CHRISTOPHER ALEXANDER'S CONCEPT OF "LIVING STRUCTURE":
THEORIES OF "CENTERS" AND "WHOLENESS" AND ITS APPLICATION TO
TRADITIONAL KASTAMONU HOUSES

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ABSTRACT

CHRISTOPHER ALEXANDER'S CONCEPT OF "LIVING STRUCTURE":
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This thesis aims to gain an insight to the properties that make a "living structure" and examine these properties and the concept of "living structure" in traditional Kastamonu Houses in the light of Christopher Alexander's theories of "wholeness" and "centers".

Especially in the last century, building activity has become a significant field with the developments in the construction techniques and technology. In this way, human life is being shaped also, beside the earth. The traditional housing fabric, which is the heritage of years of experience and the reflection of the lifestyle of a particular society, is being neglected. In any part of the world, the number of the buildings, resembling each other so much, increases; and most of the time, they lack the values that support the quality of life.

Within the scope of this thesis, first of all, Alexander's definition of "order", theories of "wholeness" and "centers", concept of "living structure" are studied. Then, traditional Kastamonu houses are analyzed, both visually and spatially; and

properties that make a "living structure" are examined. The relation between "living structure" and "expression of self" and the importance of "belonging to own time and place" are put forward. Then, how different centers are united together by the help of these features is seen.

This study helps to understand, how to create more sensitive environments to live by studying and understanding traditional housing concepts before losing them totally. Moreover, it emphasizes the values of traditional Kastamonu houses, which support the quality of life.

Keywords: Living Structure, Wholeness, Centers, Traditional Housing, Traditional Kastamonu Houses.

ÖZ

CHRISTOPHER ALEXANDER'IN "YAŞAYAN STRÜKTÜR" KAVRAMI: "BÜTÜNLÜK" VE "MERKEZLER" TEORİLERİ İLE BUNUN GELENEKSEL KASTAMONU EVLERİNE UYGULANMASI

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Bu tez, Christopher Alexandır'ın "bütünlük" ve "merkezler" teorileri ışığında "yaşayan strüktür"ü oluşturan özellikleri kavrayarak, bu özellikleri ve "yaşayan strüktür" kavramını geleneksel Kastamonu evlerinde irdelemeyi amaçlamaktadır.

Özellikle son yüzyıl içinde, inşaat sektörü, teknoloji ve inşaat tekniklerindeki gelişmelerle birlikte önemli bir alan haline gelmiştir. Böylece, yer yüzünün yanı sıra insan yaşamı da şekillendirilmektedir. Yaşam tarzının bir yansıması ve yılların deneyiminin birikimi olan geleneksel konut dokusu ihmal edilmektedir. Dünyanın her yerinde, birbirine çok benzeyen yapıların sayısı artmaktadır; ve çoğu zaman bunlar yaşamı destekleyen değerlerden yoksundur.

Bu tez kapsamında, ilk olarak, Alexander'ın "düzen" tanımı, "bütünlük" ve "merkezler" teorileri, "yaşayan strüktür" kavramı incelenmiştir. Daha sonra geleneksel Kastamonu evleri hem görsel hem de mekansal olarak analiz edilmiştir; ve "yaşayan strüktürü" oluşturan özellikler irdelenmiştir. "Yaşayan strüktür" ile "kendini ifade etme" arasındaki ilişki ve "kendi zamanına ve yerine aidiyetliğinin"

vi

önemi ortaya koyulmuştur. Böylece, bu özellikler yardımıyla farklı merkezlerin nasıl bütünleştirildiği görülmüştür.

Bu çalışma, yaşamak için daha duyarlı çevrelerin nasıl oluşturulacağını anlamaya ve geleneksel konut kavramlarını, onları tamamen kaybetmeden önce, anlamaya yardımcı olmaktadır. Ayrıca, geleneksel Kastamonu evlerinin yaşam kalitesini destekleyen değerlerini vurgulamaktadır.

Anahtar Kelimeler: Yaşayan Strüktür, Bütünlük, Merkezler, Geleneksel Konut, Geleneksel Kastamonu Evleri.

To My Parents, Semra & Fethi Melez,

and

To My Husband, Ersin Biçer

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TABLE OF CONTENTS

LIST OF FIGURES

FIGURES

xiv

xviii

xix

CHAPTER 1

INTODUCTION

1.1.   Aim and Scope of the Study

Building activity is a field that interfere the earth most, compared to the other fields of science and technology. In fact, the earth is not the only thing that is reshaped by this way. While designers and builders dominate the earth, human life is also being formed. Moreover, designers (specifically architects) may aim to profit or to make a properly functioning building or create a building on any concept that is specified. But the question is, even if a conceptual or a properly functioning building is created, is there something missing in the quality of the life desired?

Main concern of this thesis is to understand the properties, which make a "living structure" and examine these properties and values of traditional Kastamonu houses from the view point of Christopher Alexander.[1]

There are undeniable values of traditional architecture and they have been subject of many studies in the world for years. Many architects are still attracted by traditional architecture in all around the world. On the other hand, effects of globalization can be clearly seen in every field and in architecture. Today, due to the effects of globalization and fast developing construction techniques and technology, traditional housing fabric is being neglected; hence they seem to go into a process of destruction. Instead, in many different parts of the world, environments resemble

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[1] Alexander, Christopher. <u>The Nature of Order: An Essay on the Art of Building and the Nature of The Universe, Book One, The Phenomenon of Life.</u> Berkeley, Calif.: Center for Environmental Structure, 2002.

each other so much that they do not reflect any specific character to that region. Also the number of them increases day by day.

Moreover, as Alexander says most of the time, the buildings of 20th century are unimaginably lacking the values that traditional ones' possess[2]. However,

> *In traditional society, building was almost always something that stood for human value, that raised life to its greatest possible heights, that supported a spiritual and meaningful conception of human existence.[3]*

Yet, most of the students of architecture and some of the architects are seem to be so involved with the concept-based modern building fashion, they are not aware of the values lost, which has been possessed in old times. In addition, there is a rapid growth in the construction field, mass production of buildings which are the prints of, more or less, the same stamp today.

Alexander, an emeritus professor at the University of California after teaching many years and carrying many research projects in the department of architecture, searches for "a new physical conception of how world is made and how it must be understood" and tries to find out ways of building by "creating life in the fabric of space itself."[4]

His recent publication about his theory has four volumes. In the first volume of his masterwork, he approaches to the subject of making beautiful buildings from a different viewpoint, tries to understand what gives life to buildings and explains the properties of "living architecture" and introduces theories of "wholeness" and "centers".[5]

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[2] Ibid. Pg. 50.

[3] Ibid. Pg. 6.

[4] Ibid. Pg. 444.

[5] Alexander, Christopher. "Synopsis of the Four Books". www.natureoforder.com. Last accessed on: 12/08 2008. <http://www.natureoforder.com/overview.htm>

Alexander realizes that there are some features touching to human heart in some buildings differently from others.[6] In his book, he tries to identify those features in structures which stand closer to human soul. Also, he emphasizes that the architecture which has life, "reflects the human self", and it does this "in accordance with the culture and society"; that is, living structure is "wrapped in culture, based on culture, and mixed with culture, to be sure".[7]

In this thesis work, traditional Kastamonu houses are analyzed in the sense of spatial and visual organization (both inner and outer), ornamentation and form, from the viewpoint of Alexander's theory. The reason why Kastamonu houses are chosen as the project site is that Kastamonu is one of the best preserved cities in terms of traditional housing fabric in Turkey hence it still has many good and living examples. Alexander's theory and the properties of life are investigated in chosen ten houses. These houses are chosen since they are well preserved when compared to the others.

Traditional houses reflect the lifestyle, culture, likes and dislikes of a particular society, thus they are closer to human soul. Since Kastamonu still preserves its traditional housing fabric in a larger scale, even today, a study on these houses may help to gain insight to traditional housing concepts and how they were shaped. Then, more sensitive environments to live can be produced. Furthermore, since traditional houses in Kastamonu have some shortcomings for a contemporary living, they are being destroyed or transformed into a new building in an unconscious manner. So, another important aim of this study is to inform people about the values that are being lost and to try to persuade local authorities to take measures to protect traditional housing fabric before losing them totally.

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[6] Alexander, Christopher. The Nature of Order: An Essay on the Art of Building and the Nature of The Universe, Book One, The Phenomenon of Life. Berkeley, Calif.: Center for Environmental Structure, 2002. Pp 10-13.

[7] Ibid. Pp. 372-401, 443.

3

In the first part of this thesis work, Alexander's theory of "wholeness" and theory of "center" will be examined and the properties that make a "living structure" he introduces will be studied. Next, traditional Kastamonu houses will be introduced, and then, chosen sample houses will be examined in the light of "fifteen fundamental properties" of Alexander's concept of life. In conclusion, values of life of traditional Kastamonu houses will be revealed.

CHAPTER 2

PROPERTIES OF "LIFE" AND CONCEPT OF "LIVING STRUCTURE"

In this part of the study, concept introduced by Alexander in the first volume of his masterwork, which is "living centers", based on the theories of "centers" and "wholeness" and the properties, which make it, will be examined and discussed.

According to Alexander, "The activity we call building creates the physical order of the world, constantly, unendingly, day after day".[8] As he stated, although, human being is responsible for the order created and so the domination over the world, the meaning of the word "order" is not defined properly. Artists, biologists, physicists commonly use the word "order", but there is no definition deep enough for building or architecture. With the progress made in physics and biology about the phenomenon of order and the process, which creates order, an idea about the process of order creation formed and this understanding of "order-creating process" has shaped the modern view of the universe. On the other hand there is no impact of architecture on this view, even though,

> *The process of building is an order-creating process of no less importance than those of physics and biology. It is vast in its scale and scope. It is almost universal in our experience. It is therefore reasonable to think that the art of building might give us equally essential insights.[9]*

From this point of view, he proposes a new way of understanding order to justify the nature of building and architecture; a tool that helps to understand the meaning of

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[8] Ibid. Pg. 1.

[9] Ibid.

being a great building and the life of buildings and when a building is working properly.

He claims that, the architecture of 20th century is unimaginably bad, and he thinks it as a "mass psychosis of unprecedented dimension", as an architecture, which is "against life, insane, image-ridden and hollow". While buildings are something designed for human value, and friendly to people, to human spirit in traditional society, in 20th century situation is reversed and it is based on a profit and image making industry. Then, he states that the roots of the problem, the problem of making buildings well, is in the conception of world of the architect's of our time. But, mostly there is no awareness that we have a picture of the world and it affected the process of design and our sense of beauty. The world–picture that we have in our mind, as architects or builders, is a mechanical one in nature, and he calls it "mechanistic-rationalist" world-picture controlling the way we think. What he means by a "mechanistic-rationalist" world-picture is a world view which is affected by the "laws of nature" which are essentially mechanistic laws that explain the structure of atoms and materials, etc. As he states, though architects seems to be interested with deeper questions, most of them are, most of the time unconsciously, in the trap of such a mechanistic view. Then, he concludes that the problem is directly conception of what matter is; in other word "nature of order" is the matter itself. So, his aim is "to show how architecture can be made whole again, through a new picture of the nature of order, and through a new picture of matter itself."[10]

2.1. Definition of Order

While a house is being designed, spaces are not distributed randomly, but arranged by considering certain priorities and needs; in other words placement of spaces are based on an order. As Alexander states that, everything surrounding us; every material, structure, and mechanism, even the leaves on the trees undoubtedly has an

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[10] Ibid. Pp.6-8.

6

order. It is the geometrical coherence in them, which makes the presence of order to be felt. It is not only the arrangement of a single leaf or branch but also the arrangement of the whole tree, even the jungle itself, where the order is present. Similarly, building a structure consists of many sophisticated tasks and it is the questions that, in what way are those tasks done, so that the order, that is created, is a successful one. Thus, Alexander tries to define "order" in the sense of deep geometry, that can be used by a builder, a designer, a craftsman and an architect and that is helpful to create life in a building.[11]
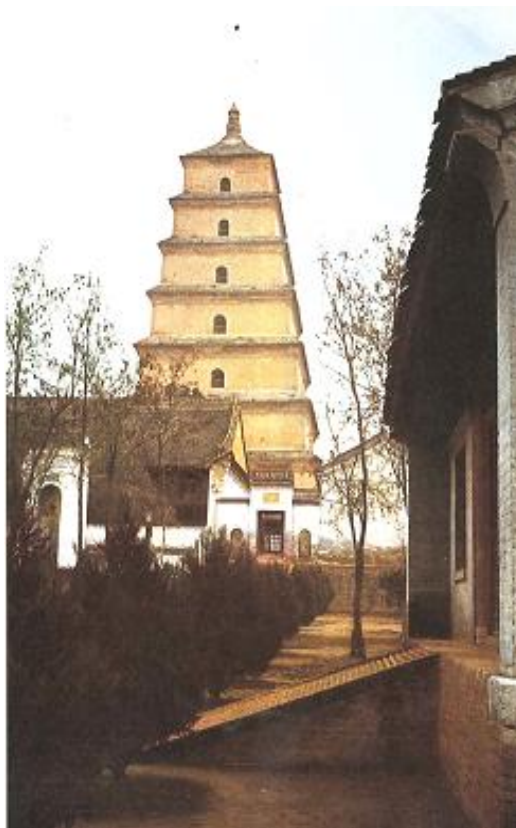
Figure 1: The Tower of the Wild Goose, Hunan Province, China, A.D. 600.
(Source: Alexander, Christopher. The Nature of Order: An Essay on the Art of Building and the Nature of The Universe, Book One, The Phenomenon of Life. Berkeley, Calif.: Center for Environmental Structure, 2002. Pg. 12)

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[11] Ibid. Pg. 9, 10.

