

THE PHENOMENON OF DIVERSITY AND THE EFFECTIVE RESPONSE TO THE PHYSICAL ENVIRONMENT: THE FORMATION OF OLD TRADITIONAL MARKETS (SUQ)

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1. Introduction: the traditional market (suq)

The traditional market (suq) refers to the place where all kinds of goods are sold. The market in the architectural archaeologist term is a building which includes a centralized, large courtyard surrounded by a group of shops giving on to the road. One of the most famous markets in the Arabian Peninsula is Suq Okaz. Markets were also common in Europe during the thirteenth and fourteenth century. Markets in Islamic traditional architecture, such as those found in Turkey, Iran, Azerbaijan and other Arab countries were linear and made up of a continuous line of stalls specialized in a variety of goods. Cairo's marketplace, for example, is known as Cairo Qasabba (Cairo's Great Street) and runs from the Fotouh Gate in the north, to the Zuwaila Door in the south. It has hundreds of stores with wooden ceilings to keep merchants and customers safe from the rain in winter and the sun in summer [1]. The market is split into five urban areas based on environmental, demographic, professional, commercial, administrative, ideological, climatic needs, and so on. The particular architecture provides a sense of beauty and harmonious continuity throughout the market. The five urban areas of this market extend from 250 and 350 meters [2] (in other Western sources it is mentioned as 500 meters). Markets were typically located around the congregational mosque in the traditional city center. The market has three primary activities in general: production, wholesale and retail trade. Wholesale and retail trades are adjacent in the same market, and there is a great diversity of goods and commercial businesses. In addition, the various goods they sell dictate the distance between them and the mosque and specializing in particular goods regulates the disposition of the stalls in the markets, as happened in the past (Figure 1). In old traditional cities in the past, the mosque was central,

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and markets could be found ranging in the type of goods they sold, from bookshops, “Attarin” shops selling medicinal plants and perfumes, and fabric shops, to shops selling all kinds of food, while the walls of the city were surrounded by shops for horses and their food and leather.

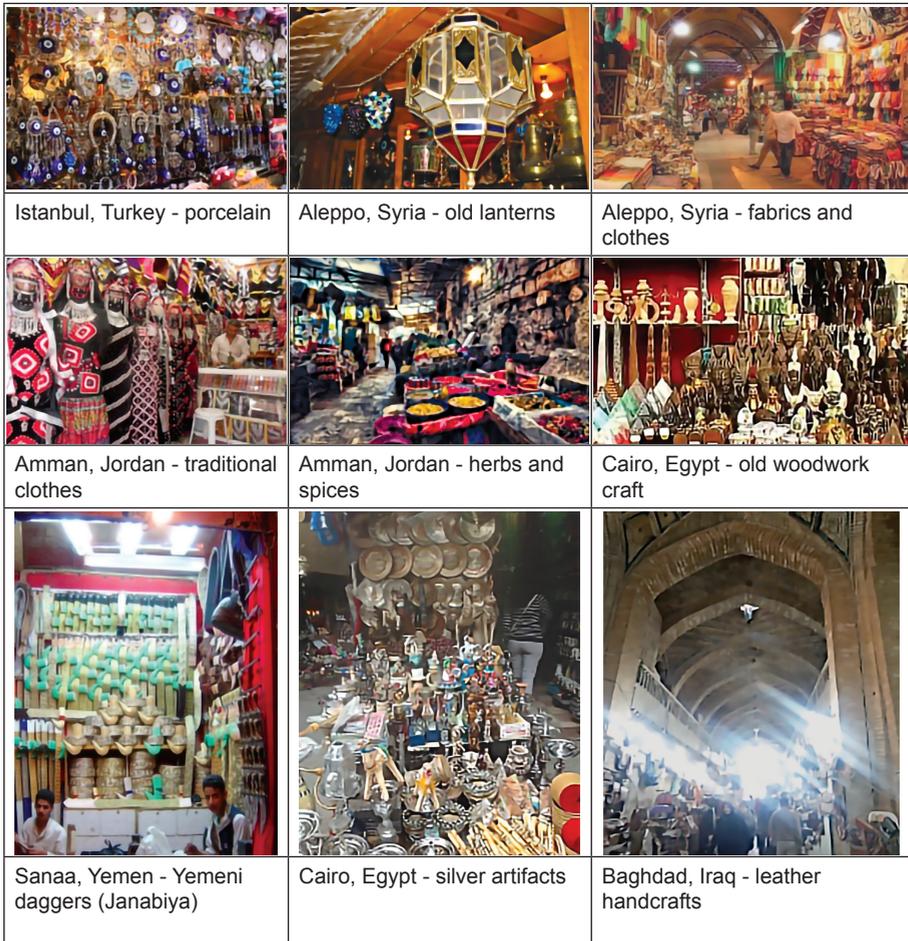


Figure1. Specialization of goods was a regulatory rule in old markets (source: authors).

