

Structural Elements and the Built Environment

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ABSTRACT: Built environment does not “simply appear overnight, like a movie-set springing up on a vacant lot, but has to be produced”. Thus, the first point in dealing with such an environment is considered to be the tracing of time in the evaluation of the city and keeping in mind that the whole is more than its parts. The last point becomes naturally understood when the process of city building is probed; because the notion of process in itself comprises the relatedness among the socio-cultural events that resulted in urban artefacts. This also means considering a large number of factors, especially socio-cultural ones, involved in this process. By doing this, we can relate the physical environment with the social, “relating the world of artefacts with the world of people” – who built and used them. Considering this argument, the paper examines structural elements influences on the development and use of urban space in Qatâr-chyân quarter, Sanandaj, Iran as a historical narrative. It is argued that the existence of Dara-bayân River, socio-political role of the Wakils’ family and Ulamâ (educated people with religious backgrounds), and the continuation of principal route, through the residential segregation, formed and drove the phases of quarter’s development and defined the main socio-spatial structural elements of the quarter. The paper then proceeds to examine those structural elements as they were before overall influences of modernism in Iranian context, especially before the first cross-roads of the city in 1930. The paper concludes that, in defining and conceptualising the structural elements of a particular built environment, it is difficult to rely on one factor. While the role of nature as form giver is an important factor, we can not undermine other soft factors, especially socio-cultural ones. This defines the nature of built form which comprises both the realms of the physical and the social and multi-dimensions background namely as socio-spatial factors.

Key words: Socio-spatial factors, Structural elements, Physical development, Power relations, Sanandaj, Qatar-chyan quarter

INTRODUCTION

Cities are an immense laboratory of trial and error, failure and success, in city building and city design. This is the laboratory in which city planning should have been learning and forming and testing its theories (Jane Jacobs, 1961 quoted in Buttimer 1980). Built environment does not “simply appear overnight, like a movie-set springing up on a vacant lot, but has to be produced” (Hall 1998). This is in line with the viewpoint of Kostof (1991); urbanism is a process in which “a city’s physical frame adjusted to changing exigencies”. The point was also emphasised by Rossi (1982). As he argues, studying the built environment does not imply only

“the visible image of the city and the sum of its different parts”, but it must be viewed as a totality which has been shaped over time by the action of man. This was recognised as the most comprehensive way of analysing the city because it implies the process of city construction as a human creation (Kostof, 1991). Thus, the first point in dealing with such an environment is considered to be the tracing of time in the evaluation of the city and keeping in mind that the whole is more than the sum of its parts. The last point becomes naturally understood when the process of city building is probed; because the notion of process in itself comprises the relatedness among the

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socio-cultural events that resulted in urban artefacts. This also means considering a large number of factors, especially socio-cultural ones, involved in this process. By doing this, we can relate the physical environment with the social, “relating the world of artefacts with the world of people” – who built and used them (Madanipour, 1996).

Considering this argument, the paper examines socio-spatial influences determining the creation and development of urban space in Qatâr-chyân quarter, Sanandaj, Iran, a regional capital (Ardalân reign) during the Safavid and Qâjâr dynasties, and now the capital of Kurdistan province, which contained a majority of the Kurdish people in Iran. (Ardalân was the name of a semi-independent state in north-western Iran which ruled an area encompassing present day Iranian province of Kurdistan from medieval period up to mid 19th century. Ardalân is also the name of the ruling family of that state. Their capital was in the city of Sanandaj or Senna). Using the collected information, the paper examines the creation and development of urban space in Qatâr-chyân quarter, and identifies a number of functions such spaces played in the quarter. In doing that, the paper first presents some analysis concerning the processes of quarter formation in the context of the city, through identifying the main socio-spatial factors, to recognise the development phases of the quarter, the structural elements, and shaping factors in conjunction with events in the quarter's history. The paper then turns to identified structural elements as they were before overall influences of modernism in Iranian context, especially before the first cross-roads of the city in 1930, to analyse them in details concerning different socio-spatial factors which gave birth to the quarter. These are the elements which substantially gave rise to the apparent character of the quarter built form distinguishable from the other quarters of the city.

MATERIALS & METHODS

Although the past is not accessible to direct inspection it has left ample traces of itself in the present, in the shape of documents, buildings, coins, institutions, procedures and so forth (Walsh 1958 quoted in Arnold 2001: 4). Based on the summary of points from the literature review and the nature of the research questions (how and what questions), it is clear that the research methodology

for the purpose of the research can be defined as mostly in the realm of explanatory inquiry. This means that the orientation of the research follows a descriptive approach to the primary findings and information concerning the process of the built form formation and its determinants, leading to an exploratory approach which goes beyond pure description to find out why the things are the way they are and what the ideas and beliefs are that affect certain events and things. This leads the research to approach the structural elements of the quarter selected for the case study. Considering this perspective, this study should follow at least two main principles: Data sources and methods of generating information are the analysis of documents (existing and historical records), interview, observation of the city's existing built forms, and its natural context, and analytical drawings (wider urban analysis of the built form). The information was collected during two periods of fieldwork in 2003 and 2004.

There are a number of reasons for choosing this quarter. First, specific historical knowledge about Qatâr-chyân is fairly extensive. Because of its role and position in the city and strong urban identity, Qatâr-chyân has long held a certain fascination for explorers, local historians and students. Our knowledge of the physical environment is the richer for it: maps, sketches, photographs and various accounts. Second, among the city quarters, the structure of *Qatâr-chyân* quarter was changed less than the others. More importantly, it is a well known quarter among the city's inhabitants which can help us to understand the past life of the city. In addition, in comparison to the physical structure of quarters in other Iranian cities, it is also a well defined quarter with a particular character distinguishable from other quarters. To some extent, its separation from the main part of the city by the *Dara-bayân* made it as a self-reliant quarter with two active *Bazaarché* (small bazaars which contain the urban elements of *Hammâm* or bathhouse, mosque, *Qahvé-khané* or teahouse and retail shops). The word *Qatâr-chyân*, is used at present together with the word *Janat* (heaven), to refer to the area of the old town lying to the south, on the south of the *Dara-bayân* River, facing the quarter of the ruling class. It was separated by the river from the other parts of the old town, especially the main part which contain the foci of the City (Fig. 1).