Figure 2: Columns, ropes, and flags in the Ise shrine
(Source: Alexander, Christopher. <u>The Nature of Order: An Essay on the Art of Building and the</u>
<u>Nature of The Universe, Book One, The Phenomenon of Life.</u> Berkeley, Calif.: Center for
Environmental Structure, 2002. Pg. 11)

Drawing from Alexander's study, the word "order" has been used and defined by
scientists, physicists, and biologists for about a century. They concentrated on many
different specific types of order such as military or hierarchic order, biological order,
mathematical order, etc. Nevertheless, none of these definitions is deep enough to be
helpful for an architect to create "life" in a building. Looking at the pictures above
(Figure 1-2), something very deep touches to heart; and none of these theories of
order helps to understand the order of these buildings. He asks "what, indeed, is that
thing intuitively feel as order in all these different cases?"[12]

Alexander continues with the devastating results of the mechanistic viewpoint of 20th
century for the artists. First of these results is the absence of the "I". The second
devastating result is related with the understanding about value. Since the worldview
from physics, is a mechanical one, buildings have no longer any definite feeling in it.
Losing two very important aspects of being an artist and a designer, process of
creating loses its meaning. As he says, "mechanistic idea tells us very little about the

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[12] Ibid. Pp. 10-13.

deep order we feel intuitively to be in the world."[13] And, the real nature of deep order can be understood by searching the statements recognized as true or false. Actually as Alexander presents, there are statements in the mechanistic worldview, which can be true or false, called "facts". On the other hand, there are another kind of statements, capable of being true or false, which are about "value" such as, relative degree of life, degree of harmony, degree of wholeness; and this is artists' very natural right to work out his own values. As a consequence, what he believes in what is needed is "a sharable point of view, in which many factors influencing the environment can exist coherently, so that we can work together – not by confrontation and argument – but because we share a single holistic view of the unitary goal of life."[14]

According to him, achieving this aim is only possible by freeing ourselves from the mechanistic view and with a new worldview, which sees things in their "wholeness" and recognizes "life". The view of "order" he proposes is both functional and ornamental, profoundly; claiming that tough they seem different; they are only the different sides of the same order. It is not something far away from the humanity, it is the thing that touches the heart of human being, and it is personal. Yet, it is not the only thing to be questioned what order is, but also "the very nature of order" also should be questioned to make a good architecture.[15]

2.2.   What is "Life" and "Living Structure"?

Many architects try to create buildings, towns, centers, squares, etc. which are in harmony with the environment, living fabric around it. Nevertheless, there is not any useful, exact definition of the word here again. As Alexander said, every form, which has "order", also has "life" to some degree.

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[13] Ibid. Pp. 16-21.

[14] Ibid.

[15] Ibid. Pg. 22, 23.

Thus life is not a limited mechanical concept which applies to self-producing biological machines. It is a quality which inheres to space itself, and applies to every brick, every stone, every person, every physical structure of any kind at all, that appears in space. Each thing has its life.[16]

Sometimes we hear comments about colors that a color seems to have more life than another or similarly about a material, a room, a dress, etc. In other words, it is not only living organisms that are subject of biology, but also the manmade structures, things has its own life.

Alexander tries to put forward a new worldview, in which the idea that everything has its own life to some degree is clearly defined and understood; and asks what are the properties that create life in the world, things, buildings, structures, etc. As he states, in the works of art and architecture and in artifacts, the feeling of that some of them is more filled with life than the others exists also. Existence of life can be felt in all the examples (Figures, 3-4) he gave, besides he reminds that, the actual geometrical arrangement of the object has a close relation with the life experienced in them, and it can also be seen in the parts of that object. It is a quality, which is not the same as biological life in organisms; it is more general in meaning, which is very general life that includes formal, geometric, structural (plasters, concrete, tile, the life of colors and shapes of them), social (actions and events, ordinary life), biological and holistic.[17]

Drawing from Alexander's study, another thing, which is missing in 20th century, is ordinary and commonplace effort, which is a life-supporting quality. Alexander gives many examples containing life. Though they seem different from each other, they have a common point; "each belongs to its own time and place".[18]

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[16] Ibid. Pg. 28.

[17] Ibid. Pp. 32-49.

[18] Ibid. Pp. 60-62.
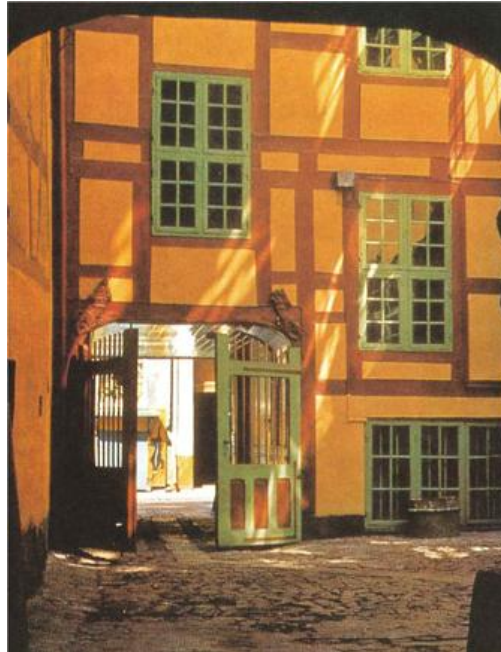
Figure 3: Courtyard of a house in Copenhagen
(Source: Alexander, Christopher. <u>The Nature of Order: An Essay on the Art of Building and the Nature of The Universe, Book One, The Phenomenon of Life.</u> Berkeley, Calif.: Center for Environmental Structure, 2002. Pg. 41)

Figure 4: Jazz in the street
(Source: Alexander, Christopher. <u>The Nature of Order: An Essay on the Art of Building and the Nature of The Universe, Book One, The Phenomenon of Life.</u> Berkeley, Calif.: Center for Environmental Structure, 2002. Pg. 37)

The architecture of the twentieth century constitutes many works, which students of architecture take as a model. As Alexander states, although the feeling of greater life can be seen from time to time during the twentieth century, "the feeling of deep life which occurs in traditional artifacts is less common in 20th century-especially in buildings". He claims that, "to produce this life, we must first see how life spring from wholeness, and indeed how life is wholeness. Wholeness exists all around us, and life springs from it".[19]

As he concludes, "The deep order which produces life in buildings is a direct result of the physical and mathematical structure that occurs in space, something which is clear and definite, and something which can be described and understood".[20]

2.3.   Theories of "Wholeness" and "Centers"

Alexander tries to develop a language to understand how life exists in buildings and understand it as a phenomenon. What come out of this effort are the theories of "centers" and "wholeness", which are very crucial entities to understand the life as a structure.

As Alexander states, "the beauty of a building, its life, and its capacity to support life all come from the fact that it is working as a whole". "And it contains many wholes within it – also unbounded and continuous in their connections. Above all, the whole is unbroken and undivided." So, building is not something isolated from its parts, not something designed in a room and then put on some point on the earth. It is a part of undivided continuum of the world that it belongs to. Although there is not a scientific analysis of buildings from this point of view, the idea of wholeness, it is largely assumed to be true. Taking into consideration the example given in physics, it can be seen that the behavior of an electron is largely affected by the whole configuration of the structure. Therefore, "the *wholeness* is the important thing: the local parts exist

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[19] Ibid. Pp. 50-57.

[20] Ibid. Pg. 62.

chiefly in relation to the whole, and their behavior and character and structure are determined by the larger whole in which they exist and which they create."[21]

"The general idea is that the wholeness in any part of space is the structure defined by all the various coherent entities that exist in that part of space, and the way these entities are nested in and overlap each other."[22] To understand this idea, he starts with examination of a very simple structure. As it can be seen from his diagrams (Figure 5), he starts with a sketch of a blank paper, and then adds a single dot on it. Then he starts to experience the dramatic change in the wholeness of the paper and tries to explain the new configuration, which has come into being after the placement of dot. Now there are zones, which are not visible before. Including the main entity of the sheet itself, he finds that at least twenty entities created in the space of the sheet with a single simple dot, and lists these entities (from the strongest to the weakest):

> *1. The sheet itself. 2. The dot. 3. The halo around the dot. 4. Bottom rectangle trapped by dot. 5. Left-hand rectangle trapped by dot. 6. Right-hand rectangle trapped by dot. 7. Top rectangle trapped by dot. 8. Top left corner. 9. Top right corner. 10. Bottom left corner. 11. Bottom right corner. 12. The ray going up from dot. 13. Ray going down from the dot. 14. Ray going left from the dot. 15. Ray going right from the dot. 16. The white cross, formed by these four rays. 17. Diagonal ray from dot to nearest corner. 18. Diagonal ray from dot to next corner. 19. Ray from dot to third corner. 20. Ray from dot to furthest corner.* [23]

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[21] Ibid. Pg. 80.

[22] Ibid. Pg. 81, 82.

[23] Ibid.
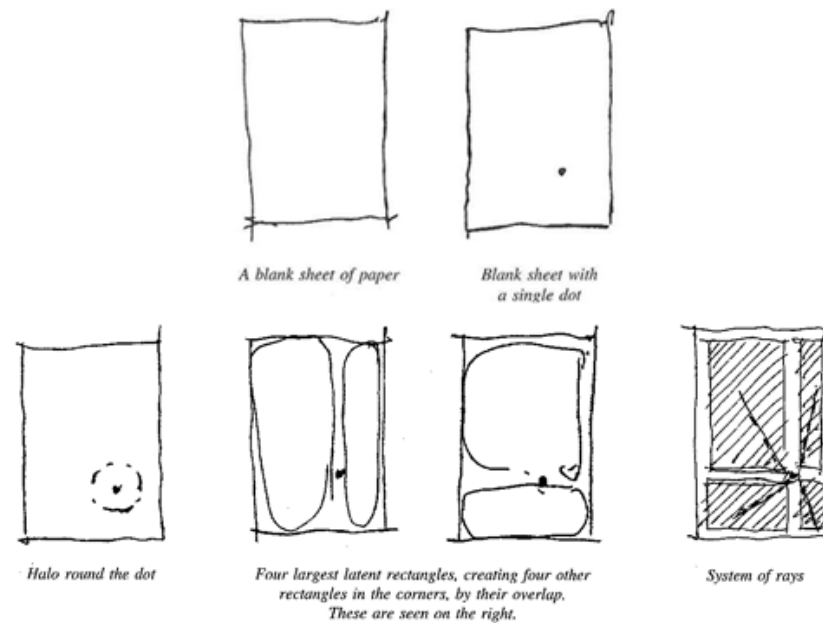
Figure 5: Diagram of the change in the wholeness of the paper
(Source: Alexander, Christopher. <u>The Nature of Order: An Essay on the Art of Building and the Nature of The Universe, Book One, The Phenomenon of Life.</u> Berkeley, Calif.: Center for Environmental Structure, 2002. Pg. 81, 82)

According to Alexander, "the wholeness is made of parts; the parts are created by the wholeness", and he calls these parts or local wholes as "centers". In fact they exist as local centers within a larger whole. By the word center, he does not only refer to a geometrical center, but also he uses the word center as "an organized zone of space".[24]

He thinks of the coherent entities in the world as centers, not as wholes. The reason why he thinks in this way is that, thinking of them as wholes or entities reminds their boundedness and separation, but thinking them as centers emphasizes their relatedness. So he says, "I see them as focal points in a larger unbroken whole and I see the world as a whole".[25]

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[24] Ibid. Pg. 83, 84.

[25] Ibid. Pg. 85.

