Infill Architecture as a Solution for Livability and Historical Texture Quality Promotion

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Abstract

A brief glance at the city view of Iranian historical cities shows valuable ancient textures, all of which were enjoying appropriate liveliness, mobility and hilarity no longer ago. Today, our urban worn out textures are abandoned due to different reasons. This is while, if the textures enjoy safe, appropriate and lively spaces, organized joy and healthy recreations compatible with the society's values will take place in them. Organizing cities and historical textures is of great importance for two reasons: one is respecting the elders' heritages and the other one is obviating limits caused by urban texture decay. Inattention to organizing and restoring worn out historical textures plans during several years have caused them to lose their liveliness, efficiency and former activity. Livability is one of the greatest urban planning ideas in the contemporary period. Livability creation among cities of developing countries is a concerning issue and paying less attention to the issue causes liveliness and livability cadence and texture decay, consequently. Hence, paying attention to life quality, conditions, equipment and the urban residents' needs are vital issues. Finally, infill solution is presented in the framework of renovation and improvement for promotion of quality and empowerment of historical and worn out urban textures along with influential factors of developing such textures.

Keywords: Architecture; Infill; Livability; Quality Promotion; Historical Texture.

1. Introduction

Cities and historical backgrounds are changing permanently in order to meet needs of the contemporary society and features of the cities have always changed throughout the time by presence of architecture. Hence, features of a place are always a combination of different styles. The most important issue in this regard is that such evolution should be continued and by doing so, livability of the places to be continued permanently. In this case our modern architecture is a heritage for the next generation resulting in another layer in this heritage set, forming some parts of the city features and identity. Establishment of new structures in the historical background is one of the main needs in the fields related to cultural heritage protection. Restoration of most monuments and historical areas not only requires protection but also requires protection development and compatibility of old monuments (due to their historical and cultural value) with destruction of some parts which decreases efficiency and flexibility of the building use, while constructing new parts to supply usable and compatible spaces for more uses. Architectural interventions in the historical fields have different scales extending from metropolitan projects in historical texture of a city to small architectural interventions in historical

buildings [1].

Construction in the old textures has always caused a serious challenge, arising some important questions about interaction way of design framework with the new designs. Some believe that construction of new buildings helps aesthetics of old buildings and interaction with repetition of old styles. Others believe that a new design should meet its time needs [2].

In other words considering the important role of contemporary architecture at historical environments and development of its design criteria and methods, it is considered as one of the most important issues in protection of heritages a management of changes. The new buildings respect their historical backgrounds and evaluation of effects of such new structures is obtained by final goal of improvement of quality of new architectural interactions [3].

If we see the city as a living creature it needs livability and joy for its survival. The role of urban spaces, in which the social interactions of the citizens are formed and the society culture is induced in, is declining gradually in our country. It goes without saying that livability requires people's presence. This is while if such textures enjoy safe, appropriate and livable spaces and if healthy and joyful recreations are provided in it in an organized way compatible with the society's values then the peoples' active presence and livability and viability is increased accordingly. Now it should be investigated to see that what principles and strategies are effective in livability of the old and historical textures and that what elements do affect livability?

The aim of the present study was to find some comprehensive directions about designing new structures at infill monuments scale and attachment to historical buildings in a way that while protecting and promoting current values in historical background they be able to express contemporary time soul, too. Since a wide range of solutions might be proposed to design new structures after accurate analyses of the background and their design elements interpretation, so presentation of accurate and usable directions for all new structures and all historical backgrounds is almost impossible. Hence, the factors which should be noted are not fixed, however some comprehensive directions are provided to the designers, so the proposed directions are in line with protecting and promoting current values to the main influential indexes in the field of every historical background and criteria which should be noted in every index. These directions will result in viability, livability, increased validity and promoted quality of current texture and finally cultural, economic and social booming and growth.

2. Identification of Historical Texture

Historical texture of the cities has some features and characteristics, which distinguish them from surrounding zones and textures and from other parts of the city. Establishment of elements, orders (Rasteh), valuable historical, cultural, political and commercial nodes along with difference in the monuments' history and life, tourism capacity and their role in strengthening cultural and historical identity, necessitate distinguished management view to the areas compared to other urban areas. Investigation and analysis of management of historical textures of our country's cities becomes more necessary when we find out that most of the textures have various problems and difficulties and such problems result in their evacuation, decay and finally incidence of various abnormalities [4].