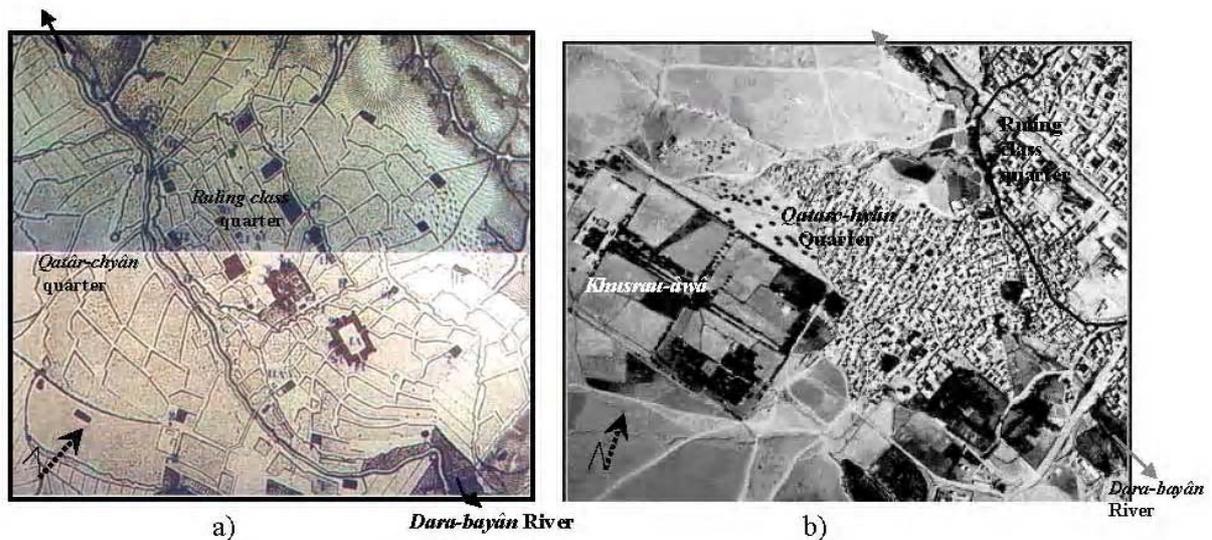


Fig. 1. *Qatâr-chyân's* location adjacent to the garden complex of *Khusrau-âwa* and opposite the quarter of the ruling class separated by the *Daru-bayân* River from the main city, Sources: a) Mehriar, Shamil et al. 1998; b) National Cartographic Centre of Iran (NCC) 1957

The division of the city in two separated entities is evident from looking at the old maps including the Russian map (1850), and the aerial photograph from 1957 shown as the above Fig.1. The separation is especially evident in the maps before the radical socio-economical changes happened after 1930 which led to expansion of the city beyond its ecological capacity. Although the river acted as a separation element, it can be recognised as a longitudinal axis which invited man to come together and live close to it. The river also gave the quarter an important potential to acquire a character distinguishable from other quarters, and it is that distinctive character that the following words is also aims to clarify by exploring the phases of development and structural elements.

RESULTS & DISCUSSION

Before moving on to the structural elements of the quarter, it is useful to present some discussion of its physical development and the process of its formation over the course of time. This will help to recognize the structural elements and shaping factors in conjunction with events in the quarter's history. Based on the survey by the Kurdistan Cultural Heritage Organization (quoted in Alizadeh 2005), the date of *Qula* mosque's construction may be traced back to the period of *Safavids* Empire (1502-1736). As the date of city foundation was specified as 1639 (Alizadeh, 2005), the above point shows that the *Qula* mosque is one of the oldest buildings in the city.

This fact also indicates that the settlements around the mosque, on the slopes of the *Daru-bayân* River, are in fact the older parts of the quarter with the possibility of a close link with other settlements on the opposite side of the river, beyond the city wall (Fig. 2). Based on historical background of the city (Alizadeh 2005), especially based on the view of Mardukh (2000), before the city foundation there were a number of settlements on the slopes of the *Qalâ's* hill (citadel) which were called *Sennah* and belong to the *Zareen-koush* (golden shoes) family. Our hypothesis is that these settlements were not just on one side of the river (the northern side). But, similar to the settlements in rural areas, they would be on both sides. From this point, we can claim that the *Qula* mosque is the oldest mosque of the city; and, presumably, was used as the main mosque of those settlements before the city foundation. From this point it follows that the mosque's location can be recognized as the first gathering place of the quarter, or the integrating point for the settlements.

Due to the character and structure, the mosque is largely similar to those in the rural areas, by its simple appearance and with no symbol indicating as mosque for being recognizable from the surrounding settlements (Fig. 3). In line with discussion concerning the historical background of the city, this to some extent supports the view that the site of city was occupied by rural settlements prior to the city's foundation.