In addition, the quality of goods in particular places took into account the buyers' desires and their financial capacity [3]. In addition to these characteristics, traditional markets in general, and specifically in Islamic cities, are distinguished by the market's relationship to the city's social life. The traditional market is also a place where people spend a great deal of time, therefore, it offers places of comfort, entertainment and social interaction [4]. The archaeological term *al qaysariyya* refers to an Islamic architectural style derived from the Greek *qaysariyya*, which means Caesar market or imperial market. During the Greek era, they were used as royally supervised stores and

dwellings and were later employed in Byzantine building, in Syria, Palestine, and North Africa, before being adopted by Islamic architecture. According to AlMaqrizi, the oldest Egyptian *qaysariyyas* were built by Abdul Aziz bin Marwan at Fostat during the Mamluk dynasty in Egypt. In ancient and medieval towns in the East and West of the Islamic world, the commercial street, which includes the Alkiesr, (a term which refers to one of the past types of traditional markets and has the same meaning as the term *qaysariyya* (see Table 1)) is the most significant planning element. The term *qaysariyya* has been found in documents from the Mamluk era and refers to the architectural unit with a middle courtyard surrounded by several shops to display and store goods, with above them, residential floors for the traders [5].

1.1. The appearance of traditional markets in Islamic cities

Muslims traveled for a variety of purposes, including religion, trade, and the pursuit of knowledge and, because the distances were long, traders, scholars, and pilgrims required buildings to provide them with shelter in the summer and winter, as well as other necessities [6]. As a result, 'khans' (see Figure 2 and Table 1) can be seen on trade routes and travel stops.

The Al Sowaiqa is a tiny market in the heart of the Islamic city where people's necessities were met (Table 1). Next to the markets are also found *hamamats* (bathrooms) and schools. Today, the term khan is similar in meaning to the term caravanserai, which are considered as stores for goods providing opportunities for marketing and trading in addition to the city's traditional markets (Figure 3). The Silk Road is also considered to be one important factor that inspired the construction of several khans and caravanserai in different towns [7]. Commercial structures were also constructed along the principal roads to the holy locations in the Islamic world. The establishment of numerous buildings, such as the markets and their architectural shape, were influenced by religion, climate, and social life.



Figure 2. The traditional markets and khans (commercial buildings) of the past (source: authors).

Table 1. Features of each type of commercial building and street.

Commercial buildings and streets		Definitions	
Traditional Markets (Commercial buildings and streets)	Khans	Caravanserai	The khan and the caravanserai are stores for goods, in addition to providing housing and security for merchants, but whereas a caravanserai is an urban khan located in the towns, a khan is located on the roads between the cities.
		Al Sowaiqa	A mini market.
	Markets	Qaysariyya	An architectural unit with a middle courtyard surrounded by several shops to display and store goods.
		Arasta	A kind of market that is in line with religious buildings, as in Isfahan (Mader-i-Shah) in Iran, besides Kava, Flar, Arasta, in Cordoba market in Spain, which consists of two rows of 24 shops.
		Chahar-Suq	This is historically the first market and has major intersections within the covered network of market streets.
		Suq	A market as called in the original Arabic language.
		Bazaar	A network of roofed roads with fortified gates.
		Seasonal market (Al Mawasem)	A seasonal market, and therefore not always open; it opens only in some months, some weekends and some days.
		Arabic suq	A market located on four streets, each going in a different direction.
Turkish Carse	This Turkish market was a huge junction with a roofed network of shopping streets; the name is given to the whole market complex.		



A)



B)

Figure 3. Two khans (old commercial buildings) in Aleppo, Syria: A) Al-Wazeer Khan; B) Al-Showanah Khan (source: authors).

2. Research methodology and discussion

The research adopted a descriptive analytical methodology for a number of market types to study the morphology of traditional markets, their form and urban context, and the relationship of the above with the diversity of goods, and its impact on shoppers and discussed several traditional markets in various cities, such as Aleppo (Syria), Tripoli (Libya), Tunis (Tunisia), Sidi Bo Isead (Tunisia), Istanbul (Turkey), etc.

The research adopted this methodology to examine the concept of traditional markets, and to verify the importance of lessons learned from the old traditional markets. In addition, this research looks at the phenomena of diversity in the establishment of various markets, as their characteristics are very diverse and often missing in current commercial centers. The methodology is appropriate to explain the relationship between the specialization of goods and the architectural form, the general planning of the market, the relationship between market diversity and the diversity of the goods, the corridors' width and roofing style, and how this diversity affects shoppers, generating a state of pleasure and social interaction between the market and the shoppers, as well as among the shoppers themselves.

2.1. The formation of traditional markets

The mosque was the heart of the city center, followed by the other surrounding buildings, including the markets [8]. The vaulted bazaar links the mosque and the most important public buildings in the city. Markets ranged in the type of goods they sold from bookshops, "Attarin" shops selling medicinal plants and perfumes and fabric shops, to shops selling all kinds of food, while the walls of the city were surrounded by shops that catered for horses, and their food and leather.

The traditional city was integrated with the climate and nature, corresponding to the human needs in the city. The climate in the old traditional cities affected the formation of the city, its houses, markets, mosques, hotels (khans) and shrines. As a result, in order to protect people, the markets were covered with wooden or metal vaults.

