

Metamorphosis and Evolution of Cities

The status of planning and urban design

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0. Abstract

Urban planning and design is usually practised in a fluid context of physical changes just partially caused by the very practice. To better understand the role and possibilities of planning and design, this study endeavours to elucidate the mechanism and the nature of these changes. It presents a comparative study concerning the changes in cultural characteristics of spatial structures of Iranian cities and the social basis of these changes. The function of urban planning and design in the process of changes is discussed.

1. Introduction

Physical construct of cities, which itself is an aspect of urban culture, is associated with a full range of cultural behaviour and phenomena in urban societies. Thus the study comprehends the issue of culture in general. Our discussion takes two interrelated views. First, we consider that cultures are not static, ahistorical and essentialist entities with fixed boundaries and no space for growth and changes. We see them as evolving products of evolving societies. Second, we do not focus on the apparent feature of the built form of cities or cultural behaviour in the urban society. Instead the paper deals with the underlying spatial structure of physical forms and the basic systems of social relationships materialised in cultural behaviour.

Our first question is: How are spatial properties which define cities as cultural types associated with the social systems of the relevant urban societies? In section 2, we examine cultural characteristics of urban system (grid structure) of Iranian traditional cities, extracted from a previous study. The city of Naein, with its long history starting from pre-Islamic era, has accommodated two urban cultures with different apparent features, i.e. Islam and Zoroastrianism, but with almost the same basis of social system. The city epitomizes the logical relation between social and spatial structures.

Other questions can be raised. How can changes (metamorphosis and evolution) of cities be interpreted in terms of changes in urban societies? How are planning and design involved in these changes? The two concepts of metamorphosis and evolution have been applied to the process of emergence of a new type of city and the gradual development through which the basic characteristics of the original type are preserved. Section 3 deals with these questions through the analysis of changes in Iranian cities after the shift of the century. In section 4 the

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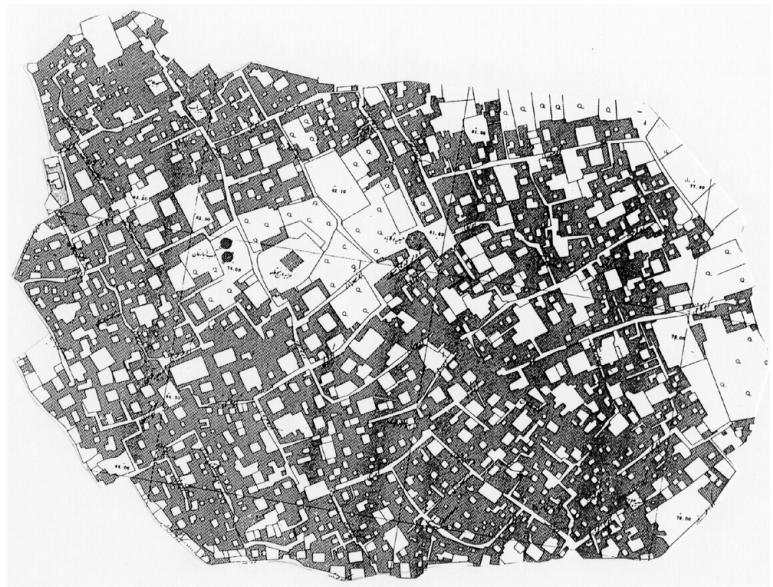
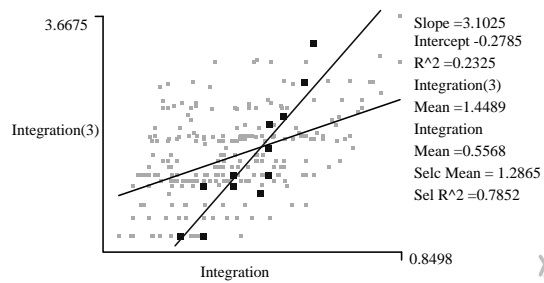


Figure 1. The old city of Naein in Iran, map drawn after aerial photograph, covered streets are not shown. Source: National Cartographic Centre, Iran.

Figure 2. Old Naein, the global integration (Rn) map.

Figure 3. Old Naein, local integration (R3) map.

Figure 4. (above) The scattergram shows local/global correlation for the group of lines covering the southern segment of the bazaar and its surrounding, the quarter (mahallah) of Cheheldokhtaran.



function of planning and design, specifically in preserving/creating or in devastating of places, in the general process of changes is examined. This is done through a comparison of bazaars in two Iranian cities, one still flourishing and one declined.

2. Comparing cultures spatially

In a research about organic cities, carried out at UCL, Space Syntax was adopted to analyse the layouts of Iranian and English traditional cities before any 'modern' transformation (Karimi 1997). The main purpose of the research was to explore the concealed order in spatial system common to all of these cities. It provides a reliable basis for the comparison between the two groups of cities from different urban cultures.

The result of the analysis of grid structure of cities in this study shows for Iranian cities a lower value of global integration ($R_n = 0.482$ v. 0.965). It is accompanied with a combination of intense concentration of lines, with high global integration and dispersion of lines with high local integration which presents a much lower value of local to global correlation ($R_3 = 0.160$ v. 0.427). From the syntactic analysis the spatial structure of the Iranian traditional city can be characterised by two interdependent properties: the great depth of the global structure and the distinction and segregation of the local area. These properties will be examined in more detail in the city of Naein to understand better their social basis.

Naein is located in the hot arid zone of central Iran. Its history extends to the pre-Islamic era. Its formal architecture, the shape of its houses and street network, and elements like the covered bazaar, mosques and shrines, has made Naein known as a typical 'Islamic city' in Iran, fig 1. Regardless of these surface properties the city is included in the cultural genotype represented by the group of Iranian cities in the above-mentioned study because of the syntactic properties of its spatial structure (the mean syntactic values and the pattern of distribution of these values in its grid structure). The analysis of the axial map of Naein shows that the mean global integration value is 0.557 , which is close to the mean value of the Iranian group (0.482).