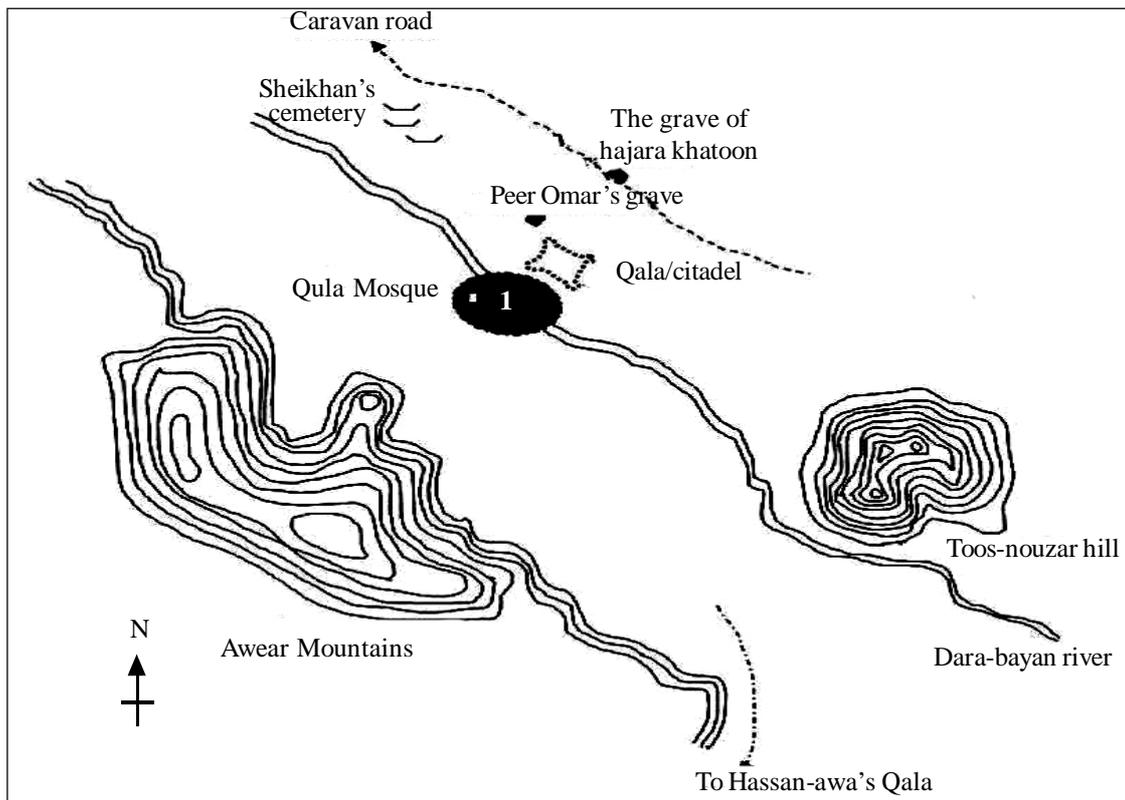


Fig. 2. First phase of quarter formation

This part (southern part of the river) was called *Mahalla-ye Daré* (Rangavary 1999). This alongside the northern part formed the first settlements present on the site of the city prior to its foundation in 1639



Fig. 3. View from one of the alley towards the Qula mosque

The image of the mosque is in the central part of the photograph (left) and its entrance door (right) is adjacent to the *Dârughé Kuché* linked to the *Dara-bayân* River

The second phase of quarter development is linked with the movement of the *Wakils'* family from the *Khâns'* quarter (ruling class) to the flat part of the quarter above the slope of river in the south. In the historic records, there are no precise indications about the time of this movement. For example, in the records of Mardukh, (2000), this

family was in a deputy position to the *Ardalâns'* government until 1749. A conflict occurred when a war took place between the *Wâli Ardalân* and his opponents, *Bâbâns'* family, in 1750. As in this war the *Ardalâns* were defeated due to the failures of *Abrâhim Bag-e Wakil* (the head of *Wakils'* family), this family was deprived of its position as

deputy to the *Ardalâns*. More important, this pushed him to leave the city and join *Karim Khân-e zand*. The limited evidence points to this occasion as the time of the *Wakil's* movement from the nobles' quarter. However, the following passage from Babani (1998) suggests we can say that the time of the movement was even earlier than the above date because it clearly states that the mansion of the *Wakil* family existed before the starting date of clashes between the two families. The *Wakils'* movement to the southern part of the quarter made up the second phase of the quarter's development (Fig. 4). To some extent, the place where they lived defined the southern boundary of the quarter and acted as a point of gravity to attract more people to settle there. In addition, their location attracted some other important families, most notably the *Bâbâns* family, who were opposed to the *Ardalâns*. Based on historical background of the city, the *Bâbâns'* family ruled other part of Kurdistan in the Iraqi

region under the control of Ottoman Empire. A few of this family migrated to the city of *Sanandaj* due to political disputes among themselves and the Ottoman's Sultan. Furthermore, their mansion was a main point of reference for the structure of a second centre of the quarter called *Wakil's Bazaarché*. This means that the first centre of quarter in the old part adjacent to the *Qula* mosque gradually moved over time to the new location close to the mansion of the *Wakils*. More importantly, this makes clear that the place of gravity or the concept of centre (merging points) was mainly bound to the presence of key figures, the mansions of the *Wakil* family. This is in line with view of Tjahjono (1989) who says that: "The idea of centre was historically manifested in the ruler who represented the state which in turn symbolized the cosmos. The cosmic power was oriented to, stored in, and radiated from the ruler. The ruler became an ideal to be followed, and his dwelling set a standard to be pursued".