Also, it is very important to understand that the existence of centers depend on the configuration as a whole. It is not merely the internal shape itself, which creates the center in it, but also the outer factors around it or which extend from it plays an important role on the strength of the centers.[26]

Wholeness is not merely something related with gestalt[*]; in fact "it is the source of the coherence which exists in any part of the world". The strength and defined character of this wholeness stems from the coherent spatial centers that make the whole. In other words, coherent spatial centers determine the kind of life that goes on the whole space, created by those coherent centers.[27]

It is the system of the centers, which creates the organization of that part of the world that they exist. Alexander says "the wholeness always exist in some form, whether that place good or bad, lifeless or alive." And he claims that life comes from wholeness. At this point what is important is that "the particular details of the ways the centers in the wholeness cohere to form a unity, the ways they interact, and interlock, and influence each other."[28]

The vital points about the structure of centers explained up to this point, and also which are important in understanding of living structure and of the way life comes from the wholeness, are summarized as below:

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[26] Ibid.

[*]Gestalt is a psychology term developed by German psychologists in the 1920s. It refers to a set of principles to explain perceptual organization. For more information see:

> Koffka, Kurt. Principles of Gestalt Psychology. Harcourt, Brace & World, 1963.

> Metzger, Wolfgang. Laws of Seeing. Translated by Lothar Spillmann. Cambridge, Mass.: MIT Press, 2006.

[27] Alexander, Christopher. The Nature of Order: An Essay on the Art of Building and the Nature of The Universe, Book One, The Phenomenon of Life. Berkeley, Calif.: Center for Environmental Structure, 2002. Pg. 90, 91.

[28] Ibid. Pg. 106.

1.　Centers themselves have life.
2.　Centers help one another:　the existence and life of one center can intensify the life of another.
3.　Centers are made of centers (this is the only way of describing their composition).
4.　A structure gets its life according to the density of centers, which have been formed in it. [29]

The amount of life of the wholeness in a part of space decreases or increases according to the way the centers help each other. "When centers help each other the wholeness has more life: when the centers are not helping each other the wholeness has less life."[30]

To gain a deeper understanding about the idea of a center, centers of a 15th-century Turkish carpet analyzed in terms of field and field effect. Alexander picks out one of the centers in this carpet, which is shown below, and draws a diagram of the center like a vector field. In the diagram there are directions towards other centers. "Here we see wholeness, not merely as a nested system of centers, but as an ordered system in which the way that different centers and sub-centers help each other creates the field effect." And the arrows represent the contribution of a center makes to another one.

Figure 6: Enlargement of the border ornament from the Anatolian carpet and diagram of the force-field of the dominant center that appears in the carpet border
(Source: Alexander, Christopher. The Nature of Order: An Essay on the Art of Building and the Nature of The Universe, Book One, The Phenomenon of Life. Berkeley, Calif.: Center for Environmental Structure, 2002. Pg. 119)

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[29] Ibid. Pg. 110.

[30] Ibid.

These orientations are also centers. Thus the elements of the field are both centers of different strength, and helping relationships among centers. Together they create a structure, not unlike a vector field, but with many layers hierarchically ordered.[31]

As it has been suggested, the idea is that "each center is a field of other centers" and "each center is a multi-leveled field-like phenomenon made of other centers". What comes next is the integration of an earlier idea that each center has its degree of life, within the current situation. So, every individual center has its own degree of life. With the help of this idea, it can be seen that, "how the degree of life of each center in a given wholeness depends on the degree of life of all the other centers in the wholeness." Consequently, none of these centers is the origin of the structure or its life. As it is expressed above, none of them comes first, but they all support each other. And life arises from their relations, connections and overlapping each other.[32]

At this point, Alexander proposes a set of rules explaining the ways of making living centers from other centers, as answer to the question, how a living center can be made?

2.4. "Fifteen Fundamental Properties"

After introducing and explaining the idea of life, Alexander tries to analyze the different ways in which life occur. He asks himself this question:

Can we find any structural features which tend to be present in the examples which have more life, and tend to be missing in the ones which have less life? In other words, can we find any recurrent geometrical structural features whose presence in things correlates with their degree of life? [33]

As a consequence, he proposes fifteen structural features which he found common in things have life. These features are given below:

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[31]Ibid. Pg. 119.

[32]Ibid. Pp. 120-126.

[33]Ibid. Pg. 144.

1. *Levels of Scale,*
2. *Strong Centers,*
3. *Boundaries,*
4. *Alternating Repetition,*
5. *Positive Space,*
6. *Good Shape,*
7. *Local Symmetries,*
8. *Deep Interlock and Ambiguity,*
9. *Contrast,*
10. *Gradients,*
11. *Roughness,*
12. *Echoes,*
13. *The Void,*
14. *Simplicity and Inner Calm,*
15. *Not-Separateness.* [34]

These properties are "just the fifteen ways in which centers can help each other come to life". And "they work; they make things have life, *because* they are the ways in which centers can help each other in space".[35]

2.4.1. "Levels of Scale"

The first common point, Alexander recognized in the object which has life, is that the centers which make that object has different scales. The difference between these scales or sizes is definite. In other words, they can be grouped as big, middle or small centers, so there are well-marked levels of scales.[36]

He claims that, "if you compare any two things, one with more life and one with less, it is very likely that one with more life will have better levels of scale in it." That is simply because, the different scale forms a continuum in the object and makes it whole; as a result it creates life in the object. [37]

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[34] Ibid.

[35] Ibid. Pg. 145.

[36] Ibid.

[37] Ibid. Pg. 146.

To understand the subject, he gives the sample of two doors (Figure 7), which have parts of different sizes and compares them. He states that the variety of sizes in that old Irish door possesses "more dramatically differentiated". [38]

> *In the right-hand door, we experience the levels more deeply for two reasons. First, there actually are more levels; because the panels are more finely differentiated, there are centers formed at intermediate scales, formed by the top panel and middle panel together, for example –something that does not happen in the other door. But what is really missing is the degree to which the centers help each other.* [39]

As it can be derived from the door sample, to make the centers support each other more efficiently, the range of sizes and scales of the centers should be well ordered.

Figure 7: Sample of two doors.
(Source: Alexander, Christopher. The Nature of Order: An Essay on the Art of Building and the Nature of The Universe, Book One, The Phenomenon of Life. Berkeley, Calif.: Center for Environmental Structure, 2002. Pg. 147)

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[38] Ibid. Pp. 146-149.

[39] Ibid.

2.4.2. "Strong Centers"

The second property of an object, which has life that Alexander proposes, is "strong centers". He says,

> *...next to the property LEVELS OF SCALE, possibly the most important feature of a thing which is alive is that we find that the various wholes which exist at different levels appear not merely as centers or "wholes" or "blobs," but actually as strong centers.*[40]

He gives the example of an Anatolian carpet from the 18th century (Figure 8), and thinks that it has the feature of centeredness to a striking and extraordinary degree. According to him, "Almost every good carpet has some strong center, not necessarily a geometric center, but a center of attention, a center of focus." [41] As he said, it is not something that just exists in the middle. If it were like that, it would not be felt from the outer configuration of it when it covered, it would be powerless.

Figure 8: A primitive carpet embodies the powerful center caused by a field effect that begins at the very edge of the carpet, and works its way inward, radiating centeredness throughout the structure. (Source: Alexander, Christopher. The Nature of Order: An Essay on the Art of Building and the Nature of The Universe, Book One, The Phenomenon of Life. Berkeley, Calif.: Center for Environmental Structure, 2002. Pg. 153)

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[40] Ibid. Pg. 151.

[41] Ibid. Pg. 152.

Another interesting example given in Alexander's study is the comparison of two houses. He claims that, "In contemporary buildings, it is often hard to create this hierarchy of centers, perhaps above all because –in practical terms –we do not know what to put at *the* center." [42] As an explanation of this idea he compares plans of the houses one lacking a center, and the other having centers given below (Figure 9).
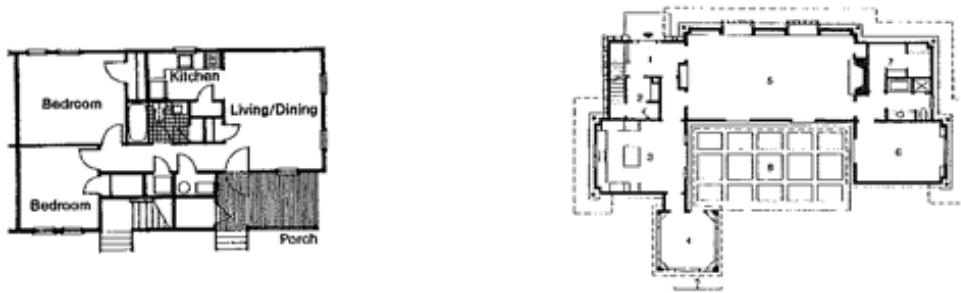
Figure 9: House plans with very poor centers on the left and with rich centers on the rigth.
(Source: Alexander, Christopher. <u>The Nature of Order: An Essay on the Art of Building and the Nature of The Universe, Book One, The Phenomenon of Life.</u> Berkeley, Calif.: Center for Environmental Structure, 2002. Pg. 155)

Even though there seems to be only one strong center at a first glance, as Alexander stated, there exist many other centers, which support it.

> *Like levels of scale, the concept of a strong center is recursive; it does not refer to someone grand center, but to the fact that at a great variety of scales, in a thing which is alive, we can feel the presence of a center, and that it is this multiplicity of different centers, at different levels, which engages us.*[43]

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[42] Ibid. Pg. 155.

[43] Ibid. Pg. 156.

2.4.3. "Boundaries"

Another important property that Alexander noticed in his studies is boundaries.

> *Boundaries is the way in which field-like effect of a center is strengthened by the creation of a ring-like center, made of smaller centers which surround and intensify the first. The boundary also unites the center with the centers beyond it, thus strengthening it further.* [44]
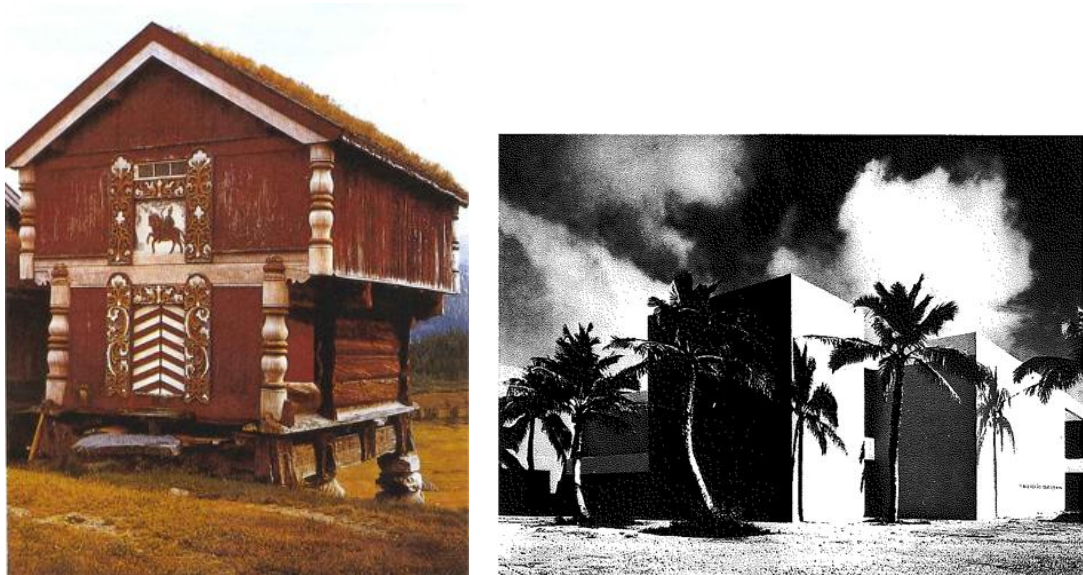
Figure 10: Traditional Norwegaian storehouse: a building replete with boundaries and a condominium, typical of mid-20th- a building without boundaries.
(Source: Alexander, Christopher. The Nature of Order: An Essay on the Art of Building and the Nature of The Universe, Book One, The Phenomenon of Life. Berkeley, Calif.: Center for Environmental Structure, 2002. Pg. 158)

Furthermore, in order to make a boundary work, Alexander emphasizes the importance of the consistency of boundary magnitude with the center being bounded. In other words, he says, "the boundary needs to be of the same order of magnitude as

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[44] Ibid Pg. 239.

the center which is bounded".[45] The effect of the boundaries can be understood more clearly by examining the example given below (Figure 11).
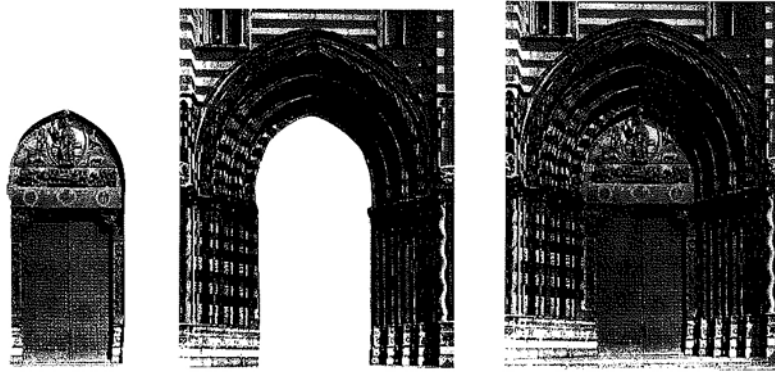
Figure 11: Gothic door without surround, Gothic door-surround without door, and Gothic door with surround.
(Source: Alexander, Christopher. The Nature of Order: An Essay on the Art of Building and the Nature of The Universe, Book One, The Phenomenon of Life. Berkeley, Calif.: Center for Environmental Structure, 2002. Pg. 161)

2.4.4. "Alternating Repetition"

Repetition is a term or a tool, which is used very often in poetry, literature and rhetoric; and there are several kinds of it where words or certain phrases are repeated for a *stronger emphasis*.[46] Also it is a familiar term that is used often in music. Actually in every part of life, it is very usual to see things repeating.