The pattern of distribution of global integration in old Naein is also similar to the group of Iranian cities in the previous study. It displays a clear global structure, which is closely in agreement with the location of main urban functions and the movement system in the city, fig 2. The most integrated lines are connected to and constitute the main bazaar, which extends from one of the city gates to the 'heart' of the city. It crosses other, slightly winding, thoroughfares and absorbs the major part of the journeys to and within the city. To reveal the local area structures and their relation to each other and to the whole city we can look at the integration R_3 , fig 3. Lines with high value of this local integration are almost dispersed over the entire city. The pattern of gradual reduction of integration from the centre to the periphery, which was the main property of the global integration map, is broken here. This is clearly observable in the sequence of the lines that constitute the bazaar. A main segment of the bazaar near the southern gate gains remarkably higher value of integration R_3 than the line next to it and closer to the centre. The change in the rank order of this line, per se, can be the indicator of a local organisation of streets. If we chose this line and the group of lines in its surrounding area the distinction of the structure of the area can be examined through the variation of part-whole correspondence i.e. variation of correlation coefficient between local and global integration. The local /global scattergram, fig 4, shows a considerable higher correlation for the chosen group of lines in the context of the whole city. This group of lines, in fact, constitute one of the city quarters (mahallas).



Figure 5. A quarter square (husseiniyyih) in old Naein. Source Husayn Sultanzadeh, Nain, City of Historical Millennia.

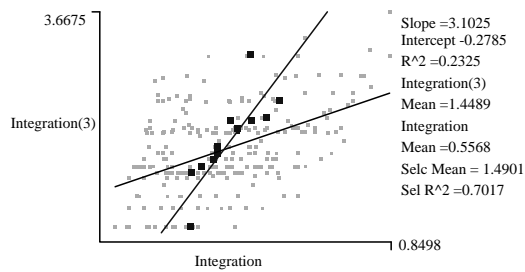


Figure 6. The local integration (R3) map of Naein is superimposed over the map of the city. The lines that pass through quarter squares (husseiniyyih) are among most, locally, integrated lines. The underlying map is adapted from Mahmoud Tavassoli, City Planning in the Hot Dry Climate of Iran in Design for Arid Regions.

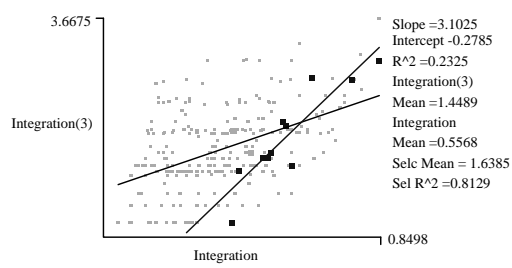
The old city of Naein is rightly characterised by its quarters (mahallas). The city consisted of 7 distinct mahallas inhabited by separate communities with powerful social cohesion. The physical construct of these mahallas has, to a large extent, remained intact. The most significant public place in each mahalla is a complex consisting of a rectangular square and a building with religious function. Arched and open-fronted terraces surround the square with a modular construction in one or two floors, fig 5. The square and the whole complex are called *husseiniyyih* in the memory of Imam Hussein, the Third Shiite Imam who was martyred (680 AD). The local residents for attending ceremonies to commemorate the martyred imam mainly use the square for congregation. The procession of mourners starts from this place and ends to it. Passion plays, which depict the story of martyrdom, are enacted in this place.

The way these squares are connected to the street network emphasises their belonging to a local area. If we superimpose integration R3 map over a map of the city which shows all these squares we find that lines which pass through these places are among the most, locally, integrated lines, fig 6. Separate scattergrams for groups of lines located two or more steps from these lines display a high degree of intelligibility, like the case we saw in the quarter encompassing a segment of the bazaar. The clear linear scatters of points representing the groups of lines in each quarter and the steeper angle of the regression lines indicate very distinct local structures in the context of the whole city, fig 7. There is an exception for the quarter located in the southwest part of the city, the quarter of Kalvan. Here it is worth to mention that ancient core of the city was located in this area (Sultanzadeh 1987). The quarter of Kalvan is the only one in the city, which has a local bazaar. For our further discussion it is important to notice that the location of the main bazaar implies that the city of Naein was not the result of the organic development from its original core.

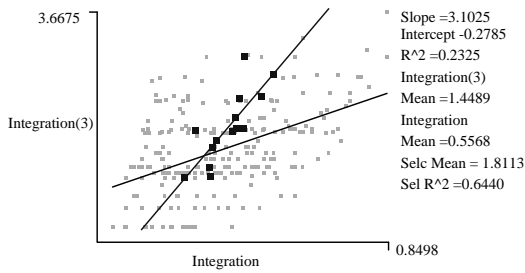
All quarters (mahallahs) in the old city had defined boundaries according to the affiliation of the residents to different local communities (tayifis). The real location of these boundaries has been scrutinised on the basis of historical investigations and information gained from the indigenous people (ibid.). Each quarter occupies an amorphous patch of the surface of the city, fig 8. Axial analysis of the groups of lines within these 'patches' separately, in spite of the geometric formlessness, displays a clear structure in all quarters including the quarter of Kalvan. Unexceptionally, lines which cross through the local squares (husseiniyyih) constitute the integration core of each quarter though, geometrically, all of the local squares are not located in the centre of each quarter, fig 9. It is worth to notice that the result of the axial analysis confirms the findings of the study about the boundaries of the quarters and shows



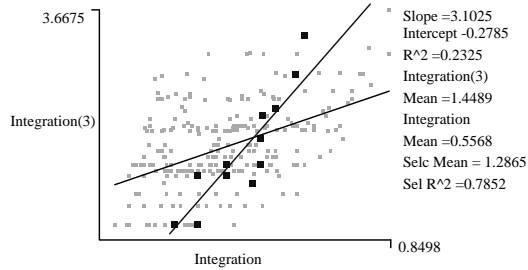
a. The quarter of Bab, the lines located 2 steps away from the line that passes through the quarter square are selected.



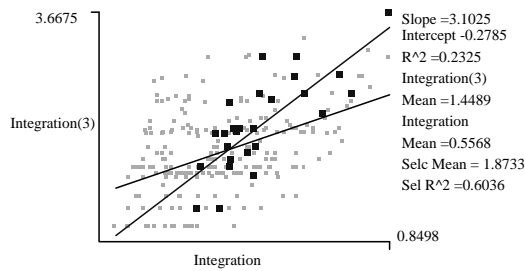
b. The quarter of Nogabad, the lines located 2 steps away from the line that passes through the quarter square are selected.