Moreover, the phenomenon of street roofing, which covered both sides of the market, was used to protect particular goods, such as silk and other fabrics. This type of roofing was known as *sagifah*, and can be seen in the market of Radwan Sagifah in Cairo (Alkhyamih, i.e. a tent-covered market). The covering of commercial streets differed depending on the climate and the available building materials. In Cairo, the ceilings were flat, while in Andalusia they were built using brick vaults, vine patios and wood. Stone vaults were used in Aleppo and other cities, but fabric tents prevailed in the cities of Al-Saeed in Egypt [9]. The domed or vaulted linear market had holes in the ceiling of every unit, creating a cool area, in addition to the natural lighting (sunlight) and ventilation they provided in the typically hot dry climate. Figure 4 shows a variety of traditional markets in a number of Arab cities with commercial streets and different roof coverings (vaults, domes, etc.); Figure 5 shows the dense network of commercial streets in the city of Damascus.

Mud and wood roofs were common in traditional markets, but these materials were eventually replaced by stones and bricks to build domes and vaults; food markets sold their wares in tents to protect both goods and buyers.

The climatic environment also affected the formation of the khans. For example, the khans found on the plains were wider than those found in the mountains. In addition, in cold countries, the khans did not have open courtyards, while the khans in hot countries did. The revival of commercial activities during the pilgrimage season also influenced the markets [10].



Figure 4. Traditional markets in some Arab cities (source: authors).

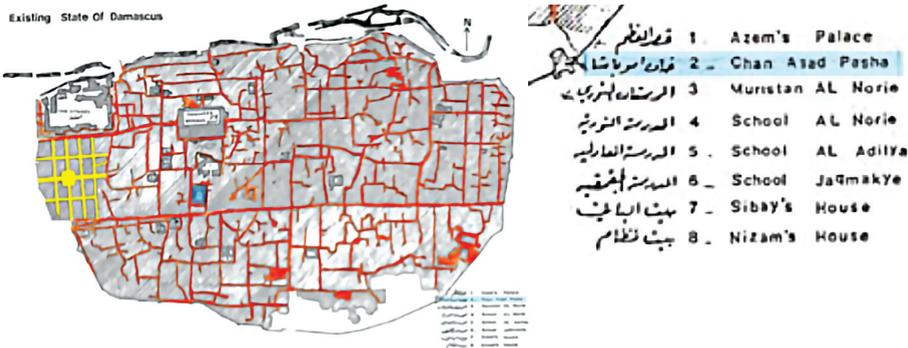


Figure 5. The traditional urban fabric of Damascus, all streets in orange are commercial (source: Sawaf, H. Damascus: the oldest capital in the world, 2004).

There were many kinds of markets, such as the seasonal market of Al Mawasem, and the Al Sowaiqa. The Al Sowaiqa is a tiny market composed of a group of commercial shops, where each Sowaiqa is also the center of an urban sector, so all the Al-Sowaiqas are groups of commercial shops that form the center of each urban sector. Other famous small markets in Cairo were the Prince of Armies and Fishermen markets. The khan, caravanserai, qaysariyya, suq and the mini-suq were all commercial structures used for shopping. The khan and the caravanserai, as well as being stores for goods, also provided housing and security for merchants.

Another type of market is the Arasta, which is a kind of market that is in line with religious buildings, as seen in Isfahan, Iran (Mader-i-Shah), and Kava, Flar Arasta in Cordoba, Spain, made up of two lines of 24 shops [11].

Roads, which can be considered as the arteries of the city where humans and economic activities come together, were taken care of by Islamism. Legislation and laws have helped protect the environment and kept Islamic cities clean. For example, there are many necessary conditions to be respected in butcher's shops regarding public health and safety; baker's shops too, must have a high ceiling and good ventilation to allow fumes and smoke to escape. Moreover, these activities were situated far from the city centers, as in the case of industrial buildings, which often produced three types of negative factors – smoke, odor and sound pollution, as stated by jurists – and therefore had to be built in suburban areas [12].

Traditional Islamic architecture fulfils people's needs and consequently explains why some environmental processors in these cities' planning have succeeded in performing more than one successful function at a time.

2.2. The three different types of traditional markets

The most famous traditional markets of Abbasid Baghdad (the capital of Iraq), Umayyad Spain, Fatimid Cairo (Egypt) and Bukhara (Uzbekistan) have been mentioned in the Islamic literature of historians and geographers. Cordoba, in Spain, represents one of the most important markets in the western Islamic world and had all kinds of Eastern goods. Bukhara was the point that connected India, the Far East, and northern Europe. Silk came from China via the Sasanian lands (now Iran) to the Upper Euphrates to be sold in Rome, or from India via Yemen and the Arabian Peninsula through Petra, as well as through Palmyra to get to Rome and then on to Constantinople [13].

Al-Maqdisi described Egyptian markets by saying that they gathered goods from Al Andalusia, Turkey and China, to store them or to sell them in partly roofed markets located along narrow alleyways. Ottoman markets, found in all countries of the Ottoman Empire at that time, were considered to be the most important market types and were often domed.

