

on practicing religious orders and following Bedouin-Roman cultures. These represent a new type of the concept of center. The meaning and features which administer the construction of Morocco's Islamic cities and imply their relation to public residential rely on various systems such as urban elements which render this concept meaningful:

Security elements: the vascular plan and city's surrounding wall.

Religious elements: mosque, religious schools.

Economic elements: bazaar and commercial districts

Networks of connection: the pathways connecting

center to the meandrous texture of the city and, usually, across bazaar.

Inside the walls in medinas, regarding the common definitions of city center, there is no center for any unit of activity on the whole. What is seen are the social sub-centers which are recognized on the ground of access ways in two principal religious-economic layers in homogenous and repetitive manner. In fact, the physical structure of medinas and their spatial arrangement shape the social behavior of residents. Based on this mental-physical order, the life in medinas is shaped on a ground different from the urban orders, and the social

## EndNote

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activities on the border of these cities.

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Figs. 7-9 the plan of Moroccan medinas with vascular structure in Rabat, Tangier, and Tétouan that in form and function resembles the vascular system of human body. Source: author

the concrete representation of the concept of security.

The ideological layer (mosques and religious schools) that organizes the concept of centrality in the city and is vastly repeated in the city's joints.

The economic layer (bazaar) that interprets the role of center, serving the continuity of

society's life. In encountering the passages, it establishes connection with joints, leading to the dynamism of the milieu.

Pathways render urban body meaningful. They establish connections with the conceptual center of the city and encompass the transition of the social activities into the meandrous layers of the city and the flow of life.

## Conclusion

The design and administration of medinas and their functional layers for the centralization of the texture is under the influence of social security and the continuity of the residents' life during the dominant historical-political period in that society in the form of small colonies. To finalize, regarding the structural system of the medinas, locating of city centers can be analyzed in two places inside and outside the surrounding walls of medinas. What can be said about the city centers in Morocco is the development of the formation

of identity center on the margins of medinas and a multi-central structure inside the walls. The constructed city centers in medinas have various functional layers on the margins of Moroccan cities. They are evolved from the shaping policies of medinas, with no cultural background, and cover interior sub-centers, a primary structure of city centers, and a limited area in a homogeneous and reproducible system. The theoretical principles of the plan and their construction include Islamic principles and rules. The cities are built based