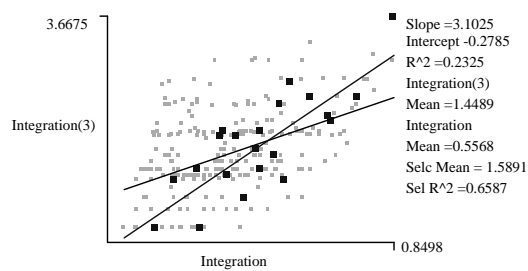
c. The quarter of Panjahe, the lines located 2 steps away from the line that passes through the quarter square are selected.



d. The quarter of Cheheldokhtaran, the whole group of lines within the quarter are selected.



e. The quarter of Sang, the whole group of lines within the quarter are selected.



f. The quarter of Sarayino, the whole group of lines within the quarter are selected.

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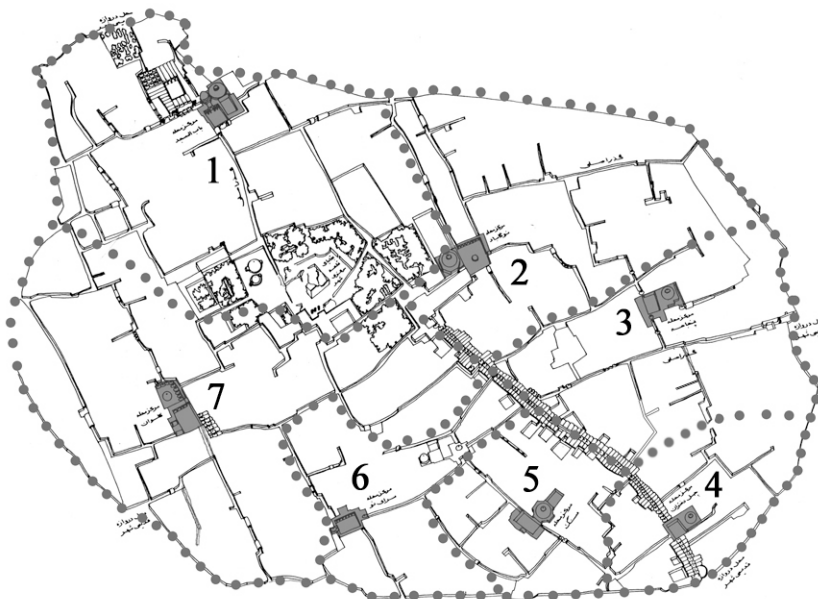


Figure 7. Local/global scattergrams for lines within 6 of 7 quarters of old Naein (the boundaries and location of all quarters are shown in fig. 8)

Figure 8 (left). Naein, 7 quarters (mahallahs) with boundaries and quarter squares (husseiniyyihs) shown.

Names of mahallas:
1. Bab 2. Nogabad
3. Panjahe
4. Cheheldokhtaran
5. Sang 6. Sarayeno
and 7. Kalvan

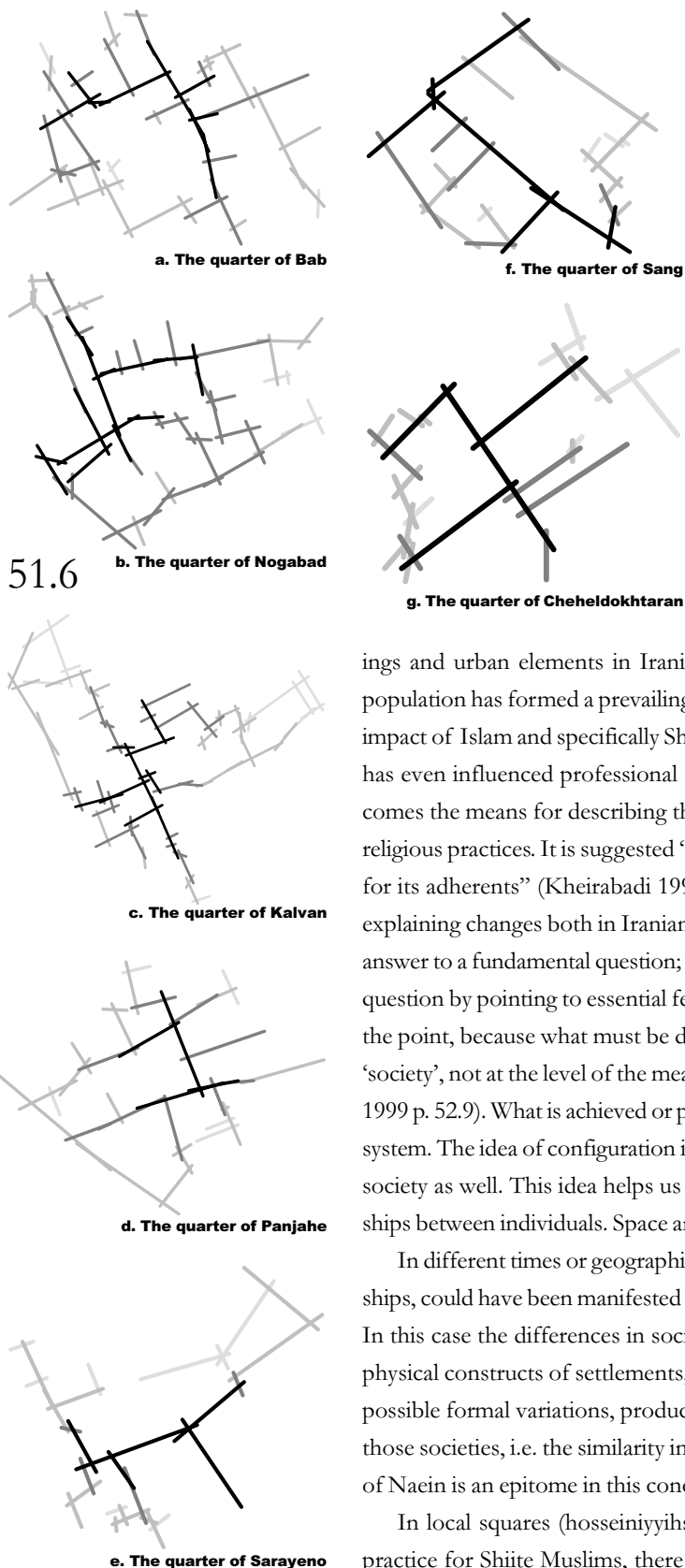


Figure 9. Global integration (Rn) map of 7 quarters of Naein.

how Space Syntax can be applied in archaeological studies. One interesting point concerning the boundaries of the quarters is that each quarter is directly (without the mediation of any other quarter) related to the city spine (the main bazaar). This emphasises their dependence on the global structure of the city, and their segregation from each other, fig 8.