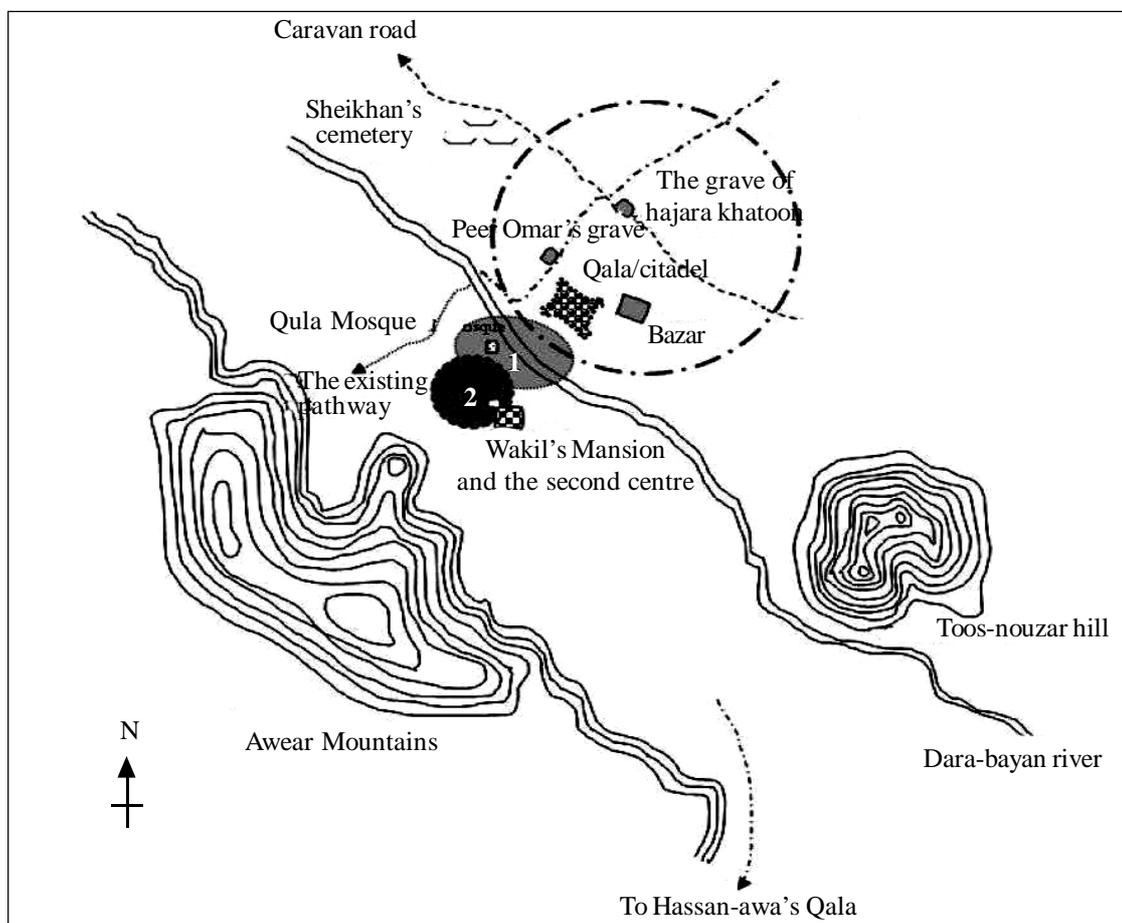


Fig. 4. The second phase of quarter development in connection with the link to the *Wakil's* family

For example the house of the Prophet in Medina which became “the centre of the first Muslim community and the functional prototype of all later mosques” (Bianca, 2000). The third phase of quarter development can be linked to the main profession of the residents, especially to the settling of the *Galadâries*’ family (cattlemen) from nomadic life in mountains to the city. As the main profession of this family was cattle herding, they settled in the part of the quarter furthest to the west. Over time they gradually became engaged with the transport business linked with the bazaar and daily and seasonal matters of the city. Thus, in order to meet the transport needs of the bazaar, they added the profession of muleteers to that of herdsmen. Engaging in that business means that the *Galadâries*’ family needed to employ people

to run and carry on the transport business. This process led to settlement of those people that were employed and consequently to the development of the quarter towards the west.

The process above, together with the creation of *Bâq and Emarat-e Khusrau-âwâ* (the mansion and garden complex of *Khusrau-âwâ*) in the period of *Amanullâh-khân* the great (1800-1825) further pushed the quarter’s development toward the west. More importantly, the creation of that garden was the second point of gravity for the continuation of the principal route towards the *Âwear Mountains*. It was achieved by building a bridge over the *Dara-bayyân* River. The course of route towards the garden led some important families, mostly *Ulamâ* (educated people with religious backgrounds), to settle along the route.