The distinctive shapes of the traditional markets were identified by particular elements, used since 2000 BC, which included the open arena and roofed roads lined with shops on both sides. Traditional markets throughout the world were specialized markets based on their goods. The bazaar is the standard form of roofed market with a series of vaults linked to each other by a high domed space, or an open intersecting area, which is often closed in by a wall or a fence. The bazaar is a self-grown phenomenon and is associated with the same basics as the formation of the city, for example the presence of gates, fences and narrow meandering streets. During his visit to Constantinople in 1331 AD, Ibn Battuta noticed that the bazaar was structured according to what was sold there, as the streets varied in direction and width depending on the difference in the type of goods offered for sale. At night, the gates to each bazaar market were locked [14].

There were three types of traditional markets: one had a network of roofed roads with gates that were guarded (type A); another was a colossal edifice with a roofed central courtyard (Qaysariyya) (type B), and then there were the khans or caravanserai (type C), as illustrated in Figure 6.

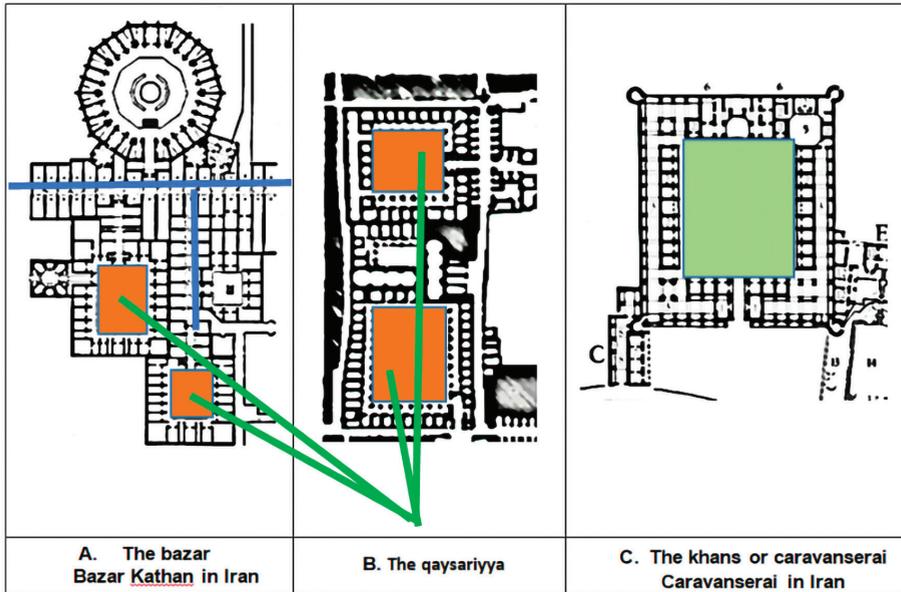


Figure 6. The three types of traditional markets. A) Al Bazar (a network of roofed roads); B) the Qaysariyya (green arrows indicate location of the Qaysariyya); and C) the khans or caravanserai.

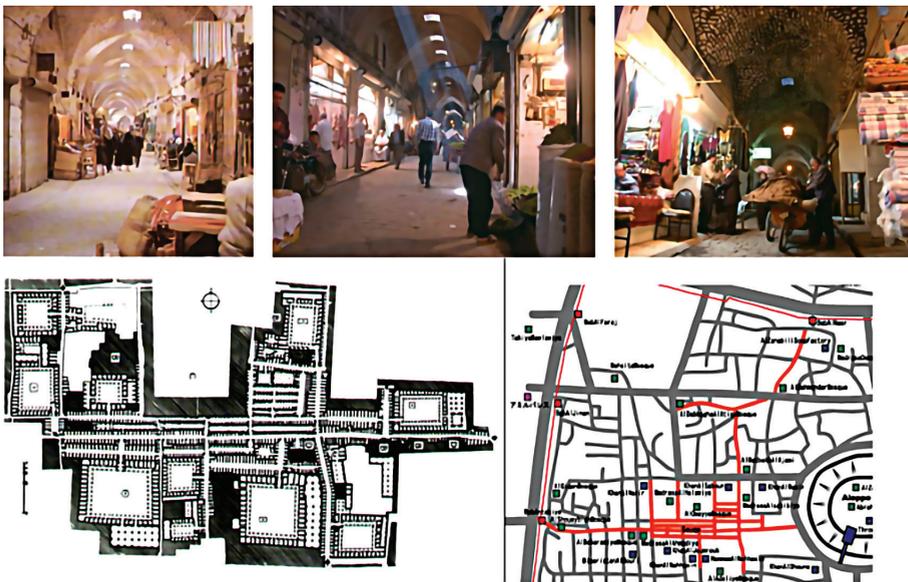


Figure 7. Al Bazar in Aleppo. The market has a network of roofed roads with fortified gates (photos by researcher, G. M., *The Architecture of Islamic world*, 2002).

Eleanor Sims believes that the architecture that Muslims encountered on their travels and conquests, as well as their own skills and needs, is at the basis of the chosen style in the design of these traditional markets. The simple design which characterized the market remained the same throughout the centuries in spite of the different places and building materials, without losing its identity or character. The Arab suq is a market located on four streets, each going in a different direction, so it may be said that the crossroads generated the central market. The first Islamic market was called Chahar-Suq (Table 1) due to the major intersections within the covered network of market streets and was made up of roofed streets with extensions. The Turkish carse (Table 1) or Turkish market was a huge junction with a roofed network of shopping streets [15]. Aleppo's traditional markets are considered to be some of the best-preserved old markets in which streets intersect with each other and are sometimes covered with domes, or left open, as shown in Figure 7 [16].

