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Defining " Center and Edge" Concepts and Their Relationship with Durability and Dynamism in Architecture

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ABSTRACT: Durability as continuity of identity and dynamism as changing and adaptability to new conditions are important architectural discussions. This paper aims to define the concepts and positions of durability and dynamism in the architectural structure. It seems that it is important to discuss which relations and components of an architectural structure have more effective roles in supporting identity and which are among short-term factors. In this regard, the concept of 'center' as the main area(s) of the structure and the position of emergence of main structural properties and 'edge' as the secondary area(s) providing the hierarchy of subsidiary supportive properties are introduced. According to the paper argumentations, durability as the continuity of identity is dependent on unity, similarity and permanence properties of structure, emerges in center. The main activities of the architectural work also occur in this zone. Following the hierarchy of the center to margin, the unity, similarity and permanence properties of structure gradually transform into plurality, difference and change and so dynamism occurs in the edge. It should be considered that center and edge can cover abstract to physical concepts. It is also important to note that the process of forming center and edge is an organic and natural process that is widely dependent to the essence of the architectural work. This process in classic and traditional works emerged with more clarity. But in contemporary works, because of the complex intervening factors, it needs more precision and delicacy to distinguish the center and the edge.

Keywords: Durability in Architecture, Dynamism in Architecture, Center of Structure, Edge of Structure.

INTRODUCTION

It can be said that the main purpose of making an architectural work is continuity and durability. In Habraken's words, 'We build to endure, to resist time . Permanence is instinctively sought' (Habraken, 2000, p. 6). Arnheim believes that building benefits from authenticity of concepts that are beyond change and evolution (Arnheim, 2003, p. 193). Louis Kahn expresses that everything that nature creates or human builds has a tendency for 'being' (Geurgola, 2005, p. 20). Such statements imply the importance of durability and continuity concepts in architectural work.

On the other hand, it is important to pay attention to dynamism and change in architecture. Habraken believes that 'Built environment, like all complicated phenomena, artificial and natural, endures by transforming its part' (Habraken, 2000, p. 7). In Hillier's word, the stability of every live natural or man-made organization is provided by its ability of conducting different types of changes (Hillier, 1972, p. 73). Venturi says that durability of important buildings is because of their adaptability (Lang, 2004, p. 135). Therefore, it can be said the ability to change or in another word, dynamism is necessary for supporting durability.

In this paper, the concepts such as being, continuity and stability are considered as 'durability' and the concepts such as becoming, change and evolution are considered as 'dynamism'. Since continuity has relationship with properties such as permanence, unity and similarity and evolution has relationship with change, plurality and difference, these two groups of factors can be known as durability and dynamism characteristics. In Figs. 1 and 2, these characteristics are presented according to Eleatic

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Dilemmas which has been recorded by Plato while analyzing forces affecting nature of universe.

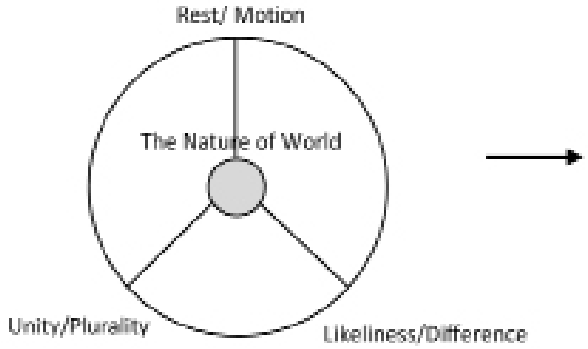

Fig. 1. The Interaction of Triple Forces of World According To Eleatic Dilemmas (Capon, 1999).

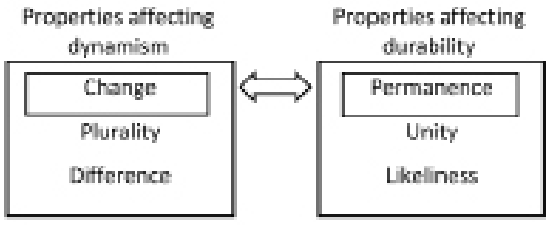

Fig. 2. Characteristics Affecting Durability and Dynamism.