According to Alexander, it is another efficient way in which centers help each other and intensify other centers. It is also the way of things are made. Besides, as he says below, it is something different from an ordinary kind of repetition:

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[45] Ibid.

[46] Definition of Repetition. en.wikipedia.org. Last accessed on: 29/07/ 2008.
<http://en.wikipedia.org/wiki/Repetition_%28rhetorical_device%29>

But the repetition which occurs in things which have life is a very special kind of repetition. It is a kind where the rhythm of the centers that repeat is underlined, and intensified, by an alternating rhythm interlocked with the first and where a second system of centers also repeats, in parallel. The second system of centers then intensifies the first system, by providing a kind of counterpoint, or opposing beat.[47]

So, presence of an alternating rhythm and harmony that is created by that repetition are the key points. It can be clearly understood what is meant by an "alternating repetition", can be understood by examining two opposing examples below (Figure 12):

Figure 12: Beautiful alternating repetition in a Greek embroidery. Centers are formed everywhere, in the repetition of the embroidered forms and in the spaces between the repetitions.
And, banal repetition: there is no alternation here, there are no meaningful centers formed anywhere within the forms and spaces which repeat.
(Source: Alexander, Christopher. The Nature of Order: An Essay on the Art of Building and the Nature of The Universe, Book One, The Phenomenon of Life. Berkeley, Calif.: Center for Environmental Structure, 2002. Pg. 168)

As Alexander states, the difference between two examples lies in the way of repetition; in other words, it is the existence of alternation that creates difference. It is not only the units in the wholes repeating, but also the repetition itself repeats. So repetition of all the elements in a thing, results in wholeness.[48]

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[47] Alexander, Christopher. The Nature of Order: An Essay on the Art of Building and the Nature of The Universe, Book One, The Phenomennon of Life. Berkeley, Calif.: Center for Environmental Structure, 2002. Pg.165,166.

[48] Ibid. Pg. 169,170.

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2.4.5. "Positive Space"

Positive space occurs "when every bit of space swells outward, is substantial in itself, is never the leftover from an adjacent shape." He believes in that, "A work of art has life more or less to the extent that *every* one of its component parts and spaces is whole, well shaped and positive."[49]

Furthermore, he explains that, space between two buildings is tended to be seen as an "empty sea", which means that buildings are placed on their own definite physical shape and the leftover space between the buildings remain meaningless. As he says, this has a devastating effect:

> *It makes our social space itself –the glue and playground of our common public world –incoherent, almost non-existent. And the character of positive –that is to say "shaped" –space has been forgotten in private gardens, in rooms, in the space of objects and paintings and textiles – even in the typefaces we use.[50]*

In the example given below (Figure 13), it can be seen that beautifulness lies not only in the shape of the bowl itself, but also in the shape of the space next to it.

Figure 13: The Kizaemon tea-bowl. Spaces inside and outside the bowl are all positive. And shape of positive space formed next to the tea-bowl.
(Source: Alexander, Christopher. <u>The Nature of Order: An Essay on the Art of Building and the Nature of The Universe, Book One, The Phenomenon of Life.</u> Berkeley, Calif.: Center for Environmental Structure, 2002. Pg. 174)

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[49] Ibid. Pg. 173.

[50] Ibid. Pg. 174.

In conclusion, he defines the positive space as:

> *Every single part of space has positive shape as a center. There are no amorphous meaningless leftovers. Every shape is a strong center, and every space is made up in such a way that it only has strong centers in its space, nothing else besides.*[51]

2.4.6. "Good Shape"

Alexander evaluates "good shape" as one of the properties found in living structures mixed with the other properties, and the one which is not easy to explain and define. He thinks that to understand a good shape as a recursive rule, is the easiest way of dealing with it. And according to the rule, every small part of a good shape is again a good shape itself. In other words, "A good shape is a center which is made up of powerful intense centers, which have good shape themselves."[52]

It is also important to emphasize, "in most cases the good shape, no matter how complex, is built up from the simplest elementary figures." That is to say, even the most complex works made up with the simplest elementary figures. To demonstrate this idea, the examples given below, which are a teapot stand and a futuristic chair. When compared these two objects, the elements that make up the teapot stand are identifiable, whereas the futuristic chair has no identifiable components.[53]

To clarify it, other examples are given (Figure 16). Though they seem highly floral, when they are examined closely, it can be easily seen that, "it turns out to be made up entirely of diamonds, squares, and triangles, both the colored pieces and the space between", and it can be understood that "The good shape is an attribute of the whole

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[51] Ibid. Pg. 176.

[52] Ibid. Pg.179, 180.

[53] Ibid. Pg. 181.

configuration, not of the parts; but it comes about when the *whole* is made of parts that are themselves whole in this rather simple geometric sense."[54]
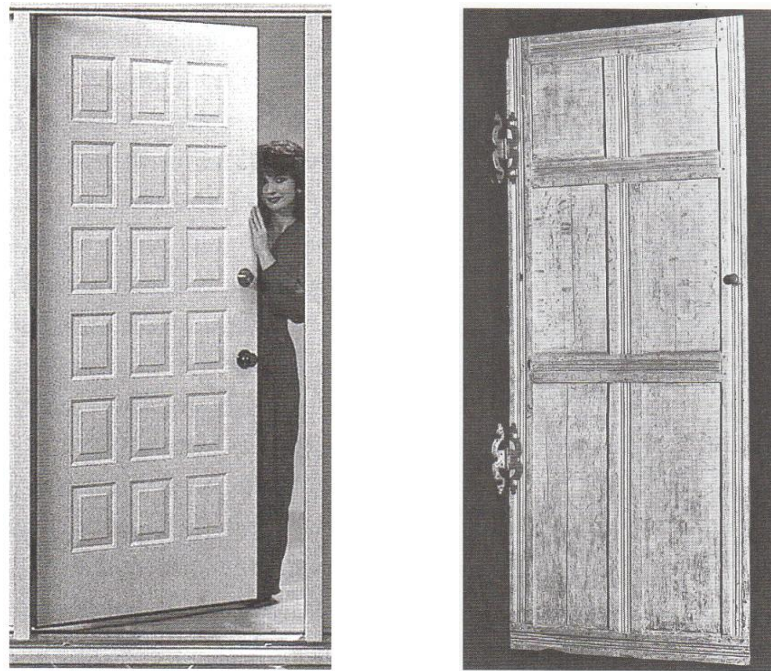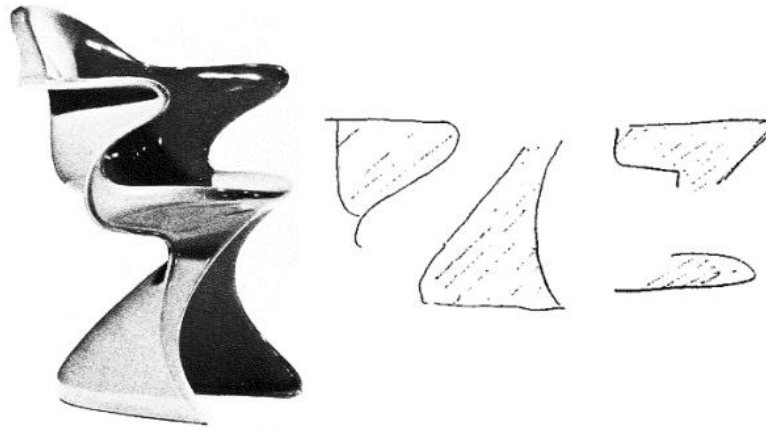

Figure 14: Futuristic chair and amorphous figures in the chair.
(Source: Alexander, Christopher. The Nature of Order: An Essay on the Art of Building and the Nature of The Universe, Book One, The Phenomenon of Life. Berkeley, Calif.: Center for Environmental Structure, 2002. Pg. 181)
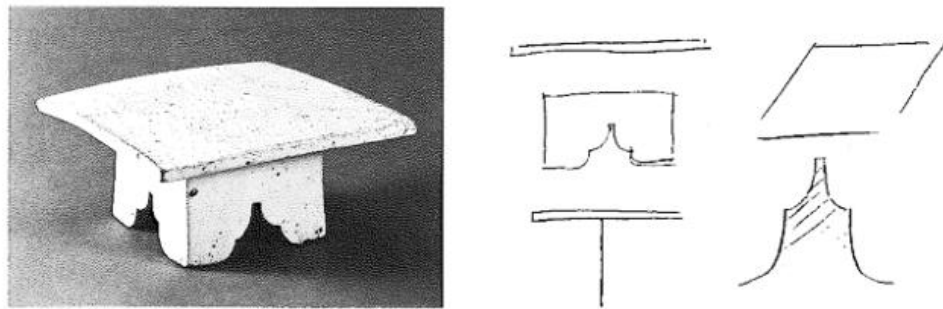
Figure 15: The beautiful shape of the teapot stand and elementary centers in the teapot stand.
(Source: Alexander, Christopher. The Nature of Order: An Essay on the Art of Building and the Nature of The Universe, Book One, The Phenomenon of Life. Berkeley, Calif.: Center for Environmental Structure, 2002. Pg. 181)

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[54] Ibid. Pg. 182,183.

Figure 16: Early Persian carpet and a border ornament from another carpet.
(Source: Alexander, Christopher. <u>The Nature of Order: An Essay on the Art of Building and the Nature of The Universe, Book One, The Phenomenon of Life.</u> Berkeley, Calif.: Center for Environmental Structure, 2002. Pg. 182)

In short, "by having good shape, the life of dozens of centers is created"[55]; and Alexander gives a partial list of required properties for both "good shape" and the elements that make up a "good shape":

1. *High degree of internal symmetries.*
2. *Bilateral symmetry (almost always).*
3. *A well-marked center (not necessarily at the geometric middle).*
4. *The spaces it creates next to it are also positive (positive space).*
5. *It is very strongly distinct from what surrounds it.*
6. *It is relatively compact (i.e., not very different in overall outline from something between 1:1 and 1:2 –exceptions may go as high as 1:4, but almost never higher).*
7. *It has closure, a feeling of being closed and complete.*[56]

2.4.7. "Local Symmetries"

Symmetry is a term used often and more familiar word used in daily life mostly in geometrical sense. Alexander states, "presence of a strong center in the field depends, on various interlocking and overlapping LOCAL SYMMETRIES". But it is not

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[55] Ibid. Pg. 184.

[56] Ibid. Pg. 183.

the perfect symmetry that gives objects life; on the contrary "perfect symmetry is often a mark of death in things, rather than life". In fact, this confusion stems from the confusion of overall symmetry and local symmetry.[57]

Figure 17: Zeppelinfiled by Albert Speer: brutal overall symmetry of a very simple-minded type, but few local symmetries.
(Source: Alexander, Christopher. The Nature of Order: An Essay on the Art of Building and the Nature of The Universe, Book One, The Phenomenon of Life. Berkeley, Calif.: Center for Environmental Structure, 2002. Pg. 186)

Drawing from this study, it is not the overall symmetry of a design or large symmetries that support strong centers and that contribute coherence to the overall design, it is local symmetries. Indeed, more local symmetries in a design lead more coherent design. The reason of this effect is that "it is as if the symmetrical segments act as a kind of glue –the glue which holds the space together. The more glue there is, the more the space is one, solid, unified, coherent." Also he emphasizes, "for the glue to be effective, it seems that many of the symmetrical segment must overlap." [58]

> *Look again at the plan of Alhambra. It illustrates the point magnificently. The Alhambra's plan, overall, is wildly asymmetrical, it has nothing in common with the excesses of neoclassicism –it is free, free as a bird. Yet in its detail, it is simply full of symmetries in many levels. There are courtyards which are internally symmetrical, rooms*

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[57] Ibid. Pg. 186.