Walls, floors and ceilings in the old traditional markets were a means for exhibiting goods, making them as appealing as the buildings in the city's urban fabric and making us feel that everything is suitably arranged and in its proper place.

2.3. The traditional markets and the urban context

The market arose from an urban fabric and played an important part in its formation. The result was mutually harmonic, making it difficult for us to determine the origin of this relationship and which is more effective, the market or the urban fabric. To suit the social and psychological demands of shoppers, traditional markets vary in size, goods, shape, and space. The inherited architecture was originally designed in accordance with the needs of the people, the inhabitants and the travelers and this is what the buildings, with the diversity of their functional types, witnessed. The buildings were often simple, not luxurious, and because of their weak and simple building materials, few have survived.

Markets were located in two areas inside the inherited city's urban fabric.

1. The markets outside the city walls were often specialized in equipment needed for travelling and stables, all located around the city gates. These market stalls were separated from the housing area to protect people from the polluting smoke, and odors, as well as other factors linked to their safety, which was an essential aspect that was taken into consideration. However, a number of markets were, exceptionally, connected to dwellings, or what was called (Al Arrabd), such as Al Mahdia city in Tunisia, and in Cairo, but this was due to the expansion of the urban areas which caused them to spread toward the original marketplace in Fustat (the old name for Cairo, Egypt), which led to the dwellings and markets becoming as one with the city.
2. The markets inside the city walls were one-story roofed structures and were commonly found in the center of traditional Islamic cities around the mosque.
3. At the beginning, the market occupied the land near the mosque, but with time, they developed into continuous linear shopping streets. These markets linked the main gates to the city center. This design appeared in the Umayyad era (661-750 AD) and was very clear in Baghdad during the Abbasid era (750-1258 AD). There were other markets near the city gates which also followed the previous pattern, and this is what we see nowadays at the Damascus gates, for example, at the Bab Touma (Thomas Gate), which is one of several gates in the city walls

[17]. This was evident in Cairo Qasaba, which is divided into five parts as mentioned before; the first part specialized in steel handicrafts; the second part specialized in trading contemporary aluminum; the third part ended with a group of Qalawoon, built in 1284-1285 AD (Mamluk era) and specialized in copper handicrafts; the fourth part specialized in gold and money exchange and the fifth part specialized in fabrics, carpets, cotton and textiles [18].

There were other markets, held weekly or seasonally in the Islamic city, on the open lands and main roads of the city. In Tunis, we can find all these types of markets, both central and linear. Linear markets generally have curved or straight axes and are roofed, while the squares are open, and the corridors and the axis intersect, and they all generate markets with parallel or perpendicular corridors, as those found in the markets of Istanbul [19].

2.4. Types of markets in some of today's Arab cities

Figure 8 illustrates the types of markets that exist in traditional Arab cities nowadays.

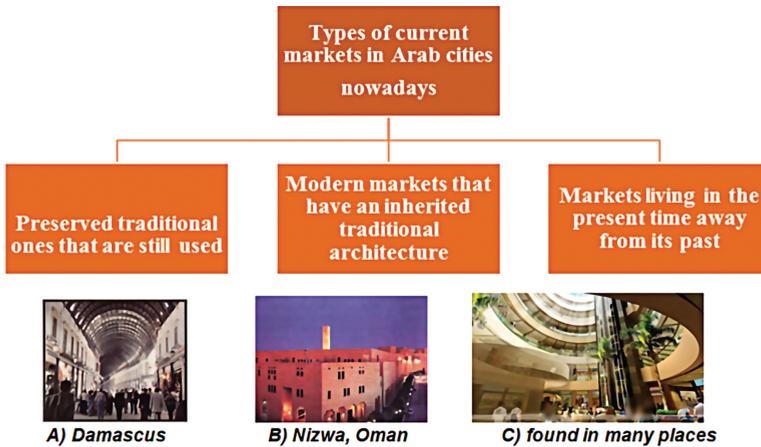


Figure 8. Types of current markets in Arab cities today (source: author).

2.4.1. Preserved traditional markets that are still used

We can see that many cities across the world, as well as many cities in the Arab world, still retain and preserve the old traditional markets (Table 2). Some of Baghdad's traditional markets include Bab Al Agha market and Al Safareen market (copper products); there is also Al Samoaal Street, which has many khans representing wholesale markets; another example is Al Kadhimiya (in Iraq). These are just a few, but there are many more. Al Astarabadi market is the most famous and is roofed with trusses. The Arab market in the Al Shorja area in Baghdad is considered a modern market. There is also the Indian roofed market which sells spices in Basra city and there are the old traditional Al Mosul markets, including Bab Al Toob market.

There are other markets in Tripoli, Libya. These markets were, and are, still specialized in traditional Libyan folk costume. Also, there are the Cairo markets in Khan Al-Khalili, which are well known, and Sanaa markets near Bab al-Yemen, including the salt market. Some are specialized in certain goods and their stores are situated around the unroofed center courtyard. There are a lot of traditional markets in Seoon and Hadramout (Yemen).