The considerable point in this relation is the relationship between durability and dynamism in such a manner that they can occur simultaneously. It seems that the main and final aim of every architectural work is durability. This aim is provided via the ability to change or dynamism. So dynamism is an executive aim which works in order to support the final aim which is durability. Norberg-Schulz believes that it is important that every place maintain its identity meanwhile change occur. He believes that both permanence and change are necessary for every place (Norberg-Schulz, 2003/2, pp. 32-34). Thus defining optimum limits of dynamism in order to support durability is important. Thereupon, the concept of dynamism considered in this paper is not the limitless dynamism, but it is the dynamism that occurs in the limit that durability needs.

Considering these interpretations about durability and dynamism, the aim of this paper is to define the position of these two concepts in an architectural work. As Mozayeni expresses, in the organization of an architectural work, changes have more speed in some positions in comparison to another. Every designer should have the knowledge about which relations and factors he is working on are among short-term and which are among long-term influences (Mozayeni, 1994, p. 221). Thereupon, it seems that maintaining durability and producing dynamism can have dependency to their position in an architectural structure.

THE CONCEPTS OF CENTER AND EDGE IN THE STRUCTURE OF ARCHITECTURE

The structures, from objective to abstract ones, have common properties[1]. Chermayeff and Alexander believe in this idea and say that it should be scientific principles conducting form, texture and structure which exist in many domains such as inorganic, private and communal areas (Chermayeff & Alexander, 1992, p. 179). Having such belief, Alexander tried to study structural properties and said that these properties exist in every flourishing organism and also delicat artistic works such as a valuable paintings or poems (Alexander, 1994, p. 13). He continued and proposed the idea of center. He believes that there is a specific process that produce every wholeness. During this process, 'centers field' shapes gradually along with the structure. He also describes that the living environment is constituted of many large centers that are woven inextricably and have internal interactions. Every wholeness should make a centralization and shape a system of centers around itself (Alexander, 1994, pp. 21, 34 and 60-61). He also says that being alive and having identity is dependent to the formation of centers and this affects the phenomenon's functioning (Alexander, 2002/1, pp. 4-5).

In Webber interpretation, the centralization is a phenomenon that can be seen in all domains. He describes a center in a space, as a point that locates the aggregation of activities (Mozayeni, 1994, pp. 133 ,139). Doxiadis believes that every human residential area has a main part that is the center (Hamidi, 1997, p. 31). Lynch declares that the apparent focal point that contains the aggregation

of activities exists in every human residence structure (Lynch, 1997, p. 472). In Alexander's word, the center is an existence and not only a point. A being in the middle of a larger field that can be seen in different spaces and buildings (Alexander, 1994, p. 11).

Formation of an area considered as the 'center' as an outstanding and apparent position in a structure occurs with the realization of the structural hierarchy simultaneously. Arnheim believes that in contrast to the homogeneity of right-angled grids, the concentric systems define each layer's value by its distance from the middle. They create a hierarchy (Arnheim, 1982). E. H. Gombrich has interpreted such hierarchy as a gradient (Arnheim, 1982). Alexander believes that such gradient forms around every living center and is strengthening it by means of a field effect. This gradient also includes different structural characteristics (Alexander, 2002/2, p. 72).

The occurrence of such hierarchical domains, is simultaneous with formation of subsidiary centers. Alexander believes that more consistent centers are provided in a structure by variety of smaller centers and this will give life to the structure (Alexander, 1994, p. 83). He believes that the occurrence of such hierarchy can intensify and better define the coherence of the original centers and also provide more beautifully articulated intermediate levels of scale (Alexander, 2002/2, p. 77). About urban centers, Lynch declares that the hierarchical pattern needs a dominated center that cover all the larger, denser and more specialized activities. At distances to these centers, there are some smaller centers that cover less important, less dense and less specialized activities and most of them support the main center. In the next stage, every one of these secondary centers will be surrounded by more subsidiary centers with a special order. This process will continue to the extent it is needed (Lynch, 1998, p. 519).