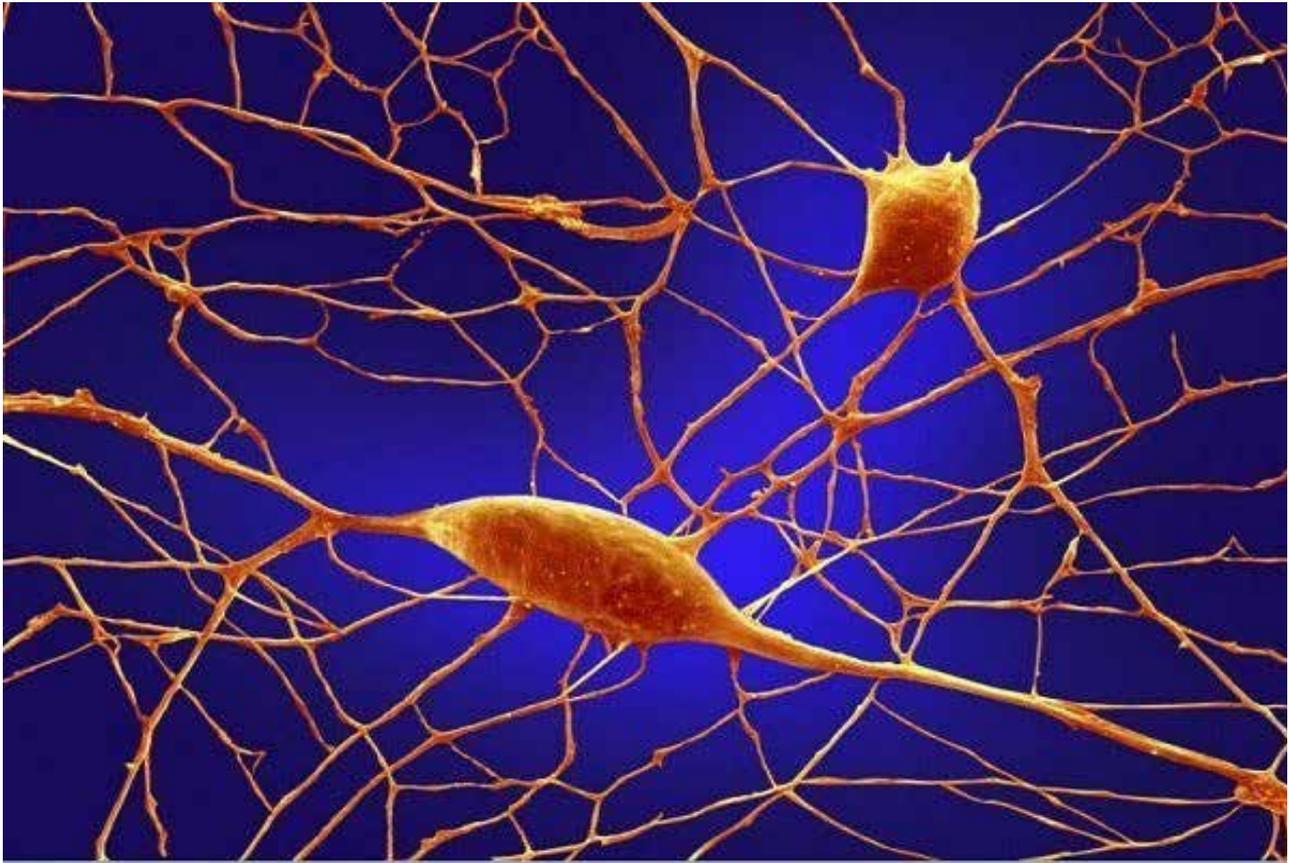


Fig.6. a photo from the vascular structure of the human body which works to run blood in the body in a complex tissue with unlimited connecting joints. On the whole, these arteries have a unified structure and in the case of the destruction of any vessel, the other vessels continue their work. Source: <http://zist-sad.mihanblog.com/post/173>

around itself and connect to it, each element is in need of a mediating element that is referred to as joint. A special attention should be paid to the role and significance of the joints in reviving and expanding the urban skeleton, particularly, because of their influence on changing the direction of axes.

The functional elements scattered through the city (functional units), when connected through the main communication network, go to a higher level in the organizing system of the urban physical structure. Therefore, the city's skeleton must be a combination of the network of main ways in the city (main dynamic corridors) and important buildings.

Considering the investigation of the selected

samples from cultural structure of Morocco and based on the prevalent definition of city center, it can be understood that in the complicated and multi-central system of medinas each element is a sub-system, and each relation has a unique status. From a general perspective, the concept of "center" denotes the consensus of sub-systems. Consequently, the entire of the relations must be investigated in the texture of the elements of the system (Figs.7-9). Therefore, based on the discussed subjects, the city centers in Morocco could be classified in four layers:

The security layer that is the major factor of physical structure and has a functional role in the city. The surrounding wall of the city and narrow and meandrous pathways are

mosque that are formed in the economic network and connecting passages of the urban spaces and have a clear functional-physical structure in the ground of medinas and the public space serving as the city center outside the wall.

In these medinas, the discipline and order prevalent in Roman cities is not seen. No city center for administration of rules and public gatherings is found in the interior space of the city. Medinas are surrounded by a wall; the houses are at the same level and include a group of buildings with similar exterior views. The streets are narrow and meandering. The ways are extended up to the threshold of the houses but do not reveal any view of the identity of the neighborhood (Benevolo, 2014: 9-10). The shops are set across the access ways in one or several covered or uncovered streets, shaping bazaar. In the connecting points of bazaar and pathways, mosques with covered, geometric spaces, porches, and shabistans divided by a number of pillars shape the religious-social space of medinas. This disorder, in opposition to the geometric order of mosques, highlights the function of mosque as the significant social pole of medinas. It is considered as an important dimension of public space in medinas which are built numerously and similarly in terms of value, at variety of distances.

### **The Vascular Structure of Medinas**

Vascular structure is a multi-central structure in which different functions come up in connection to each other. In this structure, all the elements are connected through networks and, yet, function independently. As such, the destruction or weakening of any one of the elements will not affect the overall entity of the structure and the other elements will continue their function, capable of unlimited expansion. Considering the structural system of the medinas, they lack a unique center with proper spatial openness, and their main

constituting elements – mosque and bazaar – are subjected to identical expansion.

Referring to ibn Khaldun, William Marseille describes Islamic city as having grand mosque, bazaar, and public spaces dedicated for public benefit such as bathhouses. Medinas have the same model of Islamic cities, and this model is incessantly repeated in the urban network. In the organization of the elements, cultural and security factors have key roles. The plan of medinas in Tétouan, Rabat, and Tangier, and Fes with a wall around them, have a complicated structure. What is understood from the plan are a number of ways of access in two groups of the main and by-path which connect the social centers to the intricate residential space of the city.