In Amman, Jordan, we can find the Al Bukhariya market, named after the Bukhara immigrants who lived in Amman in the mid-twenties of the twentieth century. This market was built around the Al Hussein Mosque area in 1930, and then, in 1950, it was moved to the opposite side of the Al Hussein Great Mosque. Currently, it sells accessories, some souvenirs, and supplies for tailors. There is also the Manco market built in 1942, the first market for pedestrians, and is connected with Basman Street through an arch and some stairs. It still works efficiently compared with the modern markets, because it is a more convenient place for shopping [20].

Damascus is known for its old special markets. Damascus seems not to be composed of locally similar elements but of dissimilar parts which are aggregated and bound together by the line of walls and limited within their confines by the dynamics and constraints which govern the global structure of the street layout [21]. It has seven gates which work as commercial markets and a lot of Ottoman buildings, as well as new markets, such as Al Hamidiya and Al Muhagereen. Old Damascus has an oval-shape, its long diameter being Medhat Basha Street or the Eastern door, which measures 1600m, and the smaller diameter measuring 1000m. The history of Al Hamidiya market (Damascus, Syria) goes back to 1780AD/1195AH. The governor, Hussein Nazim Basha changed the wooden roof of this market and other big markets and replaced them with iron and zinc roofs to protect them from fire [22]. In Hamidiya market they sell all kinds of textile products of different origins, as well as oriental antiques and refreshments. The market dimensions are about 600m. x 15m. and its height covers two floors.

Damascus also includes Al Hal market, which is a wholesale market for fruit and vegetables. It was built in the era of the French mandate. Traders' stores were on the ground floor while cheap hotels were on the upper floors. There are also other markets, such as Ali Basha Market, Al Srojyeh, Al Zarabiyeh, Al Tiben market, Al Kheel market, Al Ateeq market...etc. [23].

Markets were also connected to each other, beginning with the narrow roofed Qawafeen market, which connected and ended at the unroofed Silah market, in addition to Al Qaimariya market ... etc. There are 58 old traditional inherited markets [24].

Damascus was famous for its wonderful markets: some of them have disappeared from the modern map of Damascus while others have witnessed the long history of this commercial city. The Ottoman markets form an integrated architectural unity containing commercial stores; the khan, the mosque, the bathroom and the school. The best examples are Al Khayateen market and Al Hamidiya market. In Al Khayateen market there is Khan Khojiah, which is located in the southwest of the Umayyad Mosque and in the silk market there was another khan called the Khan of silk (Al Hareer).

In Aleppo there is Al Najareen, which had a vaulted ceiling and is a roofed market in Al Bayadha inside Bab Al Hadeed (gate of iron). Throughout the past ages going back to the tenth century BC., Aleppo remained the global economic commercial center linking the continents and oceans, and it was also the route crossed by the silk, spice, textile and perfume traders. The volume of trade doubled in Aleppo during the Ottoman rule and the khans and markets expanded [25].

Table 2. Some old preserved traditional markets that are still used in several Arab and Middle East cities

City	Market	Form	Use
Baghdad - Iraq	Bab Al Agha market	linear roofed street	leather
	Al Safareen market	row of shops	metal
	Al Samoal Street	open street with many khans	wholesale markets different goods
	Al Astarabadi market	roofed street market with truss	fabrics and clothes
	The Arab market	vaulted street market	fabrics and clothes
Basra city- Iraq	The Indian market	roofed market	spices
Tripoli - Libya	Many markets	open street markets	Libyan folk traditional costume
Cairo - Egypt	Khan Al-Khalili	roofed street market	Egyptian traditional folk costume
Sanaa - Yemen	Bab al-Yemen - Salt Market	roofed, open street markets and unroofed centered courtyard	Yemen traditional folk costumes
Amman - Jordan	Al Bukhariya market near Al Hussein Great Mosque	roofed street market	accessories, some souvenirs
	Manco market	unroofed central yard surrounded by many shops	fabrics and clothes
Damascus - Syria	Al Hamidiya Market	roofed Ottoman street market	accessories, some gifts for tourists, fabrics, and clothes
	Medhat Basha Street	open street market	wholesale market for fabrics and clothes
	Al Hal market	roofed street market	wholesale market for fruit and vegetables

Now, the question is: Should we construct our contemporary markets as twins to the traditional markets produced by traditional Islamic architecture? And what did our old inherited markets achieve?

2.4.2. Modern markets that have an inherited traditional architecture

What about the modern experience of Arab markets? In Nazwa, Oman, there is a huge market consisting of ten buildings, surrounded by an external wall and doors. It is integrated into the urban fabric and all its traditional architectural components are original ones. The function of the market is to sell vegetables, fruit, meat, dates and fish and to be a restaurant [26]. The modern shopping center was established in Al Sharjah (United Arab Emirates) to create a new style of architecture. Despite the adoption of

similar plans and wide corridors linked to each other, as well as reproducing the same height in the spaces, the shopping centre does not transmit the same feeling people had in traditional markets, which were two meters wide, the width of the markets' corridors having a role in increasing the efficiency of the environment [27].