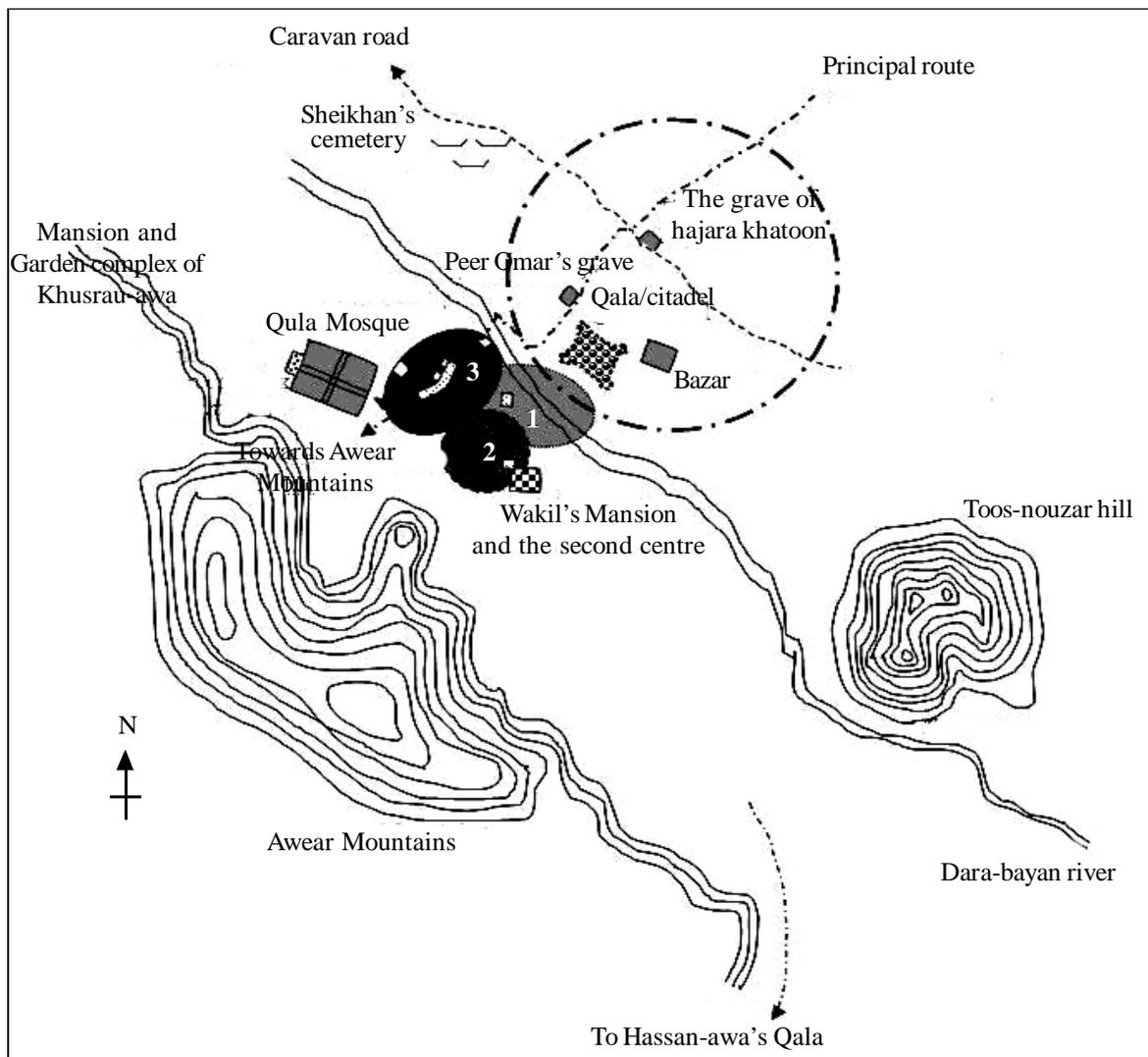


Fig. 5. The third phase of quarter development was motivated by different socio-political factors

These developments provided the basis for the formation of the third centre of the quarter, called *Qatâr-chyân Bazaarché* (Fig. 5), along the route. The summary of the review above is that the formation and development of the quarter took place in three stages and by different structural elements. The first stage is traced back to the first period of the city foundation and possibly before it. In this time the focal point of the settlements was closely linked with the *Qula* mosque. In this stage, the main structural element of the quarter is the valley created by the *Dara-bayân* River. It served as a visible edge to define a clear image of the quarter's territory, especially its north side facing the quarter of the ruling classes. The river's presence influenced the morphology of the settlements in the form of

terraced houses (Fig. 6). This slope is an important natural structure which was transferred into the settlements in order to give them a broad view of the scenery. Hence, the houses on the slope were, in fact, faced towards the north opposed to the main orientation of the city, facing the quarter of the ruling classes, with two stores above a courtyard (*Housh*) and maintaining an open view (*Bar-haiwân/verandas*) towards nature and man-made structures (Fig. 7). This means that it created an outward looking layout for the houses. This gesture can be recognised as a significant feature of the settlement's appearance in the city of *Sanandaj*. This notion is in accordance with the view of Bonine (1979) that the morphology of Iranian cities is mostly related to the local topographical feature.

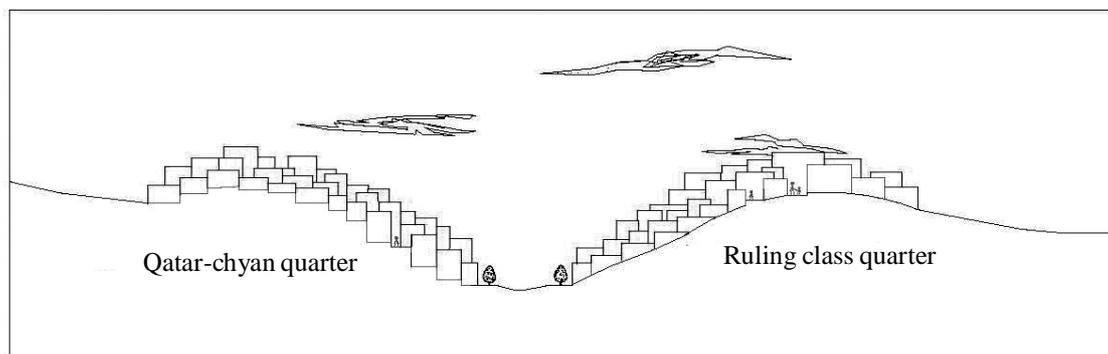


Fig. 6. The slope of *Dara-bayân* (the valley of *Bayân*) as the first structural element of the quarter, (Yusefzamani, *et al.*, 2003), (This natural feature contextualised the form of terraced houses)

