene, 2018)

Table 5: list of the forms, types and methods of drawing and implementing the arch (by author):

Type	Description	photo
Single-center circular rib vault	Its center rises from the legs of the rib vault and consists of a circular section larger than half of the circle, called the apostate rib vault. (Kabrit, 2000)	  <p>Figure 32:Single - center circular rib vault (Amene, 2018)</p>
The Motor Arch	These are two straight slants at a certain angle where they meet up to form this rib vault. (Kabrit, 2000)	  <p>Figure 33: Motor Arch in a courtyard house. (Amene, 2018)</p>
The pentacle rib vault	It's a bi-center rib vault, the distance between the two arches of rib vault is divided into five equal sections. (Kabrit, 2000)	  <p>Figure 34:A pentacle rib vault Inside mosque. (Amene, 2018)</p>
The muqarnas vault	Muqarnas in the ventricle of the rib vault.The formation of a muqarnas rib vault. Hanging muqarnas. (Kabrit, 2000).	 <p>Figure 35: Muqarnas in a courtyard house. (Amene, 2018)</p>
Ablaq arch	Bicolor Ablaq engraved Ablaq Mixed Ablaq (Kabrit, 2000).	 <p>Figure 36:Ablaq arch in courtyard house. (Amene, 2018)</p>

3.3.5 Water Elements

The pond in the courtyard constitutes the important part of its elements and its presence is necessary to complete the magnificent scene painted by the elements of the Damascus house, each pond with its ornamental surroundings is a glamorous beauty the Damascene architecture generally cared for water to soften the dry atmosphere inside the houses and rooms (Herzfeld, 1943).



Figure 37: Fountains in the courtyard house URL 9.

The pond is located within the courtyard in front of the iwan facade and closer to it and in the middle of its large arc axis which is used for the summer session. The pool has shapes and types such as octagon, pistol, square, ring, star, curved, oval or other forms, and they are usually built of stone or inlaid stone of decorative marble from outside and the interior is lined with water-proof lime (Amene, 2018) . An interior fountain they called it " Alvskiyat (Fountains) " so that it is smaller than the pool of the courtyard, Fountain (water pool) - a small fountain inside the hall, small in diameter (1 m). It can be raised or at a lower level than the threshold, covered with marble and marble mosaics or spray pottery. Its location in the hall is the center of the threshold. These fountains and waterfalls gave moisture and fresh sound to purify the water, giving the house a special charm (Herzfeld, 1943).



Figure 38: Alvskiyat Fountain in the hall of courtyard house (by Hasan Bryiez)

Table 6:Other important elements in courtyard houses (by author):

Element	Description	Photo
Mandalins.	It is half a window that opens to enter the air and it is above the doors of the interior rooms. (Kabrit, 2000)	<p>Figure 39: Mandalas in courtyard house. (Amene, 2018)</p>
Cabinet (Yuk)	The thickness of the walls of the Damascene house bearing the ceiling had the direct effect of allowing the architect to exploit these thicknesses to make different cabinets in different rooms. (Kabrit, 2000)	<p>Figure 40: Cabinet in the hall room of courtyard house (edited by author)URL 10</p>
Al-Mishkat (lantern niches)	A small Mihrab in which an old copper lamp is decorated, is sometimes silver-plated and the Al Mashaki are mostly on either side of the Liwan. (Kabrit, 2000)	<p>Figure 41: Al-Mishkat in the wall of courtyard house. (Amene, 2018)</p>
Al-Mihrab	Usually in the chest of the iwan or in one of the inner walls, it is adorned at the top half a dome decorated with colorful Arabic inscriptions. (Kabrit, 2000)	<p>Figure 42: Al-Mihrab of liwan in courtyard house (edited by author) URL 11</p>

3.4 Materials and Methods of Their Installation

3.4.1 Walls

The location of Damascus in the green area of Ghouta required the use of certain building materials. Cement was not known at that time, so the Damascene builders used local building materials found in this area (such as Ground Clay) and (Hor al-Jadawl). The soil was the basic building material with the introduction of wood for roof bridges and wall beams. Therefore, the Damascene house relied on its construction on the dirt in the first degree, and the wood enters the building (Sawaf,2010).

the construction methods in the Damascene House as follows:

- The brick method:

It relies only on large brick for the construction of the walls. This is done by mixing the clay with crushed straw and pouring the mixture into molds of 30 x 30 x 8 cm and 30 x 15 x 8 cm, leaving these bricks exposed to sunlight to dry and harden (Khair, 1969).

- The wooden structure method:

This method is predominantly used in two-story houses, which use timber alongside the soil, as it is frequently found throughout Ghouta, and the walls are completed in two phases: the first phase involves the establishment of a wooden structure while the second phase involves filling the gaps with brick pieces. Finally, the walls are coated with a polished layer to protect the walls from rain (Khair, 1969).

- The method of ramming:

It is the least prevalent, and is working as follows: two rectangular wooden boards, each 170 cm long and 85-90 cm wide, are mounted vertically 5030 cm apart, and the other sides are clogged with two small plates, a molded wooden block is formed, the base of which is based on the ground and opened to the top. Then, the mold is filled with earth and gravel mixed with water. This mixture is pressed until it becomes one monolithic block, and then the mold is lifted, and the process is returned in the same way (Sawaf, 2010).

- The stone method:

It is less prevalent than the earthy type, because it is almost confined to the houses of affluent families and public buildings. The foundation of the stone house is usually constructed. Stone houses are the oldest and longest-lived houses. The stones used are of different sizes, where the basalt stone is used in the construction of external door frames, room doors, windows and stone arches (Shehabi, 1999).

3.4.2 Floors

The floors of Damascene houses in the Arab and Ottoman periods are decorated with marble and stone tiling with geometric shape, and multiple use of the following stone forms: Basalt, sumac - red mosaic - white limestone - or colored marble - Chromatography was important and light and dark tones had different functions to absorb and reverse light. The floors of the houses collected in marble, black and red-brown stone formed a unique geometric panel in a stone frame (the average dimensions of the tiles (35 x 3.5 m) (Shehabi, 1999).

The floors of the Damascene houses are similar to each other, where the heat was wonderfully distributed in the inner courtyard, creating a favorable climate to live in.

Basalt, as the lip, absorbs solar radiation while white marble reflects it, and for brown-red stone it distributes heat regularly. Thus, there is a thermal balance (Khair, 1969). The materials used in flooring can simply be linked to the time of tiling and the presence of this or that material, thus the date of tiling can be determined, for example, if we find the sumac and Almazi stone, this indicates that the house is old, but if we find the basalt and the stained marble, this indicates that the house has been built in a later period (Shehabi, 1999).

As for the floors of the rooms, marble was used in overlapping geometric or vegetal forms in various colors, forming a painting especially in the main hall of the house or in the form of a geometric frame of the floor (Halbouni, 1996).

3.4.3 Ceiling

The ceiling is also a decorative architectural element in the room and a complement to the wooden cabinets in it. It is made of overlapping wooden sheets in the form of pieces and is rich in gilded carvings and drawings, especially in the main hall of the house (Shehabi, 1999). As for other rooms, the care of the inscriptions and decorations is reduced. Roofs of houses with different building methods were covered with wood. Poplar wood is the most used type of wood. It is common and widely available in Ghouta (Albhansi, 1999). There are two types of stone construction when the first floor of Damascene residential buildings is constructed. The first type: brick construction (foundations of basalt stone above which bricks are covered with a decorative plaster layer). The second type: Covering using wood slabs with filling with stones mixed with mud on a basalt basis (Abidine, 1998).

Chapter 4

FACTORS OF CHANGE IN DAMASCUS COURTYARD HOUSES

This chapter provides a general review of the two-sided literature on changing factors. The first social element like globalization, culture and privacy. On the second side, concrete influences such as materials and methods and technology show the connections between these social and physical forces and how it has evolved in contemporary life, to explain how these drivers of change influence the conventional Damascus courtyard house.

4.1 Social Factors

By globalization, culture, and privacy, the cultural change takes place. The architectural impact of this highlights the need for change. Residents carry on a role in cultural change that listens to the needs of people and make them aware of the consequent shift in the use and nature of the courtyard houses. This research focuses on cultural characteristics in the design and use of accommodation. These are globalization, culture and privacy principles.

Giddens (1990) sought to describe the social aspect of globalization as "worldwide social relations that connect distant localities in such a way that local events are influenced by events that take place several miles away and vice versa." Furthermore, globalization refers to "intensifying and expanding cultural movements around the globe" (Steger, 2003).

Over the past decades, culture has changed dramatically, and so the attitudes, ideals, world views, lifestyle and other symbolic meanings of life are also evolving. This has culminated in major conflicts between conventional (old) and contemporary (new) lifestyles. Although transformation and growth are viewed as equivalents to societal change in the current sense (Tipple and Willis, 1991), these factors affect the latter, but are not limited to them. In most cultures, if not all, culture is changing throughout the world as a result of several shifts for contemporary life.

Privacy perception is different from one culture to another, although everywhere in the world it has the same level of importance. It is perceived culturally and contextually and therefore culture and/or subculture determine what and to what extent is considered private. The level of social contact tends to be closely linked to society, i.e. open societies with open houses and high levels of social activity and closed cultures with opposing characteristics (Rapoport, 1977).

4.1.1 Globalization

Although word of 'globalization' has been used by scholars in their work in second half of 20th century but the word has a longer pedigree. In English language, several hundred years ago (Scholte, 2002). In late nineteenth century, the word globalism and globalize appeared in 1940s and in 1961, the word globalization was first entered in American English dictionary (Scholte, 2002). There are examples of word globalization in languages other than English like 'quanqiuhua' in Chinese, 'globalizacion' in Spanish, 'lil' alam' in Arabic, 'globalizatsia' in Russian and 'mondialisation' in French.

The globalization term was introduced in the latter half of the 20th century; but globalization and its conceptual features did not attract the popular awareness until the

latter half of 1980s (Chris, 2006) site it in (Steger, 2017). The phenomenon of globalization has attracted more considerable attention than almost all other issues in recent decades and it still is used in various contexts, by many people to reach different goals (Eldemery, 2009).

Most critics from various fields, such as economy, sociology, and cultural studies, agree on the following assumptions. The three forces of globalization, namely increased connectivity, improved technologies, and perceived convergence, increased connectivity translates into fast, almost immediate exchange of information with regard to politics, security, and media. Globalization, as a process, constantly pushes for more connectivity (Hannerz ,1990) site it in Pooch (2016), resulting in increased networking around the globe. Anthony Giddens calls this effect a ‘local-global dialect’ (1990) in which individual actions on a local level have a global impact. Castells calls this effect a ‘network society.’ The global network society is characterized by both its common features and its diversity. It is conceived as a system of different network societies communicating with each other, forming a global network of information (Castells, 2004) Site it in Pooch (2016). Technological advances are accompanied by an increase in connectivity and experienced convergence. The entire globe seems to be connected by new or better means of infrastructure, transportation, information, or digital devices according to Alfonso de Toro, new Internet technology has “transformed the world into an ever-growing virtual surface that, on the one hand, expands the world in an almost infinite way and, on the other hand, compresses it radically so that we live in a permanent implosion” (Pooch, 2016).

This increasing connectivity is, in some ways, an obvious aspect of our lives. It is something we can all at least in developed societies recognize in everyday routine

practices in our use of communications technologies (mobile phones, computers, email, the internet, in the built environment we inhabit, in the sort of food we eat, in the way we earn our livings, and in the way we entertain ourselves, in cinema, television and so on. (Tomlinson,1999). “Globalization can thus be defined as the intensification of worldwide social relations which link distant localities in such a way that local happenings are shaped by events occurring many miles away and vice versa.” (Giddens,1990).

4.1.2 Culture

Our way of being is culture. It belongs to our group, our people, our like-minded people. It is our lifestyle. Our way of making the world meaningful. Other people have different cultures in other societies. They're different from us. Their society doesn't have to be worse than ours, but it's different. This description draws heavily on the word's own history. Culture is a question of "cultivation" from the Latin *kultura*. Culture is a growing thing. Culture, that is, based on a metaphor for agriculture. Culture is like a plant that needs to be protected and nurtured (2019, Ringmar).

"Some societies, particularly indigenous peoples, see cultural heritage as their greatest heritage, in which they have no origins, history or spirit. The value is separate from the monetary value. Commodifying it means destroying it. (Autumn,2001) site it (Schumpeter, 2017) ".

Culture is a complicated and divisive term, as this definition does not reflect a single universe of individual objects. Culture is acquired because one does not naturally possess one's own culture, and this method of understanding one's own culture is called enculturation. Culture is a definition of a certain way of life, conveys specific meanings and ideals and includes culture not only in art or education, but also in

structures and ordinary behaviour. Through behavior, traditions, vocabulary, and material culture, history can be interpreted implicitly (Williams, 2006).

Inglehart and Welzel (2005) found out that cultural change is a predictable consequence of socioeconomic growth, but it is also contingent on the direction as cultural heritage tends to form and drive the prevailing values and beliefs. For example, changes in social structure, family arrangements, property, affiliations, morals, and kinship relations influence political and economic systems within communities at different levels and vice versa (Inglehart and Welzel, 2005; Ritzer, 2007).

4.1.3 Privacy

Another hint to the ambiguity of the concept of privacy is that there is no counterpart in other major European languages for the English word ' Privacy ' with all its rich connections. For example, ' intimate ' means intimate as the best translation in French, and ' prive ' means individual or personal. In the sense of privacy, these terms are inferred, but they are still very insufficient to convey the thoughts and connotations found in the English expression ' privacy. ' The German word "privatleben" literally means "private life," which is also related to, but limited to, the meaning of privacy. Italian has adopted the English word with its connotations insufficient (Ward, 1999). Privacy is not a simple idea or definition of itself, but it is more complex and needs to be fully appreciated in terms of philosophical and scientific studies. It is a set of multi-dimensional dimensions that different disciplines are tackling. Privacy is a personal and historical understanding, so in various cultures and societies, it has different conceptions. It is perceived as a human need for a comfortable life in many communities of different cultures, regardless of the principles or ideals people believe in or the public understanding of privacy (Rapoport, 1969). Altman defines privacy as

a method of supervision by which people control their relationship with others and use different patterns of modes of behaviour. By controlling the accessibility / inaccessibility or openness / proximity of persons, they may regulate behaving and communicating with others in accordance with their personal desires and relationship intimacy (Altman and Chemers, 1984). Privacy could be interpreted as borders or lines dividing personal and public spheres – i.e. having a personal zone beyond structural walls such as a wall, fence, etc., or subjective, such as feeling comfortable not being watched by outsiders. Privacy is often perceived as solitude, or is closely related to seclusion, and thus could lend this term a negative connotation. It is ' the ability to control contact from another point of view, i.e. to avoid unwanted interaction' (Rapoport, 1977).

He further stresses the need in modernized societies to tackle certain forms of privacy that are categorized into seven groups in a wider range: personal privacy, in-family privacy, family privacy, community privacy, visual privacy, auditory privacy, and urban privacy. In traditional lifestyle, people are more likely to be family-oriented rather than individual-oriented and communicate more with their relatives, and in modern lifestyle, these are usually the opposite. In extended families, for example, it is common for people to live and eat together and to give high importance to the group, often at the detriment of the member, and to promote self-sacrifice for the group's sake (Al-Kodmany, 1995).

Design may help control the actual level of interaction and communication for any given number of people per unit area by offering physical barriers, space, respect of norms and etiquette, time management, psychological isolation, division of roles, and so on, all of which dominate and minimize information flows. It can also do this by

manipulating the sensory signals that indicate the level of potential interaction (Rapoport, 1977).

4.2 Physical Changes

Materials and technology and technologies will be analyzed in terms of physical element since the very beginning of human life, technology- as an indicator of the human capacity to customize resources and build systems -has always supported our daily activities. Science is only the relatively new outcome of the combinations of theories and results drawn by applying the scientific method (Basalla ,1988).

Changes occur due to the progression of systemic processes or entirely new causes. Such new issues can be hurdles or new requirements that allow techniques and technology, updated processes, completely new devices and newly discovered or invented materials (Williams, 2000).