There are modern market centers in Arab Gulf cities such as Al Ghurair and City Centre in Dubai, and Warba Center, Deera Center and Al Rashed Center in Al Khobar in Saudi Arabia. In Baghdad, many market centers with multi floors were constructed but they are not multi-functional (i.e. they are only for selling and purchasing). The designs were repeated in different areas and lack the elements of commercial attraction. Their design, moreover, is incompatible with the surrounding urban fabric, such as Al Mansour market (Baghdad, Iraq), Al Mustansiriya market (Baghdad, Iraq) and Al Adel market, and Al Thulathaa market (Baghdad, Iraq) with their different design.

2.4.3. Markets living in the present time away from the past

These contemporary market centers are not connected with the urban fabric and the surrounding area, while the traditional markets popped up in the cities and formed the urban fabric in a way that made it difficult to distinguish whether the markets had created the city's urban fabric, represented by the adjoining main and secondary streets, or if the city, with its main and secondary streets, had created the markets. In modern markets, the shopper does not enjoy moving around because they combine all the shopper's needs under one roof, diversity should be in the market's form and not only in what it contains. Modern markets lack diversity in both their goods and their physical environments and take you on a long boring journey, full of smells, without experiencing any real social interaction.

3. Results

Traditional markets in traditional architecture extend horizontally on one or more floors, while most contemporary Arab markets develop vertically with multi-floors and are protected from the external climate. Since markets were specialized in a variety of goods, this reflected on the architectural form and general planning of the market, where the broken (curve) axis or any change in direction was an indication of the change in the type of goods.

In the past the width of the shopping streets was ordered and became narrower because fewer shoppers frequented them, so shopping streets responded to the number of shoppers and the importance of the goods. The diversity in the physical environment corresponded to the diversity and change in goods as well as the diversity of the corridor's width and roofing style. This diversity affects shoppers and generates a state of pleasure and social interaction between the market and the shoppers and among the shoppers themselves. The element of surprise and change in visuals while the shopper is on the move, along with the shopping streets, make it an interesting environment due to the diversity in size, shape and direction of the market and helps the shopper break out of their boredom.

The change in direction of the winding streets in traditional markets also enriches the architectural image that is saved in people's memory. The richness in visual diversity greatly affects the variety of information and signals that the design sends to shop-

pers, making the shopping experience more enjoyable. The traditional market accommodates future variables and is constantly changing, without it affecting its general form, and does so by adopting a principle of repetition of its structural units.

Markets were also used for gatherings on certain occasions, such as weddings, feasts, wedding celebrations and other events, thus integrating social uses into these physical structures that were suited to these occasions. They also met the needs of the community by encouraging social interaction among shoppers, which is not usually found in most modern market environments.

The research findings regarding the relationship between the phenomenon of diversity and its role in giving traditional markets distinct characteristics and making it superior in user experience to current commercial centers, especially in traditional Arab cities in general, are summed up in Figures 9 and 10.

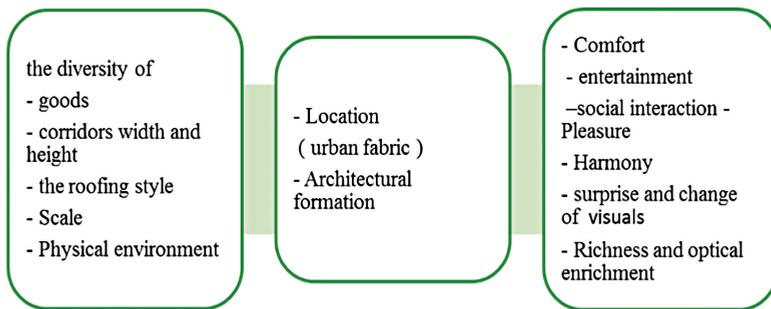


Figure 9. The impact of diversity in old traditional markets (source: authors).

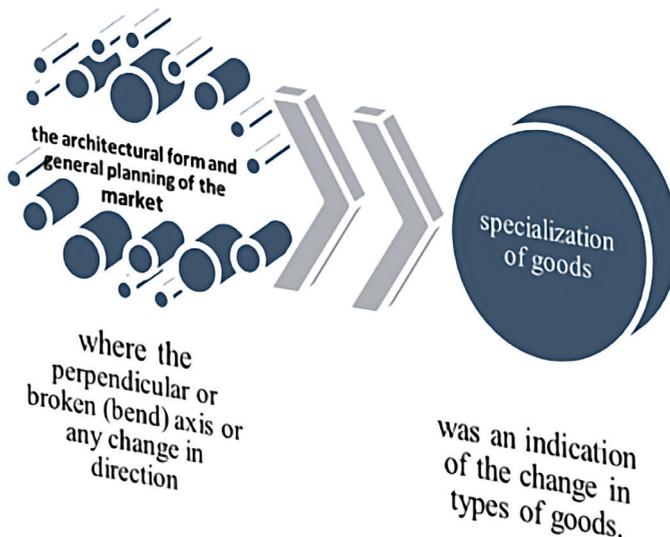


Figure 10. The relationship between the diversity of goods, types and morphology of old traditional markets (source: authors).