Analytic approach in the case of Naein has provided a clear picture of a property of the urban structure in Iranian traditional cities which characterise them as a cultural genotype, i.e. having distinct and segregated local area structures. Changes in Iranian cities have fundamentally dealt with their typological characteristics. Only when the objective bases that forms these characteristics become manifest can we understand and explain the mechanism of these changes.

The prominence and multiplicity of religious buildings and urban elements in Iranian traditional cities and the religious behaviour of the population has formed a prevailing view which gives an exaggerated picture concerning the impact of Islam and specifically Shiism on the Iranian city and the Iranian society. This view has even influenced professional studies. The urban element with religious functions becomes the means for describing the city and the society is defined in terms of religion and religious practices. It is suggested “Islam in Iran is not only a spiritual faith, but a way of life for its adherents” (Kheirabadi 1991, p. 83). This view causes confusion in discerning and explaining changes both in Iranian cities and in the Iranian society since it ignores the right answer to a fundamental question; ‘what society really is’. Hillier argues: “to try to answer the question by pointing to essential features such as particular rituals or social practices misses the point, because what must be described must in some sense be at the level of the whole ‘society’, not at the level of the means by which ‘society’ is achieved or perpetuated” (Hillier 1999 p. 52.9). What is achieved or perpetuated is, in fact, an abstract (and objective) relational system. The idea of configuration in Space Syntax does not only concern space. It deals with society as well. This idea helps us to understand societies as evolving patterns of relationships between individuals. Space and society define each other at this level.

In different times or geographic regions, similar societies, i.e. similar systems of relationships, could have been manifested and sustained through different forms of social practices. In this case the differences in social practices may conceal the essential similarity. But the physical constructs of settlements, which accommodate these practices, regardless of their possible formal variations, produce a spatial structure, which reveals the basic similarity in those societies, i.e. the similarity in the fundamental system of social relationships. The city of Naein is an epitome in this concern.

In local squares (hosseiniyyis) of Naein, the place for the most significant religious practice for Shiite Muslims, there are special platforms, which are called ‘alogah’, literally meaning ‘the place of fire’. This phenomenon is also observed in other Iranian cities, fig 10. These platforms are lasting reminder of Zoroastrian rituals. Considering the history of Naein, the location of ‘alogah’, which obviously functioned as a centre for congregations,

indicates that the structure of mahallahs and, consequently, the organisation of local communities existed even before the arrival of Islam. The history of Iranian society also confirms this fact.

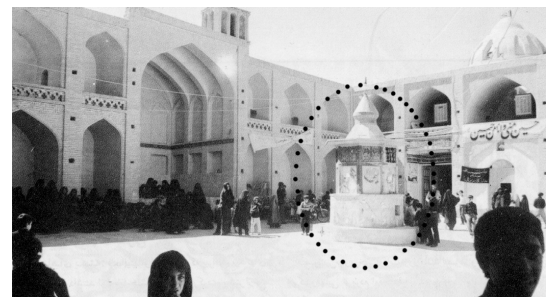
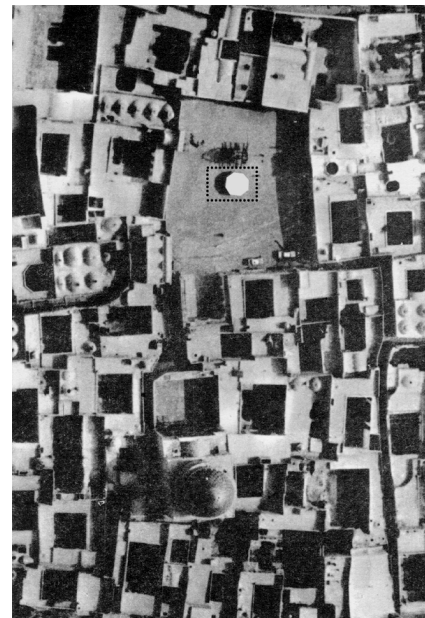
Within almost all historical periods in Iran until the Constitutional Revolution (1906-1911) the socio-political structure was characterised as a system based on tribal and lineage affiliation. In this system the revenue of land and territory was exchanged for military and administrative service under the leading of a strongly centralised power. Islam in Iran, like in the region of its origin, never overcame this system of “tribal and clan association but remained the religion of a conquering arm structured in terms of tribes and clans” (Weber 1958, p.100).

Iranian traditional cities, in contrast to the city of the Medieval Occident, and in the absence of *civil* institutions, were strongly dependent on the state that principally resorted to tribal based military power as the most effective mechanism of political integration (Vali 1993). The state was in fact a gift of the tribe to the city (Gellner 1994, p. 84). The Western medieval city from the beginning of its existence was a “commune formed by confederations of individual burghers (house owners) (Weber 1958, p.98). By contrast the Iranian traditional city was never a city of *civil society*. It never possessed municipal government, which was common in pre-industrial European cities. City governors in Iranian cities were always king appointees. In the Iranian city individuals were not integrated into the urban society as independent members with equal rights and duties. The identity of individuals and their relation to each other and to the whole society were defined and regulated in terms of their cohesion to the local community, clan association, kinship system and the organisation of extended family. Religion played an auxiliary role in maintaining this system of relations and in forming spatial structures of settlements. System of extended family based on filial piety, for example, was supported by religious belief but was not less decisive than the very religion concerning its socio-political function. This system was directly reflected in and sustained by the spatial structure of Iranian settlements.

The discussion about the differences between Iranian traditional society and *civil society* in West explains the foundation of the structural characteristics of the Iranian traditional city as a cultural genotype. This discussion provides also the basis for an argument about the process of changes in Iranian cities.

3. Metamorphosis and evolution of cities

Analysis of the existing layout of the six Iranian cities, whose traditional forms were analysed in the previous study by Karimi, will show that they have not maintained their original syntactic properties. This implies that their present state is not the result of an evolutionary process of their traditional forms. New urban patterns in Iranian cities were introduced in the twenties by driving some long and straight streets through the old part of the city and by development of a rather regular grid outside the old city. This process had a dramatic effect upon the historical core of the city. Structural order of the traditional city was disrupted. Configurational displacement of urban elements and local areas caused malfunction and decline especially in the, syntactically, deepest region of the residential areas in the old city.