In different access ways and in close distances, mosque and bazaar play the main role, rendering the texture of medinas multi-central in small scale. The mosques exist in connecting points of the networks with an introvert structure, and their centers cover public gatherings. They are physical spaces and what happens in their surrounding is movement and relocation in conjunction with urban economy.

The pre-Islamic Bedouin culture in Morocco distanced from the urban traditions and the system of social organizations. The best model in urbanization developed from modeling and imitating the sacred and trustable samples such as Mecca and Medina. This arranges the major urban arteries along with material and spiritual systems. Wherein it relies on native culture, it arranges a vague, meandering texture in a vascular structure (Fig.6).

Every part of the system, according to the type of its relation with another part, creates a peculiar kind of order in the system. “The function of each system depends on the interaction of its parts rather than their independent function” (Ikaf, 1998: 22). To locate another phenomenon

There are many Islamic cities built based on the influence of various cultures such as Arabic, Iranian, Indian, ... during history. The primary principle of their construction has been Islamic system of thought and its main elements such as mosque, bazaar, and way. In the places where Islamic cities are constructed on the remains of old civilizations, they have created a space with exclusive features and identities. Such a place reflects an Islamic-identity perspective of the city and its current activities.

The ancient cities of Morocco are a combination of Islamic and Roman cities on historical and physical aspects. The Islamic elements stand in the middle of the vascular texture of cities and this has led to the emergence of multi-central cities which affect the urban texture around themselves. According to this, the physical texture of the cities is shaped by the necessity of security, on the margins of Roman culture. The essence of this texture is based on Islamic perspective, formed through the interaction of the material and spiritual dimensions.

The medinas have been the primary nucleus of Moroccan cities and Muslim-settled areas. Their constituting elements are mosque, bazaar, way, and settlement texture. Yet, these elements have been under the influence of dominant political-social and cultural factors of their own time in combination with the atmosphere and constituting units of the cities. The establishment and construction of cities in medinas have been cultural activities, reflected in proper physical frames (Fig. 5).

Regarding the field findings in the medinas of Fes, Tétouan, Rabat, and Tangier, it can be deduced that Moroccan medinas are constructed based on Islamic-Roman model of urbanization. The difference is the lack of Roman public spaces such as halls of trial, theaters, stadiums and ... There are walls, private places – house and palace – and only two types of public buildings inside the medinas: bathhouse and



Fig. 5. Mosque and bazaar are the major constituting elements of medinas. In addition to religious function, mosque, in relation to bazaar, is a physical joint for public gatherings. Tétouan's medina. Photo: Meysam Khalil Pour, 2016.

such as mosque and bazaar are frequently repeated in the vascular and network texture. Due to this, a center is shaped outside of the walls, which offers a new understanding of the spatial organization of Moroccan medinas (Fig.3&4). Based on this, and regarding the investigation of the medinas in cities of Fes, Rabat, Tangier, Tétouan, Meknes, and Marrakesh, the spatial organization of Morocco is discussed as vascular structure.

### **The Concept of Centrality in Moroccan Medinas**

The most significant factors in the definition of city center and the interpretation of the Islamic system of thought are the ancient culture and civilization which combination offers two different understanding of the concept of city center in various cultural grounds. The narrators of this concept are cultural sub-elements on the background of Islamic structures which represent a different type of city center.



Fig. 3&4. the city center in Moroccan medinas is located on the margins of cities, outside of the walls. The photo on the right: El Hedim square in Meknes. The photo on the left: Djemaa El Fna in Marrakesh. Photo: Meysam Khalil Pour, 2016.

and introverted organization based on urban system. The structure of medinas and their spatial organization can be investigated in two parts: The construction of the city has been for providing the security of communities and its system is borrowed from Roman culture – erecting walls around it –.

The construction of the city based on Islamic perspective, which most significant models are the urban system of Mecca and Medina as the references of Islamic urban construction.

From legal point, the word of “city” or “medina” in many countries is taken from Greek “Polis” meaning “civilization” or “criterion and order.” It also has been used to denote “citadel and fence.” In fact, it connotes the concept of city-shelter or the location of strike for gaining security and freedom (Meshkini & Rezayee Ghadam, 2014: 41). Based on Islamic principles, this sense of security can be explained as social, economic, legal and accessibility security.