[58] Ibid. Pp. 191-193.

which are symmetrical, pieces of wall, windows, columns, which are symmetrical –the plan is a maze of intricate and subtle smaller symmetries, symmetries of segments or subsymmetries, yet none of this ever creates that dead and lifeless over all neoclassicist symmetry of which we should rightly be afraid.[59]
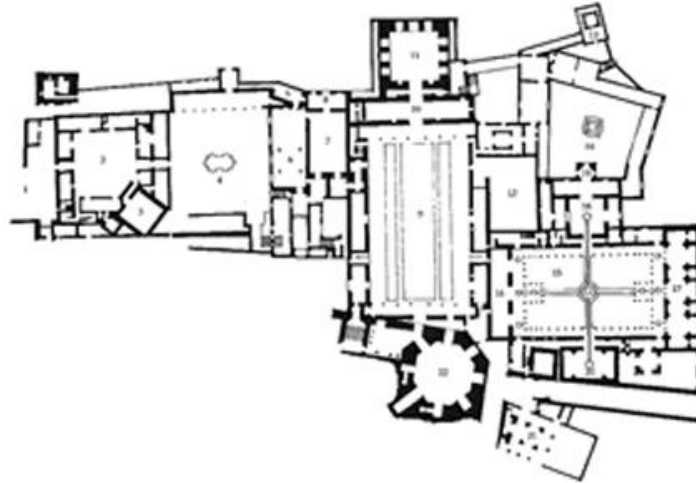
Figure 18: The plan of Alhambra: the plan is a marvel of centers formed in a thousand combinations, and yet with beautiful symmetrical order at every point in space.
(Source: Alexander, Christopher. The Nature of Order: An Essay on the Art of Building and the Nature of The Universe, Book One, The Phenomenon of Life. Berkeley, Calif.: Center for Environmental Structure, 2002. Pg. 187)

In conclusion, creating local symmetry between other centers is an efficient and easy way of intensifying a center.[60]

2.4.8. "Deep Interlock and Ambiguity"

There are many cases in which "the center and it's surroundings interpenetrate each other and using intermediate centers which belongs to both of two adjacent larger

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[59] Ibid. Pg. 193.

[60] Ibid. Pg. 194.

centers." Somehow they are unified together and it is difficult to separate them. This effect can be clearly seen in the example given below.[61]
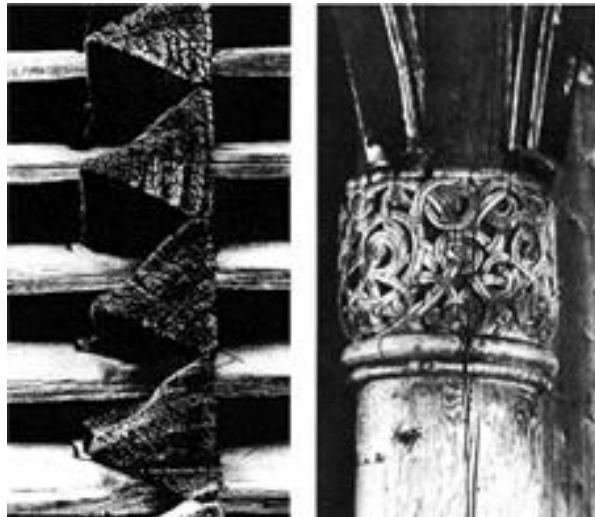
Figure 19: Interlock as the source of practical cohesion in a log cabin on the left, and interlock in the carving of a wooden capital on the right.
(Source: Alexander, Christopher. The Nature of Order: An Essay on the Art of Building and the Nature of The Universe, Book One, The Phenomenon of Life. Berkeley, Calif.: Center for Environmental Structure, 2002. Pg. 195)

2.4.9. "Contrast"

"Life cannot occur without differentiation. Unity can only be created from distinctness." [62] Thus, contrast is another feature that exists in living things and that ensures wholeness.

In the given example of Shaker schoolroom (Figure 20), two timber bands, which are in contrast to the plaster of the wall, form a center helping the room to be unified. That is, the contrast has a unifying effect on the centers.[63]

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[61] Ibid. Pg. 195.

[62] Ibid. Pg. 200.

[63]Ibid. Pg. 202.
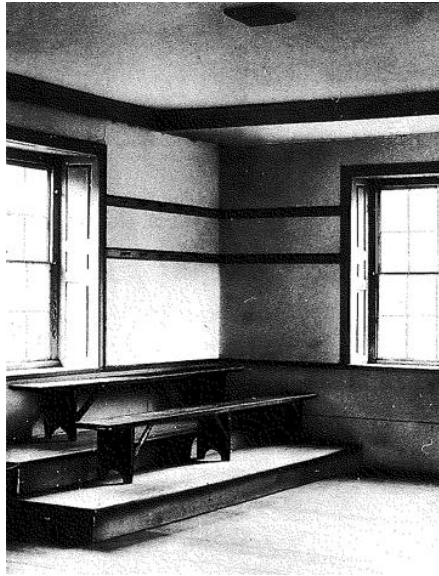
Figure 20: Contrast in a Shaker schoolroom
(Source: Alexander, Christopher. <u>The Nature of Order: An Essay on the Art of Building and the Nature of The Universe, Book One, The Phenomenon of Life.</u> Berkeley, Calif.: Center for Environmental Structure, 2002. Pg. 202)

On the other hand, Alexander evaluates the contrast in the next example (Figure 21) as accidental or a mistake, since it only attracts attention but does not unify centers.
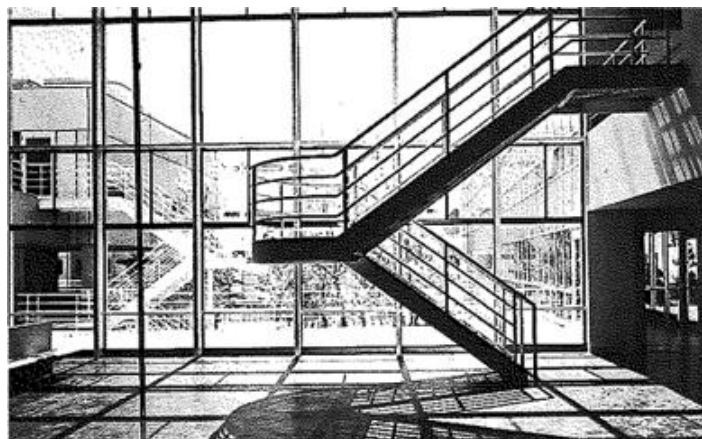
Figure 21: Stairway with a glaring sky: this is glare, not contrast.
(Source: Alexander, Christopher. <u>The Nature of Order: An Essay on the Art of Building and the Nature of The Universe, Book One, The Phenomenon of Life.</u> Berkeley, Calif.: Center for Environmental Structure, 2002. Pg. 203)

2.4.10. "Gradients"

As Alexander states, there exists certain softness in living things. "Qualities vary, slowly, subtly, gradually, across the extend of each thing. GRADIENTS OCCUR. One quality changes slowly across space, and becomes another."[64]

Gradients are something like adaptation, which is a response to the changing circumstances. In addition, due to the field –like character also forms centers. "So in adapting to the changing circumstances, and therefore making a series of graded centers, still further and larger centers are created."[65]
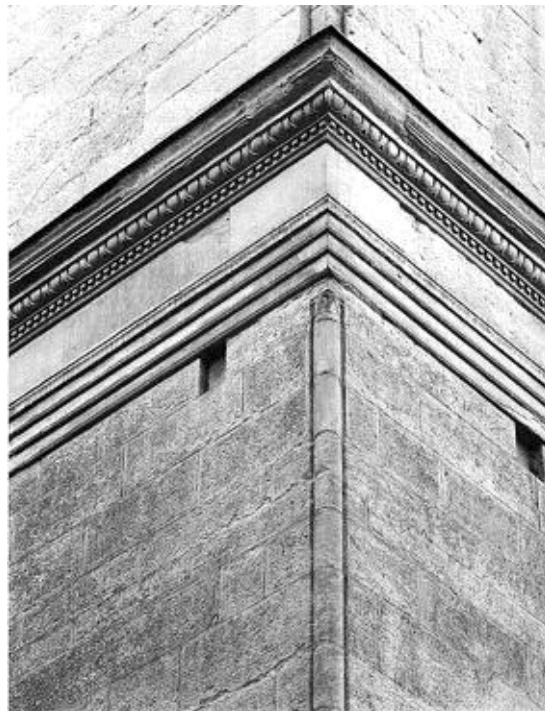
Figure 22: Beautiful gradients in a cornice molding.
(Source: Alexander, Christopher. The Nature of Order: An Essay on the Art of Building and the Nature of The Universe, Book One, The Phenomenon of Life. Berkeley, Calif.: Center for Environmental Structure, 2002. Pg. 205)

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[64] Ibid. Pg. 205.

[65] Ibid. Pg. 206.

2.4.11. "Roughness"

Today, with the advance of technology and construction techniques, every product of this era is in its accurate shape. And most of the time, roughness is something to be avoided and unwanted.

In real life, living things are not always in ultimate accuracy; on the contrary, they have a "morphological roughness". "This is not an accidental property. It is not residue of technically inferior culture, or the result of hand-craft or inaccuracy."[66]

In the example given in Figure 23, the Persian bowl, the brush-strokes in it are not identical in shape, they are rough in shape and placing. The spacing between them is not exactly the same. This roughness in the design "contributes so greatly to the wholeness of the bowl". On the other hand, "if the design were composed of identical units, identically placed, it would break down, and there would be really difficult problems where the grid became tighter toward the center of the bowl".[67]

As in the example of the carpet, in which the borders and the corners of it seems rough, roughness is not an accidental result; conversely, it happens since the weaver paid more attention to the more important elements, to the center of carpet than geometrical order. Thus, "the seemingly rough arrangement is more precise because it comes from a much more careful guarding of the essential center in the design".[68]

Roughness is freedom of self in a sense. And to summarize, "Roughness does not seek to superimpose an arbitrary order over a design, but instead lets the larger order be relaxed, modified according to the demands and constraints which happen locally in different parts of the design."[69]

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[66] Ibid. Pg. 210.

[67] Ibid. Pg. 210, 211.

[68] Ibid.

[69] Ibid. Pg. 213,214.
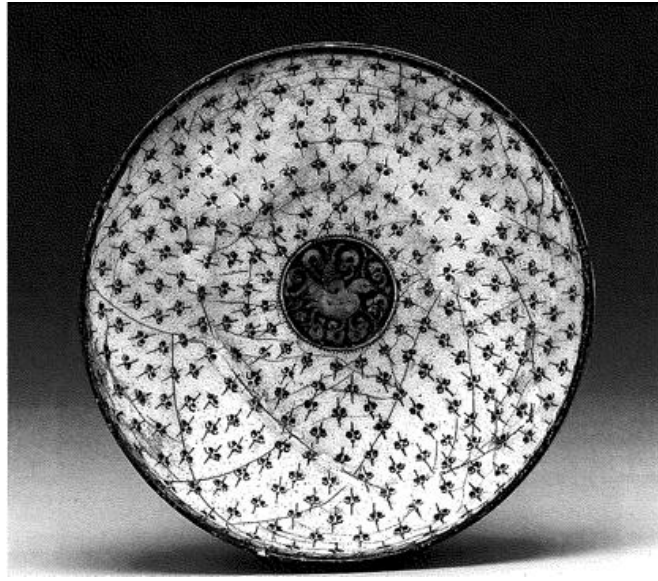
Figure 23: Persian bowl showing the roughness in the beautiful drawing of the ornaments; they vary in size, position, orientation, and according to he space formed by neighboring ornaments, and so make the space perfectly harmonious.
(Source: Alexander, Christopher. The Nature of Order: An Essay on the Art of Building and the Nature of The Universe, Book One, The Phenomenon of Life. Berkeley, Calif.: Center for Environmental Structure, 2002. Pg. 210)

Figure 24: Anatolian carpet with "inaccurate" corners; the carpet is full of life, because the weaver was paying careful attention to the many centers in the border, and drew them, and close them, so that all the corners would come out right.
(Source: Alexander, Christopher. The Nature of Order: An Essay on the Art of Building and the Nature of The Universe, Book One, The Phenomenon of Life. Berkeley, Calif.: Center for Environmental Structure, 2002. Pg. 213)

2.4.12. "Echoes"

Echoes is another crucial property that Alexander has found in things which have profound life, and hard to describe accurately. He describes it like this: "In general terms, there is a deep underlying similarity – a family resemblance – among the elements, so deep that everything seems to be related, and yet one doesn't quite know why, or what causes it." [70]