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Figure 10. The platform of fireplace (alogah) in the middle of the quarter squares (husseiniyyih) in the city of Yazd and the city of Naein.

a. (above) Aerial photograph showing a quarter square (husseiniyyih) in Yazd. Alogah (the fireplace from pre-Islamic era) remains in the middle of the square. Source: Mahmoud Tavassoli, Urban Structure and Architecture in the Hot Arid Zone of Iran.

b. (below) In the quarter square of Kalvan in Naein a drinking fountain is built on the platform of alogah. Source: Husayn Sultanzadeh, Nain, City of Historical Millennia.

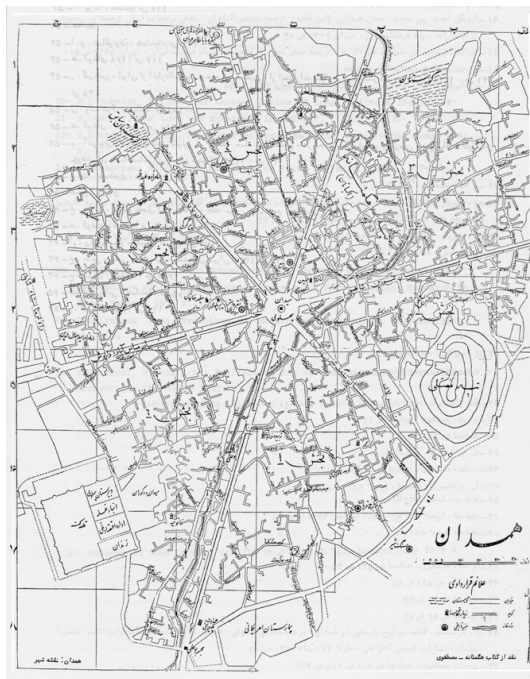


Figure 11. The city of Hamedan, the first 'modern' planning intervention in the traditional city was the building of six cross cutting streets. Source: from M. Y. Kiani, Iranian Cities.

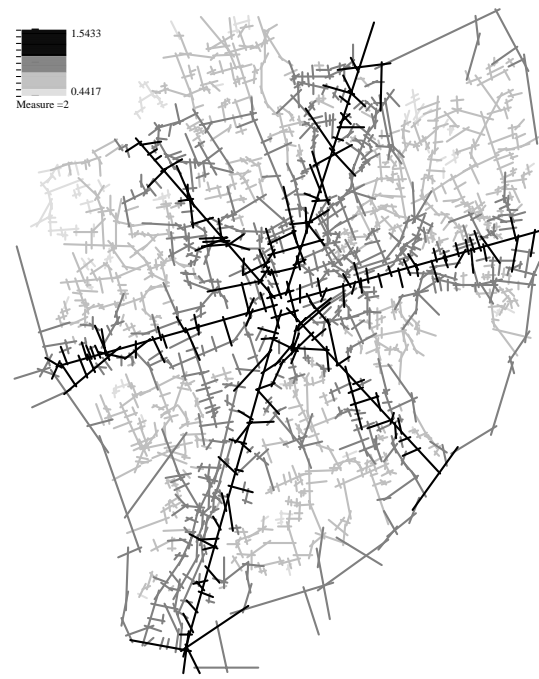


Figure 12. The global integration map of Hamedan after the building of new streets.

Because of these destructive effects the process of changes, marked as the process of modernisation, is usually estimated very negatively. The whole process is considered in main as an extrinsic process; actions ignoring the nature of the Iranian city are imposed on it. However, looking at the process of physical changes in Iranian cities in close association with social transformation, which actually began prior to it, provides a more realistic picture of this process.

The Iranian traditional society approached its termination in the last decades of 19th century. Characteristics of the new society whose formation began under the Constitutional Revolution (1906-1911) can be distinguished from the old society at two interacting levels. At macro level, i.e. at the level of the global political system, the despotic state sustained by tribal based military support was substituted by a centralised state apparatus, which was related to the "nation" directly. One of the most substantial approaches of the Constitutional Revolution was the abolishment of land allotment and the reversion of the revenue of government-assigned lands to the state treasury (Afary 1991). At micro level, the local community and the organisation of the extended family began to break down. The process of individualisation of the society had started. This was accompanied with and a result of the transition of the traditional (pre-capitalist) mode of production in the society.

New spatial properties of Iranian cities display clear correlation to the structural characteristics of the 'new society' at the two mentioned levels. The construction of new streets, spatially working at macro level, indicates the presence and the function of the new state apparatus. The city of Hamadan is an extreme case in this respect. The first spatial intervention of the new state in the city was the building of six cross cutting radial streets converging at the centre of the city and dividing it into six fairly equal sectors, fig 11. The spatial organisation of the traditional city based on distinct quarters was totally neglected. Local communities were no longer responsible for providing urban amenities for the residents of their quarters

(mahallahs). This responsibility was taken over by the state. Even historical names of different areas were neglected in relation to the administration of the city. The city was organised into six districts, which were, neutrally, identified just by numbers.

The changes in syntactic properties of the city are obvious, fig 12. Naturally the spatial structure of the city becomes much shallower. The value of mean global integration increases from 0.393 for the old city to 0.863. The construction of the new streets changes also the pattern of intelligibility. Correlation coefficient between integration R3 and global integration increase from 0.170 to 0.354. The global structure of the city becomes more intelligible through the new streets. One interpretation is that the society (the political system) needed to be intelligible directly, without the mediation of the local community organisation.

Besides global spatial interventions (macro-level actions), micro scale mechanisms in form of aggregation of new types of residential units have played a decisive role in forming the whole spatial configuration of Iranian cities, especially at the later stages of their development. Along with the disappearance of the local community institution and dissolution of the organisation of extended family, development of houses for nuclear family became widespread in cities. New rules of aggregation that favoured independent and as equal as possible access for each unit (house) were adapted. Rules of aggregation of houses (or rules for composition of houses, where developers or the state were involved in providing houses or building lots) followed functional ends and/or requirements of the expanding property market, fig 13. These rules are, in essence, different from the precepts of the traditional culture for patterning accesses, which emphasised the seclusion of residential complexes and quarters for sustaining kinship and community cohesion. In the new social condition a man's most intimate associations might be scattered over the whole city. The fact that these rules are even observed in informal developments indicates that they have their roots in a new established system of social relationship.