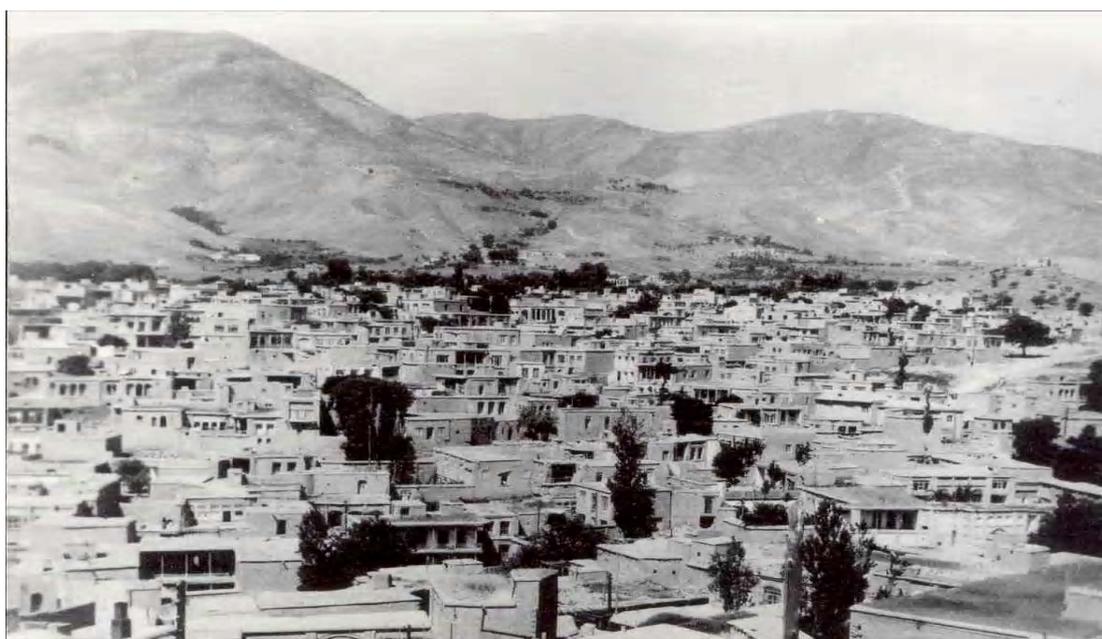


Fig. 7. Northward direction of the houses and the dominant feature of the *Bar-haiwân*, source: Ayazi taken in 1946, from the photograph collection of Mr. Gâzarâni

To some extent, the above notion is what distinguishes the settlements of the region from the common structure of houses in other Islamic cities, where one mostly finds an introverted layout, shut off from its surroundings by high and solid walls (Warren and Fethi, 1982 and Madanipour, 1998). As explained, this outward looking feature of the settlements is due to the structure of the place bound to the variation in the surface relief which created direction and defined spaces in the form of an articulate order.

The second stage was related to the movement of *Wakils'* family to the south part of the quarter. At first glance the structure of the quarter, especially at the aerial photo of 1957 (NCC), the

group of mansions resembles another place of power. These mansions were to some degree set back from the commoners through a special boundary with two sides free of buildings, maintaining an extensive view towards the garden to the front and to the green spaces on the slopes of *Âwear* Mountains to the south. From the above perspective, the presence of the *Wakil* family in the quarter together with the adjacent large houses can be compared with the place of power and the ruling house of the city as a whole (Fig. 8). This was a real city set alongside the main city and separated by the river. The features mentioned, totally support the view that in traditional cities such as *Sanandaj* the role of power relations had a major influence on the structure of place.

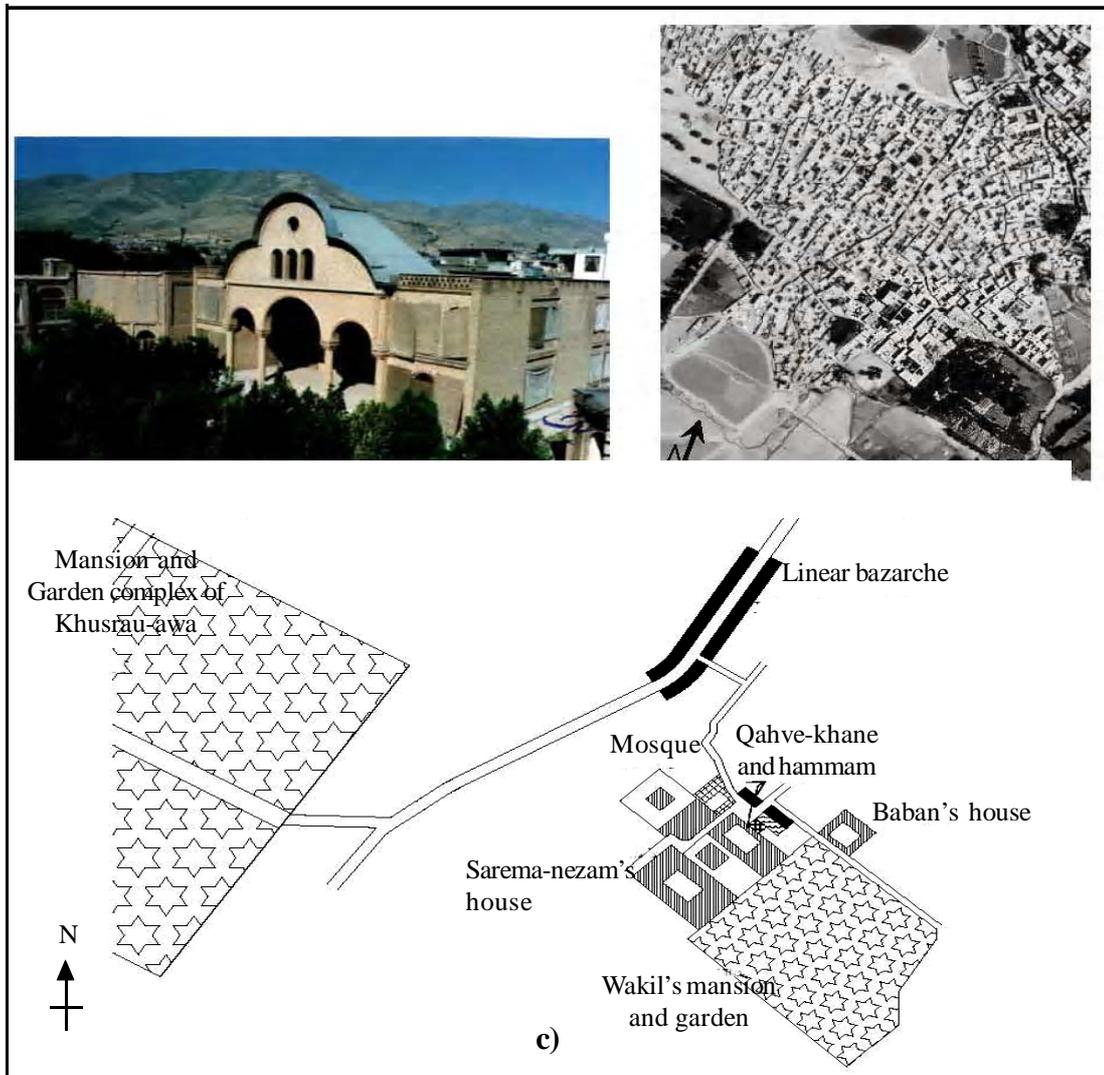


Fig. 8. The mansions of the *Wakil* family as the second structural element of the quarter
 Sources: a) from National Cartographic Centre of Iran (NCC) 1957, b) from www.sanandaj.com