Today's architecture tends to be influenced by modern materials and methods in the eloquence of its form. "Essential truth" indicates an architecture that arises from an epoch's state of mind and that it is time to identify architecture. Architecture is not building. Architecture is the collection of synthetically thinking in reaction to which the various architectural components are synchronously guided to articulate an objective (Le Corbusier, 1927) site it in (Braham, W. W., & Hale, J. A,2006).

4.2.2 Materials and Methods

Architecture has seen a lot of materials and technologies being imported from a variety of industries funded by the results of this research and development. Beginning with the advent of the scientific method, an exciting and pervasive process began to replace traditional methods to produce incremental improvements in architectural technology

and to capture these advances within the architect's knowledge base (Turner,1986). The laboratory tended to serve as the main location for the production of new material materials for structures, rather than the construction site. Increasingly, through the latter half of the 19th century and into the 20th, structures were designed at a distance from the building site, resulting in a general disassociation of architectural planners and the invention of building materials during the early 20th century (Schwartz ,1996).

Three subjects are discussed in more detail in order to gain a better understanding of how contemporary materials have affected construction; dematerialization, replacement and technology transfer (Grübler 1996) site it in (Fernandez,2012);

1. Dematerialization is a well-documented process in the transition of material flows in the making of human objects. The explanations for this are self-evident, that is, it is a completely reasonable change based on self-interest to attempt to meet a need for less resources and thereby rising one's cost and effort. In other ways, though, one can describe dematerialization (Cleveland and Ruth ,1999).

2.Substitution: Substitution has always been a phenomenon of dematerialization, which has contributed to the emergence of architectural form. The substitution of concrete for stone, steel for timber, plywood for timber planking, thin wood veneers for lumber, gypsum and paper wall boards for plaster, and countless other examples demonstrate the pervasiveness and durability of the substitution process. Similar to dematerialization, substitution is also prompted by a complex assortment of factors, some of which are almost always present; technical advances, resource pressures, interruptions in supply or distribution, security concerns, and economics (Cornish, 1987).

Substitution plays an important role in generating ideas and models for contemporary architecture while offering building alternatives (Caples and Jefferson ,2005), and many others are gradually modifying the design choices and construction strategies that define contemporary architecture and make it easier to propose new forms (Grübler ,1996) site it in (Fernandez, 2012).

3. Technology Transfer: Ultimately, the technology transfer process is the third way to change the material composition of contemporary buildings. Just as substitution and dematerialization in terms of materials and efficiency are readily clarified, the essence of technology transfer is equally diminishable. Importing techniques and materials from other fields and sectors may improve the efficiency with which materials are used while enhancing (or not compromising) performance in the quest for new methods and materials to achieve some specific task (Fernandez, 2012).

4.2.2 Technology

It is certainly arguable that since the first decades of the 20th century, the world has experienced the most significant era of technological innovation and economic transformation. Cities have always been centers of culture and prosperity, contributing to human progress through material and scientific advances over the years (Morgan, 1914).

Technology is often known as the concept handmaiden and, as such, is supposed to be subordinate. New technologies change the nature of work-with its multidimensional effects, dramatic change and innovation have for centuries been part of modernity, as has technological development and expansion (Eldemery I, M,2009).

The adoption of suitable technologies is therefore a natural and unforced consequence of suitable architecture. Together, they provide legitimate shapes and images to replace the models provided by industrialized nations, as stated by Shahin Vassigh (2004) "Architecture practice is a delicate balance between art and science-a creative effort that also requires the architect to master a wide range of technical skills, including engineering." (Vassigh ,2004).

The 1914 generation architects, who lived through the automotive and aeroplane invention, were the first to embrace science and technology as a substitute for their accumulated cultural heritage, Industry completes the transition from handicraft to machine production. Industry is just part of the issue related to the transition from individual to collaborative architecture. Machine work means serial design and accuracy. Handicraft has its own special charm which can never be replaced: the product's individuality. But there's no higher science without computer work. Industry anticipates the inner turmoil of civilization just as architecture anticipates the construction's potential speech. Even before manufacturing developed in its present form – about 1820 – Henri de Saint Simon (1760–1825) recognized that it was the century's central concept and was intended to turn life inside out (Braham, W. W., & Hale, J. A,2006).

Chapter 5

THE SPATIAL CHANGES IN DAMASCUSE COURTYARD HOUSES

5.1 Brief Description of the General Composition of the Study

The purpose of the study is to evaluate the Syrian courtyard house and how it has been affected by the factors of change from both social and physical aspects. Social changes fall under (Globalization, culture and privacy). As for material changes, it was studied in terms of (materials and methods - technology) to study the factors of change and link them to the traditional Syrian courtyard houses. The same traditional house-built hundreds of years ago was a traditional house but today it is still used as a house with changes in it due to the requirements of contemporary life.

Qualitative Methods have been used to accomplish this goal. The research is split into two parts. It gathers information about the courtyard house and the (qualitative) causes of transition in the first section. In the second section, the research is based on the researcher's direct observation and interviews with the inhabitants of Damascus courtyard houses.

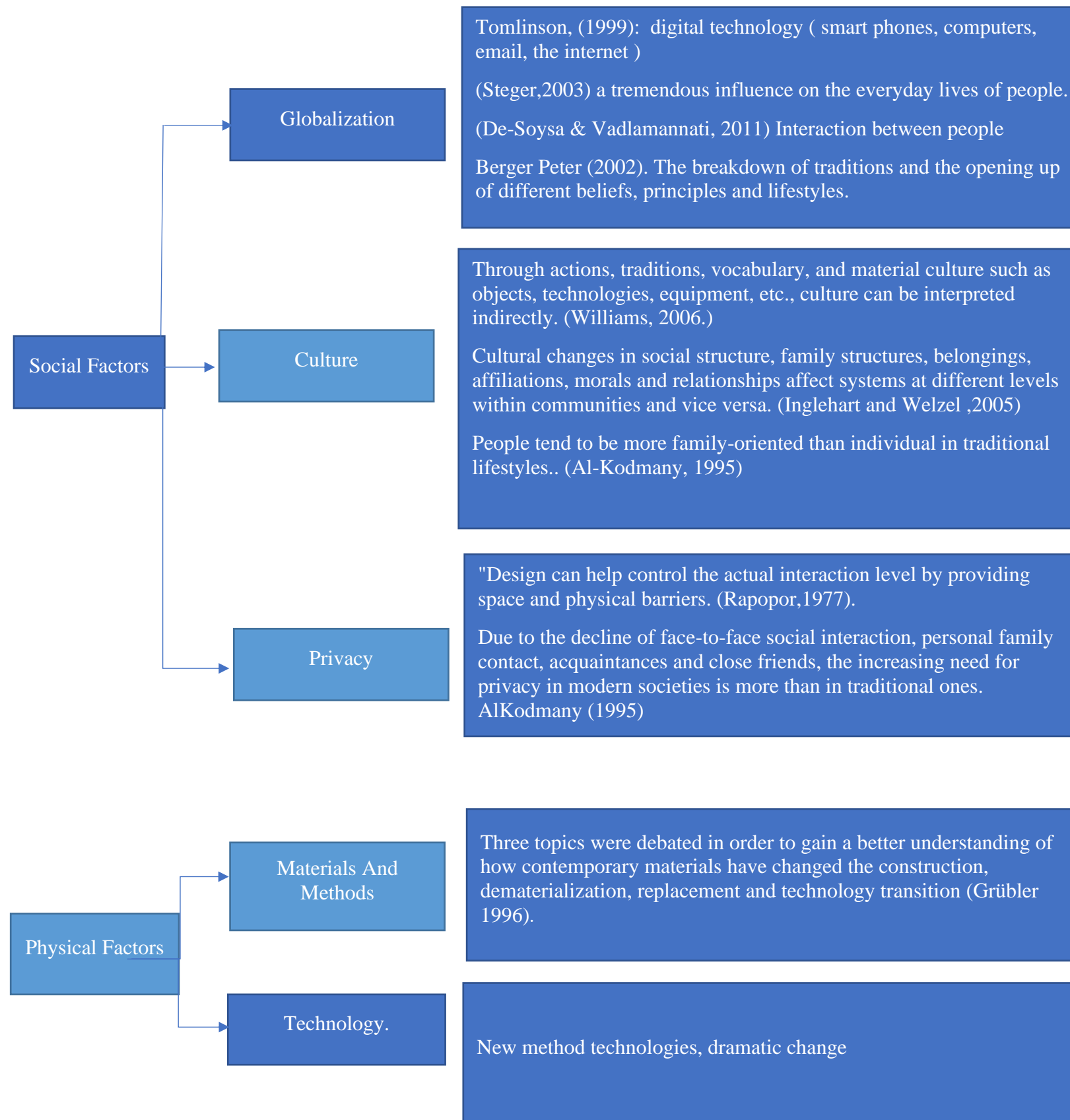


Table 7: Summary effect of the factors of change (by author).

Factors of change		Tradition as time	Contemporary as time
Social factors	Globalization	Face to face connect.	Social media.
		Life inside house.	Life outside house.
	Culture	Traditional life style.	Contemporary life style. Changes in family structure, new habits or behavior, beliefs family structures, belongings, affiliations, morals and relationships due to contemporary life.
	Privacy (In-family privacy)	Sharing places and spaces or common places and spaces.	Individual places and spaces.
Physical Factors	Materials and methods	Local materials	<ul style="list-style-type: none"> • Dematerialization. • Substitution. • Technology Transfer.
	Technology (changes in methods by using machine production)	Handicraft	Machine production

5.2 Damascus City

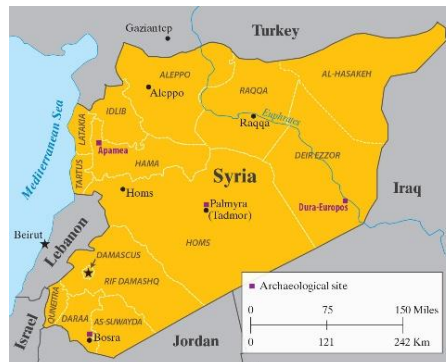


Figure 43:map of Syria URL 12.

Syria is one of the fifteen nations that make up the so-called cradle of humanity. It is home to two of the oldest populated cities in the world; Damascus and Aleppo. Syria is historically recognized as the Arab Republic of Syria. It is situated in western Asia, covering Lebanon, the eastern edge of the Mediterranean Sea, and the western island of Cyprus, southwest Palestine, south Jordan, east Iraq, and north Turkey. It is possible to trace the origins in Syria to the fourth millennium BC. Damascus, its capital, is believed to be one of the world's oldest continually populated cities. This became the headquarters of the Umayyad Empire and the Mamluk Empire's administrative capital in 1250-1516 (Levant C. , 2004) .the face of Syria on the Mediterranean Sea was very significant to the history of the country. It has given a "window on the world" for Syrians. Since ancient times, Syrians have taken advantage of this window. The Phoenicians have been among the most seasoned and active seamen in the world for several thousand years. There is some evidence that they have travelled to the Americas and East Asia. Around 600 BC, Phoenicians operating under Egyptian King Necho travelled across Africa and returned to the Mediterranean Basin successfully (Phillips, 2010). Modern Syria was created as a French mandate after World War II and became independent in 1946. A considerable number of military coups were observed in post-independence Syria before political stability was reached in 1970 (Levant C. , 2004).

The capital Damascus, Aleppo, Lattakia, and Homs are the main cities of Syria. Al-Hasakah, Deir ez-Zor, Raqqah, Idlib, Dara'a, As-Suwayda, Tartus and Hama are other Arab towns in Syria. Syria's gross ground area is 185,180 km². The coastline at the Mediterranean Sea, which includes the towns of Lattakia, Tartus, Baniyas, and Jablah, is 193 km long. Lattakia, Tartus, Baniyas and Jablah are the largest ports in Syria (Ismail, 2015).

As mentioned above, there are growing ethnic groups and religions in Syria due to their background and location. The largest ethnic groups are: Arabs nearly 90%, Kurds 9%, Armenians, Circassians, Turkmen about 1% (Federal Research Division LOC, 2005). According to the Federal Research Division (2005), religious groups are listed as follows: Sunni Muslims account for 74% of the population; Alawite, Druze and other Muslim sects account for 16% and the various Christian sects account for about 10%. Christians are split into many groups: Orthodox (Greek Orthodox) make up 50% to 55% of the Christian population, while the remainder are Catholics and other sects. Throughout Damascus, Al Qamishli, and Aleppo, there are also significant Jewish communities. The languages used are: Arabic, which is Syria's official language and 90% of the population's mother tongue; Kurdish, Armenian, Aramaic, Circassian; and English and French are widely understood by educated individuals. (CIA, 2008; Shoup, 2008; Phillips, 2010).

5.3 Damascus Gates

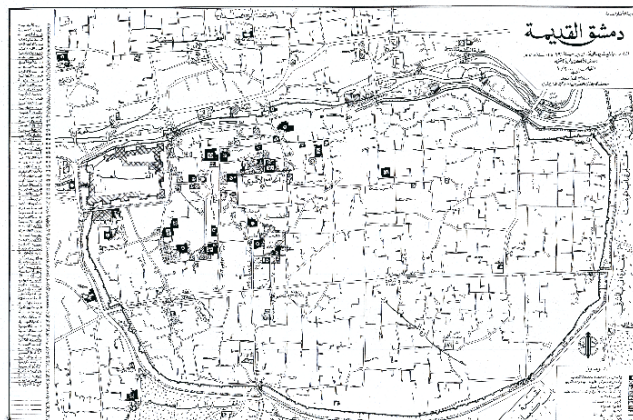


Figure 44:map of old city in Damascus manual drawing by Salah Al-Din Al-Najd goes back between 1097- 1463.

The Greeks and Chaldeans, who built Damascus, was worshipping the seven distinct planets. The gates of Damascus were seven; the moon in the sky and Mercury in the second sky, Venus in the third, the sun in the fourth, Mars in the fifth, Jupiter in the sixth and Saturn in the seventh. They had depicted on each of the gates of Damascus a structure of the planet of these seven planets, and the seven gates of Damascus were put intentionally (Levant, 2004).

Though thousands of years have passed since the founding of Damascus, but life is still on its land and it is still the favorite place of residence for the people. Whenever people invaded it or when it was hit by an earthquake, people rebuilt their city, which was transformed with all its houses and palaces, schools, mosques and churches, into a huge museum visited by hundreds of thousands of tourists annually (Al-Mubarak, 1890). Mr. Hassan bin Mazlak, known as Altukai Al Badri, said in his book (Nuzhat Al-Anam in Mahasin Al-Sham): The images of the planets were on these gates; Saturn was on the Bab Kisan, the sun was on Bab Sharqi. Venus was on the Bab Tuma, and the moon was on Bab Juniq, and Mercury was on the Bab Faridis, and Jupiter was on Bab Jabiya, Mars was on Bab Al Saghier (Mazlak, 1922).

the Damascus Wall on the north side continued along the branch of Aqrabani, which confines an area equal to (105) hectares, and the length of its side is approximately (1500 meters) and width is (750 meters) and it is equipped with seven gates. Thus, the city contacted the outside world with a network of paved roads that emerge from these gates to different directions (Al-Mubarak, 1890) .distributed as the following figure: Three of them are on the north side, respectively: (Bab Touma, Bab Al-Janeeq, Bab Al Fardis), and two of them are in the south: (Bab Kisan and Bab Al-Saghir) and one is in the east : (Bab Sharqi), and the seventh one is in the west, called (Bab Al Jabiya) (CIA,2008).

5.4 Bab Touma (Gate of Thomas)

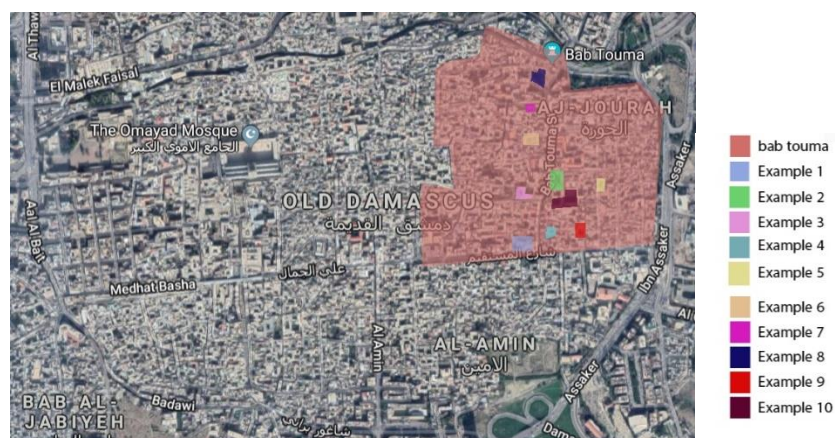


Figure 45:map of Bab Touma in old Damascus city (edit it by author) URL 13.