Micro scale changes even in the historical core of Iranian cities, in form of gradual subdivision of properties, seem to be affected by the new rules of aggregation. These changes tend to lessen the depth of the structure by producing new rings in the street network. This has been a common trend in many of 'Islamic' cities in Middle East. Fig 14 depicts a part of the layout of the city of Cairo in different periods of time, from the beginning of 19th century to the recent time. It is in evidence that a gradual restructuring in urban pattern has happened. Long dead-end streets have opened to thoroughfares and new rings have appeared. This is in concordance with a new trend in the cultural pattern of many of 'Islamic' societies where *equal* and *independent* social relationship is, unavoidably, preferred to a group cohesion, which entails *hierarchical* and *mediated* relationship. •

In Iran, the interaction of macro and micro level mechanism during several decades has resulted in the present state of Iranian cities. Analysis of the existing layout of the six Iranian cities displays a common trend in the process of changes in their syntactic properties. The global integration values in all of them are remarkably higher than the values obtained from

Figure 13. Two residential areas in Kerman. Housing development follows new rules of aggregation of units for independent nuclear families. Source: National Cartographic Centre, Iran.



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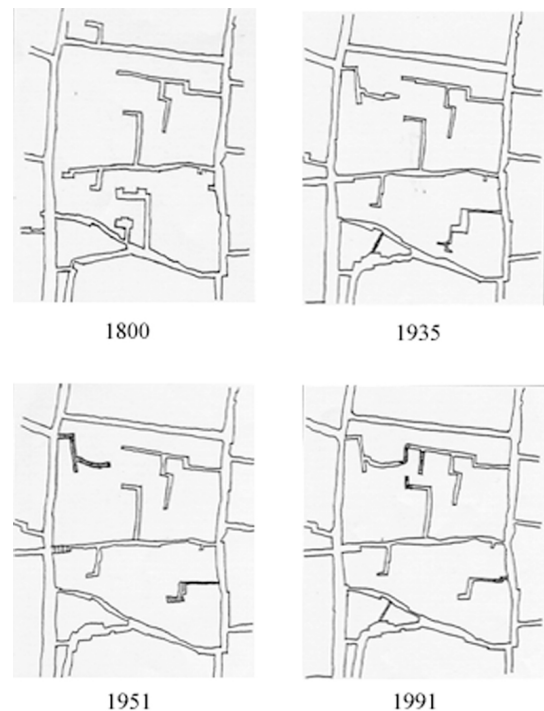


Figure 14. Transformation of street network system, al-Naha'sin area in 'Islamic' Cairo (adapted from Nooraddin Hoshnar, Al-Fina).

Table 1. Comparison between values of first and second order syntactic measures for the group of Iranian cities in their present and traditional states. Values for old Iranian cities are obtained from the previous study (Karimi 1997, p. 06.4 & p.06.8).

	Syntactic Values		<i>r squared</i>
	<i>M. Int. R3</i>	<i>M. Int. Rn</i>	<i>Int. Rn v. Int. R3</i>
<i>Iranian Cities (present state)</i>			
1 Shiraz	2.1343	1.0238	0.2259
2 Kerman	2.2134	1.2164	0.3228
3 Qazvin	2.3692	1.4368	0.1901
4 Hamedan	1.906	0.8709	0.2277
5 Kermanshah	2.3829	1.2322	0.2331
6 Semnan	1.9373	1.0547	0.3468
Average	2.1571	1.1391	0.2577
<i>Iranian Cities (old)</i>			
1 Shiraz	1.5588	0.487	0.137
2 Kerman	1.4854	0.4777	0.1257
3 Qazvin	1.7456	0.6013	0.1838
4 Hamedan	1.6349	0.3926	0.17
5 Kermanshah	1.6226	0.4489	0.1257
6 Semnan	1.5642	0.4874	0.2171
Average	1.6026	0.482	0.16

the analysis of their traditional layouts, table 1. The average value is now 1.139 while the average value for old cities (taken from Karimi's study) was 0.482. Spatial structures of these six cities today present also higher intelligibility. Average value of correlation coefficient between integration R3 and global integration for existing Iranian cities is 0.258, which is close to similar measure for seven modern European cities, i.e. 0.269 (the latter value is obtained from the analyses conducted by Mark David Major (Karimi 1997 p. 06.16)).

The values of different syntactic measures for Iranian cities today are very close to their average values, i.e. there is high consistency in their syntactic properties. Global integration maps for these cities also present a common picture; a legible pattern of distribution of integration with a core, of course, not as dense as the integration core in the old cities, fig 15. Sharing so many common structural properties, the six existing Iranian cities represent, in practice, a new type obviously distinguished from the type of the Iranian traditional city.

Since changes in Iranian cities with their structural dimensions reflect a transition from one *cultural genotype* to another one we can talk of *metamorphosis* rather than *evolution* of Iranian cities. These cities, however, counting in all large scale (global) interventions and the involvement of different planning strategies, have developed step by step under a relatively long period of time, confronting many unprecedented problems and adapting new spatial orders in response to new functional issues and new social requirements. Since in this process the new emergent structural properties (observed, for example, in the case of Hamadan) were maintained or were developed in the same direction in Iranian cities then it can be suggested that they have also undergone (and are undergoing) a *process of evolution*.

Changes in Iranian cities have been related to the structural changes in the Iranian society, which began from the Constitutional Revolution. The development of the Iranian society does not reflect a homogenous process. Many contradictions, which were central even to the Constitutional Revolution in Iran, have haunted the nation for nearly a century. But the course of changes has always kept its main direction towards more and more individualisation of the society accompanied by expansion and establishment of new civil institutions. The *evolving* spatial structures of Iranian cities confirm this fact in general.



a. Kerman (present state); the global integration map.



b. Qazvin (present state); the global integration map.



c. Shiraz (present state); the global integration map.



d. Kermanshah (present state); the global integration map.



e. Hamedan (present state); the global integration map.



f. Semnan (present state); the global integration map.