In the example of the Turkish carpet and the barn door (Figure 25), single "guiding feeling" and domination of basic shapes can clearly be noticed. It is not only the resemblance of the shapes, but also the way they are repeated or derived is important.
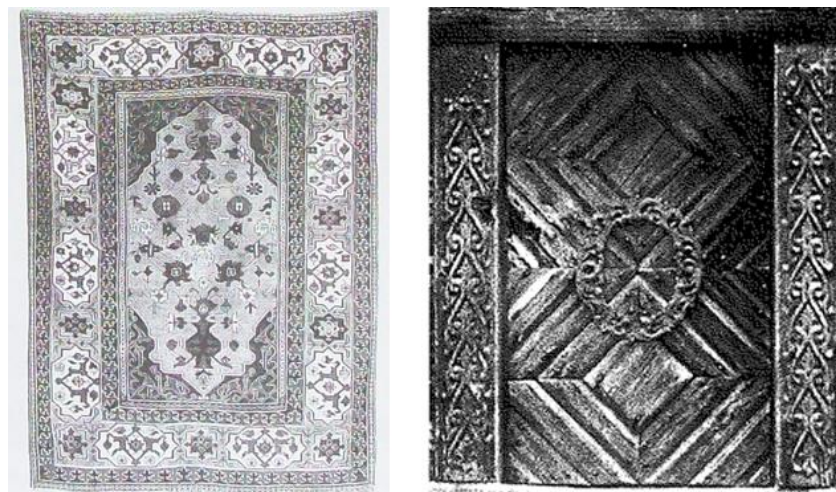
Figure 25: Turkish prayer carpet: all the elements are combinations of right angles and 45-degree angles, based on the star-octagon; and the barn door.
(Source: Alexander, Christopher. The Nature of Order: An Essay on the Art of Building and the Nature of The Universe, Book One, The Phenomenon of Life. Berkeley, Calif.: Center for Environmental Structure, 2002. Pg. 218-220)

As it can be guessed from his description and examples, from the word "family resemblance", and from the meaning of the word itself:

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[70] Ibid. Pg. 218.

When echoes are present, the various smaller elements and centers, from which the larger centers are made, are all members of the same family; they contain echoes of one another; there are deep internal similarities between them which tie them together to form a single unity.[71]

2.4.13. "The Void"

"In the most profound centers which have perfect wholeness, there is at the heart a void which is like water, infinite in depth, surrounded by and contrasted with the clutter of the stuff and fabric all around it."[72] It is a property which is seen in religious buildings most often. For example, the altar in church, and *mihrap* in mosque, the emptiness, "it is the silence, at the heart".[73]

Two opposing plans in the example (Figure 26) can be examined to understand subject more clearly. The difference of the feeling created by void is intense.
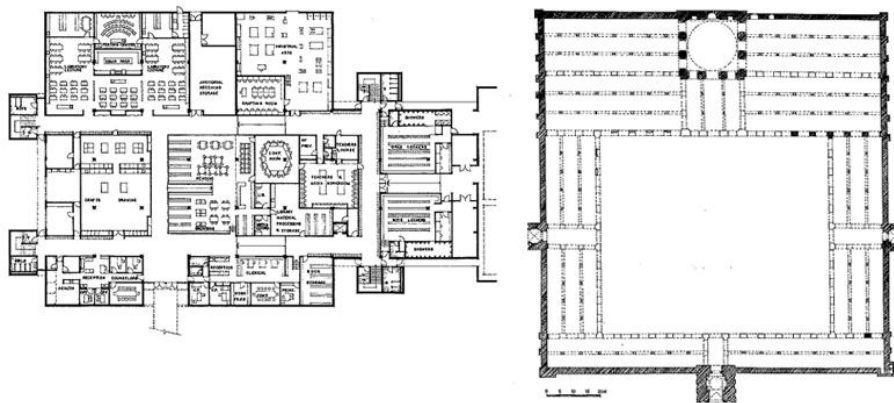
Figure 26: Typical office building on the left, and The Cairo mosque of Baybars
(Source: Alexander, Christopher. <u>The Nature of Order: An Essay on the Art of Building and the Nature of The Universe, Book One, The Phenomenon of Life.</u> Berkeley, Calif.: Center for Environmental Structure, 2002. Pg. 220)

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[71] Ibid.

[72] Ibid. Pg. 222.

[73] Ibid.

Though it is needed to create life in mass of smaller centers, as Alexander states, most of the buildings of today lack a void; in other words "there is a great lack of simple, silent, empty, large, calm space." On the other hand, it is not an outcome of a mathematical principle; it is merely a psychological requirement.[74]

2.4.14. "Simplicity and Inner Calm"

As Alexander stated, simplicity is a characteristic which is essential to wholeness and life. It is a state of getting rid of the unnecessary details and ornaments which are not essential. "In most cases, this simplicity shows itself in a geometrical simplicity and purity; which has a tangible geometrical form."[75]
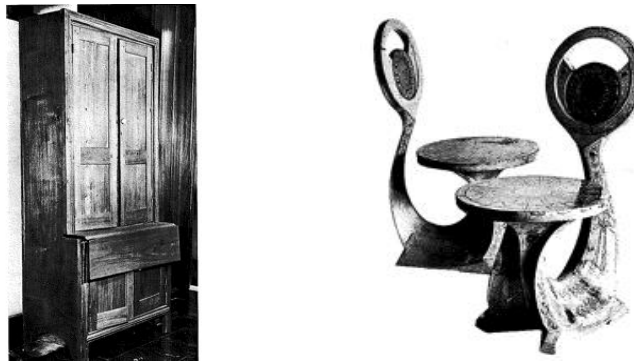
Figure 27: Shaker cabinet: the most beautiful inner calm, and Italian chairs: gross, and utterly lacking in inner calm.
(Source: Alexander, Christopher. The Nature of Order: An Essay on the Art of Building and the Nature of The Universe, Book One, The Phenomenon of Life. Berkeley, Calif.: Center for Environmental Structure, 2002. Pg. 226)

In the example given below (Figure 28), Norwegian dragon, it can be seen that "the quality comes about when everything unnecessary is removed" though it seems complex. Also it promotes the relationship between the person and the landscape to form.[76]

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[74] Ibid. Pg. 225.

[75] Ibid. Pg. 226.

[76] Ibid. Pp. 226-228.

Figure 28: A carved Norwegian dragon. Vey complex, but it still has inner calm.
(Source: Alexander, Christopher. <u>The Nature of Order: An Essay on the Art of Building and the Nature of The Universe, Book One, The Phenomenon of Life.</u> Berkeley, Calif.: Center for Environmental Structure, 2002. Pg. 229)

2.4.15. "Not-Separateness"

According to Alexander, not-separateness is the last but the most significant property. He defines it "quite simply, is that we experience a living whole as being at one with the world, and not separate from it – according to its degree of wholeness."[77]

Once more, he gives the Tower of the wild Goose as an example (shown in page 7). "It is so simple, so harmonious, it melts into its surroundings humbly, connects with its surroundings, is indistinguishable from its surroundings. But it does this altogether without giving up its character or personality"[78]

On the other hand, examining the example given above, it can be realized that, "when a thing lacks life, is *not* whole, we experience it as being separate from the world and from itself." So this quality "comes about from each center, to the degree it is connected to the whole world."[79]

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[77] Ibid. Pg. 230.

[78] Ibid. Pg. 230,231.

[79] Ibid.
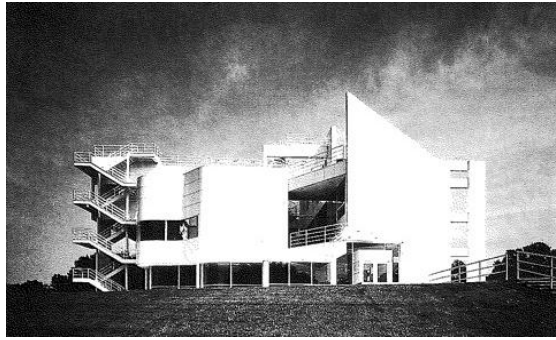
Figure 29: The "X" house, New York. Not-separateness entirely missing: separate and ego-filled.
(Source: Alexander, Christopher. <u>The Nature of Order: An Essay on the Art of Building and the Nature of The Universe, Book One, The Phenomenon of Life.</u> Berkeley, Calif.: Center for Environmental Structure, 2002. Pg. 231)

In particular, this quality is closely related with the existence or the composition of a boundary, geometrically. Most of the time there is no boundary or a "fragmented boundary" in the things which have not-separateness. Also, there can be a gradient at the boundary, smoothing or softening the effect of it, and acting some kind of a transition, helping it to be connected to the surrounding.[80]

Figure 30: A path which is connected to the earth.
(Source: Alexander, Christopher. <u>The Nature of Order: An Essay on the Art of Building and the Nature of The Universe, Book One, The Phenomenon of Life.</u> Berkeley, Calif.: Center for Environmental Structure, 2002. Pg. 233)

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[80] Ibid. Pg. 234.

2.5.   Importance of "Living Structure" on the Quality of Life

These fifteen properties are the possible ways in which centers intensify each other and contribute to the whole. They are not separate rules; they work together, and overlap. Most of the time, when carefully studied, existence of one depends on some other properties. The things, environments or buildings which have no life, have these properties "to the *least* degree". On the other hand, the ones, which have life, have these properties to the *most* degree; and the life created in the thing and the character of this life is the result of the "interplay of the properties".[81]

Certainly, the world, the environment and objects around have an unavoidable impact, both positive and negative, on human life. The quality of the life created in the world may enhance the feeling of freedom or loss of freedom, and even may cause stress. A world or an environment that "enhances human life" or that allows someone to be himself, for the freedom of self, is only possible with a structure which is living.[82]

Moreover, the real life, beauty and wholeness of the buildings depend on its "deep functional nature of the centers that have been created." In the vision that is presented by Alexander, there is a unity of ornament and function, such as it happened in nature and often in *traditional* architecture, unlike the divided idea of contemporary architecture in which function is a "mechanistic concept" and ornament is a "superficial and stylistic concept." According to him, they are "two broken halves" of architecture; and he proposes a way to think architecture as unity of these two halves both contributing to the life, as a whole, by means of centers. That is, even the ordinary "everyday comfort in a building" arises from the centers and the interrelation between them, and "wholeness" is "the core of the functional life which occurs in things."[83]

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[81] Ibid. Pp. 236-242.

[82] Ibid. Pp. 372-401.

[83] Ibid. Pp. 404-444.

To sum up, it is the existence of living structure "wrapped in culture, based on culture, and mixed with culture, to be sure", which provides freedom. "Thus living structure has vital practical and social consequences. We may say that, for the sake of our own welfare, the world *must* be made so that it contains, and is built form, living structure." [84]

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[84] Ibid. Pg. 443.

CHAPTER 3

TRADITIONAL KASTAMONU HOUSES

3.1. The City of Kastamonu

Kastamonu is a city located on the west part of the Black Sea region of Turkey. It is surrounded by Sinop and Çorum on the east, by Çankırı on the south, by Bartın and Zonguldak on the west and by the Black Sea on the north. Winters in the region except the shoreline of the city are extremely cold, snowy and frosty.

Mountains and hills cover a significant proportion of the region. The stream called Karaçomak (Kastamonu Deresi), which is a branch of the river Gökırmak, divides the city in two parts, east and west; in addition, the main roads of the city goes along the both sides of the Karaçomak stream. Mountains and hills do not only dominate the inner structure of the settlement, but also cause difficulties in the highway transportation between cities.

The castle of Kastamonu is located on the west of the Karaçomak stream. Together with the stream, the hills rising on the both sides of the stream constitute a valley. Settlement lies along both sides of the stream on the lover parts of the hills. In order to overcome the difficulties of settling on a hillside, the houses are placed along the topography lines. [85]

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[85] Eyüpgiller, Kemal Kutgün. Bir Kent Tarihi KASTAMONU. İstanbul, Eren Yayıncılık , 1999. Pg. 30, 31.

3.2. Historical Background of the Kastamonu

The name of the city is believed to be originated from the word "Gastumanna", which is the composition of the words "*Gas*" and "Tumanna", meaning "The City of *Gas*".[86] Another idea about the name of the city is that, it is transformed from the "Castra Comneni", meaning "The Castle of Kommens"[87]

The region, under the domination of Hittites is called "Paflagonya" in the antiquity. The region is ruled by the Kaskians (Kaşkalar-Gasgaslar), Phrygians (Frigler), Cimmerians (Kimmerler), Lydians (Lidyalılar) and Persians (Persler), respectively. After then in B.C. 330, Alexander the great conquered the region. The domination of the Rome started in B.C. 63 and continued till the Byzantine period. After 1071 Battle of Malazgirt, dominance of the Turkish tribes, especially Danişmentliler, started to be seen to some extend. After this period Seljukids dominated the region. After the Seljukids divided, the city is ruled by the Candaoğulları Beyliği till the Ottoman period.[88]

At the period of Ottomans, Kastamonu became a province. The city was one of the most secure regions in terms of logistic support during the National Independence War. In addition, though it was not occupied by the enemy, the number of the casualties during the war is in the highest of three cities.[89] Besides, it is the city, where M. Kemal Atatürk introduced the hat and cloth revolution in 1925.