It seems that the introversion of the medinas and their enclosure is resulted from their cultural and political conditions. The most obvious features in the case of security are the complexity of access and the walls around the city. The meandrous space of medinas in Morocco reveals a different spatial organization, apparently shaped spontaneously based on the orders of social security. The nucleus of this organization is the religious pole – mosque and seminary. The water supply system is shaped by variety of spatial structural stands and based on Islamic perspective.

A city is built inside the walls, with religious-economic centers as its defining elements. Mosque and bazaar are two inseparable elements in Islamic culture which guarantee the continuity of social life. Ways are another element of landscape in the construction of cities, connecting spiritual and material factors in a city (Fig. 1&2). In organization of the city, the main elements

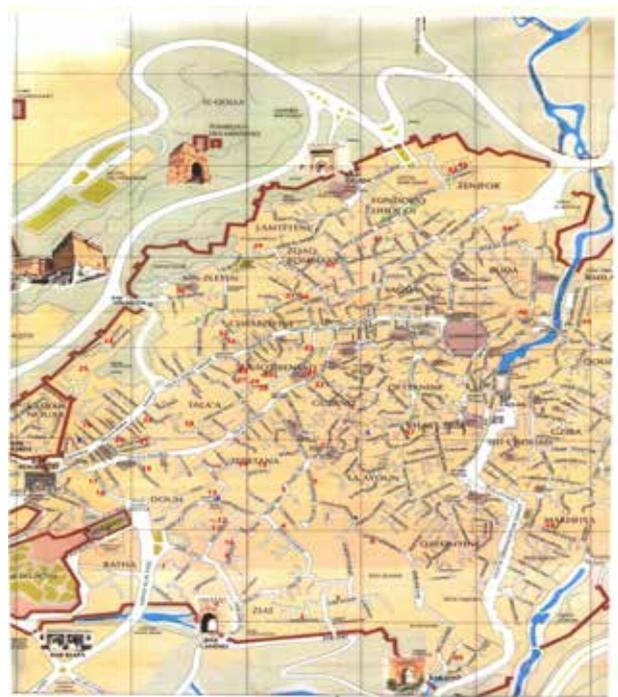


Fig. 1& 2. mosque and bazaar, two inseparable elements and the connecting joint in the networks of Fes. The photo on the right: Meysam Khalil Pour, 2016. The photo on the left: the plan of Fes’ medina. Source: [http://archnet.org/sites/938/media\\_contents/16877](http://archnet.org/sites/938/media_contents/16877)

### City Center

Every city is unique with regard to its culture, region, and history. Yet, because cities have complicated structures, the best representation of a city is displayed in its center or functional hotspot (Paumier, 2015: 3).

City center is a perspective. It is an abstract-concrete concept. The concrete dimension is reflected through the physical and functional layers. The abstract one is crystalized in the semantic layer developed from public memory, the sense of belonging to place, the identity of the city and its symbols. The entity and identity of a city is revealed in the “center,” being recognized as the city’s ID by citizens. City center is city’s memory and heart of its social life; it is the place of public activities and the production of public memories. This is a comprehensive, general definition of city center which describes the main constituting element of the center based on the economic dimension. Nevertheless, this definition cannot be applied for the description of other centers in different cultural-religious atmospheres.

In Islamic cities, spiritual and functional events spontaneously matched in a place. The concept of centrality or its location, which necessarily was not the geometrical center of the city, created city center. The arrangement of districts around the center and their interconnection through the physical structure originated from center, highlighted center as the physical and metaphysical heart of city. By inspecting and comparing the centers of different Islamic cities along with the dissociation of various spiritual and functional layers into common religious-economic centers, we will have a perspective of the center of Islamic cities. At the center of these cities we see a mosque as the reflection of spiritual, philosophical dimension of the Islamic city with *bazaar* (traditional enclosed marketplace) as the reflection of material dimension beside it.

The city center and its central building do not have a peculiar place. A Mosque is not separated from the urban texture and its existence guarantees the daily life in *bazaar*. The economic flow links the spiritual and residential dimensions of city. On the whole, and as common points, the central layers of Islamic cities can be prioritized through four dimensions: religious, economic, distance, habitat.

Quoting Stefano Bianca’s book of beauty which discusses the relation between architecture and Islamic way of life, Bemmate writes: “The hotspot of such combination is a city in constant interaction with mosque and bazaar. An interaction based on an old Islamic tradition, because Mecca was simultaneously a holy place for pilgrimage and a business center” (Bemmate, 2014: 98).