In this regard, conceiving the center area, it can be considering an edge area that contains a hierarchy of subsidiary areas which are relating to the main center. As it is mentioned, this edge has an important role in defining the central area. It can be said that the structure formation is simultaneous with formation of center and edge.

Accordingly, it can be said that:

The center area is known as the main area which is the position of emergence and aggregation of key properties of the structure.

The edge area is known as the subsidiary area which is relating to center and providing the emergence of the hierarchy of secondary properties of the structure.

It seems that the center and the edge can be proposed in different scales. So, it can be seen the emergence of the main or subsidiary center or edge, at the overall scale or subscales. It is also important to consider that the center and the edge area are defined relatively[2]. In some cases, the geometric center has a suitable potential for accommodating the structural center and so has a special gravitation for it. The geometric edge has also a special gravitation for the structural edge. But such coincidence does not necessarily happens. In Arnheim's word, 'when we speak of a center we shall mean mostly the center of a field of forces, a focus from which forces issue and toward which forces converge. Since every dynamic center has the tendency to distribute the forces of its field symmetrically around itself, its location will often coincide with that of the geometrical middle. In case of several centers, the overall balance of all these competing aspirations determines the structure of the whole, and that total structure is organized around what I will call the balancing center' (Arnheim, 1982, pp. 2, 5).

THE CENTER AS THE POSITION OF DURABILITY AND THE EDGE AS THE POSITION OF DYNAMISM

Arnheim believes that the overall balance occur in the center. Any other point in the space is affected by force vectors and it is the center position that inspire equilibrium and rest (Arnheim, 1982, p. 75). Alexander describes that during the transformation process of every system, the centers are the most important factor that support the identity of the wholeness. The system trends ('prefers') to go in that direction which intensifies the already existing centers in the wholeness in just such a fashion that the new centers reinforce and intensify the larger configuration or wholeness which existed before (Alexander, 2002/2, pp. 47, 77). Thereupon, the influence of centers as the durable factors at the time of the system transformation is important.

While the center of a place establishes, the scattered components of the place become coordinated and emerge as a united whole. The center defines order and makes the plurality of parts to belong to a whole. Lynch declares that active centers can improve the identity of a residential complex (Lynch, 1997, p. 187). Louis Kahn believes that in every city there is a nervous system and a nerve center with a special value that improve the quality of the city (Hamidi, 1997, p. 15). Hilderbrand believes that paying attention to the qualitative properties of the center is the basis of constructing memorable places and rich environments (Paumier, 2010). Another effecting aspect of the center is its role in forming the conception

and mental identity of the place. Mental image is usually influenced by the main and most important part of the place. The place which supports the main activity, has qualitative properties and usually has spatial extent. In Paumier word, if the space possesses a strong visual center that also supports an important activity, it will become an effective icon and a memorable place (Paumier, 2010, p. 94). Herdeg believes that in extensive houses of central Asia, the more important the spaces are, the nearer are to the central yard (Herdeg, 1997, p. 69).

Thus, the place center that unites and orders the components, is effective in defining wholeness and identity. Thereupon, it can be said that durability as the continuity of identity and emergence of structural unity, similarity and permanence occurs in the center. The main activity also happens in this area.

Getting distance from the center, the harmony of components decrease and a sense of dispersal strengthens. While emerging hierarchy from the center to the edge, the unity, similarity and permanence gradually transform into plurality, difference and change. At the edge, it locates the plural components related to the center that emerges the ranges of varieties of formal and conceptual changes. Since the stability and continuity of the center is very vital for the structure, the evolutions and adaptabilities with new circumstances happens in the edge. So it can be said that dynamism occurs in the edge. Arnheim interprets the edge as the focus of energy (Arnheim, 1982, p. 55) that can imply its dynamic properties[3]. In Heidegger's word, 'a boundary is not that at which something stops but, as the Greeks recognized, the boundary is that at which something begins its essential unfolding' (Ellin, 2006, p. 88). In Ellin's interpretation, 'the edge is where adaptation and change occur' or 'survival is creative living on the edge' (Ellin, 2006, pp. 82-83). Bell Hooks in her essay 'Choosing the Margin', declares that the margin is a site of creativity and power, an inclusive space where recover occurs. She recommends to pay attention to this space (Ellin, 2006, p. 83).