When the demography of Kastamonu is researched, it is seen that the population has not change between 1927 and 2007 very much. In the first census, done in 1927, the population of the province was 355.601; in that year Kastamonu was the 8th largest city over the 63 cities Turkey. In the last census, done in 2007, population of the

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[86] Yaman, Talat Mümtaz. Kastamonu Tarihi, XV. Asrın Sonlarına Kadar. İstanbul, Ahmet İhsan Matbaası, 1935. Pp. 173-176.

[87] Ibid.

[88] Ibid. Pp. 13-169.

[89] Kastamonu Belediyesi, İlimiz Tarihçesi. Last accessed on: 10/08/2008. <www.kastamonu.bel.tr>

province reached to 360.366. In the census done in 2000 the city was 64th city over the 81 cities in Turkey. [90]

With the effect of the topography, after the first quarter of the 20th century, Kastamonu developed in the South-North direction, not in East-West direction. There are few Byzantine and Roman constructions in Kastamonu, on the other hand, it is rich with Ottoman and Seljukid buildings.[91]

3.3. Social Life in Traditional Kastamonu Houses

In the Kastamonu (and in most of the traditional Anatolian cities), father, mother, children and grandparents were the members of a family, in general. Father was the head of the family. In families living in the town, father was either a tradesman or a craftsman. He owned a shop, and he earned the main income of the family here. Son of the family, until adolescence, helped his father as apprentice of him. Females of the family stayed at home and were responsible for different works. Parts of the hand crafts produced by females, were used at home. Remaining hand crafts were sold. By this way, females contributed to the family income.[92]

Every house used to have a garden, where different kind of fruits and vegetables were grown. These vegetables and fruits were consumed by the family, and if they still remained, they were sold. In addition, fowls and cows were fed.[93]

Today Kastamonu still preserves its general character; however, some of the traditional houses are pulled down and replaced with concrete ones. The traditional

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[90] Kastamonu İli. tr.wikipedia.org. Last accessed on: 10/08/ 2008.
<http://tr.wikipedia.org/wiki/Kastamonu_%28il%29>

[91]Eyüpgiller, Kemal Kutgün. Bir Kent Tarihi KASTAMONU. İstanbul, Eren Yayıncılık , 1999. Pp. 37-50.

[92] Demir, Gülsen. "Aile Sosyolojisi Açısından Eski Kastamonu Düğünleri." İkinci Kastamonu Kültür Sempozyumu (18-20 Sept. 2003) : 363-370

[93] Ibid.

houses that are not destroyed are generally in state of ruins. The people who live in these houses, who are usually the ones with lower income, who cannot afford living in a new flat, cannot afford either to repair the old houses. Houses that are restored, are mostly being used as either a restaurant, café or a hotel, or as a museum; and few of the houses belong to the rich families, who live in other cities and occasionally use them, usually in vacations. However, one can still sense the reflections of the traditional life and local customs in every corner of the town while walking the streets.

3.4. Architectural Features of Traditional Kastamonu Houses

Kastamonu is still one of the cities where the examples of architecture of Ottoman period and traditional Turkish House appear intensely. Houses are located along the roads parallel to the topography lines. In general, the structure of traditional Kastamonu houses is masonry on the basement and timber frame (brick or cob filled) on the upper floors. They are two or three storey houses with hipped roof or gable roof and they have wide timber eaves. Foundations of houses are done by placing a block stone underneath the timber columns.[94]

In Traditional Kastamonu houses, upper floors have more windows than the basements, partly as a result of the fact of privacy. The windows of the basements and lower floors are also smaller in size (Figure 31). The windows of the basements are either simple small holes in stones or decorated with ornaments. On the other hand, windows of the upper floors are rectangular sash windows. Sometimes, there is a triangular pediment or a circular arch above the windows. The examples of lattice in front of windows are rarely seen today. Two examples of the lattices that are found in Kastamonu can be seen in Figures 32-33.[95]

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[94] Eyüpgiller, Kemal Kutgün. <u>Bir Kent Tarihi KASTAMONU</u>. İstanbul, Eren Yayıncılık , 1999. Pg. 250, 251.

[95] Ibid.

Figure 31: A house Aşağı İmaret Street and another house in the Kuruçay Street.

Figure 32: An example of lattice.
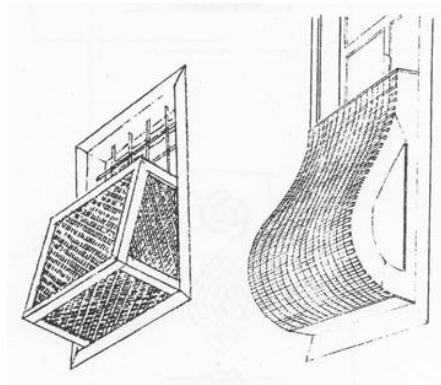
Figure 33: Drawings of lattices.
(Source: Eyüpgiller, Kemal Kutgün. <u>Bir Kent Tarihi KASTAMONU</u>. İstanbul, Eren Yayıncılık , 1999. Pg. 380.)

The most important component that constitutes the basic characteristic of the houses and controls the other spaces around it is *sofa*. It gives the character and dominates the whole scheme. The name of the *sofa* changes according to being open or closed to outside, respectively as *çardak* or *sofa*. Plan schemes of the houses differ according to the location, number and the type of *sofa*. The typology of the plans that differ according to *sofa* can be seen in Figure 34.[96]

Çardak is a space closed with the roof of the house. It has two or three sides open to garden and rarely to street, and it is not separated by an element other than a banister or a lattice from the outer space. *Sofa*, on the other hand, takes place within the house. It has the same function with the çardak; but it is closed with the walls and the windows.[97] As it is said above, *sofa* is the main component of the plan. So it is not surprising that all the rooms and life are organized around it.

Although *sofa* is only used as a passage area between the other spaces in some examples, according to economic power and the life style of the owner of the house, it is the main space in which all life goes on. Rooms lead to this space in both examples. It is the largest space of the house. Household spends most of their time in this space, have breakfast, lunch, dinner, have cup of tea or coffee and talk with the friends, neighbors, etc. In short it is a space in which common life of family goes on.[98]

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[96] Ibid. Pp. 237-251.

[97] Ibid.

[98] Ibid.
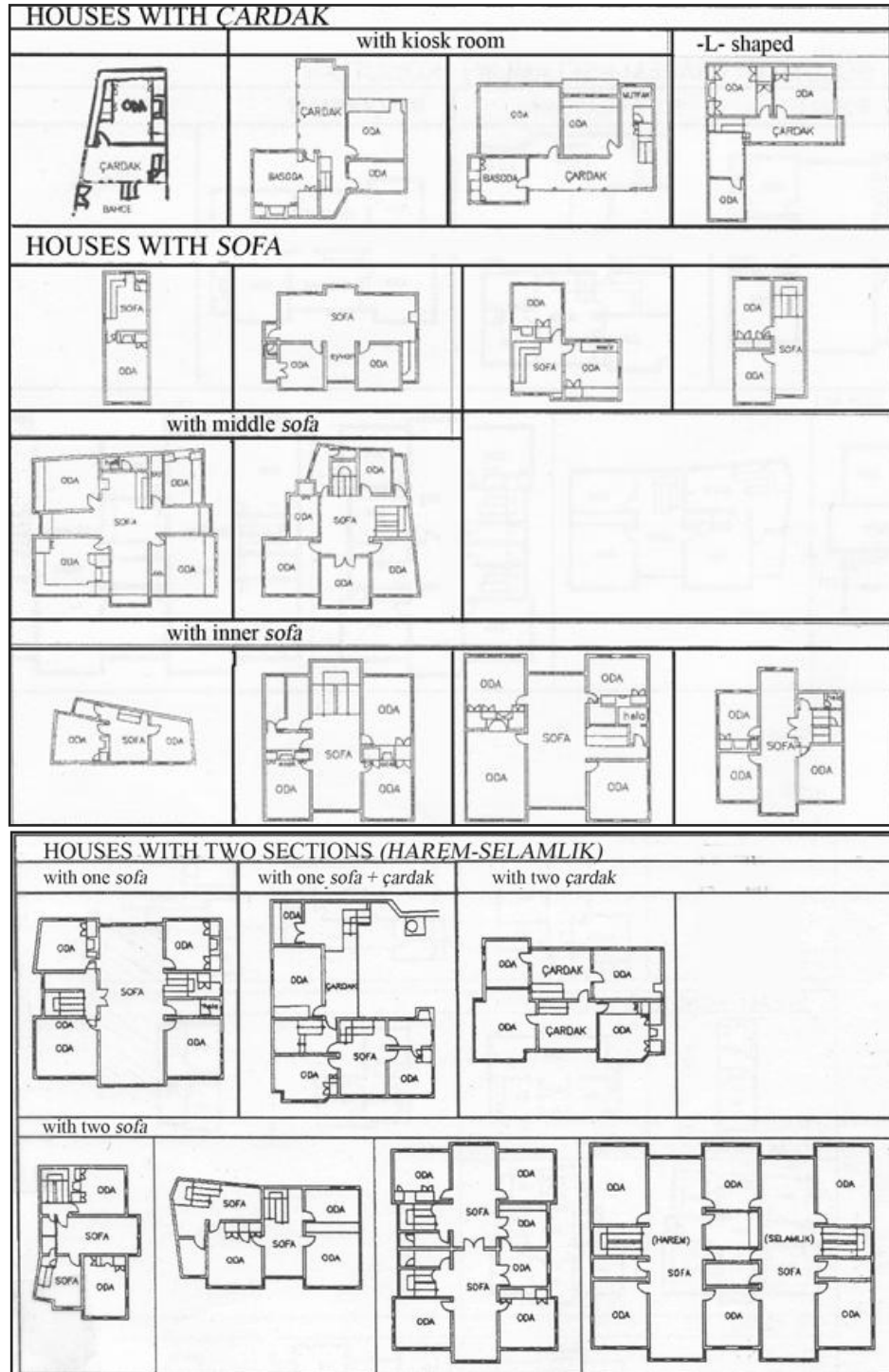
Figure 34: The typology of the plans.
(Source: Eyüpgiller, Kemal Kutgün. <u>Bir Kent Tarihi KASTAMONU</u>. İstanbul, Eren Yayıncılık , 1999. Pg. 241, 242.)

The floors and the ceilings of the interior spaces of the houses are mostly covered with timber except the floors and the ceilings of the basement. In the interior, the cupboards, inner doors, stairs, railings of the stairs are also timber. Besides, on the façade, timber is used also as a cornice between levels and on the edges. The props, the ceilings of the porticos, columns, are mostly timber. In addition they have ornamentations on them most of the time.

Figure 35: The ornament on the ceiling of a portico and an example of an ornament on a façade.

Rooms of traditional Kastamonu houses have special value since they are the smallest independent units as it is in many Anatolian examples. A room is designed according to the needs of a nuclear family. Consequently, at least in one of these rooms there is a bath (*gusülhane*), a cupboard or in other words *yüklük* and a fireplace. There is fixed furniture used in these rooms called *sedir*. Status and functional differences are not seen in rooms very frequently in these houses except the ones in *konaks*.[99]

In Kastamonu, houses can be grouped in to two according to location of the kitchen. In the first group, kitchens are located outside the house, in the garden separately. These are single story, timber or stone structures. Inside the kitchen, there is a

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[99] Ibid.

monolithic stone counter, an oven with a fireplace and in some examples there is a well. In the second group, kitchens are located inside the house. In some cases when there is no fireplace in the kitchen, it is usually seen in the garden, because *etli ekmek*, a traditional meal, constitutes a special place in the life of people.[100]

Figure 36: Examples of *cihannüma*, rising above the house independently and under the single roof.

Cihannüma is another component which is seen very frequently in the houses of Kastamonu. They are simply rectangular planned spaces going along the depth of the house. They are basically two types. One of them rises above the houses independently, and the other is located under the same roof. [101]

Garden is one of the most important factors in the life of people living in Kastamonu. Almost every house has its own garden. The activities such as, daily works, and preparation of food for the winter, etc. are done in the garden. At the same time, it is a place to sit and talk with neighbors or rest, also. They have many types changing with their placements. Each house has at least one entrance to the garden. The gardens are mostly bounded by a high wall of about two meters and they are a whole with the house.

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[100] Ibid.

[101] Ibid.