It was attributed to one of the great figures of Rome, and his name is Thomas (Touma), who gave his name to the neighborhood. In the Byzantine era, it had a great church. The church was converted into a mosque in Islamic times. In the present era, it was renovated and restored and its location became within a beautiful square known as Bab Touma Square. It is about six meters high and has been restored by the deputy Sultan Tekz Khan and it is named after the Roman Thomas in (1225 AD - 625 AH) (Al-Mughrabi, 1985). It is located in the north side of Damascus, it is a Roman gate height (438 cm) and width (322 cm) it had a church then it was

converted into a mosque and the minaret was removed to expand the road in the 1930s. Amr ibn al-As entered this gate in the day of the conquest of Damascus (hasni, 1981).





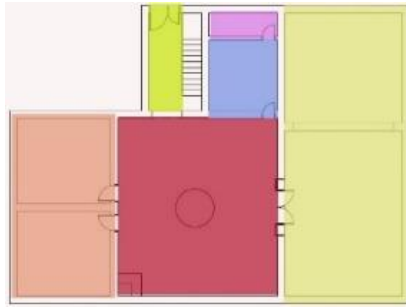
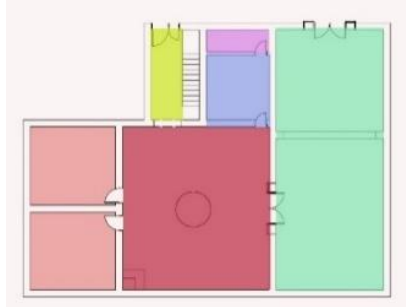
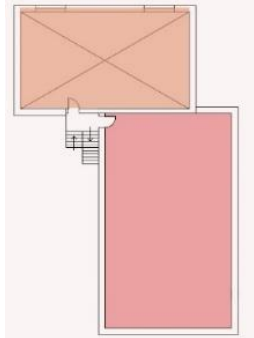
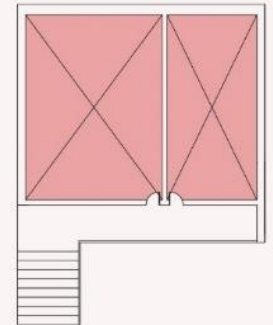
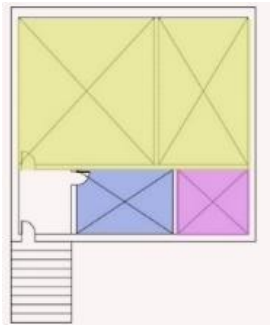



Figure 46:the gate of Bab Touma (by author)












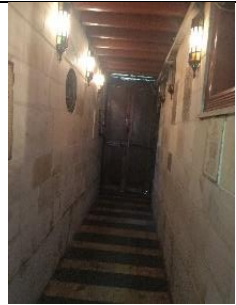
From the gates of Damascus at the northern end of the wall, the Greeks laid it down and attributed it to Venus, and then the Romans came, and then the Byzantines, who dedicated it to St. Thomas the Apostle, one of the disciples of Jesus Christ. The gate was renewed in the Ayyubide period during the days of King Nasser David son of Issa in (625 AH / 1227 AD), then in the Mamluk, in the days of Deputy Sham Tenkez, who ordered to repair the gate, and he lifted it ten arms and its stones and iron were renewed as soon as possible. (Sawaf H. Z., 2010) Arab historians stated that the gate is attributed to a great figure of Roman and his name is (Toma), the matter got confused; because when Damascus was conquered on (14 Hegira) in the days of the Byzantine Emperor (Heraclius), his brother-in-law (husband of his daughter), Thomas, was a Wali (Governor of Syria), Damascus was its base. They thought that the name was attributed to him. Ibn Asaker and Yakut al-Hamwi went on to say that the name was attributed to the village called (Tuma) and the right is that its name is attributed to the gate (hasni, 1981).

5.5 Observation, Analysis and Interviews Tables of The Chosen Examples of Damascus Courtyard Houses

5.5.1 Example 1

Table 8: of example 1 (by author)

General information		Site			
<p>Al-Ashqar house was constructed before 300 years ago. 4 generations have lived in the house, the owner of the house was the grandfather of the grandfather of the current residents of the house, they were living together with their grandparents and their uncles. They have lived alone for seventy years. the courtyard used to meet and welcome their family and friends. The researcher conducts the information on 30/11/2019.</p>		 <p>Figure 47: Location taken from google map.</p>		 <p>Figure 48:key (by author)</p>	
Ground floor		First floor		Second floor	
 <p>Figure 49: Old ground floor plan (by author)</p>	 <p>Figure 50: Nowadays ground floor plan (by author)</p>	 <p>Figure 51: Old first floor plan (by author)</p>	 <p>Figure 52: Nowadays first floor plan (by author)</p>	 <p>Figure 77: Old second floor plan (by author)</p>	 <p>Figure78: Nowadays Second floor plan (by author)</p>
Courtyard					
 <p>Figure 53: Courtyard of Al Ashqar house (by author ,2019)</p>		 <p>Figure 54: Part of the courtyard of Al Ashqar house (by author, 2019)</p>		 <p>Figure 55:Entrance of the Basement in the courtyard (by author, 2019)</p>	


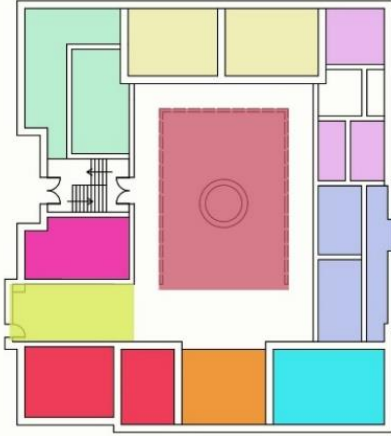
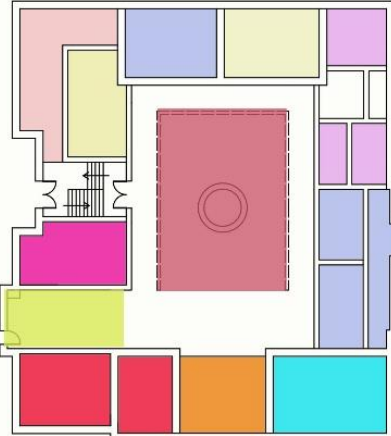
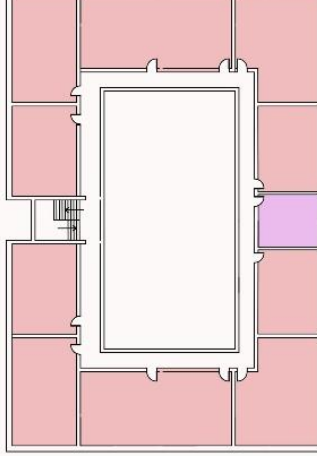
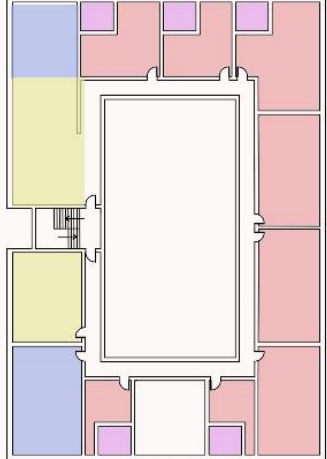




Interior design				
Materials				
				
Figure 56: Wooden ceiling of the bedroom (by author, 2019).	Figure 57: Stairs to the first floor by author, 2019.	Figure 84: kitchen in second floor (by author, 2019)		
				
Figure 85: dining room in second floor (by author, 2019).	Figure 86: living room in first floor (by author, 2019).	Figure 87: bedroom (by author, 2019)		
				
Figure 88: Beit Al Mona recently in the kitchen (by author, 2019)	Figure 89: reception of the courtyard house (by author, 2019).	Figure 90: kitchen of ground floor (by author, 2019).		
Opening				
				
Figure 91: interior door of Al Ashqar house (by author, 2019).	Figure 92: the interior windows of Al Ashqar house (by author, 2019).	Figure 93: the exterior doors and entrance of Al Ashqar house (by author, 2019).		
Factors of change				
Globalization	Culture	Privacy	Materials and method	Technology
✓	✓	✓	✓	✓

The history of the house dates back to 300 years, when the owner of the house was the grandfather of the grandfather of the current residents of the house at that time but about 70 years ago, one of the children went out with his family to live outside the house, and today the grandmother and grandmother live in the house with one of his sons and his wife. As for his children, the single children live with them, but they made some adjustments to suit them. As for the married couple, they live in a separate house. Upon entering the house from the first glance, it was noted that the place was not changed, but after looking carefully, we find that there have been many changes that occurred in the place, especially on the second floor, where bedrooms and bathrooms were increased on the second floor (Picture 87) as a result of changes in privacy, which led to the creation of barriers to cut the large bedroom into two rooms. As for the bedrooms on the last floor, it was also changed after the addition of the open corridor to the rooms and the opening of the rooms to each other. Today they are used as a room to receive guests and a dining room (Picture 85) in addition to doing bathroom services and a kitchen equipped with initial equipment. In the past these rooms were bedrooms for the father, mother, grandfather and grandmother, but today they are not able to climb the stairs, so they made this change. When asking the owners of the house about the changes that occurred in the bedrooms, they answered that electronic games were added. This house has not been affected significantly by cultural change. To this day the children and the father work with the same craft as the grandfather (in handicrafts) and they have their own place inside the house. Two rooms were taken from the house that were previously used as rooms of Haramlek, Salamlek and Liwan (Picture 79). As for material changes and methods of changing the walls on the ground floor, they were changed from limestone walls to stone walls due to moisture problems. When laying the stone, they removed the decorative arches because of the

lack of experience in restoring these traditional formations, in addition to changing the floors on the first and second floor and painting the walls in the rooms on the upper floor. The stairs were also renovated, carpeted, and the kitchen was renovated in terms of design and tiles. They used gypsum board walls to separate the bedrooms, in addition to changing the doors on the second floor.

5.5.2 Example 2

Table 9: Example 2 (by author)

General information		site	
<p>Al Nasaane house was constructed on 17th-18th Century. 4 generations have lived in the house. In the past, the courtyard was used by the members of the house then the owner opened the yard as a public space. It is known as Nassan Palace for tourists, celebrities, foreign politicians and artists to see the beauty of the Syrian heritage and architecture. The family lives on the first floor, but the ground floor was open from 11-5 p.m. for everyone to visit and continue on to the oriental shop inside the house. Today the house is closed because of the lack of tourists and visitors and other security reasons. A number of series and films were filmed in the yard. The shop on the ground floor is closed as well and it is used now by their grandson with his family who moved on to his family house because of the war looking for a safer area. The courtyard is now used by the residents of the house. The researcher conducts the information on 30/11/2019.</p>		 <p>Figure 59: Location taken from google map.</p>	
Ground floor		First floor	
 <p>Figure 60: Old ground floor plan (by author)</p>	 <p>Figure 61: Nowadays ground floor plan (by author).</p>	 <p>Figure 62: Old first floor plan (by author).</p>	 <p>Figure 63: Nowadays first floor plan (by author).</p>
Courtyard			
 <p>Figure 99 : courtyard of Al Nasaane house (by author, 2019).</p>	 <p>Figure 100: corridor in the courtyard (by author, 2019).</p>	 <p>Figure 101: courtyard of Al Nasaane house (by author, 2019)</p>	 <p>Figure 102: iwan of Al Nasaane house (by author, 2019)</p>

Interior design

Materials



Figure103: table in the courtyard(by author, 2019)



Figure104: photo from the office in of Al Nasaane courtyard house (by author , 2019)



Figure105: photo from the internet space in of Al Nasaane courtyard house (by author,2019).



Figure106:photo from the internet space in of Al nasaane courtyard house (by authore,2019)

Opening



Figure107: the exterior doors and entrance of Al Nasaane courtyard house (by athor,2019)



Figure108: interior door of Al Nasaane courtyard house (by the athor2019).



Figure 109:interior window (by the athor2019).



Figure 110: arch in Al Nasaane (by the athor2019).

Factors of change

Globalization

✓

culture

✓

privacy

✓

Materials and method

✓

technology


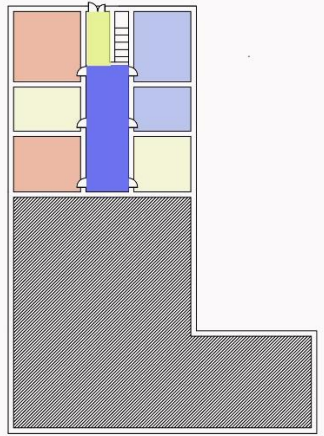
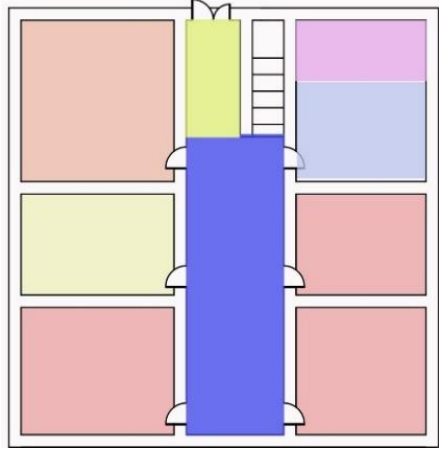
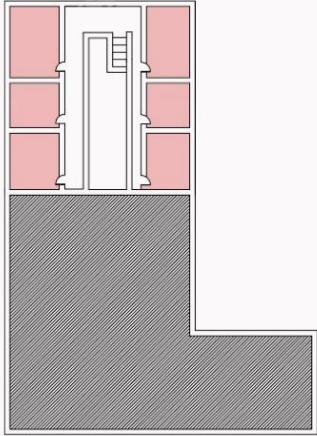
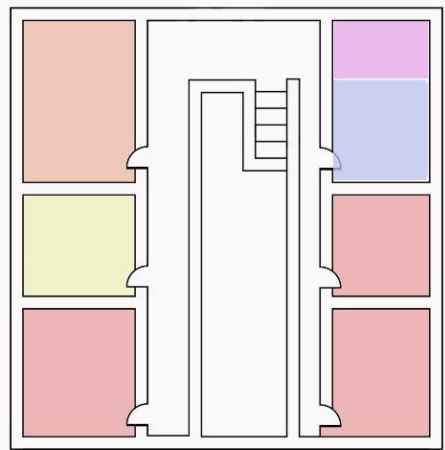




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Known as the Al Nasaane Palace, it is considered one of the famous traditional houses that still today retains the Damascene character. Each room in itself is a museum rich in details of extraordinary beauty and archaeological work made by the most famous Damascene artisans since long ago. To this day, the owners of the house are still very much interested in these monuments, in addition to the large courtyard that contains a beautiful iwan decorated in cyan and golden, and two rooms of Haramlek, Salamlek. The courtyard has round arches and, in the middle, there is a large octagonal Bahra (pond) paved with traditional antique stone. Many television series were filmed in this house, as well as it was visited by well-known people and celebrities from the Arab region and beyond. The ground floor was opened to become a public area in the past, and it is a sign of change in culture, globalization and openness to the world. Besides, an oriental shop for antiques and gifts was opened on the ground floor, but it was closed due to the lack of tourists in the region due to the deterioration of the security conditions in the country. As for the oriental shop, one of the grandchildren with his wife is residing in it today. His wife works as an organizer for parties and weddings, and when asked if this idea was a precedent, the answer was that the grandmother and the mother did not work previously because it was not previously recognized for the women work outside the house, and it is one of the effects of the change in culture. The house is divided into three sections: the ground floor for the public, and the first floor is divided into two parts, as two separate apartments, each with a private entrance. The researcher could not climb to the first floor because the owners of the house did not want that, but according to the narration of the owner of the house, the two apartments do not reflect the traditional architecture as on the ground floor. Every brother in the family has an apartment, which indicates the change in the concept of privacy. Besides, each family member has his own room. When asked about the

change in the bedrooms, the change took place in the rooms of the young grandchildren, they added television and Playstation in their rooms, which is an indication of the effect of the change in culture and globalization. As for girls' rooms, mirrors, hairdos and cosmetics were added, which is a sign of cultural change. On the ground floor and Liwan, they did not change anything from the materials used. We can see this in the pictures of the rooms on the ground floor 100, 108 and 110. But on the first floor inside the apartments, the owner of the house stated that he had experienced a contemporary house today. TV was added on the ground floor next to the Liwan, which is an indication of the progress in globalization as shown in the picture 102 in addition to that they increased the number of bathrooms on the first floor, each bedroom has a bathroom. On the ground floor, they did not alter the building materials, which are illustrated with pictures of the openings, as it shows that the doors are still old in terms of materials, but they are carefully and precisely engraved by craftsmen. The same applies to the floors in the entrance, picture 108 the courtyard area, etc. However, according to the owner of the house, on the first floor they removed old materials and re-placed new materials. The courtyard is still shared to this day used for family gatherings. It is worth noting in this house that its area is large compared to other houses.