But, what is of importance is the definition of the meaningful layers of center among the four dimensions in Islamic cities with different cultural backgrounds. The inspection of formal and functional differences will lead to the understanding of spiritual differences and their role. These differences are mostly based on the geology and culture of the region. Actually, it can be argued that city centers, like the other elements of urban landscape, are elements of identity formation and they can be interpreted with considering the social events. Accordingly, the aim of this investigation is to offer a true and comprehensive definition of the city center in Moroccan medinas, with a look on the political-cultural history of Morocco and the inspection of the formal and semantic structure of medinas in the cities of Fes, Tétouan, Rabat, and Tangier gained from field observation and based on description and interpretation.

### The Concept of City in Historical Morocco

Before the arrival of Islam, Moroccans were Bedouins dominated by various powers and cultures such as Romans. The acceptance of Islam changed the system of their life to a social

## Introduction

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Centuries before Christian era, Morocco and the entire parts in northern Africa were controlled by Phoenicia and Carthage empires. They were traders who had the entire of the Mediterranean region under their control. After their fall, Morocco was ruled by Romans from the first century B.C until the fifth century A.D. After that, it was respectively ruled by "Vandals," "Visigoths," and "Byzantine" empire. Finally, in 668 A.D its citizens accepted Islam (Razm Asa, 2007: 68). Islam took root and fundamentally expanded in the area in 786, particularly, after the escape of one of prophet's grandsons known as Mola Edris bin Abdallah bin Hasan bin Ali from Baghdad and Abbasid rulers to the region. The people of those areas in ancient Morocco chose him as their Amir-ol-Momenin (Lord of believers) and, expressing their loyalty to him, established the first Islamic government independent from the Kalifate in eastern Arabian lands. It was named Idrisid dynasty. The first Islamic city named Fes was built in 809 during the reign of Mola Idris II. Following that, Rabat was built between 1184-1199 and Meknes between 1672-1727, having an Islamic base of perspective and understanding.

The expansion of Islam into various lands in Asia, Africa, and Europe has fully and inevitably influenced the development of cities. The religious rituals, beliefs, and values, especially when they are related to discipline and order, emphasize on social gatherings. In this way, city is no more introduced as the outcome of architecture, but it is defined and recognized through the people living there. In Islamic culture, the very word of city reminds a society which should

be unified and integrated. As so, the streets and alleys will be regarded as passages and houses as rooms being used by the members of a family (Bemmate, 2014: 88). In fact, city is an axis consisted of values shaping a civilization. Islamic city is a combination of spatial display and social structure that, based on Islamic ideals, has inserted its communicational forms and decorative elements into that combination as well. But, beyond the concept of society is that of the "Islamic *Ummah*." Ummah is a community which observes a common set of rituals and life styles; it is a community standing towards a common *Kiblah* and being defined through the "direction of perspective." The outcome of this perspective is the construction of cities such as Mecca, Medina, Damascus, Kairouan, Samarkand, Isfahan, Rabat, and Fes which are built based on Islamic principles and criteria about cities, being shaped through focusing on a central spirituality (ibid, 2014: 11). It can be argued that the main element and the most principal creator of the city is "human being" whose habitat and place of activity is city. After human element stand the rules, rituals and traditions, and citizens' behavior, whose interaction gains meaning in material and spiritual domains. Finally, there is the urban body that, beside the mentioned factors, is under the influence of particular peripheral, economic, political, religious, and cultural conditions. What is researchable in Morocco nowadays is locating the city centers which due to security concerns at the time of the emergence of medinas, have been established on the margin of cities, outside of the urban borders, rendering the internal space of medinas a multi-nucleus texture.

# The Multi-Nucleus Structure of Moroccan Medinas\*

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## Abstract

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The investigation of medinas as the historical texture and the primary nucleus of Moroccan cities and their comparison with each other will reveal their multiple historical layers as well as the various rules and dimensions of their formation. This investigation of the historical medinas in the old parts of Fes, Rabat, Tangier, Tétouan as well as Meknes and Marrakesh shows that apparently, beside the different layers of activity, the internal spaces of the medinas do not affirm the existence of a central, independent urban unit in a large scale. Due to the particularity of these centers in the texture, the present locations do not have a memorial or identity-related significance for the other citizens. Therefore, the internal spaces of the medinas reflect a perspective of a range of insignificant centers and the title of the multi-nucleus city suits them. In the case of the external space of the medinas, the city center is outside the border, in the margins of urban area. This turns border, as a marginal element, to an element inside the urban texture. As such, city center serves as a space with identity related entity in Morocco.

## Keywords

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City center, Vascular structure, Islamic cities, Conceptual centers, Physical centers.