It seems that this effects in the edge emerges because of variety of minor areas in such space. The minor dense texture can produce lively and flexible area that can adapt with the context's new circumstances. As Alexander describes, in process of forming a structure, 'the main center brings with it a boundary zone, and soon this boundary zone is filled with activity, forming additional and smaller centers that ultimately become structure in themselves.' These new centers support the tensions at the edge and emphasize the main center (Alexander, 2002/2, p. 67). He continues his discussion with several examples such as formation of a milk-drop splash or the structure of wood issue (Figs. 3 and 4).

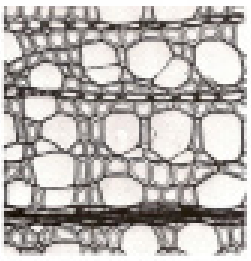

Fig. 3. Levels of Scale in the Cell Structure of Wood Issue. During Cellular Generation, the Edge Becomes the Activity Zone and Small Scale Centers Appear (Alexander, 2002/2, p. 66).

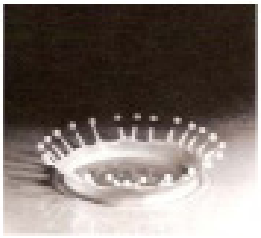

Fig. 4. Levels of Scale While Forming a Milk-Drop Splash. In the Milk Drop Splash, the Splash First Forms, Rings the First Center. The Perturbation Around the Edge of the Ring then Aggregate in Smaller Drops – Smaller, Obviously, Than the Main Ring, But not Tiny. Their Diameter is About One-Quarter to One Tenth the Size of the Ring, and They Give the Milk-Drop Splash Its Levels of Scale (Alexander, 2002/2, p. 66).

Ardalan declares that the boundaries play with new circumstances and the changes and adaptations occur in the edge resulting the order and harmony in an architectural work (Ardalan, 2001, p. 17). In this relation, Alexander studies the historical evolution in a church in Florence that the organic adaptation happens in the edge (Alexander, 2002/2, p. 97). (Fig. 5)

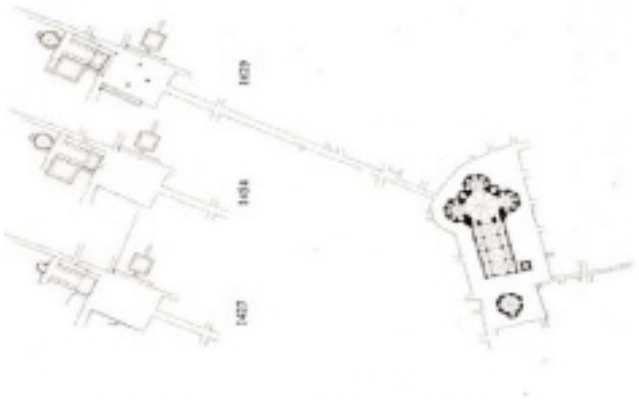

Fig. 5. The Gradual Evolution of a Church in Florence between 13 to 15 Centuries (Alexander, 2002/2, p. 97)

Bentley and his colleagues believe that 'the edge between buildings and public space must be designed to enable range of indoor private activities to co-exist in close physical proximity with a range of outdoor public activities (Bentley et al., 2004, p. 198). Paumier describes that overlapping areas and boundaries of main activities such as commercial or residential zones causes the people gather for different intensions at different times of day. The continuity of this process produces vitality (Paumier, 2010, p. 13). Thus, it can be said that this area of overlapping activities produces a joint between main activities. At this joint, it happens a variety and multiplicity of functions that improves flexibility.