5.5.3 Example 3

Table 10: Example 3(by author)

<p style="text-align: center;">General information</p> <p>Zezo house was constructed at 1607 AD 4 generations have lived in the house. the courtyard used to gather the family members in the past and nowadays, 50 years ago they divided the house to separate it into 3 parts then each son lived alone with his family. The women in that time refused the idea to live with their children in the same room and they added a closet, chest of drawers and dresser to their bedrooms. The researcher conducts the information on 30/11/2019.</p>		<p style="text-align: center;">site</p>  <p style="text-align: center;">Figure 64: Location taken from google map.</p>	
<p style="text-align: center;">Ground floor</p> <div style="display: flex; justify-content: space-around;"> <div data-bbox="388 827 691 1234">  <p style="text-align: center;">Figure 65:old grand floor plan (by the author,2019).</p> </div> <div data-bbox="976 827 1386 1247">  <p style="text-align: center;">Figure 66:Nowadays grand floor(plan by the author,2019)</p> </div> </div>		<p style="text-align: center;">First floor</p> <div style="display: flex; justify-content: space-around;"> <div data-bbox="1665 827 1961 1234">  <p style="text-align: center;">Figure 67:Old first floor plan (by the author,2019)</p> </div> <div data-bbox="2267 827 2683 1247">  <p style="text-align: center;">Figure 68:Nowadays first floor plan(by the author,2019)</p> </div> </div>	
<p>Courtyard</p>			
 <p style="text-align: center;">Figure116:the courtyard of Zezo house (by the author, 2019).</p>	 <p style="text-align: center;">Figure117: the courtyard of Zezo house (by the author, 2019).</p>	 <p style="text-align: center;">Figure118: the courtyard of Zezo house (by the author,2019).</p>	 <p style="text-align: center;">Figure119: the courtyard of Zezo house (by the author,2019).</p>

Interior design				
Materials				
				
<p>Figure120: living room of courtyard house(by the author,2019).</p>	<p>Figure121: bed room of courtyard house (by the author,2019.</p>	<p>Figure122: kitchen of the house (by the author,2019).</p>	<p>Figure123: bathroom of courtyard house (by the author,2019).</p>	
Opening				
				
<p>Figure124: interior door of Zezo courtyard house (by the author 2019)</p>	<p>Figure125: opining in the house by the author 2019.</p>	<p>Figure 126: interior door of Zezo courtyard house (by the author 2019).</p>		
Factors of change				
<p>Globalization</p>	<p>culture</p>	<p>privacy</p>	<p>Materials and method</p>	<p>technology</p>
<p>✓</p>	<p>✓</p>	<p>✓</p>	<p>✓</p>	


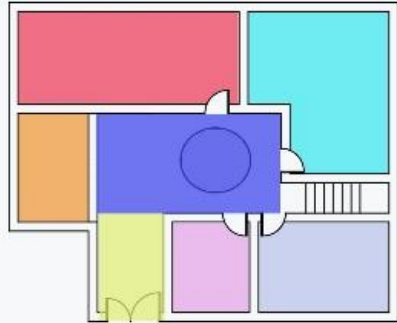
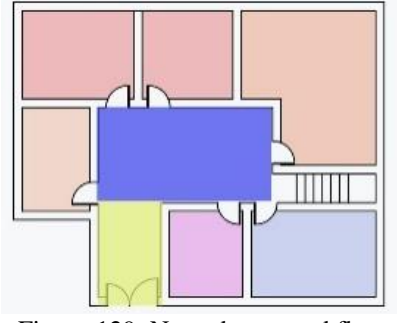
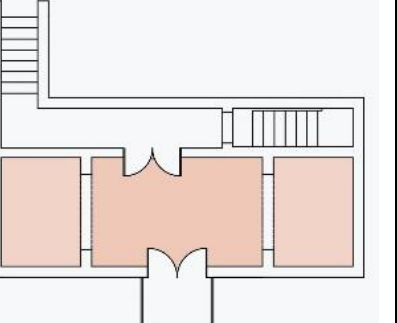
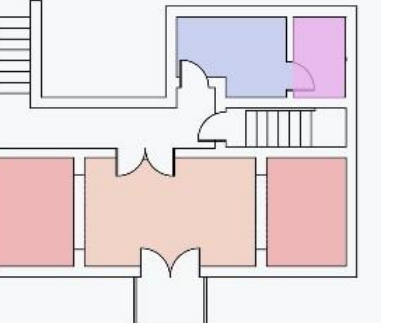
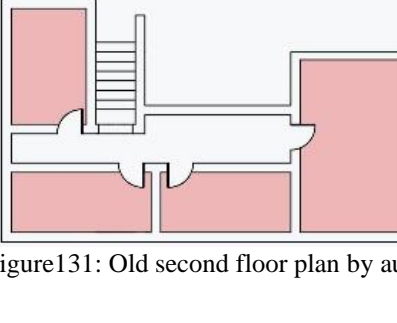
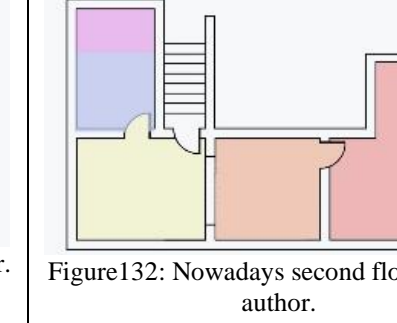




When entering this house, we can notice that it is an old one that lacks the traditional decorations and basic elements found in the courtyard house, such as Haramlek and Salamlek, iwan and Bahra beside the hall. The house suffers from several problems and needs to be repaired, but when the owners of the house were asked about the reason for negligence, the reason was due to the large number of heirs, and each of them has a share in the house.

The house consists of 24 rooms, but it has been separated into three houses. The large house is separated from the small house by a wall as shown in Figure 116. The small house is separated in this way; the ground floor is for a family and the first floor is for another family who are brothers of the same big family. When asked about the reason, the owner of the house replied; because she wanted a special area for her and her family, and one room for her and her family is no longer sufficient, and it is related to cultural change and privacy. In addition to that it was a cultural change is that the owner of the house wanted to have a bedroom that includes a beds and cabinets and toilet table and it was not one of the requirements in the past, which is the main reason behind the separation in the house where in the past the bedrooms were limited to a family to sleep only. As for the children, they would put a mattress on the floor and sleep on it. As for the morning, it would be placed under the beds, besides if the house did not contain a wardrobe in the past, they would put their belongings in a small wall opening. Today the situation is different, as the owner of the house said. She also added that her son's wife will not accept to live with them at house and will have different requests, which is the impact of cultural changes, as she said that each generation has requirements that differ from the previous generation. They did not use modern means of communication or the Internet, and they still communicate through traditional methods.as showed in picture 120 they using TV in the room affected by globalization.

The house is not refurbished and they did not use new materials or did not change the materials in the house as shown in the pictures 117 and 118. The walls are cracked, the staircase is broken, and the windows are broken and the doors are peeled wood and pale in color. The courtyard is covered with cloth to protect from sun and rain. But they paved the ground because of the problem of tilting in the land, and they made reforms to the land and made paving on the old land, besides the house is old and needs to be modified a lot. The reason behind this is that they do not have identification papers that prove that the house is theirs. The house is still the ownership of the great-grandfather, and they have no ability to make any changes without these documents.

5.5.4 Example 4

Table 11: Example 4.

<p style="text-align: center;">General information</p> <p>Al Khoury house was constructed before 150-200 years but the owner bought the house 70 years ago. 3 generations have lived in the house. the courtyard used to gather the family members. The house divided into 3 sections and each son took one to be more comfortable in his own section. so the house It isn't separated by wall but each family has a floor. The first family has the ground floor and the second family has the first floor and the third family has the second floor, the families share the same entrance. The researcher conducts the information on 1/12/2019.</p>		<p style="text-align: center;">site</p>  <p style="text-align: center;">Figure 69: Location taken from google map.</p>			
<p style="text-align: center;">Ground floor</p>  <p style="text-align: center;">Figure 128 : Old plan grand floor by author.</p>  <p style="text-align: center;">Figure 129 :Nowadays grand floor plan by author.</p>		<p style="text-align: center;">First floor</p>  <p style="text-align: center;">Figure130: Old first floor plan by author.</p>  <p style="text-align: center;">Figure131: Nowadays first floor plan by author.</p>		<p style="text-align: center;">Second floor</p>  <p style="text-align: center;">Figure131: Old second floor plan by author.</p>  <p style="text-align: center;">Figure132: Nowadays second floor plan by author.</p>	
<p>Courtyard</p>					
 <p style="text-align: center;">Figure134 : Courtyard of Al Khoury house (by author, 2019).</p>	 <p style="text-align: center;">Figure135: the iwan in the courtyard house (by author, 2019).</p>	 <p style="text-align: center;">Figure 70: Courtyard of Al Khoury house (by author,2019)</p>	 <p style="text-align: center;">Figure137: Ceiling in the courtyard space (Sahn) (by author, 2019).</p>		

Interior design

Materials



Figure138: Kitchen in the first floor (by author, 2019).



Figure139 : Living room in the first floor (by author, 2019).



Figure 140: Part of the living room in the first floor (by author, 2019).



Figure141: :Ceiling of the bedroom in the first floor (by author, 2019).

Opening



Figure142: interior door in the courtyard (by author, 2019).



Figure143: exterior door of the courtyard house (by author, 2019).



Figure144: door of the third part of house in the second floor (by author, 2019).



Figure145: the old iwan in the courtyard space (by author, 2019).

Factors of change

Globalization

✓

culture

✓

privacy

✓

Materials and method

✓

technology

The entrance to the house is made through a long entrance corridor that reaches the courtyard of the house. The house does not contain the basic elements of the courtyard house. The iwan has been closed and divided into two floors. In Haramlek, the room was cut into two rooms that are used today as bedrooms, while the Saramlek is used today as a living room. The fountain was removed in the courtyard to expand the area. The house lacks the decorative elements recognized in the Damascene house. According to the owner of the house, the house was full of these traditional Damascene motifs, but they removed it because it needed restoration and attention and it is expensive because of the small number of craftsmen and materials that were used previously to make these motifs, so the residents of the house removed it and painted the walls with white paint, but because of climatic factors and the nature of the land in Damascus, the researcher notice that there are problems in the walls because of the moisture of the land, which caused problems on the ground so they changed the land and used medium-priced tiles because the tiles that contain traditional drawings are expensive in terms of installation and cost.


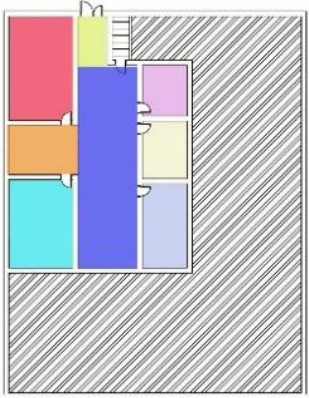
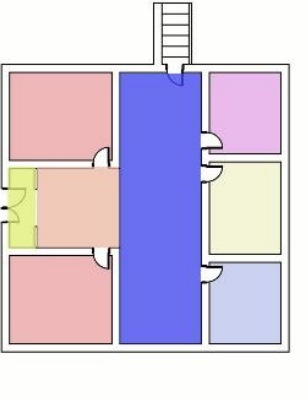
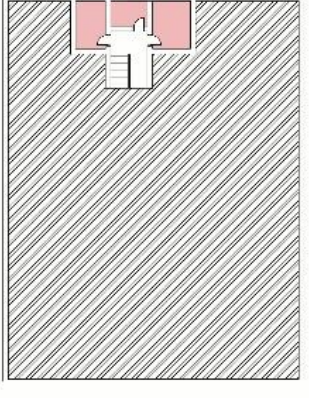
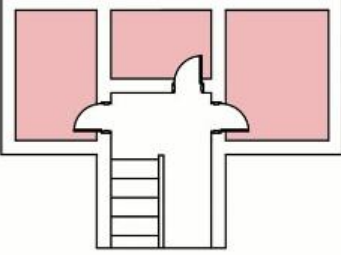




They also put curtains in the courtyard to make insulation between the reception area and the bedrooms and living areas through a white curtain as in the picture 136, which is the effect of the privacy factor, as they wanted to make isolation between the private and public area in the house, and they also put a sofa and a table in the courtyard area instead of the seating area that was placed in the iwan as shown in picture 135 and 136 .Today, 3 families composed of the elder father reside on the first floor that was previously used as a living room for the winter. They divided the room into 3 bedrooms, two bedrooms and a living room that has a table that opens and closes for food. They divided the Liwan into two floors; the first floor of the Liwan is for kitchen











and bathroom for the elder father. By taking the area of the Liwan before and making an expansion for it, they tiled the floor and made an affordable kitchen.

As for the furniture of the house, it is traditional, but it must be noted that the owners of the house are greatly interested in it - the son and his family - the second floor was previously used to sleep. They divided the rooms and increased the kitchen and bathroom. As for the ground floor, the daughter lives with her family. They removed the fountain, they changed the rooms, Haramlek, Salamlek, closed the liwan and divided it into two floors to increase the number of rooms, which is an indication of the influence of the privacy and cultural factor. Every family wants to be independent. There was no impact of globalization in large measure, they still adopt the means of communication and traditional visits Although the house contains TV picture 139. As for the new tools used, they set up a half roof for the courtyard. picture 137. They changed the glass of doors (stained glass) Picture 142, but they did not remove the old materials. All they did was an amendment to the previous materials and fixing what can be repaired.