3. Definitions and Theoretical Principles of Historical Textures Management

3.1. Definition of the Terms

Explanation of the concepts related to historical texture are presented for identification of the most detailed historical texture ratio and its distinguishing from other urban textures, providing conditions for management analysis and its intervention way in the best manner. Definition of the terms becomes more important, when we know that some of the managers and planners do not use the related terms in an appropriate way. Hence, the concept of the major terms related to the field is presented as follows:

- **Urban Texture:** is aggregation and interconnectedness of the spaces and urban elements, which have been placed with a specific order as a result of natural environmental features and specially topography in the city area (i.e. in the urban blocks and neighborhoods) in a compressed or discrete manner [5].

- **Historical Texture:** by historical texture we mean all those, which in spite of decay, have some valuable urban monuments, complexes, installations and equipment or a set of them in their designs.

- **Decay:** decay refers to inefficiency and decreased efficiency of the texture in ratio of the average urban textures of the studied place. Decay in the texture and its interior elements happen either due to its oldness or due to lack of development plans, technical control and formation of decay bearing texture. These, at last, result in elimination of its position and place among the citizens, being seen and studied in different forms of decrease or lack of livability and safety conditions, applied social, economic and installation disturbances [5].

- **Types of Worn-out Textures:** Generally, the worn out textures have shared aspects due to their wearing out, however they have different natures due to influential factors in wearing out. Such a difference causes the textures to be classified in the following three groups:

  - Textures with urban heritage (historical textures)

  - Urban textures (without urban heritages)

  - Slum textures (unofficial residents).

- **Improvement:** Improvement involves a series of measurements, which are taken in a short period of time to improve the skeleton caused by activity of decay. In fact, improvement is conducted when relative worn-out of space takes place in applied terms.

- **Renovation:** Renovation is conducted when the urban space of the complex or monument has good function, but the relative physical and spatial decay decreases its output and efficiency. Renovation involves a series of activities, which while protecting the monument make the old complex or urban space of the spatial organizing contemporary, providing the conditions for optimal efficiency of the building.

- **Revival:** Revival is defined and explained as a subset if restoration. The term refers to making all destroyed parts of the monument monolithic (i.e. separated from spatial organizing) in a way to revive totality of all destroyed parts. In other words, revival or returning every monument and urban spaces returns innate and existentialist, main form and urban space complex at last.

- **Restoration:** Restoration means rebuilding. Restoration happens when decay takes places completely in the monument complex or urban space. Complete decay, usually, takes place as a result of relative or complete decay of activities and skeleton at the same time. This is taken usually to restore (create new life) in the decayed spatial organization (overall texture of the monument) [6].

4. Livability

Its Persian equivalent is Zistpaziri and consequently Share Zistpazir means livable city [7]. Webster dictionary defines livability as an appropriate place for human life. The term "possibility" which is widely used in the world is among the elements which help life quality in the society including artificially and naturally built environments, economic welfare, judicial and social stability, cultural and training opportunity, entertainment and recreation. Possibilities and livability include wide human needs such as food, fundamental safety of aesthetics, cultural expression, and sense of attachment to a society or a neighborhood. The society's possibility is an important comprehensive approach for evaluation, since every place is exclusive. Central neighborhoods of large cities have the advantages of closeness to job opportunities, stores, entertainments this is while village houses in addition to be economical have more safe streets and less pollution [8]. Taking strategies which are based on using internal resources of cities, urban spaces, culture, history, customs, skills, etc. (as sustainable and effective strategy) might result in viability and promotion of environmental quality [9].

Table1. Different types of liveliness and livability from Charles Laundry's viewpoint

Different types of liveliness and livability Long term self-reliance	Economic liveliness is evaluated by the variables of level of employment, net income and life standards of the people in the studied area, annual number of tourists, retails performance, land value and properties.
Compatible sustainability Compatibility and self-restoration	Social liveliness is evaluated by variables of level of activities, social interactions and the nature of social communications. A lively and livable city can be, socially, described by low levels of deprivation, strong social cohesion, good relations, dynamism of social inter-layers, collective spirit and civil prejudice, wide range of lifestyles, harmonious relations, urban community or joyfulness.
Liveliness Participation, use and activity level l Interactions, communications, exchanges, transactions and display level	Environmental liveliness and livability involve two aspects: the first one is ecological sustainability, which is validated by the variables such as air and sound pollution, wastewater and wastes disposal, traffic density and green spaces. The second aspect is designs ,which include variables such as readability, sense of place, architectural distinguish, connection and communication of different parts of the city, lighting quality and that to what extent the city is friendly , safe and psychologically approachable.
(Displaying manner of the activities and interactions in the real world)	Cultural Livability and liveliness: this involves survival, respect and appreciating the city and its people, identity, memorials, traditions, social celebrations, production, distribution and consumption of hand-made products and the signs, which show distinguished nature of the city.