4. Conclusion

Perhaps contemporary Arab multi-floor market centers avert some of the negatives by using technology to provide a comfortable climatic environment. In this day and age, technology has helped these centers to achieve climate compatibility and improve people's well-being and comfort through the use of efficient heating/cooling systems inside the buildings, but they do not fulfill their goal in entertaining the shopper and do not represent local Arab identity. Markets are one of the most important places that reflect the identity of the country, as it is a stop-off for tourist shoppers and citizens. Most modern markets have failed in communicating with the old buildings and in fulfilling contemporary shoppers' needs. In the past and nowadays too, traditional markets are a reflection of a harmonious society connected with its past and present.

The market should grant the shopper the opportunity to relax within an effective and efficient internal architectural environment. This should be a target that is taken into consideration while designing modern market centers. Thus, the market center should be in an efficient architectural environment that provides shoppers with a pleasurable atmosphere and a reason for social interaction with each other, and between them and the market, without being boring, and by creating a physical environment that achieves a balance between human needs and the environment (social, cultural, climatic and aesthetic, etc.).

The shopper should also be facilitated in easily reaching the market center, finding a parking space, and the external environment should be a green space. In addition, there is the need to achieve the distinctive character of the market and its streets through the architectural designs that most suit our traditional original inherited architecture, while taking into consideration the environmental dimension. Lastly, the research emphasizes that contemporary market models and commercial centers achieve their purposes, but their design does not successfully achieve the level of social interaction among shoppers and other important features, as those achieved by traditional markets (Table 3).

Table 3. Comparative findings between traditional and recent markets (source: authors).

		Traditional Markets	Recent Middle East markets
1	Extension	horizontally with one floor or more and are protected from the climate	most contemporary Middle East markets extend vertically with multi-floors and are protected from the climate
2	Specialization	goods ranged in order which assures specialization of kind	no clear system in its distribution
3	Street form	perpendicular or broken (bent) axis or any change in direction was an indication of a change in the type of goods, as the specialization of goods changes with the change in direction	mostly grid network of streets
4	Street width	shopping streets get narrower when they were less shoppers.	no clear system

5	Relationship between street width and shoppers	shopping streets were responsive to the number of shoppers and the importance of goods	mostly does not exist
6	Diversity of the physical form	diversity of the physical form (architectural form) of traditional markets is responsive to the diversity, change of goods, the diversity of the corridors' width, and the roofing style	does not exist
7	State of pleasure and social interaction	this diversity affects shoppers and generates a state of pleasure and social interaction between the market and the shoppers and among the shoppers themselves	mostly does not exist
8	The element of surprise for the shoppers and the change in optic shots they see along with the shopping streets	this makes it an interesting environment and helps the shopper to break out of their boredom due to the diversity of size, shape and direction of the market	does not exist
9	Refraction and change of direction of market streets	this enriches the architectural image and the image that is saved in people's memory	does not exist
10	Social interaction	they also met the needs of the community by encouraging social interaction among shoppers	does not exist in most modern market environments
11	Identity	they represent Middle Eastern identity	do not represent Middle Eastern identity

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Biographical Notes

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Summary

Many cities worldwide take pride in their traditional markets. This research aims to verify the importance of lessons learned from old traditional markets, characterized by the effective response to their physical environment. This main aim leads to many secondary aims. First is the aim to explain the role of the phenomena of diversity in the establishment of various markets. Second, the research aims to explain the relationship between the specialization of goods, the architectural form and general planning of the market. Third, the research aims to investigate the relationship between markets and the diversity of the goods, width of the corridors, roofing style, and how this diversity affects shoppers, as well as interacting among the shoppers themselves. The research adopts a descriptive analytical methodology for a number of market types in order to study the morphology of traditional markets, their form, their urban context, and their relationship with the diversity of the goods and the impact it has on shoppers. The most important conclusion reached by the research is that the diversity in the morphology of traditional markets corresponds to the diversity and change of goods, the width of the corridors and the style of the roof ... etc. This diversity affects shoppers and generates a state of pleasure and social interaction.

Riassunto

Molte città in tutto il mondo sono orgogliose dei loro mercati tradizionali. Questa ricerca mira a verificare l'importanza delle esperienze dei vecchi mercati tradizionali, caratterizzati dal loro particolare contesto urbano. Questo obiettivo principale porta a diversi obiettivi secondari. Il primo è spiegare il ruolo dei fenomeni di diversità nella ideazione di vari mercati. In secondo luogo, la ricerca mira a spiegare il rapporto tra la specializzazione dei beni, la forma architettonica e la pianificazione generale del mercato. In terzo luogo, la ricerca mira a indagare la relazione tra i mercati e la diversità dei prodotti, l'ampiezza dei corridoi, lo stile del tetto e come questa diversità influisca sugli acquirenti, nonché sull'interazione tra gli stessi acquirenti. La ricerca adotta una metodologia analitica descrittiva per alcune tipologie di mercato al fine di studiare la morfologia dei mercati tradizionali, la loro forma, il loro contesto urbano, il loro rapporto con la diversità dei beni e l'impatto che ha sui consumatori. La conclusione più importante raggiunta dalla ricerca è che alla diversità nella morfologia dei mercati tradizionali corrisponde la diversità e il cambiamento delle merci, l'ampiezza dei corridoi e lo stile del tetto. Questa diversità colpisce gli acquirenti e genera uno stato di benessere e interazione sociale.