5.5.5 Example 5

Table 12: Example 5(by author)

<p>General information</p> <p>Hathot house was constructed before more than 500 years. 6 generations have lived in the house. the courtyard used to gather the family members in the past, the residence divided the house into 3 houses because in 1995 and the heiress wanted to sell their house so they have divided the house since that time. The original house has 28 rooms. They reorganized the first floor to make it suitable for the residents of the house. Everyone has their own room. The researcher conducts the information on 1/12/2019.</p>		<p>site</p>  <p>Figure 71:location take it from google map.</p>	
<p>Ground floor</p>  <p>Figure 72: Old grand floor plan (by author).</p>  <p>Figure 73: Nowadays grand floor plan (by author).</p>		<p>First floor</p>  <p>Figure 74: Old first floor plan (by author).</p>  <p>Figure 75: Nowadays first floor plan (by author).</p>	
<p>Courtyard</p>  <p>Figure151: part of the courtyard (by author, 2019).</p>  <p>Figure152: the entrance of the house (by author, 2019).</p>  <p>Figure153: the fountain in the courtyard house (by author, 2019).</p>  <p>Figure154: part of the courtyard (by author, 2019).</p>			
<p>Interior design</p>			

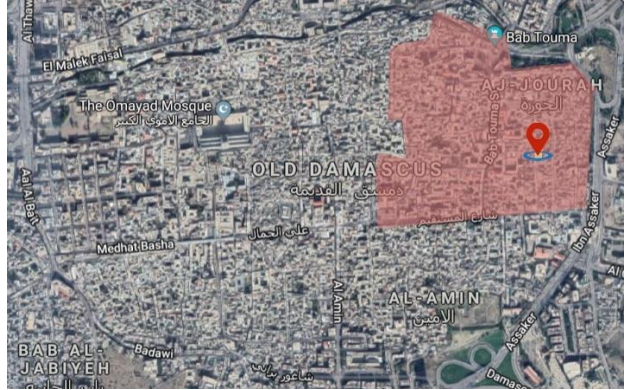
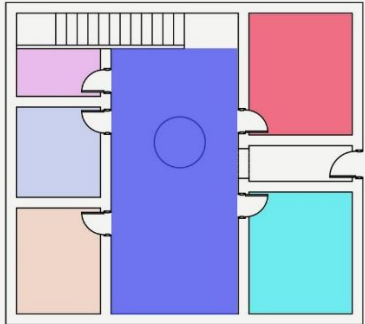
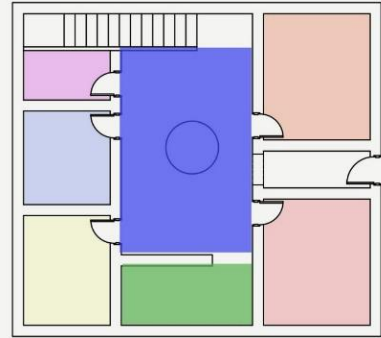
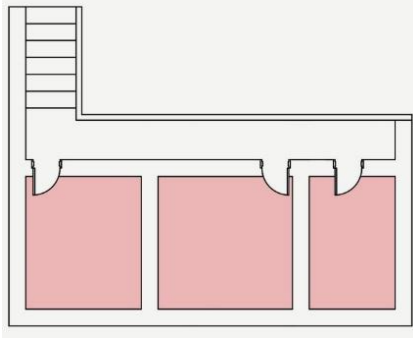
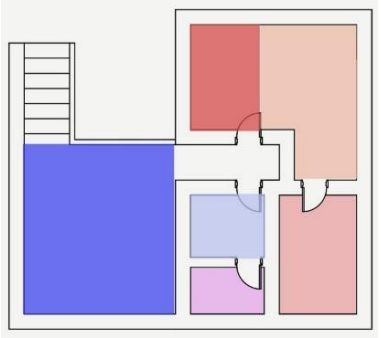




Materials				
 <p>Figure155: the cabinet in living room (by author, 2019).</p>	 <p>Figure156: Ceiling in the entrance (by author, 2019).</p>	 <p>Figure157: Ceiling in the living room(by author, 2019).</p>	 <p>Figure 158: Ceiling in the courtyard house (by author ,2019).</p>	
Opening				
 <p>Figure159: Stairs to the first floor (by author, 2019).</p>	 <p>Figure160: old entrance in the house(by author, 2019).</p>	 <p>Figure161: Exterior door of the house (by author, 2019).</p>	 <p>Figure162: Window in courtyard space (by author, 2019).</p>	
The old liwan		New liwan		
 <p>Figure163: Picture shows the old iwan in the courtyard (by author, 2019).</p>		 <p>Figure164: same space today (by author, 2019).</p>		
Factors of change				
Globalization ✓	culture ✓	privacy ✓	Materials and method ✓	technology ✓





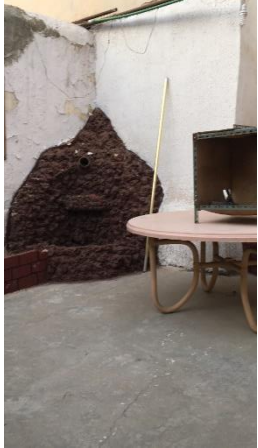




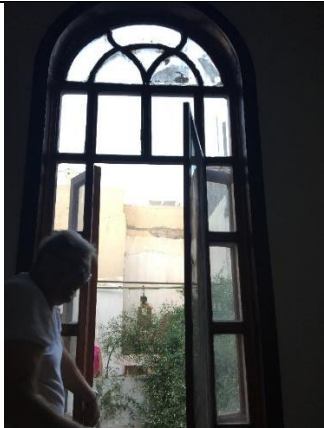


Upon entering the house, it is noted that the entrance is in the middle of the Iwan and entry is made directly to the living room. After that, there is the courtyard area. Half of the wall in the courtyard is paved with a faded stone with a black line, and they combined it with antique stone pieces that belong to the grandfather of the owners of the house since more than 70 years and the other half of it is old dating back hundreds of years. The house does not contain the basic architectural elements; Haramlek – Salamlek, iwan and the hall, but according to the owner of the house, the house in the past contains all of these elements. The house belongs to his family, his grandmother's father, and it is an ancient house dating back to about 500 years. It was built on the rubble of an old courtyard house. According to what was mentioned, the foundations of the current house were built on the foundations of the old house. The main house was divided into 3 parts, over a decade ago. The main house has 28 rooms that contain Haramlek - Saramlek - a hall and a iwan. The house is separated by a wall illustrated in Figure 151. The reason behind this was that the grandchildren wanted a separate house and separate bedrooms, which is an effect of the privacy factor. The house today belongs to the heirs, but two grandchildren live in it. As we see, the house has many belongings not for the residents of the current house, but for the heirs they left in the house. The entrance to the house has been changed today, the entrance is at the Liwan and there is no long corridor in which it opens directly into the house, and the liwan was divided into two floors because they wanted bedrooms on the first floor in addition to they closed the corridor exposed on the first floor to increase the space. The first floor remained for the sleep and the ground floor for reception. The liwan was removed and they put a sitting area in its place as shown in pictures 152, and these two pictures were from the time when there was a liwan and a photo of the day. The house on the ground floor consists of two bedrooms, a reception room, a kitchen, and a bathroom.

As for the living room, it is limited to the room at the entrance, and they also put another sitting room inside the courtyard. On the first floor, there are 3 bedrooms that use Internet and social media owners, which is an indication of the effect of globalization as discussed earlier, as we can sense the effect of the change in culture in the habits that the homeowners' children, each of them has their own business and so on, the house has a solar heater. New materials were used in paving the floor because the old floor was difficult to clean, and they roofed the courtyard by using plastic panels. They changed the doors, stairs, and stone in the Courtyard because the old one became old and no longer valid, which is the effect of the materials and new installation methods.

5.5.6 Example 6

Table 13: Example 6

<p>General information</p> <p>Alhamore house was constructed before more than 200 years 4 generations lived in the house. the courtyard used to gather the family members. the house It isn't separated by wall but each family has a floor. The first family has the ground floor and the second family has the first the families share the same entrance. The researcher conducts the information on 2/12/2019.</p>		<p>Site</p>  <p>Figure 76: Location taken from google map.</p>	
<p>Ground floor</p>		<p>First floor</p>	
 <p>Figure 77: old grand floor plan (by author)</p>	 <p>Figure 78: Nowadays grand floor plan (by author).</p>	 <p>Figure 79: Old first floor plan (by author).</p>	 <p>Figure 80: Nowadays first floor plan (by author).</p>
<p>Courtyard</p>			
 <p>Figure172: Stairs in courtyard house (by author, 2019).</p>	 <p>Figure171: kitchen door in the courtyard (by author, 2019).</p>	 <p>Figure172: part of the courtyard (Sahn) (by author, 2019).</p>	 <p>Figure173: fountain in courtyard (Sahn) (by author, 2019).</p>

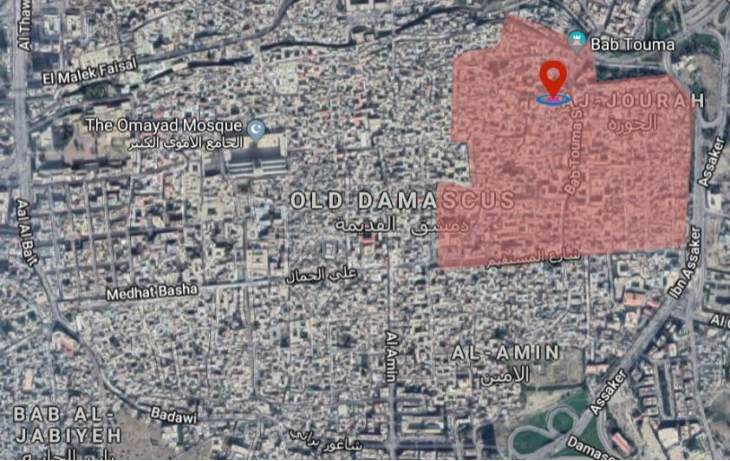
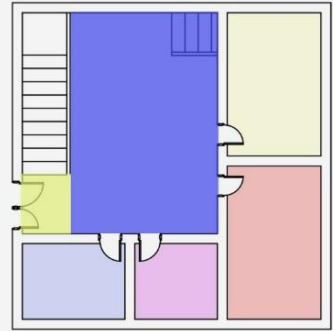
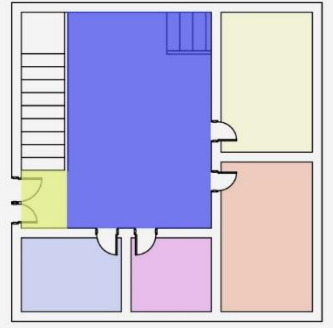
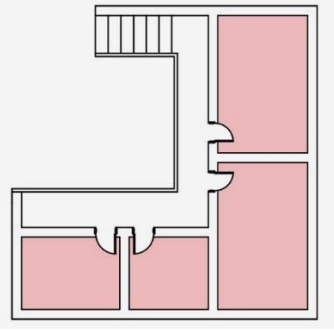
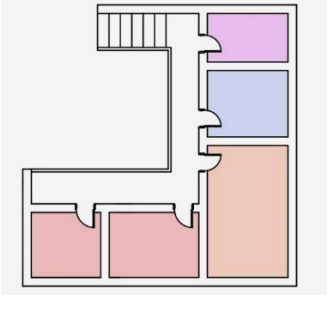



Interior design				
Materials				
				
Figure174 : Ceiling in the bed room (by author, 2019).	Figure175 : bed room (by author ,2019).	Figure176: Stairs in the courtyard (by author, 2019).	Figure177: Ceiling in the courtyard (Sahn) (by author, 2019).	
Materials				
				
Figure178 : Fountain in first floor (by author, 2019).	Figure179: Barbecue outdoor stove (by author, 2019).	Figure180 : corridor in first floor (by author, 2019).	Figure181 : Kitchen in first floor (by author ,2019).	
Opening				
				
Figure 81: Exterior door of the courtyard house (by author, 2019).	Figure 82: Interior window (by author, 2019).	Figure 83: Interior door (by author, 2019).	Figure 84: Interior openings (by author, 2019).	
Factors of change				
Globalization	culture	privacy	Materials and method	technology
	✓	✓	✓	

The first thing that attracts our attention in this house is the long elegant entrance that contains a colorful antique lighting unit and it is a legacy of the royal family as in the picture 182. Upon reaching the courtyard area, we notice that the house is one of the small houses compared to the courtyard houses, where the house is composed of 10 rooms, a beautiful courtyard area consisting of a heritage fountain and green areas that are taken care of by the owners of the house. In addition to the famous jasmine tree in this type of house, the house basically does not contain an iwan, but in the past, the house contained Haramlek and Saramlek, but today there is no Haramlek and Saramlek at house. The house furniture is modest, but it reflects the traditional Syrian furniture. The house belongs to the second grandfather of the owner of the house, but they are considered among the small families who lived in the house for about four generations. The children of the owner of the house today live outside Syria and live on the first floor. The sister of the owner of the house is alone, so the house was divided into two sections, A section on the lower floor, and a section on the upper floor. When asked about the changes in the bedrooms today, compared to the bedrooms in the past, they answered that they increased a number of pieces such as toilet tables and wardrobes, but in the past they did not have wardrobes for clothes and they had traditional wardrobes built in the wall without doors being closed with curtains, which is the effect of cultural changes. They also increased a number of electrical devices, etc. One of the most important changes that took place in this house on the first floor, where its divisions were changed, the open corridor was closed and it was annexed to the rooms, in addition to that they added a room on the first floor as they made a bathroom and kitchen as an independent apartment, which is the sign of the change in culture and privacy. They made an open space on the first floor as a barbecue area overlooking the courtyard, this house was not affected by globalization change as the house does not

contain the Internet in addition to that their phones are not smart phones. As for the new materials used on the ground floor and the first floor, they painted the entrance and the doors of the rooms, roofing the courtyard area using a cloth shader with traditional patterns to protect from the sun and provide more privacy. As for the roofing of the rooms, it is still traditional, but they maintained and painted them, in addition to that they used new materials in the work of the kitchen on the first floor, tiles, kitchen cabinets, etc., and they painted the doors and windows in white color to renovate them and add glass to the windows because the old was ruined and worn out, so the house was considered as one of the Houses whose materials had been changed but whose identity had not been changed. They had not used the materials related to technology.

5.5.7 Example 7

Table 14: Example 7

<p style="text-align: center;">General information</p> <p>Atat house was constructed before 100 years. 3 generations lived in the house. the courtyard was used in the past for gathering with family members and nowadays, they sit in it. In the past, the number of family members was more, so they met every day. Today, every family member has a private apartment after marriage to settle with his/her family outside the courtyard house. the house It isn't separated by wall but each family has a floor. The first family has the ground floor and the second family has the first the families share the same entrance. The researcher conducts the information on 2/12/2019.</p>		<p style="text-align: center;">site</p>  <p style="text-align: center;">Figure 85: Location taken from google map.</p>	
<p style="text-align: center;">Ground floor</p> <div style="display: flex; justify-content: space-around;"> <div data-bbox="353 932 664 1241">  <p style="text-align: center;">Figure 86: Old grand floor plan (by author).</p> </div> <div data-bbox="1006 932 1317 1241">  <p style="text-align: center;">Figure 87: Nowadays grand floor plan(by author).</p> </div> </div>		<p style="text-align: center;">First floor</p> <div style="display: flex; justify-content: space-around;"> <div data-bbox="1712 932 2024 1241">  <p style="text-align: center;">Figure 88: Old first floor plan (by author).</p> </div> <div data-bbox="2365 932 2677 1241">  <p style="text-align: center;">Figure 89: Nowadays first floor plan (by author)</p> </div> </div>	
<p>Courtyard</p>			
 <p style="text-align: center;">Figure191: part of courtyard space (Sahn) by author 2019.</p>	 <p style="text-align: center;">Figure192: part of courtyard space (Sahn) (by author ,2019).</p>	 <p style="text-align: center;">Figure193: Stairs in courtyard space (Sahn)(by author, 2019).</p>	

Interior design

Materials



Figure 90: Ceiling in the courtyard space (by author ,2019).



Figure 91: Bedroom of the house (by author,2019)

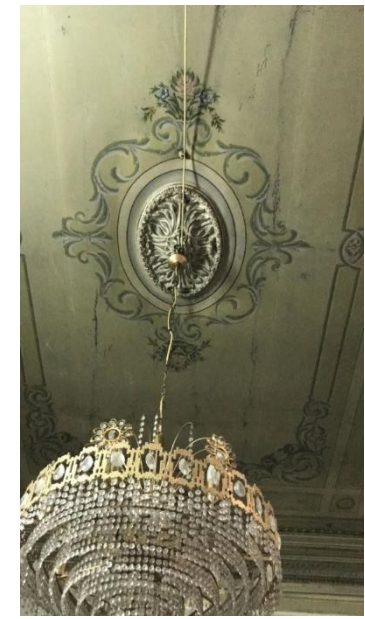


Figure 92: Ceiling in living room (by author,2019)

opening



Figure 197: by author 2019.



Figure198: by author 2019.



Figure199: by author 2019.