5. Livability indexes

Rapid and often unplanned urbanization in most parts of the world has increased the exposure of people and urban assets to higher degrees of attention to liveability [10]. Livability approach is generally a complicated and relative concept. It is complex, because certainly various factors are influential in improvement of the society and person's life

and it is relative, since the principles and features in a society, which are considered as desired conditions, might be interpreted and considered in different manner in another society or place [11].
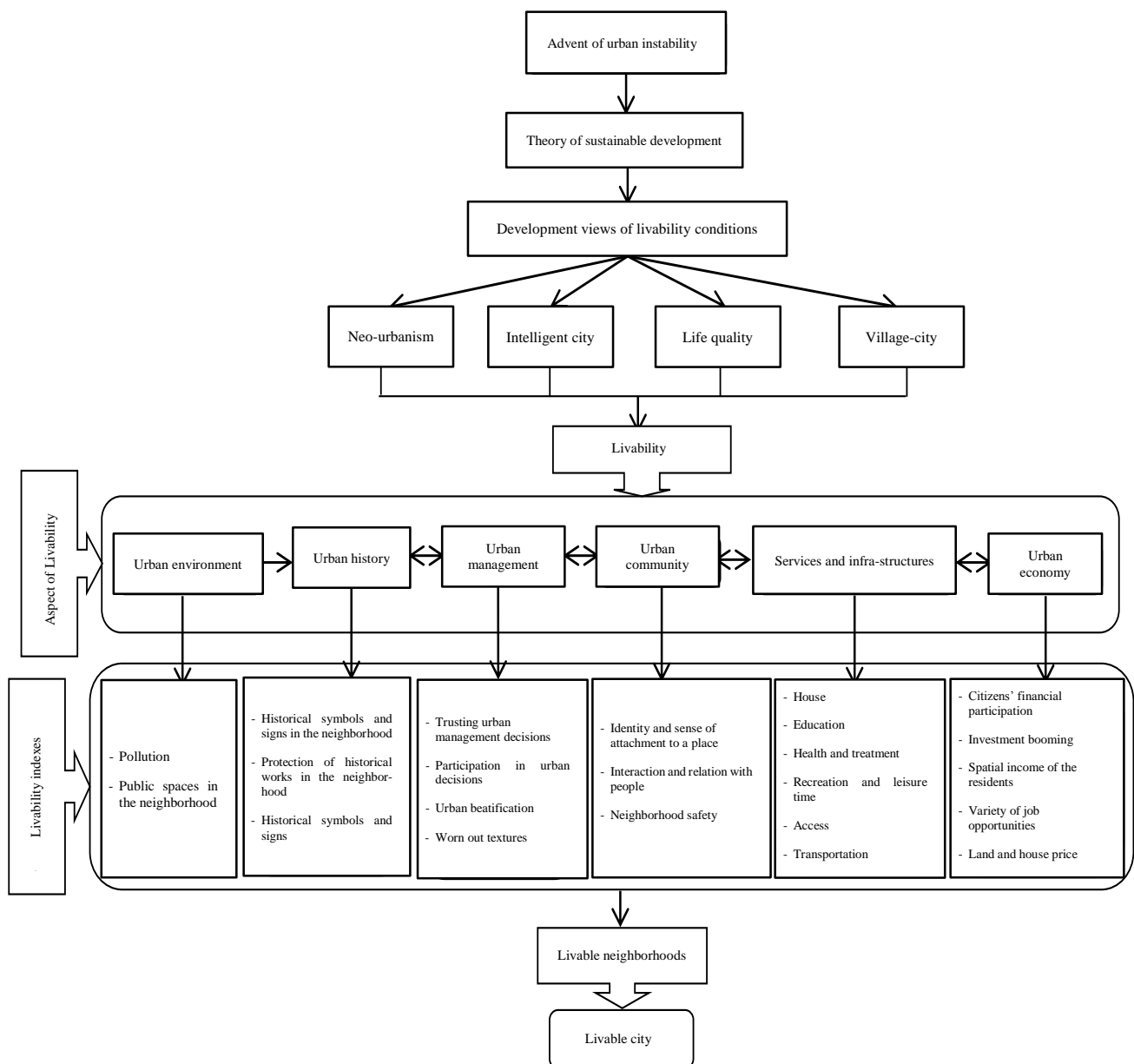