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4. Design/planning interventions and generic laws of space

The effects of macro scale spatial interventions in Iranian cities cannot be measured only in terms of their relation to the changes in social structures. The immediate impacts of these interventions over urban functions should also be considered. The prevailing view suggested that just the 'modern' planning and design interventions destructed the traditional structure of Iranian cities. However, it cannot be denied that there exist a series of places in the old part of these cities, which are still fulfilling their urban functions very well. The enduring liveliness of such places does not depend just on the interest of people for familiar old urban spaces. This liveliness depends essentially, we will argue, on the fact that these places occupy specific positions in the new urban configurations, which are proper to their

Figure 15. The global integration (R_n) maps of six Iranian cities in the present state.



Figure 16. The city of Naein, aerial photograph. New urban development was first carried out totally independent from the traditional city. The bazaar is marked by dark spots. Source of the original photograph: National Cartographic Centre, Iran.

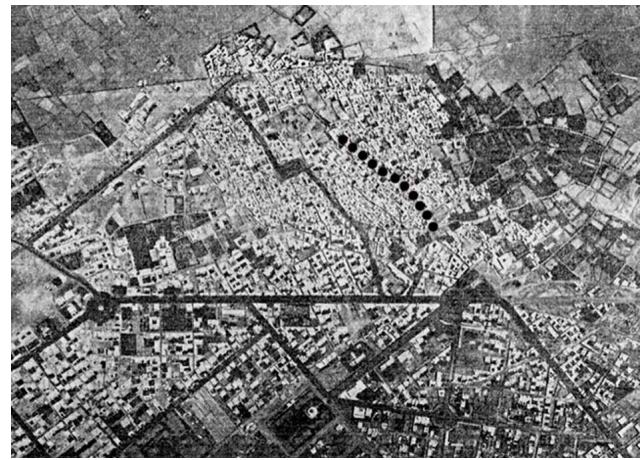


Figure 17. The city of Naein, aerial photograph. At the later stage of urban development, the building of two streets and a square within the body of the traditional city formed a thoroughfare parallel to the bazaar with a devastating effect on it. Source of the original photograph: National Cartographic Centre, Iran.

functions. Some places from the past may have survived just by chance. However this is not the case in the main bazaars in almost all the major Iranian cities. They are still functioning as an important urban centre not by chance but because decision makers, designers and planners were, in general, aware of the economic role they played even in the new system of urban life. In dealing with the physical construct of major Iranian cities, urban planners and designers seem to have followed the laws of spatial configurations intuitively. Spatial interventions, though they treated many local structures violently, were sensitive to the structural position of the main bazaars. The urban design in different major cities granted the bazaar in some way a flow of natural movement vital to keep it alive.

In Naein the process of urban development and the faith of the main bazaar were completely different from the cases in major Iranian cities. Economically and from the geopolitical point of view, Naein was not an important city. These factors may explain why the city could not attract interests for investment for any large-scale construction within the old city at the first stages of the new urban development. There is no place here to discuss the reason for the specific course of the development of Naein. Its comparison with major Iranian cities will however be useful to our discussion about the impact of spatial interventions on urban functions, and to our understanding of the role of the generic laws of space (spatial configuration) in function or malfunction of urban spaces.

The bazaar of Naein is compared with the bazaar of the city of Kerman. Although the conducted axial analysis of the two cities supports the argument in the following discussion it is not used in this comparison. It has been tried to use the capacity of the intuitive eye in reviewing maps and aerial photos to explain how different spatial strategies wrote different destinies for the bazaar in the two cities.

In Naein the building of new urban areas began outside the old city and totally independent from its existing street network, fig 16. After a period of growth the new urban development reached the old city at the southwest part of its periphery. The old bazaar was actually deprived of the advantages of the growth of the urban population because the access from the new residential areas was very intricate and illegible. The pattern of the new street network and also the way it is connected to the old city show clearly how the flow of movement within the new urban areas is absorbed and controlled by the new main street. This street also attracts movements within a wide strip of the western part of the old city. In a later stage two streets and a square, which together constitute a thoroughfare parallel to the bazaar, were built

within the old city, fig 17. This construction had a devastating effect on the life of the bazaar. The new thoroughfare drained the main part of the energy of the natural movement within the body of the old city, which previously nourished the bazaar, and reallocated it into the new street network. The building of the parallel crosscutting streets put an end to the life of the bazaar, which had already been weakened by the development of new areas outside the old city. This happened to the bazaar of Naein though it was not touched directly by the conducted spatial interventions, and though it maintained a fairly good construction quality. Fig 18 depicts the bazaar of Naein in a workday. Today only 11 of 154 shops in the bazaar of Naein are still active.

The case of the city of Kerman is a clear contrast to Naein. Fig 19 shows the bazaar of Kerman in its present state. It is as crowded as a bazaar is supposed to be. What keeps this place alive can easily be read from the layout of the city after changes, fig 20. The complex of the old bazaar consisting of a trunk and two branches, have a strong connection with the new streets in its surrounding. These streets are constituents of a well-connected network of main streets, which extends in different directions and covers the whole urban area. The part of the natural movements within the whole city that is absorbed by the streets surrounding the bazaar is injected into its body directly and also through several old thoroughfares that reach the bazaar in a slightly winding course. The bazaar of Kerman, today, is not itself the strongest absorber of the global movements of a city as it was one day. However it shares the flow of these movements, which is enough to maintain it as an important commercial centre at the scale of the entire city. At the local level within the core of existing Kerman, the bazaar with multiple connections with its new surrounding is actually an important line, which attracts the main part of local movements. People who move around within the area find the bazaar an easy route, i.e. an easily accessible and legible route, to pass through. The presence of people in the bazaar in weekends, fig 21, when no main activity of *the place* is going on, indicates the proper position of the bazaar in the *new* spatial configuration of the city.

Now it is interesting to see how the syntactic analysis presents the position of the bazaar in the new urban context. The typical scattergram of local integration (R3) against global integration (Rn) for the group of lines consisting of the bazaar, the new main streets and the old thoroughfares linking the new streets and the bazaar displays a high correlation value, fig 22. This indicates that the bazaar is a main constituent of a strong and intelligible local structure in the whole city.