Factors of change

Globalization

culture

privacy

Materials and method

technology

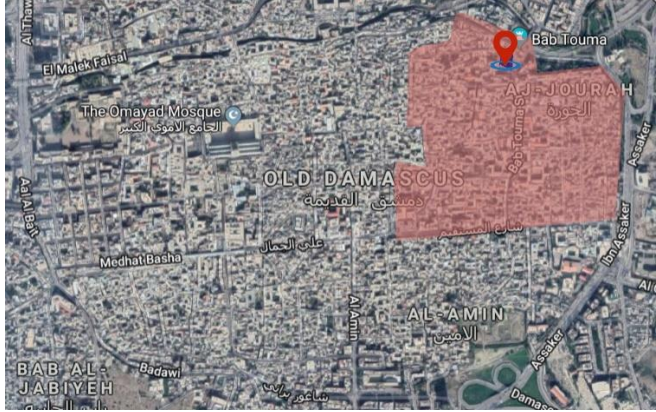
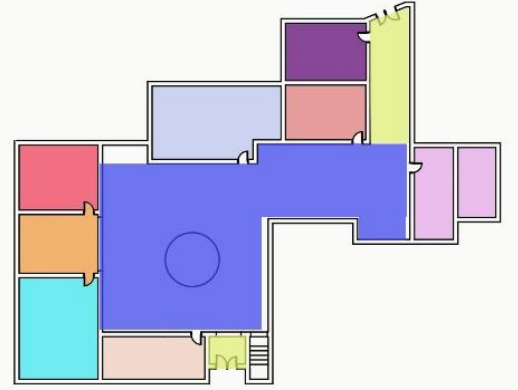
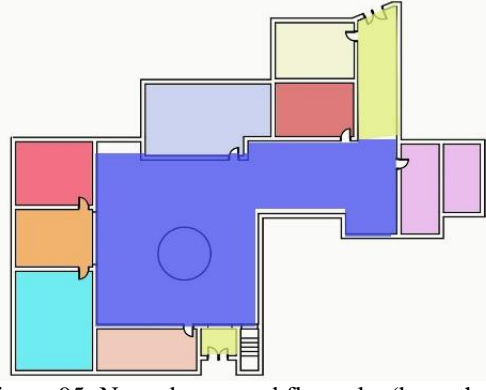
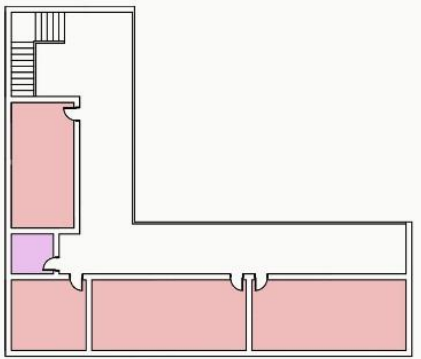
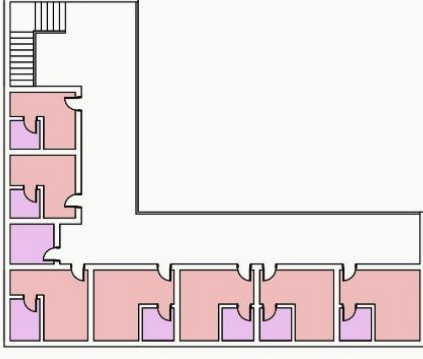
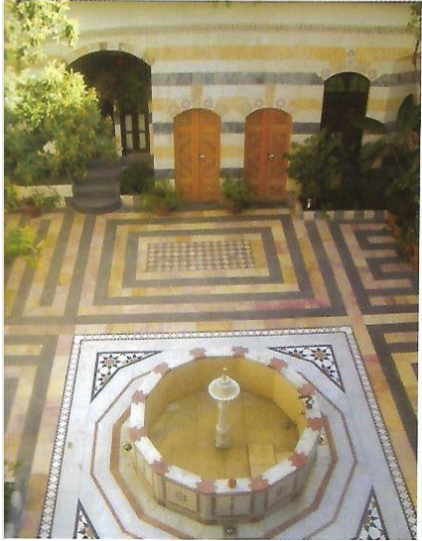





The entrance to the courtyard of the house takes place directly from the door. The house does not contain a long corridor of the vestibule. The house belongs to the ancestor of the grandfather who inhabited in the house. 3 generations live in the house today. Today, two brothers live on a storey, and the rest of the family have gone out to live outside the house, but to this day the two brothers gather around the fountain (Bahra) in the courtyard. The house reflects the traditional antique houses, but it is modest, it lacks decorative elements, a fountain, Liwan, Haramlek, Saramlek and a hall. Since ancient times, the house did not contain these elements, the owners of the house do not know the reason behind this, but it is likely that the house is cut from a house that is larger than it, the house contains a basement but it is not used today. Although the house is small and does not contain the elements of the courtyard house, when entering the house, it is felt that house owners like their house though. The house furniture is modest, the sitting room is old, but they have upholstered it. As for the bedroom, it was changed about 20 years ago because they wanted bedrooms with new storage units. Today, the big house is divided into two sections, a section on the top floor, and a section in the ground floor. The house belongs to the great father and he lives in the ground floor. The first brother, his children, lives outside the house with their families, and the first floor is for the first floor brother. Likewise, his children are outside the house, and they covered the roof through plastic sheets to protect from rain and for more privacy. The movement of children to live outside the house indicates the cultural change, as in the past in the traditional life, the father lived with his married children and grandchildren. They also painted stone in the courtyard because it became old and dull. The ceiling of the rooms is still unchanged as well as the antique lighting unit in the picture 196. They changed the window glass because the old one was broken and a kind of renovation, in addition to changing the room tiles in picture 195

due to a falling in the old land due to problems in the sewers, as they changed the courtyard tiles because the old was difficult to clean. The stairs have been changed, and they have put stainless stairs and fabric, but it needs to be renewed again because of the rain. All these changes did not need to use technology. But the house does not have internet-connected devices because the house owners are very old and still use the old means of communication.

5.5.8 Example 8

Table 15: Example 8.

<p style="text-align: center;">General information</p> <p>Al Kateb house was constructed on 19 Century. The owner bought it in the first of the 21st century. He repaired it at 21st century. 5 generations had lived in the house. the courtyard used in the past to gather the family from the past till today. Single family lived in the house today because It became necessary for each family to have a house and a special space, as well as for individuals in the house have a special space. The researcher conducts the information on 2/12/2019.</p>		<p style="text-align: center;">site</p>  <p style="text-align: center;">Figure 93: Location taken from google map</p>	
<p style="text-align: center;">Ground floor</p>  <p style="text-align: center;">Figure 94:old grand floor plan(by author).</p>	 <p style="text-align: center;">Figure 95: Nowadays grand floor plan(by author).</p>	<p style="text-align: center;">First floor</p>  <p style="text-align: center;">Figure 96: Old first floor plan(by author).</p>	 <p style="text-align: center;">Figure 97: Nowadays first floor plan(by author).</p>
<p>Courtyard</p>			
 <p style="text-align: center;">Figure 98:Courtyard space (Sahn) (by author,2019)</p>	 <p style="text-align: center;">Figure206: Iwan in the courtyard house (by author 2019).</p>	 <p style="text-align: center;">Figure207 : Part of courtyard space (by author, 2019).</p>	 <p style="text-align: center;">Figure208 : Ceiling of iwan (by author, 2019).</p>

Interior design

Materials

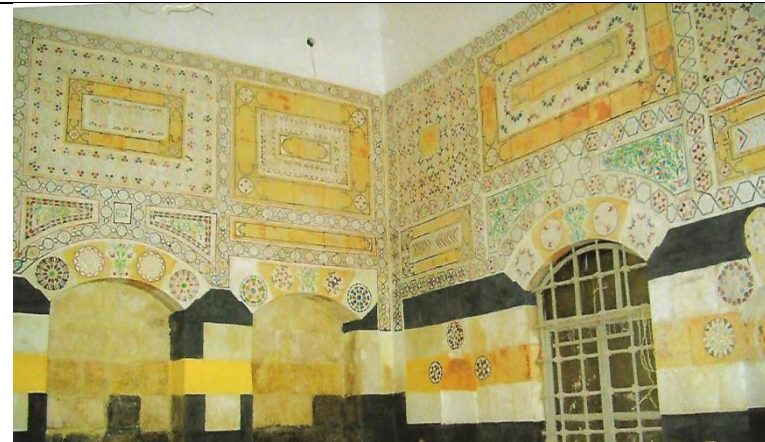


Figure209 : Walls in iwan (by author, 2019).



Figure210 : Corridor in the first floor (by author, 2019).



Figure211: Corridor flooring (by author, 2019).



Figure212 : Ceiling in the room (by author, 2019).

Opening



Figure213: The external interface (by author, 2019).



Figure214: Entrance (by author, 2019).



Figure215 : Interior windows (by author, 2019).



Figure216: Interior openings by author 2019.

Factors of change

Globalization

✓

culture

✓

privacy

✓

Materials and method

✓

technology

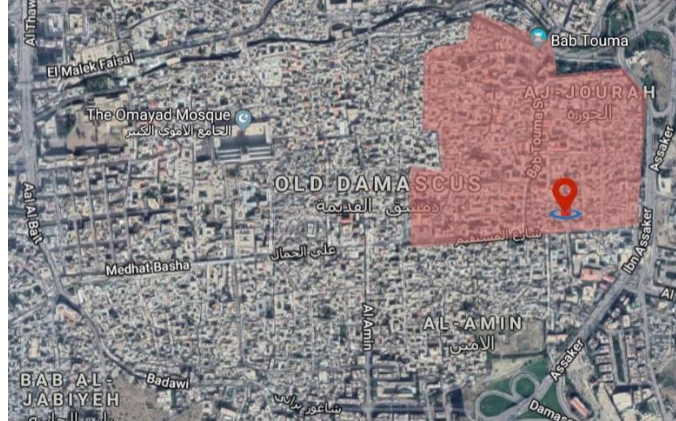
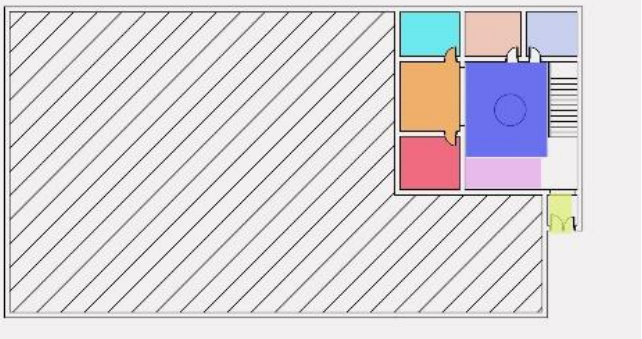
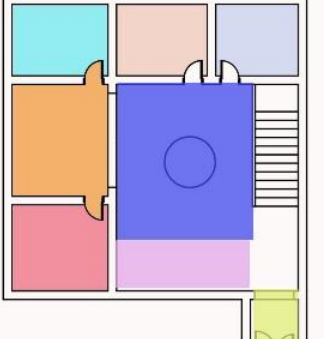
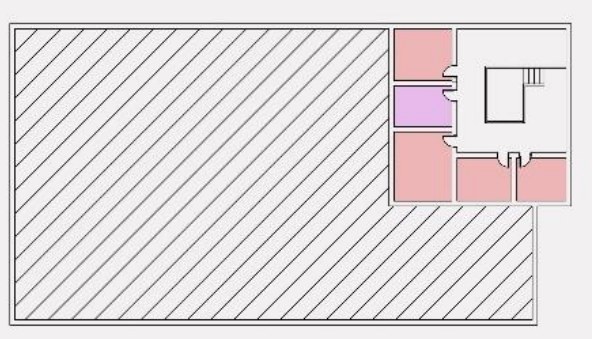
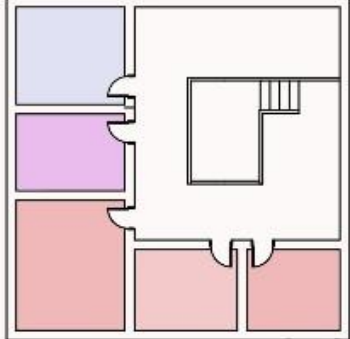




✓

This house is considered one of the luxurious houses that are still preserved today to the basic elements of the courtyard house, there are still in the house Haramlek - Saramlek - the hall and the first floor is still used for sleeping. The house contains a large courtyard area and a Liwan rich in traditional decorations in addition to an eight fountain in the middle of the courtyard decorated with engineering motifs through Tiles. The courtyard contains a huge Liwan rich in traditional decorations on the walls in the first half through tiles with traditional decorations. In the second half, it is painted white, the wall ends with an ornate wooden ceiling and contains archaeological lighting units for the family picture 208. There are green agricultural units on all sides of the courtyard. As for the exterior facade of the house, it is white longitudinal windows and the walls are painted with white paint in addition to painting the edges of a red brick color picture 213. Today, the son of the owner of the house lives in the house after purchasing the house from the heirs, since they went out a long time ago to live outside the house in separate houses to feel more comfortable, which is the effect of changes in culture and privacy, so everyone in the house had their own bedroom, and they increased a bathroom in each bedroom picture 204. When asked about the differences that occurred in the bedrooms, they answered that the girls became more interested in the bedrooms, and they were not limited to the basic tools besides having mirrors and toilet tables. As for youth rooms, one of the most important pieces in them is the PlayStation and Laptop device, and they also have smart phones, which is the effect of the change in globalization. As for the change in materials and methods of installation, we find a great and clear effect in the house, they carried out a complete house repair, removing old materials and installing new materials in new methods. Walls, doors, and floors have traditional, exquisite inscriptions that were once worked by craftsmen, but today they are made and installed with the help of

technology and electrical machinery picture 206,207 ,209 and 211. The floors are Italian tiles manufactured with exquisite engineering inscriptions drawn and laser-cut with the required inscription, they are geometric shapes, and we can find with the picture 205 and how they were combined with the traditional tiles consisting of vertical black white (Ablaq) matrices to give an indication that it is an old traditional. The windows are a wooden frame interlocked with some of them fixed to the wall by means of screws. Strips of Wood Sticks are in the middle of the window, giving the desired style with the placement of a colored glass panel to give an old (interlaced) shape. They also changed the stone while preserving its Ablaq status as it was placed in the old and merging it with pieces of tiles decorated with traditional decoration. The corridor of the rooms is still in the house, but a mirror was placed on the wall, with a traditional chair, a floor decorated with roses and a colored wooden ceiling, cut in a specific shape, as in the picture 211. It is the effect of developments in materials and technology.

5.5.9 Example 9

Table 16: Example 9.

General information		site	
<p>Al Yasmin house was constructed before 200-250 years ago. 6 generations lived in the house. the courtyard was used In the past, it was used for gathering friends, celebrations, and gathering family members. Today, they have made a courtyard on the first floor and made space for family members and the lower courtyard has been restricted to social gatherings with relatives and friends. Single family lived in the house today. The researcher conducts the information on 3/12/2019.</p>		 <p>Figure 99: Location taken from google map</p>	
Ground floor		First floor	
 <p>Figure 100: old grand floor plan.</p>	 <p>Figure 101: Nowadays grand floor plan.</p>	 <p>Figure 102: Old first floor plan.</p>	 <p>Figure 103: Nowadays first floor plan.</p>
Courtyard			
 <p>Figure222: fountain in the courtyard space (Sahn)(by author, 2019).</p>	 <p>Figure223: iwan of the courtyard house (by author, 2019).</p>	 <p>Figure 224: first floor in the courtyard house (by author, 2019).</p>	 <p>Figure225: ceiling of courtyard space (Sahn)(by author, 2019).</p>

Interior design

Material



Figure 104:bed room in the courtyard house (by author,2019)



Figure227: hall room in courtyard house (by author, 2019).



Figure228: ceiling in bed room (by author, 2019).



Figure229: ceiling in the hall (by author, 2019).

Opening

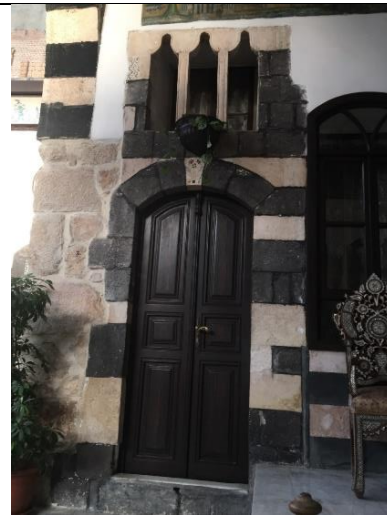


Figure230: Interior door (by author, 2019).



Figure231:Interior window (by author, 2019).



Figure232: Entrance (by author, 2019).



Figure 233: Stairs (by author, 2019).