So the edge is a place that variety, multiplicity and change is produced. Hence, dynamism as the emergence of structural plurality, difference and change occurs in the edge. The subsidiary activities with their variety also happen in this area.

In Bacon interpretation, although the leaves drops every autumn and grow every spring, the trunk and the branches remain to define the final form of the tree (Bacon, 1997). Inspiring from this description (Fig. 6) and according to the mentioned discussions, the position of emerging durability and dynamism is drawn abstractedly in Fig. 7.

Fig. 6. Inspiring from Bacon Interpretation, the Emergence of the Hierarchy between the Center and Edge, Can be Resembled to the Structure of a Tree

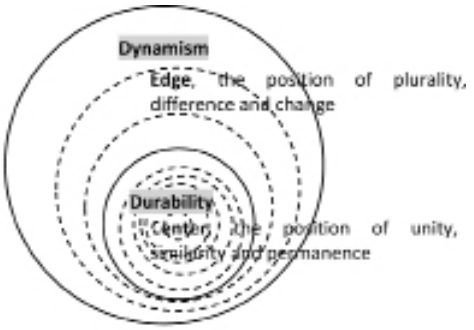

Fig .7. The Formation of Hierarchy from Center to Edge and Emerging Durability and Dynamism.

DEFINING THE NOTION OF CENTER AND EDGE IN ARCHITECTURAL SAMPLES

In order to make a clear definition of the center and the edge, here is some examples from historical and contemporary buildings[4]. According to the argumentations, the center of the place is an area which the main concept and activity occur. Usually, the buildings with memorial characteristics have more clarity in emerging center(s) and edge(s). This clarity in other building's types decreases.

In traditional mosques, the main centers are inspired by the essence of collective worship. Such essence produces two main centers, one in outdoor area (Sahn or main courtyard) and one in indoor area (Gonbad-khane or dome space). The main courtyard that is an extent area, forms the urban center and the dome space which is an outstanding spiritual space getting direction to Qebleh (the sacred direction), forms the spiritual center. In the latter, because of the Qebleh tension and the Mehrab (altar) location, the center tends to the Qebleh. In Fig. 8, in Emam Mosque in Isfahan, the position of centers and edges are considered relatively.

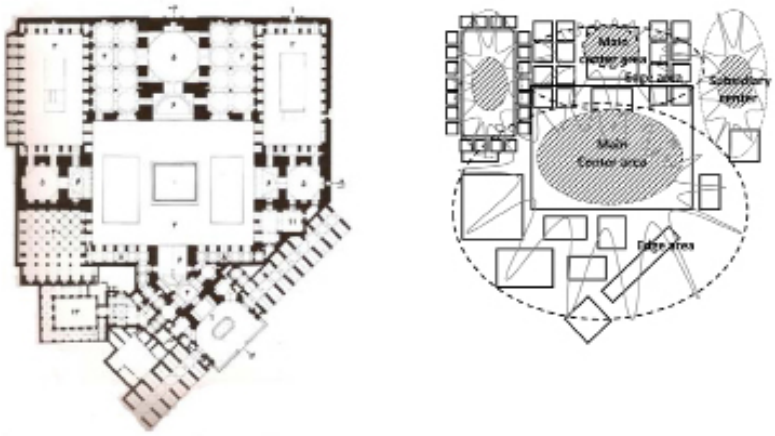

Fig. 8. The Formation of Main Areas and Variety and Multiplicity of Subsidiary Areas. Emam Mosque in Isfahan Plan (Ganjname, 1996, p. 24)

In classic churches, the public center sometimes occurs in a linear area. The spiritual center has tendency to altar. In Fig. 9, in a historical church in Florence, the positions of centers and edges are considered relatively.