In the third stage, the main structural element can be defined as principal route (Fig. 10) was directed from the place of power in the ruling quarter to the summer mansion of the ruler (*Bâq and Emarat-e Khusrau-âwâ*) in the slope of *Âwear* Mountains. It is a linear street which crossed the whole city from northeast to south, along which the centre of the quarter evolved from the junction points of streets and a meeting place. In this stage, several socio-political factors were engaged in structural the quarter's development towards the south and more important in creating the major linear *Bazaarché*. For example, these are the existing course of the route to the *Âwear* Mountains, the economic role of *Galadâries'* family in the employment of people in the transport business, the political decision of the ruler in creating a prominent symbol of power across the city and along the pathway, and finally the settling of important religious families along that route. From the perspective of space language (Lawson 2001), this symbol which communicated the role of its occupants could also communicate the dominant power of its creator throughout the region of Kurdistan. As the course of route had also been the main route toward *Âwear* Mountains in the earlier life of the city even before the construction of *Bâq and Emarat-e Khusrau-âwâ*, we can claim that it was recognised by *Ardalâns'* family as a potential pathway to build their summer house and in order to define a new point of reference in the structure of the city, and to emphasise their powers. This is in line with the

view of Norberg-Schulz (1980: 17) that “where nature indicates a direction, he (man) makes a path”.

Note that, in first and second phases of quarter development, as the point of reference and convergence was bound to one element, the morphology of the centres was formed in a focused structure (single point in space/concentrated centre). But in third phase, the morphology of quarter's centre changed to a linear form (*Qatâr-chyân Bazaarché*) because of the gravity of different poles of movement. Hence, the formation of the linear *Bazaarché* can be compared with the concept of point and line in the work of Ardalan and Bakhtiar (1973). As they argue “the centre as a single point in space [the first place of power structure on the hill which was created in 1639] moves in time [the second place of power – mansion and garden complex of *Khusrau-âwâ* – which was created in the period of *Amanullah-khan the great* (1800-1825) and creates the line [the linear form of *Qatâr-chyân Bazaarché*]” (Fig. 9). In this comparison, the point of difference is in the poles of gravity. As they argued, in Iranian cities, those poles were bound to the palace precincts and the city's symbolic heart (Friday mosque/*Masjid-e Jumaa*) which led to one of the city gates. The course of this movement contained “the vital organs of the city” to such an extent that it represents the most “religious, political, financial, and social integration of the traditional city” (Ardalan and Bahktiar 1973). On the contrary, in the city of *Sanandaj*,

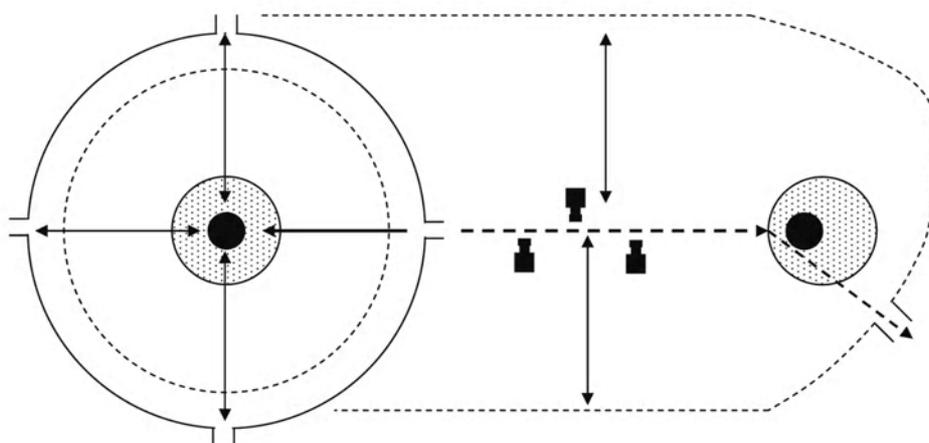


Fig. 9. The concepts of point and centre in the city of *Sanandaj*, source: adapted from Ardalan and Bakhtiar 1979

although the first pole of that movement was in relation to the power structure focused on the *Wâli* (governor) in this case the other pole was not bound to the gravity of the *Jumaa* Mosque. It was also in control of power relationships. *Wâli* is an Arabic word, meaning master (or boss or owner), which in Persian, Turkish and Kurdish used for governor. For this reason, the vital backbone of the city did not include the structure of the main bazaar and it was just formed alongside the poles of power linked with the political dimension of the city.

political dimension of the city over other socio-economic factors, the backbone of the city was directed alongside the poles of power (*Qalâ Emarat/citadel* and the garden complex of *Khusrau-âwâ*) which together with the factors already mentioned led to the formation of the *Qatâr-chyân* linear *Bazaarché* (small bazaar) instead of the main bazaar in the whole structure of the city. Therefore, it is a logical point to make that the role of power relationships had a major influence on the structure of urban spaces.