Figure 1. Conceptual Model of Livability [13]

Table 1. Summary of some foreign studies in the field of livability

Authors	Year	Title	Objective	Method	Place	Results
Dunstan	2007	Establishment of livability index and validation of the neighborhood livability	Establishment of an index for validation of the neighborhood livability	Qualitative	England	Review of the related literature shows that the neighborhood livability has a direct and strong relationship with indexes of safety, green spaces quality and parks
Roshan	2012	Developing a comprehensive pattern of urban land use with emphasis on livability promotion and achievement of environmental justice	Presenting validation and planning pattern of urban land use with emphasis on livability and spatial justice	Qualitative	Qazvin	Land use, integration and diversity of land use, alignment of uses with transportation, presence of active urban spaces, absence of barren and abandoned lands, influential indexes of livability and distribution of level of accessibility and distribution of income rates, are validation criteria for justice.

| **Laris** | 2005 | Good neighborhoods: livability and morphology of populated neighborhoods in North America | Developing an operational theory of livability at neighborhood scale and determining some criteria for its measurement | Qualitative and quantitative | United States of America | Dense neighborhoods (in terms of population and house) are successful in achieving livability conditions and there is a significant difference among the neighborhoods in achieving aspects of livability. |

6. Infill Architecture

Infill design can be studied in the two fields:

- **Worn out texture:** employment of new structure in the worn out texture accreditation of the texture in order to prevent its value decrease, being compatible in cultural, view and landscape aspects.

- **Old and historical texture:** new and modern structures in the field of historical texture, which at last result in increased validity and increasing value of the historical texture:
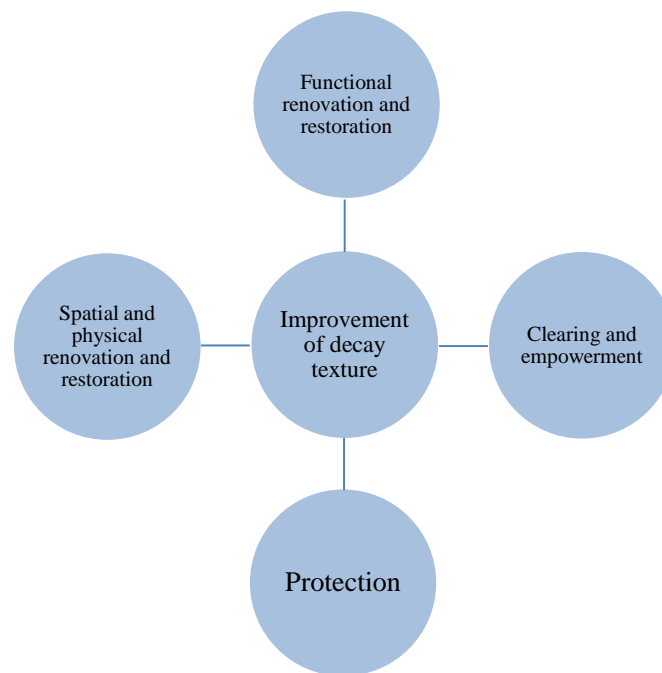

Figure 2. Improvement strategies of decay texture

7. Current Approaches of Decay Texture Restoration

The main issue in the field of confronting with such textures is paying attention to restoration of them based on the residents and individuals' needs, who have close psychological relationship with the space or they can establish such a relationship. Meanwhile, living in the worn-out textures requires believe in advent of the new changes, as much as it needs sympathy with the residents. The range of dealing with the issue is accompanied with different and contradictory approaches, in some cases. Such a range starts with highly fanatic treatments, which believe in no physical interpretation, protection and improvement and expands to destruction and reconstruction. However, it should be noted that detailed identification and investigation of needs and shortcomings are necessary for achieving good approaches and strategies and achievable designs in the field of restoration of worn out textures. In this case, achieving facilities, limits and potentials before any specific act and measurement, we can overcome the difficulties through planning and making efficient decisions in different fields.