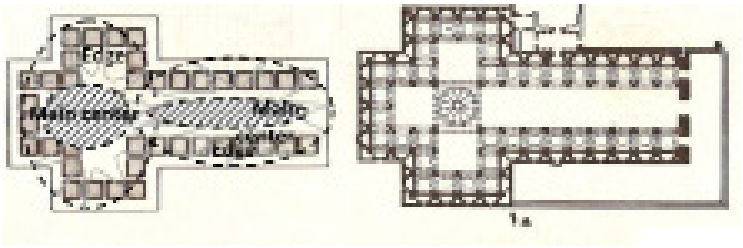

Fig. 9. Santo Spirito Church, Florence Plan (Clark, 1996)

It seems that in residential buildings, the public and private areas are among the main centers. The edge area in different types of houses can emerge by variety and multiplicity of secondary spaces and activities which support the main space. In Fig. 10, in a traditional inward-looking house, the position of centers and edges are considered relatively.

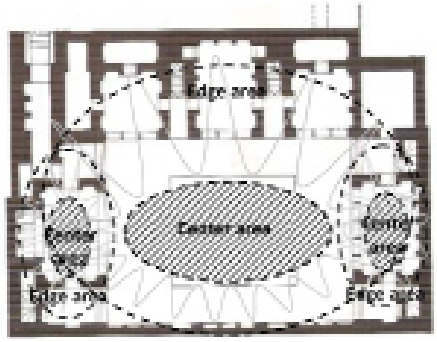

Fig.10. Formation of Centers and Edges in a Traditional House in Yazd. (Ghezelbash & Abouzia, 1985, p. 93)

It seems that in contemporary architecture, because of complexity of designs and forces, formation of center and edge does not have the clarity of traditional designs[5] This may be derived from this reason - as Chermayeff and Alexander declare - that most of the houses in recent era loose the clarity regarding the hierarchy in internal and external design (Chermayeff & Alexander, 1992, p. 162). But it seems that considering the main properties of the center and the edge, such as the main physical or activity area (implying the center area) and the marginal area (implying the edge area), the relative zones can be defined. In Fig. 11, in a contemporary house, the position of centers and edges are specified.

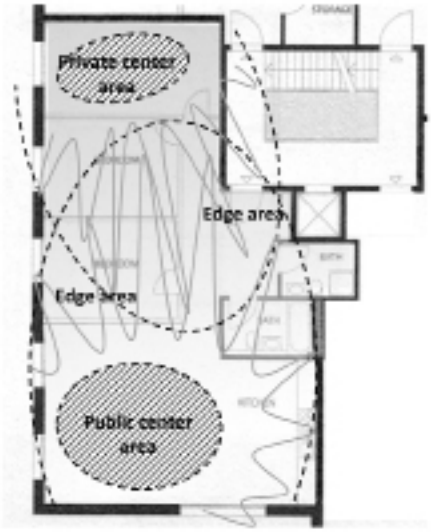

Fig. 11. Formation of Center and Edge in a Contemporary House Plan (Schneider and Till, 2007)

THE ADDITIONAL DISCUSSIONS RELATING TO THE CENTER AND EDGE

It seems that some additional explanations about the center and edge properties are effective in clarifying the discussions.

The Conceptual and Physical Center and Edge

The center and edge can emerge in a range of conceptual to physical conditions. The conceptual center and edge can be considered due to the abstract and subjective notions of an architectural work that aroused from the specific life which forms the design. It can also be conceived relating to the behavioral forms of human living. The structure's abstract and physical properties define the abstract or physical properties of the center and the edge. For example, the center and the edge relating the structures of human behaviors, emerges main and marginal behaviors. As Jacobs declares, variety means to grow the secondary activities, in order to give supporting service to the main activity. This variety is ineffective unless there exists the main activity. In such condition, it can produce vitality (Jacobs, 2007, p. 173). Bentley and his colleagues emphasize on designing the edges and declare that most of the secondary activities occur in this area (Bentley et al., 2003, p. 170)