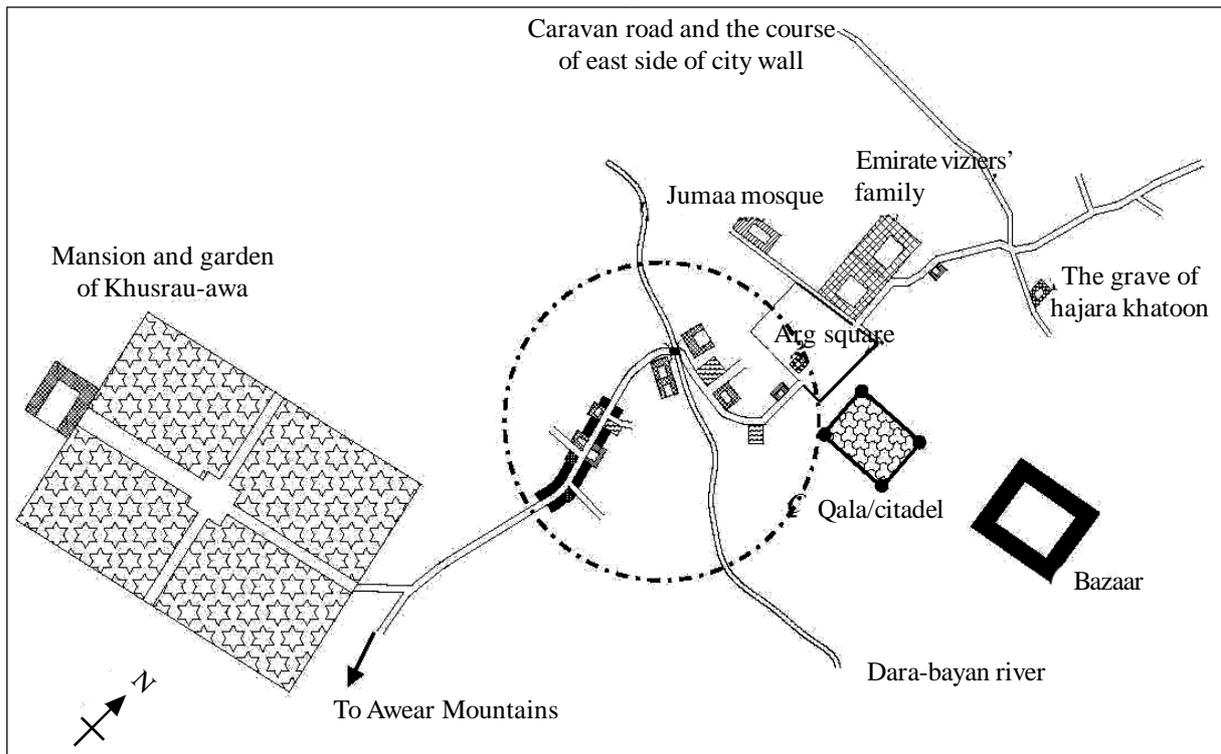


Fig. 10. The course of the principal route across the City

It led from northeast to south, to the *Bâq and Emarat-e Khusrau-âwâ*, along which the prominent features of the city evolved except the element of main bazaar.

CONCLUSION

Through tracing of time in the evaluation of the *Qatâr-chyân* quarter and keeping in mind that the whole is more than its parts, this paper has traced the structural elements of the quarter through analysing the features of its terrain, alongside the socio-political factors which gave birth to the quarter and led its evolved built form to acquire a character distinguishable from the other quarters of the city. This analysis identified the main structural elements of the quarter as being bound to three key features; the course of principal route itself influenced by a number of socio-political

factors, the *Wakils'* family, and the existence of *Dara-bayân* River in defining a clear boundary between the quarter and the other part of the city. By doing this, we related the physical environment with the social and time, "relating the world of artifacts with the world of people" – who built and used them (Madanipour 1996) and taking into account the process of building. This is in line with the view of Hall, who says, built environment does not "simply appear overnight, like a movie-set springing up on a vacant lot, but has to be produced". (Hall 1998).

It also highlighted the view that the quarter's evolution was mainly influenced by the two concepts of point and line. The existing pass way to *Âwear* Mountains was intensified in time by the movement of the centre as a single point in space - The *Qalâ* - to the slope of these mountains which created another sign of ruler's presence - the Mansion and garden complex of *Khusrau-âwâ* - and attracted other activities. This line, as the continued part of the principal route, also formed the *Qatâr-chyân* linear *Bazaarché*. This means that the creation of the line was mainly bound up with the power relation focused on the *Wâli*.

In the respect to the structural elements of the quarter and to link the results with the future development of the city (reconciling the tradition with modernity), some principles were identified in relation to the concept of centre rooted in the notion of line and point. Where a number of socio-spatial and socio-political factors were involved, the concept of centre emerged in a linear form and where it was bound up with only one factor, the centre took a concentrated form. These principles can be recognised as indigenous rules embedded in the structure of the traditional core which can help designers to structure the centre of new urban areas. For example, if the designers intend to create a linear centre, it will be a logical notion to think about a number of socio-spatial factors alongside the course as poles of attraction to direct the linear centre. The starting and ending points of the linear centre need to be structured based on the concept of a concentrated centre with two main poles of power in opposition to each other and the course of the line between can be influenced by other minor socio-spatial factors. Apart from the principal route identified in the paper, one of the examples of such point is the linear form of the bazaar in the city of Esfahân. It was motivated by two main poles of powers in opposition to each other; Friday mosque and royal palaces (Maydân-e Imam). In transforming an existing concentrated centre to a linear one, another concentrated centre must be organized in opposition to it. This means creating another pole of attraction bounds up with a strong socio-spatial factor, which can motivate the course of the line. The paper concludes that, in defining and conceptualising the structural elements of a

particular built environment, it is difficult to rely on one factor. While the role of nature "as form giver" (Norberg-Schulz, 1980) is an important factor, we can not undermine other soft factors, especially socio-cultural ones. As Madanipour (1996) says, this defines the nature of built form which comprises both the realms of the physical and the social and multi-dimensional backgrounds namely as socio-spatial factors.

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