Since wide range of solutions for designing new structures might be developed after detailed analysis of the field and interpretation of design elements, so developing exact and usable strategies for all new structures and historical fields is almost impossible. Hence, the factors, which are to be noted are not constant, however they provide the designers with comprehensive guidelines. Hence, the proposed guidelines proceed on protection and promotion of the current values of the main influential indexes regarding every historical field and criteria, which should be noted in each index [12].
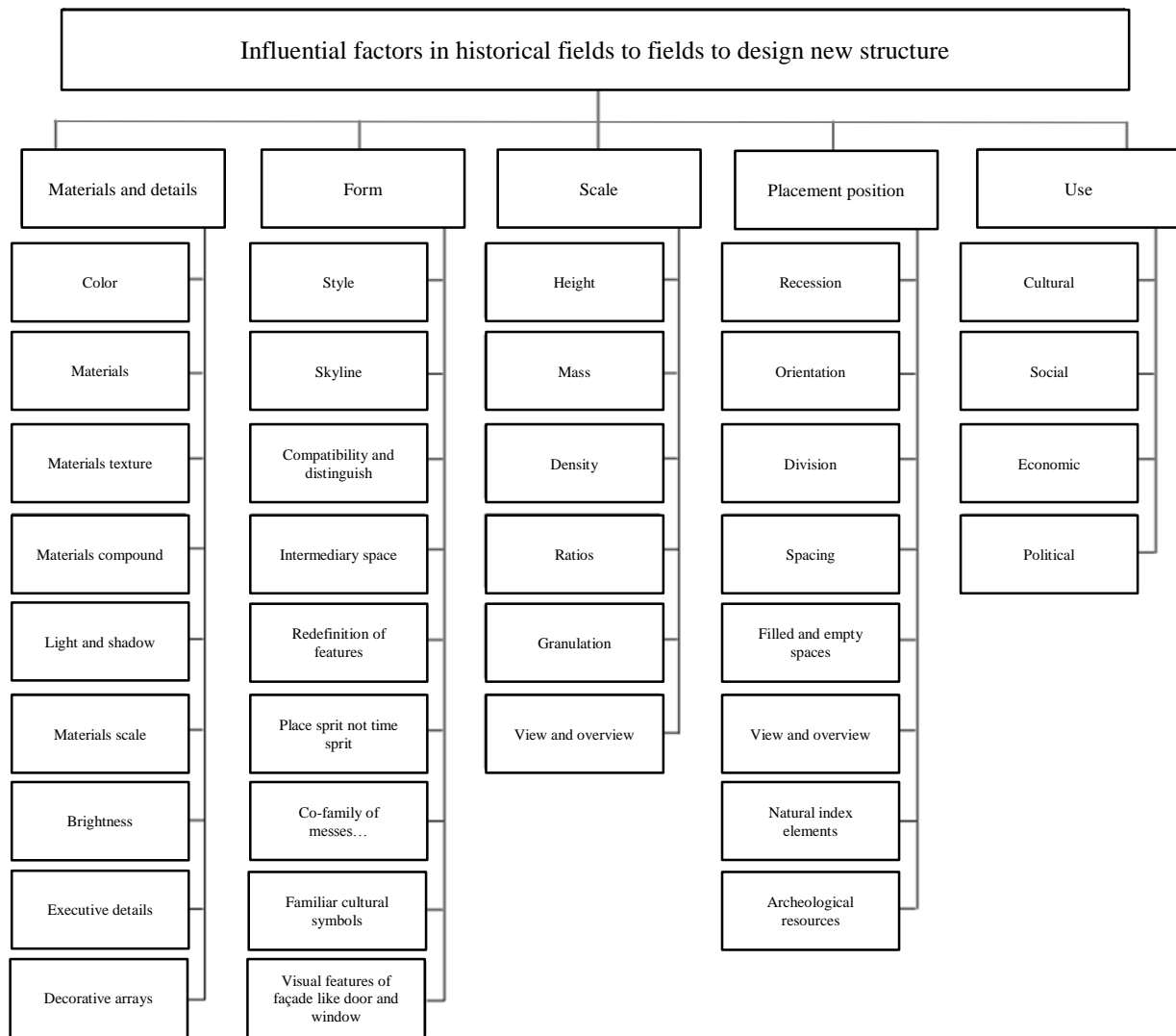
Figure 3. Diagram of the notable factors in designing new structures in historical fields [1]

8. Conclusion

Despite its frequent appearance in the educational and professional literature, liveability is an ambiguous term that is used differently by various groups in different circumstances [15]. Urban central area's worn out textures, which have been formed once based on socio-economic condition and relying on the urban development patterns, today need, urgently, livability due to being old and worn out and it is necessary to take some measurements for improvement of the condition and restoration of the worn out textures, using strategies of infill architecture in line with improvement and renovation of them in the short period of time. In this regard, attracting real participation of the people from different financial, planning, technical and executive aspects along with consideration of different encouraging and supportive packages makes such an important issue possible.

9. Conflicts of Interest

The authors declare no conflict of interest.

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