It seems that in a correct process of formation of an architectural work, the abstract and physical structures along with their centers and edges superpose as a united whole. As Lynch describes, such superposition is the means by which the meaning emerges. It also provides the context for appearing compatibility, transparency and legibility (Lynch, 1997, p. 180). He defines compatibility as the complete adaptability of environment physical structure with the non-spatial structures (Lynch, 1997, pp. 173, 191). Rapoport believes that the objective emergence of the residential areas occurs in accordance with the subjective properties of the context. He declares that such order has established according to a conceptual form before finding a physical shape. The spatial order expresses the mental concepts (Hamidi, 1997, p. 33). In Arnheim's word, the mental image of the building,

both in general composition and components, should be conductive. There is an interactive relation between what the building express and what executes (Arnheim, 2003, p. 274). According to Ardalan belief, the geometry or the objective organization of the building has the duty of forming the architectural work, but points to a spiritual truth (Ardalan, 2001).

The Symbolic Aspects of the Center

It seems that the center role as the position of emerging durability, meaning and identity, has more dependency to abstract properties. As a result, center usually has a great symbolic power. If the center area is considered with its internal center and edge, in the center point usually does not exist any objective element or if it exists, the element has symbolic influence. This can imply the importance of such position. In western classic buildings, it is usually used symbolic statue or obelisk. In Iranian traditional buildings, it has been used symbolic elements such as water in the form of pools (Houzes)[6].

Multi-Center Structures

Depending to the essential properties of an architectural work, structure may emerge as one center or multi-center form. The mono center structures appear with clear hierarchy toward central area that shows the relative importance of components in compare with the center. Such structures, as mentioned before, have strong symbolic and memorial affect.

Other types of structures may emerge as multi-center structures. Ordinary human life structures are usually multi-centers. In these structures, the hierarchy and appearance of center and edge, does not have the clarity of mono center structures. In some of structures, there may be several centers for public and private usage as mentioned in the previous part[7]. Sometimes the center appears as a linear center. Ardalan believes that the centrality exists in traditional Iranian cities and it emerges in the form of a linear form which is Bazar (Ardalan, 2001). Whatever the number of same and similar centers increases, the structure moves to grid form. These kind of structures are neutral and the components and their relations are of the same value. So the hierarchy, the center and the edge fade.

The Difference between the Design Limitations and the Center and the Edge Properties

Different forces and executive and environmental limitations, affect the final organization of the center and the edge. For example, the limitations such as the rigid or blind boundary have negative affect in center position because the center tends to emerge at outstanding locations regarding for example light and view issues. Such outstanding properties in inward-looking designs, exist in the geometric central position and in outward-looking designs, it happens near the boundaries with suitable circumstances. The important point here is paying attention to the difference between the limitations of the design context and the center and the edge properties. The limitations of the design context may cause rigid and inflexible parts in the external or internal parts[8]. This rigidity or the permanence of some parts of the design context is an imposed circumstance. So it does not have any relationship with the center organic properties as a durable area or it does not make a paradox regarding to the formation of the edge as a dynamic area beside a rigid boundary. Thus, it should be considered that durable and dynamic properties of the center and the edge, grow from within the concept of the architecture and such emergence as an organic process, adapt itself with the limitations of the context. In other words, while emerging the structure, the internal and external forces interaction and the final center and edge position is the resultant of all circumstances.

Thus the physical permanence of an area, is not a sufficient reason for distinguishing the center position. The center location should provide all the main properties relating meaning, activity and physics and also the edge location follows the center location while the secondary areas emerges. In the cases that the edge has to form beside a rigid boundary (as it happens in many designs) the physical dynamism occurs via emergence of variety and multiplicity of secondary spaces.

The Interaction of Durability and Dynamism in the Edge

As mentioned before, the edge area has a supportive role relating the center. The center as the durable position is emphasized by the edge. Thus it can be said that the edges contribute in the identity emergence. If the center emerges the ‘being’, the edge emerges the ‘being’ extensions. The edge is the extent from that point onward the distinction happens. So the edge provides the first confrontation with identity and is the position to interact with surrounded world. Thereupon the edge contribute in the durability and identity. This matter imply that although the edge is position where dynamism emerges, such dynamism occur within the durability requirements and affects strongly in durability emergence.