Factors of change

Globalization



culture



privacy



Materials and method



Technology




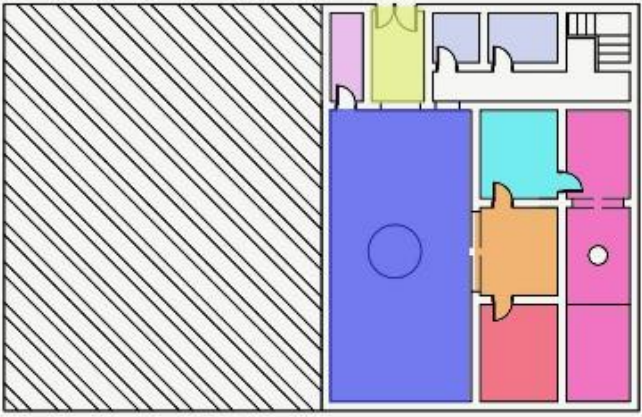
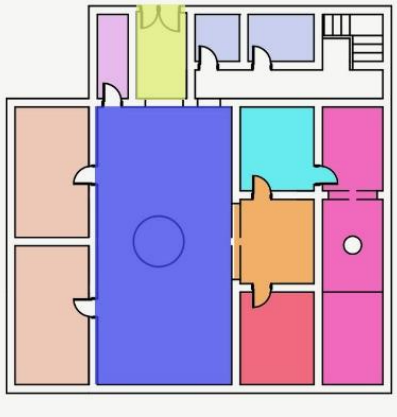
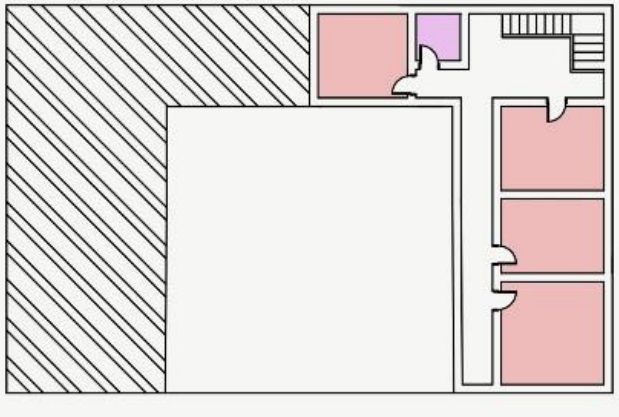
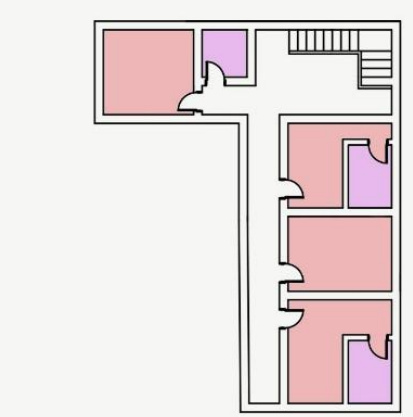




The courtyard was completely restored in 2008, but with the preservation of the traditional Damascene character, when the restoration, the drawings were built on the basis of the old drawings to complete and repair what was lacking due to time, and the Bahra (fountain) stone was restored. The colors used are the same as the previous ones so that they don't notice the changes and become as they were largely. Furniture, some of which are family possessions, have been upholstered, and some have been made by a request of the family Picture 223,226 and 227.

The house is a part of a large house that has three courtyards and was divided accordingly, whereby every house today contains a courtyard. The house is one of the houses that were significantly restored in large and noticeable. After purchasing it from the heirs, the owner of the house removed all the materials in the house and rebuilt them again. They still keep the basic elements in the house, such as the Iwan and Haramlek, Saramlek, the hall, etc. as in the picture 219. The current residents of the house are a small family consisting of two sons and a girl as well as the mother and father, and the house is owned by the father's grandfather in the original. The division came because the heirs went out to live in separate houses because they wanted more space and privacy and this reflects the change in privacy and culture, and when asked about the changes that took place on the courtyard, the house owner mentioned family visits. In the past it was more comparable with the day and she said, "Because people have become busy with their working lives. In particular, women have become economical in the past. Their role was social. For this reason, they made a change on the first floor, which is a making a space with utilities (kitchen and bathroom) picture 221 and 224 to make the ground floor to receive guests and the residents of the house. This reflects the change in culture and globalization. The owners of this house made a kitchen and living room on the first floor where it is used for their daily purposes.

On the ground floor, it is for family receptions and feasts. The changes in materials are many, as everything in the house has changed, but the house still reflects the traditional courtyard as an electric movable roof to protect from the sun and rain picture 225—making a space on the first floor for gatherings of house individuals with utilities (kitchen - bathroom) picture 224- changing of electrical installations and increasing aesthetic lighting units - Covering places from the wall with cloth that contains traditional Syrian inscriptions - making extensions for heating - changing the windows - using the wooden windows with iron bars to take the traditional form of Syrian houses windows with stained color glass picture 222 and 223 - restoring and renovating of the walls, the ceiling, the doors, in a manner similar to the colors and materials used in traditional houses.

5.5.10 Example 10

Table 17: Example 10.

<p style="text-align: center;">General information</p> <p>Al Ananzwate house was constructed before 250 years ago. 5 generations had lived in the house. the courtyard used in the past and nowadays to gather the family, they make parties and holidays at the courtyard. Two Arab houses were annexed because they wanted a big house to accommodate a family of two brothers and their families separated by a roofed corridor. Single family lived in the courtyard today. The researcher conducts the information on 3/12/2019.</p>		<p style="text-align: center;">site</p>  <p style="text-align: center;">Figure 105: Location taken from google map</p>	
<p style="text-align: center;">Ground floor</p>  <p style="text-align: center;">Figure 106: old grand floor plan (by author,2019).</p>  <p style="text-align: center;">Figure 107: Nowadays grand floor plan(by author,2019).</p>		<p style="text-align: center;">First floor</p>  <p style="text-align: center;">Figure 108: Old first floor plan(authoe,2019).</p>  <p style="text-align: center;">Figure 109: Nowadays first floor plan (by author,2019).</p>	
<p>Courtyard</p>			
 <p style="text-align: center;">Figure 110: Courtyard space (Sahn)(by authore,2019)</p>	 <p style="text-align: center;">Figure242: iwan of courtyard house (by author, 2019).</p>	 <p style="text-align: center;">Figure241: courtyard windows ((by author, 2019.)</p>	 <p style="text-align: center;">Figure111 :ceiling of the iwan (by author, 2019).</p>

Interior design

Materials



Figure243: Interior ceiling (by author, 2019).

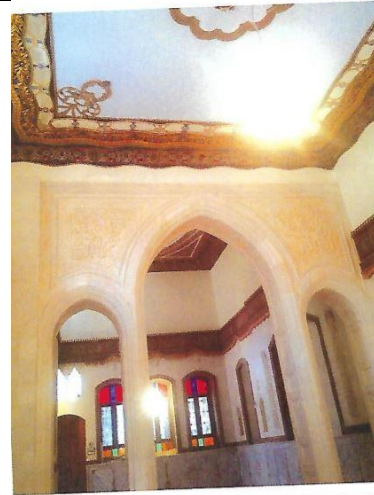


Figure244: The hall room (by author, 2019).



Figure245: Interior windows in first floor (by author, 2019).



Figure246: Stairs (by author, 2019).

Opening



Figure247: The external interface (by author ,2019).



Figure248: interior windows first floor (by author ,2019).

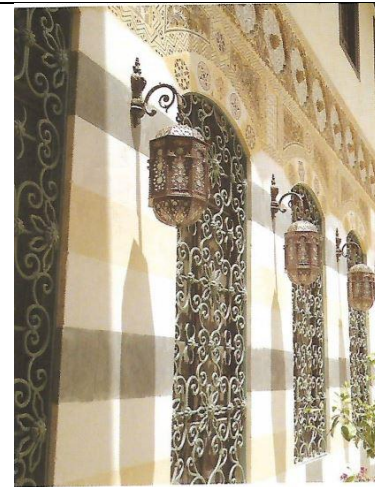


Figure249: interior window ground floor (by author, 2019).



Figure 250 : Entrance (by author, 2019).

Factors of change

Globalization

✓

culture

✓

privacy

✓

Materials and method

✓

technology

✓

The house is part of a large house consisting of more than twenty rooms. The house was purchased by the owners of the house in 2008 by the grandson of the original royal family, and he has restored and rehabilitated it to become the masterpieces of the houses that represent the traditional Damascene house. The house was renovated in 2011. The entrance to the house is made through a long corridor, at the end of which we find the stairs that access to the upper floor. An internal staircase was made and gray marble tiles were installed, as in the pictures 246 and 250. The open corridor on the upper floor was closed because they wanted more privacy, so visitors cannot see the rooms on the second floor and put windows (Mashrabiya) on one side and on the other side they put stained color glass that prevents vision as well. To reach the courtyard of the large house that contains the basic elements of the Arab house (Iwan - Haramlek - Saramlek - hall), the house owners took care when doing the restoration to do a plan that contained these elements. The house was restored under the supervision of the Heritage and Architecture Foundation and cost a lot of money because the owners of the house wanted it to be a copy of the old Damascene original house. In the middle of the courtyard, there is a star-shaped fountain with an iwan near it containing carefully decorated decorative details, starting from the walls, beginning with an Ablaq stone (black-white-yellow) and then we find tiles with traditional decorations up to the hand-carved wooden ceiling as in the pictures 240 and 242. The most important thing that we can notice is the presence of the TV as in the picture 240, which is the effect of globalization, besides that when asked about the youth bedrooms in particular, the answer was that they increased electronic games and smart devices. The furniture in general is detailed for the people of the house according to their request similar to the traditional furniture made of decorative wood mixed with seashell and it is costly to be done by craftsmen. According to the owner of the house,

in order for the scene of the traditional house to be completed, it was necessary to have floral elements, rose trees, citron and lemon trees. Jasmine climbs in the corners of the courtyard and it is one of the traditional plants found in the Syrian Damascene houses. They put on the windows on the lower floor, which overlook the courtyard, stained glass to look beautiful from the inside, as in the picture 245. As for the outside, they put iron wrought with intertwined roses and coordinated them with lighting units that give a beautiful view in the interior facades overlooking the courtyard. In addition, the walls were consistent with the walls of the Iwan, so they used the same colors and patterns. The interior spaces were less expensive, but not without decorations, with a little wood giving the place the richness and warmth as in the pictures 243 and 244 to complement the external appearance in the courtyard. All of these materials used in this house are from the effect of changes in the materials used in addition to the effect of advances in technology. As for the cultural aspect, we can observe through asking the owners of the house about the changes in the lifestyle of the residents. They answered that there are new habits in the current generation, which made them want to remain isolated in their rooms with their own purposes in addition to increasing the number of pieces and tools of cosmetic makeup in girls' rooms.

5.6 Results of the Examples Investigated

Table 18: Analysis table showing summary of the factors of change effecting in courtyard Damascus house (by author)

Factors	Example 1	Example 2	Example 3	Example 4	Example 5	Example 6	Example 7	Example 8	Example 9	Example 10
Globalization	✓	✓	✓	✓	✓			✓	✓	✓
Culture	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Privacy	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Materials and method	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Technology	✓	✓			✓			✓	✓	✓

Table 19: Result (by author)

	Factors of Change	Tradition in Damascus	Contemporary in Damascus
Social Factors	Globalization	Visiting family and friends.	Connecting with people from different world by using internet and technology electronic devices.
	Culture	Family belonging (at work- house). Living in the big house (family house includes father - mother - sons - girls - nieces - grandchildren). Working with the family in the same career inherited from grandparents. Cooking in a one kitchen is distributed tasks by mother or grandmother. father and grandfather have the power of the social, economic and household aspects. the eldest woman in turn, controls the issues which happen within the family and the house. (Breakfast -lunch- dinner) time with family members. Gathering with the family inside the house in the courtyard.	Everyone has a different lifestyle outside the houses away from house members. the role of the women and men changed. different career of each one far away from the grandfather career. interaction outside the house with their friends, colleagues and so an. New habits and human need provide a new unit in the bed rooms. the power not anymore for the father and mother. Divided the houses and individual room for each one in the house. Roofed the courtyard area.
	Privacy	Multiple family living in the house. One big bedroom for boys. One big bedroom for girls. One Bedroom for the married son and his family.	Single family in the house. A room for each person in the family. Divided the houses. Roofed the courtyard area.
Physical factors	Materials and methods	Local materials.	Imported materials. rematerializing the materials in order to solve problems.
	Technology	Handcraft.	Machine production.

1- Globalization, despite not having a strong impact on the courtyard houses in Damascus, where we find that the residents still use traditional methods of communication, such as visits and communication via fixed landline telephones. They often did not use smart phones like in the example 6 and 7, but as for young people, the courtyard house residents are in complete contrast, as they used smartphones. In addition to the fact that the most important changes that occur in the bedrooms for young people is the increase in electronic games and their own TV example 1,2,5,8, which is considered to be the effect of globalization on houses. What is most prevalent with regard to the impact of globalization on the houses of the courtyard is the presence of television in most of the houses that have been visited to the extent that it can be found in the courtyard example 2,3,4, 8.

2- The change in culture affected all houses, and its effect was clear. It started from the change in the way of life from inside the house to the outside. The majority had a different work from their parents and grandparents, and the idea of the inherited family's workmanship disappeared. They have a different time and method of work (except in example 2) which widened their circle of knowledge, so they no longer belong to the house and residents of the house, but rather they have acquaintances and friends who spend their time with them and consult them with their affairs like the example 2,3,4,5,6,7,8,9,10. As for the past, the opinion was for the father and the mother. Also, the change, especially in the bedrooms, affected its contents in the past. The bedroom had a bed and a closet in the wall without doors blocked by, but today the bedroom contains a bed and a wardrobe. In addition to that, in particular, girls' rooms have mainly included toilet tables, mirrors, and cosmetics in the past, which were unacceptable to these things, but with the change of culture, it became acceptable to have them example 1,2,3,5,6,8.

3- Changes in privacy greatly affected all houses. We no longer see that two or more families share the same house, but rather they divide the house so that each family has a space independent of the other family, either by dividing the house through a wall example 3,5,9 and 10 ,or by making each of them a floor example 2,4,6 and 7 . One family life on the first floor and another family lives on the ground floor. It was found in some houses that a brother purchased the house from the heirs in order to have it in full example 8,9 and 10. This change led to a change in the general plan of the courtyard house. In most houses, we find the room of Haramlek, Saramlek, the hall, that are hidden to be replaced by the reception and living rooms. Also, the iwan has a second user, so it was closed in some houses and it was divided into two floors so that they would have spaces and more rooms example 4 and 5. The corridor open to the second floor was closed and added to the rooms on the second floor in order to enlarge the space and to enjoy greater privacy example 1,2,4,5,6 and 10 in addition to that they made a roof for the courtyard area for privacy example 4,5,6,7 and 9 . Everyone in the house has their own bedroom as the case in all examples. In the past, young people slept in a large room and girls slept in another room.

4- The changes in the materials used in general are few in the courtyard houses in Damascus, and it is because the Heritage Department imposes on the residents of the courtyard house a request to change or repair anything in the house. If they want to change it, it must be made from materials that give the impression of materials that have been used in the past and that are expensive In addition to the fact that the small number of craftsmen led to a rise in the price of manpower, therefore, we find that the houses have become less ornamented and rich in walls and ceilings. In most houses, they have repaired what has been destroyed. example 1,3,4,5,6,7,8. Technology helped to make changes, but it was very expensive. Instead of the craftsman, there are molds

that take the shape of the desired decoration, besides drawing on the floor tiles and cutting them to the desired shape to give the traditional shape of the Damascene houses example 1,2,5,8,9,10.