Iranian old bazaars, or other places with historical background in any city around the world, where they are actively used, are not really *old places*. Although they have old buildings and we may call them with names beginning with the prefix of 'old'. They are, in the very fact, *new places* in new configurations. From the point of view of content, what is, and can be,



51.13

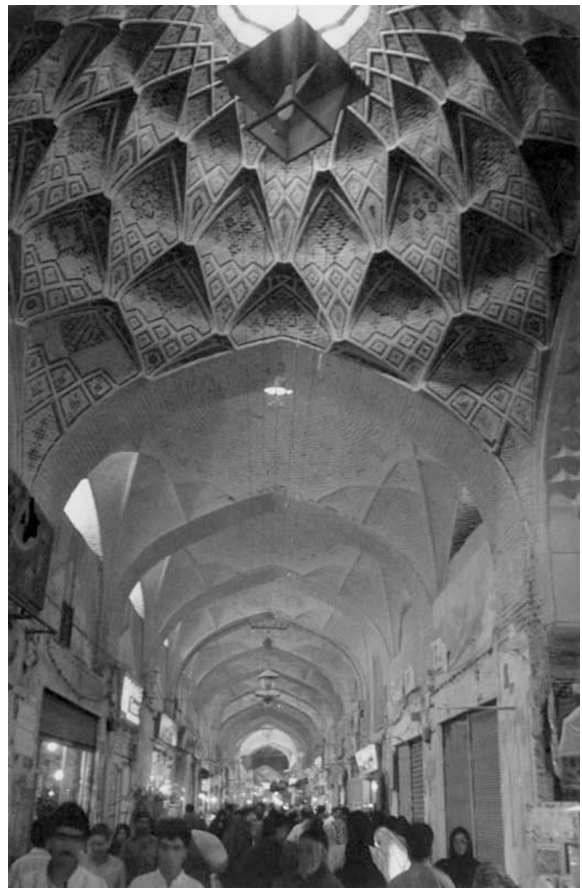
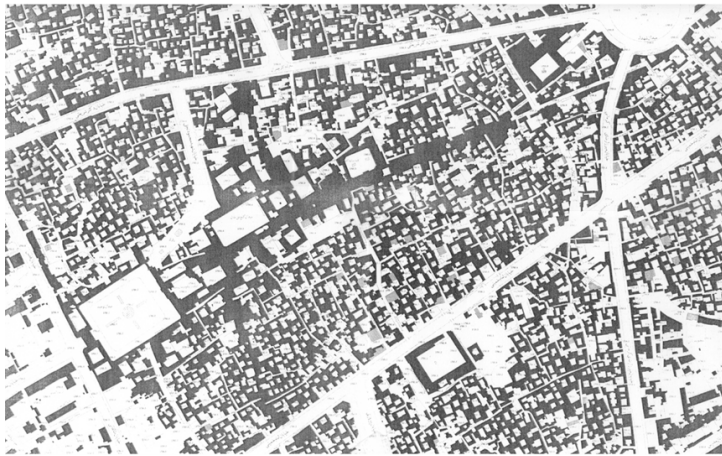
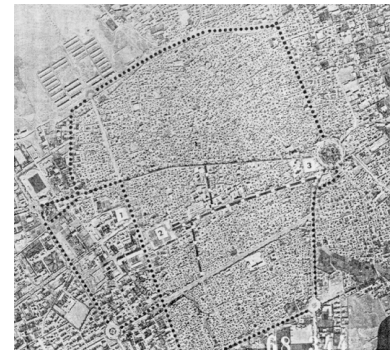


Figure 18. The bazaar of Naein in a workday. Today of 154 shops in the bazaar only 11 shops are still working. Source: M. Y. Kiani, Iranian Cities.

Figure 19. The bazaar of Kerman. It is as crowded as a bazaar is supposed to be.



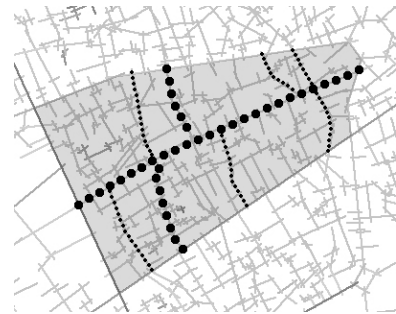
a. The bazaar of Kerman and its surrounding area today, map drawn after aerial photograph. Source: National Cartographic Centre, Iran.



b. Kerman, aerial photograph 1956. Dotted lines show old city walls and dashed lines show the bazaar. Source of the original photograph: National Cartographic Centre, Iran.



d. Axial map showing the system of the street network of Kerman today. The shaded area shows the bazaar and its surrounding.



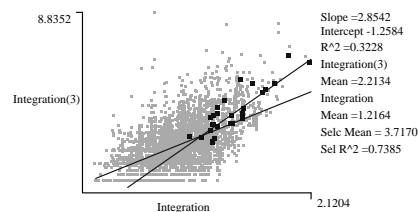
c. Axial map showing the bazaar and its surrounding street network today. The thick dotted lines show the trunk and the two branches of the bazaar, the thin dotted lines are old thoroughfares.

Figure 20 (above). Kerman, Maps and aerial photograph.

Figure 21 (right). The bazaar of Kerman in a weekend. It is a well used pedestrian precinct even when the shops are closed. Source: Husayn Sultanzadeh, An Introduction to the History of City and Urbanism in Iran.



Figure 22 (right, below). The local/global scattergram for Kerman in which the bazaar, its surrounding new streets and the old thoroughfares are picked displays a strong local structure in the context of the whole city.



preserved of old bazaars, old places, is not the exact form of their old functions and meanings but it is their *life* in general, which in the context of new spatial and social configurations will bear new meanings.

5. Concluding comments

The process of changes that Iranian cities have undergone from the shift of the century until today can be characterised as a combination of metamorphosis and evolution. In this process a part of urban places from the past have survived by chance, or have been saved in a planned way. Many other places and urban qualities from the traditional city, which practically could have been preserved, were destroyed and vanished either because of lack of interest and motivation in the dominating political and economic power system, or because of lack of professional knowledge. What could not be preserved at all, however, was the traditional urban structure of the Iranian city in its entirety. This structure and the traditional Iranian society alike belong to history. Design and planning strategies were, in general, a response to the emerging system of social relationship in Iran.

The study of urban morphologies has shown how function or malfunction of urban spaces, liveliness or dreariness of places in cities can be explained on the basis of the same generic rules. The quality of places does not just come from their formal properties and their assigned functions but, unexceptionally, from the way they are embedded in the global configuration of the city, and from the functions generated by this. Even when social and political condition for making places and forming physical environment for a 'good urban society' is provided, it requires yet meticulous work in dealing with the spatial structures/configurations in cities at all scales. Such work will not approach its aims if not supported by knowledge about the generic laws of space.

51.15

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