CONCLUSION

According to the present paper discussions, the process of occurring structure of the architectural work, similar to other structural entities, happens with the emergence of the center and the edge simultaneously. The center area is the main area of the structure and the position where main properties emerges. The edge area is the subsidiary area of the structure, providing the hierarchy of appearance secondary supportive parts. The durability notion i.e. identity continuity and appearing the structural unity, similarity and permanence emerges in the center. The dynamism notion i.e. the appearance of the structural plurality, difference and change emerges in the edge. The process of formation of center and edge in organic structures and traditional architectures has more clarity. In contemporary buildings, it needs more precision while distinguishing the center and the edge.

It is important to consider that center and edge occur in an organic and endogenous process, taking effect from the essential properties of the architecture. Thereupon, more precise recognition of the notion and the nature of the architectural work can facilitate the process. Therefore, while declaring that the center is the position of durable properties, it does not mean that the change cannot occur in this area. But it means that the change and intervention in this area may disturb the identity and meaning of the work. On the other hand, considering such issues, the changes in the edge can occur more freely. It should also be considered that formation of flexible edges with the multiplicity and variety properties may not be provided in all structures and this may limits the flexibility and adaptability of the structure.

Paying attention to this discussion is effective in recognizing and strengthening the identity continuity and can lead to the formation of suitable criteria about the change and intervening limits in valuable architectural works. It also can affect the recognition of processes relating change, flexibility and adaptability during time.

ENDNOTES

1. In 60s decade, the Structuralism movement aimed toward defining global properties of structure and its achievements developed in art, philosophy, linguistics and psychology (Ahmadi, 2004). According to these studies, the structural properties have ultra-disciplinary properties.

2. As Lynch believes, although every center has its general territory, it cannot be considered definitely a specific area for it (Lynch, 1995 p. 520).

3. It can be seen natural samples in which dynamism emerges in the edge. Ellin declares that most biological activities occurs in nature is in this area. She proposes natural examples referring the ecological zone at the edge of a lake, containing the variety of plants, small animals, bacteria and … The species' types increases at the edge (Ellin, 2006, pp. 82-84).

4. As mentioned in the previous part, the center and edge are relative areas. So the illustrations are approximate.

5. Although it seems that in some of the contemporary works such as memorial functions, such as museums or galleries, the formation of center and edge happens with more clarity.

6. In Ardalan's word, according to Iranian thought, the water has a symbolic meaning that implies to existence, hope and eternity (Ardalan, 2001, pp.102-105).

7. It seems that in most of architectural multi-center structures, one of the centers is public space. In Chermayeff and Alexander interpretation, main centers are usually allocate public activities (Chermayeff and Alexander, 1992, p. 32). As Doxiadis declares, the central part of the residential areas has special function and is usually public (Hamidi, 1997, p. 31). Paumier believes that the central part of a residence is an important place for communal interactions (Paumier, 2010, p. 13). Jacobs believes that the centralization causes forming social relations and interests (Jacobs, 2007). Such interpretations imply that this subject is related to the human dependence to social life and relations. As Lang declares, the human behavior cannot be comprehended without dependence to a social organization (Lang, 2004, p. 90). As an example, the social relations in a family organization is a vital matter, and so one of the key centers of a single dwelling structure is public center. Ardalan declares that the social organization in a traditional society is widely dependent to family structure, and this causes the structure tends to central organization (Ardalan, 2001, p. 17). He also believes that among the family members, it flourishes a set of common interrelations that the central courtyard is the symbol of it. This courtyard is effective in defining family identity (Ardalan, 2001, p. 73).

8. For example, in the design of tall buildings, usually the external boundary and central core (where the stair case and elevators are allocated) are rigid and inflexible factors of design. Or in another example, regarding the conservation regulations of some historical areas, the building can be renovated in interior parts if the external façade remains untouched. In such examples, this rigid areas are among limitations of the design. In this situations, the center and the edge which are emerged, adapt themselves with the circumstances.

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