Chapter 6

CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

The main aim of the thesis is to know the changes in the courtyard house in Damascus and how the social and physical factors of change have affected it. The house should respond to changes in the lives of the residents and the environment around them. The types of Syrian houses have been presented as a starting point to know the reasons behind reaching the shape of the courtyard house and to know its importance that made it exist to this day in Damascus as a traditional house for the Damascene people. After that, the courtyard house, which has been the essence of the thesis, has been explained in more detail by presenting the architectural and interior elements in addition to the materials and methods they used in the past in Damascus. The factors of change have been presented and linked to the house and how they influenced it to get to the outputs that we can link to the goal of the message and when conducting the interviews and analyzes to know if they are identical or influenced and how their impact was, factors of change have been presented and linked to the house to show how they influenced it to get to the outputs that we can link to the goal of the thesis. And conducting interviews and analyzes to see if they match or affected and how they have affected. From the study conducted for the house, we find that the Damascene courtyard house was affected by social and physical factors of change in one way or another, and the form of courtyard has been changed today. It can be said that the change was negative because it changed the concept and shape of the courtyard house. Often it is possible

to estimate the reason because the courtyard house is the houses of the large family, so the heirs could not live together in one space, which is the courtyard house, so they distorted its shape so that each of them took a part and changed it according to own mood. However, some of them, as a privacy factor, did not fit into the courtyard house and brought about changes that distorted its concept, and the cultural changes helped in that, so the residents of the house have become obligated to these changes and are not free to choose. The ground floor is no longer for social life nor the first one is for rest. In addition, in many houses, they covered the courtyard area with glass or cloth panels. Also, this is considered a distortion of the concept of the courtyard, which is opening to the interior and closing to the outside, so it becomes closed to the interior and also affects the role of the courtyard house in Damascus, mainly in ventilation. As for material changes, they were few but produced good and alternative examples of Damascene motifs on floors, walls and ceilings. Its effect was positive but few as mentioned previously but it brought us back to the beauty of the Damascene House.

6.2 Recommendation

1-The Heritage Foundation must help in limiting these changes in materials and the method of installation as it has applied a law stipulating that approval must be taken to make any change in the courtyard house in preserving it, but the materials that are used are somewhat expensive, so we find there are many houses that have removed the old decorations and inscriptions because they are expensive. So, assistance can be made for them in order to contribute to preserving the heritage.

2-Residents must protect the courtyard house and take great care of it, as it is the family houses without waiting for the contract to state where their share is so that the shape of courtyard will not be distorted.

3-The shape of the courtyard house should not be changed for any reason, and all elements should be preserved.

4-More attention should be given to craftsmen, and this workmanship should be developed in the courtyard houses, because they have produced palaces in the past, and there are still examples in courtyards in Damascus to date.

For further study:

- Focus more on the courtyard house and highlight it as it is the best choice for residents.
- Apply a research on the motifs in the Damascene House and their origins and the changes that occurred on them.
- Study the interior elements in the Damascene courtyard house.
- Compare between the courtyard in Syria and other country.

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APPENDICES

Appendix A: Interviews.



Üniversitesi
"Erdem, Bilgi, Gelişim"

University

"Virtue, Knowledge, Advancement"

Tel: (+90) 392 630 1995
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Etik Kurulu / Ethics Committee

Reference No: ETK00-2019-0256

26. 11.2019

Subject: Application for Ethics.

RE: Rasil Sahlabi (17500315)

Faculty of Architecture.

To Whom It May Concern:

On the date of **26.11.2019**, (Meeting number **2019/27-06**), EMU's Scientific Research and Publication Ethics Committee (BAYEK) has granted, Rasil Sahlabi from the Faculty of Architecture to pursue with his/her MA thesis work "**The Spatial Changes and Transformations of Syrian Courtyard Houses from the Traditional to Contemporary**" under the supervision of Assoc. Prof. Dr. Banu Tevfikler. This decision has been taken by the majority of votes.

Regards,

Prof. Dr. Fatma Güven Lisaniler

Director of Ethics Committee



FGL/ns.

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Example 1:

- How many generations have lived in the house?

4 generations

- When was the house built?

It was built 300 years ago. They were living together with their grandparents and their uncles. They have lived alone for seventy years.

- How is the courtyard used?

To meet and welcome their family and friends.

- With the changes in young people's lifestyle, how did these changes affect the courtyard houses in general and in young people's bedrooms in particular?

The rooms were bigger than now. The size of the beds was smaller than now. We can see more personal things in their rooms such as video games, televisions, and personal items. Nothing has changed in the courtyard space.

- What have they changed or modified in the house since they lived in?

1. They changed the walls 30 years ago because they were built from local materials like adobe and lime. It has been changed now to stone walls as a solution to the damp in the walls.
2. On the second floor, they closed the corridor and joined it to the room to make it bigger, added 2 bedrooms, changed the stairs and painted the walls.
3. The basement is not used.
4. They opened an oriental shop from the house 75 years ago.
5. Food preservation places have been replaced by electrical devices.
6. If they could add something to their house they would add a movable roof in the courtyard.

Example 2:

- How many generations have lived in the house?

4 generations

- When was the house built?

It was built in the 17th-18th Century.

- How was the courtyard used?

In the past, the courtyard was used by the members of the house then the owner opened the yard as a public space. It is known as Nassan Palace for tourists, celebrities, foreign politicians and artists to see the beauty of the Syrian heritage and architecture. The family lives on the first floor, but the ground floor was open from 11-5 p.m. for everyone to visit and continue on to the oriental shop inside the house. Today the house is closed because of the lack of tourists and visitors and other security reasons. A number of series and films were filmed in the yard. The shop on the ground floor is closed as well and it is used now by their grandson with his family who moved on to his family house because of the war looking for a safer area. The courtyard is now used by the residents of the house.

- With the changes in young people's lifestyle, how did these changes affect the courtyard houses in general and in young people's bedrooms in particular?

As we mentioned before, the courtyard was changed from a public area to a private one, the Orientals shop became a residential area, and the first floor became two identical apartments to offer more privacy for the residents of the house.

- What have they changed or modified in the house since they lived in?

On the ground floor, nothing has changed, they have made changes on the first floor twice. The first time they separated the space to become two symmetrical apartments. Two decades later they added bathrooms to all the bedrooms because in the past they had one bathroom in the whole house. Currently, if they could change something, they would not change anything unless they decide to change the house to become a restaurant or hotel.

Example 3:

- How many generations have lived in the house?

4 generations

- When was the house built?

In 1607 AD.

- How was the courtyard used?

It gathered the family members.

- With the changes in young people's lifestyle, how did these changes affect the courtyard houses in general and in young people's bedrooms in particular?

More than 60 years ago the owner of the house said that when her mother in law was living with her sister in law, she used to live with her children in the same room and their bedrooms consisted only of beds. 50 years ago they divided the house to separate it into 3 parts then each son lived alone with his family. The women in that time refused the idea to live with their children in the same room and they added a closet, chest of drawers and dresser to their bedrooms.

- What have they changed or modified in the house since they lived in the house?

They have changed nothing because they have not had any official documents proving their ownership of the part in which they have lived in and it costs a lot. If they could change something they would change everything but at the moment they cannot change. The house is separated now without walls and every son lives in a floor.

Example 4:

- How many generations have lived in the house?

3 generations and more.

- When was the house built?

The owner bought the house 70 years ago but the house dated back to around 150-200 years.

- How was the courtyard used?

It gathered the family members.

- With the changes in young people's lifestyle, how did these changes affect the courtyard houses in general and in young people's bedrooms in particular?

They divided the house into 3 sections and each son took one to be more comfortable in his own section.

- What did they change or modify in the house since they have lived in the house?
 1. The fountain was removed due to the lack of water and the expansion of the courtyard after modifications.
 2. They divided the Liwan into two floors to create more rooms and they added a section consisting of 3 rooms, a kitchen and a bathroom through the division of the Liwan and joined it with the room in the middle (it was used as a living room in winter).
 3. They changed the glass of the windows from clear glass to stained one.
 4. They covered part of the courtyard area by a suspended ceiling through clear plastic panel.
 5. It isn't separated but each family has a floor. The first family has the first floor and the second floor has the Liwan floor but both families share the same entrance.

Example 5:

- How many generations have lived in the house?
6 generations.
- When was the house built?
More than 500 years.
- How was the courtyard used?
It gathered the family members in the past.
- With the changes in young people's lifestyle, how did these changes affect the courtyard houses in general and in young people's bedrooms in particular?
They divided the house into 3 houses because in 1995 the heiress wanted to sell their house so they have divided the house since that time. The original house has 28 rooms. They reorganized the first floor to make it suitable for the residents of the house. Everyone has their own room.
- What did they change or modify in the house since they have lived in?
 1. They changed the position of the main entrance and the last part was joined to Harem room.
 2. They replaced the Liwan by the entrance and the Liwan was divided into two floors for one more room in the upper floor.

3. They removed the fountain 10 years ago.
4. They covered the courtyard area 10 years ago by a suspended ceiling through a clear plastic panel for the protection of sunlight.
5. Retiling the floor twice because of the holes in the old stone which were difficult to clean.
6. Separating the house into two houses by a stone wall because of the arguments among heirs and they built more building blocks pieces on the wall. These blocks are nearly 80 years old and these are part of the heritage of the family inheritance (The blocks were made by their grandfather)
7. They removed the bars of the windows in 1976 and sold them because of the lack of money.
8. The stone of Liwan (the entrance currently) was painted 10 years ago because it was damaged by water and humidity.
9. The house was built on the ruins of a destroyed former house 500 years ago.
10. There are no green spaces (trees, flowers...) because there is no one caring about them so they died.
11. People in the first floor changed the floor, the railings, the stairs and they painted the walls but no one lived there.
12. More electronic devices have been provided like solar power, fans and televisions. They don't want to change anything.

Example 6:

- How many generations lived in the house?
4 generations.
 - When was the house built?
More than 200 years.
 - How was the courtyard used?
It gathered the family members.
 - With the changes in young people's lifestyle, how did these changes affect the courtyard houses in general and in the young people's bedrooms in particular?
They added some items in their bedrooms.
 - What did they change or modify in the house since they have lived in the house?
1. The middle room was changed to be an open space, they put a BBQ place instead of the room 20 years ago.

2. They removed the corridor on the first floor and joined it to the rooms upstairs 20 years ago to make them bigger.
3. The ceiling in the courtyard space was covered by an awning.
4. Inside the rooms, they have changed nothing.
5. They don't want to change anything.

Example 7:

- How many generations lived in the house?

3 generations

- When the house was built?

It was built 100 years ago before the French occupation

- How the courtyard was used in the past and nowadays?

In the past, it was used for gathering with family members and nowadays, they sit in it.

- With the changes in our lifestyle, how did it affected in the courtyard houses in general in the yard and in their rooms specifically?

In the past, the number of family members was more, so they met every day. Today, every family member has a private apartment after marriage to settle with his/her family outside the courtyard house.

- What have they changed or modified in the house since they lived in the house?

1. The stone was painted on the ground floor because its colour seemed to change and became pale
2. They did not change the ceiling.
3. They changed the glass windows and doors as a kind of houses renovation 20 years ago because the old one was broken.
4. They changed the tiles in one of the rooms because of the problem of falling the ground, which led to the breaking of the stone.
5. They roofed part of the courtyard to protect from rain and privacy
6. Upstairs for the little brother
7. They changed the stairs
8. They were interested in House.

Example 8:

- How many generations had lived in the house?

5 generations.

- When the house was built?

200 years ago.

- How was the courtyard used in the past and nowadays?

It was used to gather the family from the past till today.

- With the changes in our lifestyle, how did it affect the courtyard houses in general in the yard and in their rooms specifically?

It became necessary for each family to have a house and a special space, as well as for individuals in the house have a special space. As for the female rooms, now they have dressing table for care and make-up. For young guys, they are no longer playing in the street, and now they are spending time in their rooms with video games and computer.

- What have they changed or modified in the house since they lived in the house?

1. They have changed the floor and laid colored marble with beautiful geometric formations.
2. The other heavenly pavement had been paved with a black and pink stone with a water element.
3. The walls of the iwan had a variety of motifs and shapes.
4. The stone walls have been changed.
5. The doors.
6. Windows and windows' glass.
7. The fountain.

Example 9:

- How many generations lived in the house?

6 generations

- When the house was built?

200-300 years ago

- How the courtyard was used in the past and nowadays?

In the past, it was used for gathering friends, celebrations, and gathering family members. Today, they have made a courtyard on the first floor and made space for family members and the lower courtyard has been restricted to social gatherings with relatives and friends.

- With the changes in our lifestyle, how did it affected in the courtyard houses in general in the courtyard and in their rooms specifically?

They talked about family visits in the past that were more compared to today because people became busy with their working life. In particular, women have become economic roles in the past. Their role was social. For this reason, they made a change on the first floor, which was making a space with utilities (kitchen and bathroom) to make the basement to receive guests and the residents of the house.

Today, the big brother lives in the house after purchasing the house from the heirs.

- What have they changed or modified in the house since they lived in the house?

1. The Liwan was restored, but the walls couldn't be repaired, so they painted them.
2. They made an electric movable ceiling to protect from the sun and rain.
3. They made a space on the first floor for gatherings of individuals of the house with utilities (kitchen - bathroom)
4. They changed electrical installations and increased aesthetic lighting units.
5. They worked to cover places on the wall with cloth containing traditional Syrian inscriptions.
6. They worked extensions for heating.
7. They worked to increase electrical refrigeration devices.
8. They changed windows and used wooden windows with iron bars to take the traditional form of Syrian houses windows.
9. They repaired and renovated the walls, ceiling and doors in a similar manner to the colours and materials that were used in traditional houses.

Example 10:

- How many generations had lived in the house?
5 generations
- When was the house built?
250 years ago.
- How was the courtyard used in the past and nowadays?
It was used to gather the family in the past. Nowadays, they make parties and holidays at the courtyard.
- With the changes in our lifestyle, how did it effect the courtyard houses in general in the courtyard and in their rooms specifically?
Two Arab houses were annexed because they wanted a big house to accommodate a family of two brothers and their families separated by a roofed corridor.
- What have they changed or modified in the house since they lived in the house?

1. The houses were annexed in 2008 and they were completely renovated.
2. Part of the floor tile has been designed and integrated to suit the old floor.
3. They've increased the luminaires.
4. Windows.
5. The doors.
6. They've added TV in the courtyard and they've spent most of the time outside.
7. Renovation of the exterior and interior walls paved with stone and marble decorated with geometric and floral motifs giving the impression of the traditional Damascene house.
8. They've planted plant elements of the original Damascene house, such as lemon, carnivores and jasmine.

Appendix B: List of Explanation of Vocabulary

A Ablaq: a name given to two aspects: the first; rotation of stone rows in different colors in the facades of houses, and the second; a kind of colorful decoration in the stone above the doors and windows.

Al-Faresh: Mattress

Al-Lehuf: Blanket

Al-kishaf: A small pool located near the source of the water house reveals the malfunction if it occurs, and we use its water for cleaning.

Allabn (brick): Molds for construction of clay and straw.

Al-Oqud (Rib vaults): Arches.

Al-Tiyara: A room on the last roof whose facades are overlaid with glass.

Ard Aldyar, and Alhoush, a central heavenly space filled with plantings, trees and a water pond (Berka), surrounded by the chambers of the house.

Bahra: water pool.

Barani: The part prepared to receive guests at house.

Haramlek: The interior part of the house prepared for family living.

Iwan: It is called Liwan, a northern hall open on the Sahn with a high arch.

Baroque: European decorative art characterized by the accuracy of decoration and its abundance.

Jawani: the interior part of the house and intended for living.

Harah (Lane): The road branched from the main street (passageway).

Khadamalak: the back part of the house prepared for servants and house service.

Khawkha: A low door that works within the outer door of the house for human entry.

Kua (skylight): a small wall hole

Maeshq: Plaster Covering with geometric and vegetal decorations of window glass.

Mashrabiya: a hole with a wooden sieve.

Mendelon: the fixed or movable upper part of door or window.

Mishkat: A small, non-windowed skylight in the walls where oil lamps are placed for lighting.

Mishqaf: Marble or stone lobes colored with geometric shapes that form wall or floor paintings.

Muqarnas: Stone, wooden or plaster ornament, and they are accumulated and interconnected niches used on top of gates, windows, corners, and others.

Qaea (Hall): This is the main room used for reception or living.

Qamaria (skylight): A small window above the doors or windows.

Qashani (faience): Qishani, a colored porcelain.

Rewaq: The upper corridor of the rooms.

Rococo: European decorative art based on excessive ornaments.

Roshan: It is the Mashrabiya or the prominent part and covered with wooden geometric interlocks to achieve the cover and ventilation.

Sahn: It is called the courtyard, the yard, the space, the center of the house, Ard Aldar.

Salamlek: The suite designed to receive guests at house.

Souk: The corners hanging from the ceiling.

Tazar: The high section of the hall or Iwan.

Yuk: A deep wall cabinet with mattresses, quilts, pillows and others.