Figure 37: A house in the Kuruçay Street.
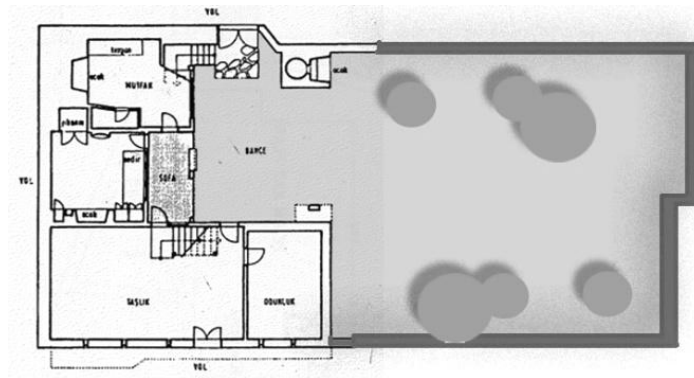
Figure 38: Plan of the house in the Kuruçay Street.
(Source: Garden is attached by Yasemin Melez Biçer to the original ground floor plan taken from: Eyüpgiller, Kemal Kutgün. <u>Bir Kent Tarihi KASTAMONU</u>. İstanbul, Eren Yayıncılık, 1999. Pg. 346.)

CHAPTER 4

CONCEPT OF "LIVING STRUCTURE" AND TRADITIONAL KASTAMONU HOUSES

A house is not merely a shelter, there are various parameters effecting the relation between the spaces and activity zones inside the house and these parameters are results of the basic needs and preferences of people in a particular society, such as privacy, security, comfort, aesthetics, social relations, self expression, etc. Since the life style changes from one community to another, hierarchical order of these needs changes also; and the reflections of these differences can be seen in the spatial order of the house inside and in the physical form of it on the outside. "One could speak of them in terms of the need to breathe, eat, drink, sleep, sit and love, but this tells us very little; what is important with regard to built form is the culturally defined way in which these needs are handled. It is not whether there will be a window or door, but their form, placement, and orientation which are important; it is not whether one cooks or eats, but where and how."[102]

According to Amos Rapoport, form and organization of residential architecture are greatly influenced by the cultural milieu to which it belongs and both physical and socio-cultural aspects need to be considered. Drawing from the Rapoport's study, house form is not simply the result of physical or any single factor. It is the result of a wide range of socio-cultural factors, not just a structure.[103]

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[102] Rapoport, Amos. <u>House Form and Culture</u>. Englewood Cliffs, N.J., Prentice-Hall, Inc., 1969. Pg.61.

[103] Ibid. Pg. 46.

Space itself primordially given but the organization and meaning of space are a product of social translation, transformation and experience.[104] Space can be considered as a common language of factors that make up everyday life such as social relations of individuals and groups, distribution and categorization of objects and people in space, relations of power and social change. Places of objects are not randomly selected; everything in space, locations and relations gives meaning to each other. It is a structuration, in a sense, of social life by organization.

According to Alexander, the things that have life and a "life supporting quality" have a common point, which is the belonging to its own time and place. That is, the expression of self and life are seen in the examples of traditional architecture much more than the most of the examples of contemporary architecture.[105]

As Alexander says, "in order to *measure* this degree of life, it is difficult to use what, in present-day science, are conventionally regarded as 'objective' methods". To be able to get more practical results, use of *self*, observation of *self,* is needed. [106]

> *Somehow, that "something" exists at a deep enough level to transcend time and culture. It reflects, to an astonishing degree, the self which is in every person, regardless of history, culture, and personal idiosyncrasy. I maintain that in every case the buildings which have living structure – hence the field of centers – most profoundly.[107]*

Some of the possible questions that are suggested by Alexander to measure the degree of life are listed below:

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[104] Soja, Edward William. "The Socio-Spatial Dialectic". <u>Annals of the Association of American Geographers</u> (1980): 70, 207-225.

[105] Alexander, Christopher. <u>The Nature of Order: An Essay on the Art of Building and the Nature of The Universe, Book One, The Phenomenon of Life.</u> Berkeley, Calif.: Center for Environmental Structure, 2002. Pp. 50-62.

[106] Ibid. Pg. 354.

[107] Ibid. Pg. 325,326.

- *Which of the two seems to generate a greater feeling of life in me?*
- *Which of the two makes me more aware of my own life?*
- *Which of the two makes me feel a greater wholesomeness in myself?*
- *Considering my self as a whole that embraces all my dimensions and many internal opposites, I then ask which of the two is more like my best self, or which of the two seems more like a picture of my eternal self?*
- *Which of the two makes me feel devotion, or inspires devotion in me?*
- *When I try to observe the expanding and contracting of my humanity which of the two causes a greater expansion of my humanity?*
- *Which of the two has more meaning in it or, more accurately, which of the two makes me experience a deeper feeling of unity in myself?[108]*

From this point of view, the following pairs of photographs are given to compare. These pairs of photographs are the photographs of the same place taken in different dates.

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[108] Alexander, Christopher. <u>The Nature of Order: An Essay on the Art of Building and the Nature of The Universe, Book One, The Phenomenon of Life.</u> Berkeley, Calif.: Center for Environmental Structure, 2002. Pg. 355.

Figure 39: A view of Olukbaşı district in 1965.
(Source: İl Turizm Müdürlüğü. <u>Dünden Bugüne Kastamonu Görüntüleri 1894 – 1997</u>. Kastamonu: Kastamonu Valiliği, 1997. Pg. 12.)

Figure 40: Aview of Olukbaşı district in 1997.
(Source: İl Turizm Müdürlüğü. <u>Dünden Bugüne Kastamonu Görüntüleri 1894 – 1997</u>. Kastamonu: Kastamonu Valiliği, 1997. Pg. 13.)

In the first view, different centers are clear. They support each other and make a whole. In second one, there is no feeling of unity and feeling of self.

Figure 41: A view from Cumhuriyet square in 1928.
(Source: İl Turizm Müdürlüğü. <u>Dünden Bugüne Kastamonu Görüntüleri 1894 – 1997</u>. Kastamonu: Kastamonu Valiliği, 1997. Pg. 26.)

Figure 42: Aview from Cumhuriyet square in 1997.
(Source: İl Turizm Müdürlüğü. <u>Dünden Bugüne Kastamonu Görüntüleri 1894 – 1997</u>. Kastamonu: Kastamonu Valiliği, 1997. Pg. 27.)

In the first picture more feeling of life is present. The proportion of the square to the houses is sensible. In other words, different centers have good "levels of scale". On the other hand, in the second picture below, the space is meaningless and not defined well, as if it is left over.

57

Figure 43: Aview of Cumhuriyet square from west to east in 1928.
(Source: İl Turizm Müdürlüğü. <u>Dünden Bugüne Kastamonu Görüntüleri 1894 – 1997</u>. Kastamonu: Kastamonu Valiliği, 1997. Pg. 28.)
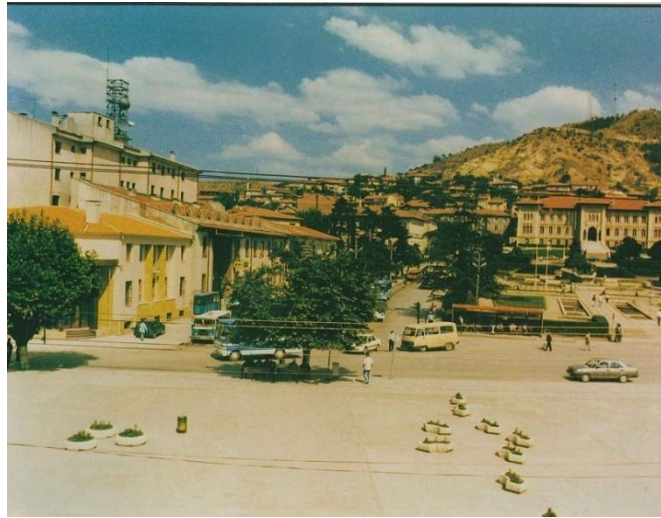
Figure 44: A view of Cumhuriyet square from west to east in 1997.
(Source: İl Turizm Müdürlüğü. <u>Dünden Bugüne Kastamonu Görüntüleri 1894 – 1997</u>. Kastamonu: Kastamonu Valiliği, 1997. Pg. 29.)

Unlike the second picture, wholeness and feeling of unity are present in the first picture as well as good "levels of scale".

Figure 45: Library founded with the donation of Atatürk in 1925.
(Source: İl Turizm Müdürlüğü. Dünden Bugüne Kastamonu Görüntüleri 1894 – 1997. Kastamonu: Kastamonu Valiliği, 1997. Pg. 48.)

Figure 46: A view of the Library in 1997.
(Source: İl Turizm Müdürlüğü. Dünden Bugüne Kastamonu Görüntüleri 1894 – 1997. Kastamonu: Kastamonu Valiliği, 1997. Pg. 49.)

Expression of self and wholeness is destroyed in the lower one. New windows are alien to the structure.
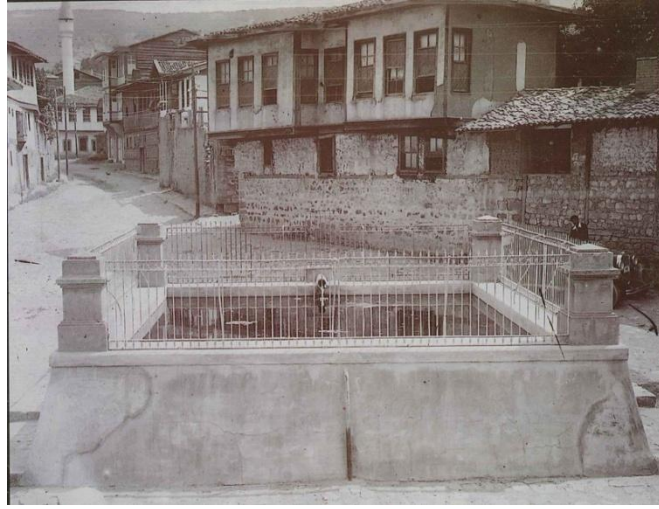
Figure 47: A view of a street and firepool 1977.
(Source: İl Turizm Müdürlüğü. <u>Dünden Bugüne Kastamonu Görüntüleri 1894 – 1997</u>. Kastamonu: Kastamonu Valiliği, 1997. Pg. 56.)

Figure 48: A view of the same street in 1997.
(Source: İl Turizm Müdürlüğü. <u>Dünden Bugüne Kastamonu Görüntüleri 1894 – 1997</u>. Kastamonu: Kastamonu Valiliği, 1997. Pg. 57.)

Street made up whole from different centers and there is a strong feeling of self in the first photograph; on the other hand no feeling of self and unity at all exist in the next one.
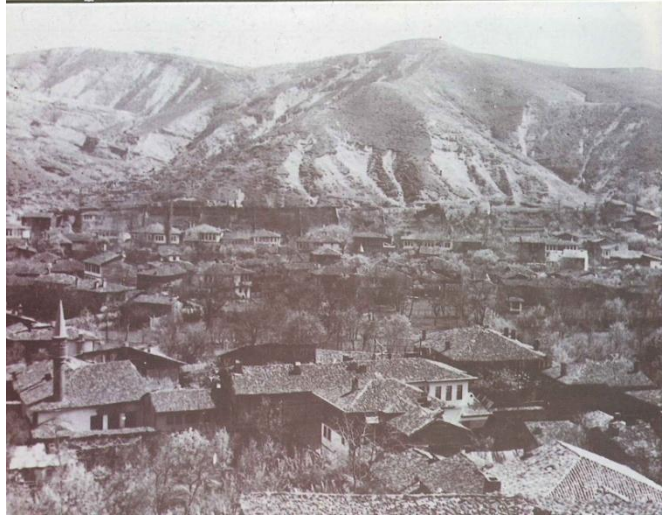
Figure 49: A view of the western part of the Olukbaşı district from the castle in 1939.
(Source: İl Turizm Müdürlüğü. <u>Dünden Bugüne Kastamonu Görüntüleri 1894 – 1997</u>. Kastamonu: Kastamonu Valiliği, 1997. Pg. 14.)

Figure 50: A view of the western part of the Olukbaşı district from the castle in 1997.
(Source: İl Turizm Müdürlüğü. <u>Dünden Bugüne Kastamonu Görüntüleri 1894 – 1997</u>. Kastamonu: Kastamonu Valiliği, 1997. Pg. 15.)

There is a harmony between the nature and the structures seen in the first view, on the other hand the structures seem far from the human soul in the second view.

Figure 51: A view of Nasrullah bridge in 1927.
(Source: İl Turizm Müdürlüğü. Dünden Bugüne Kastamonu Görüntüleri 1894 – 1997. Kastamonu: Kastamonu Valiliği, 1997. Pg. 54.)
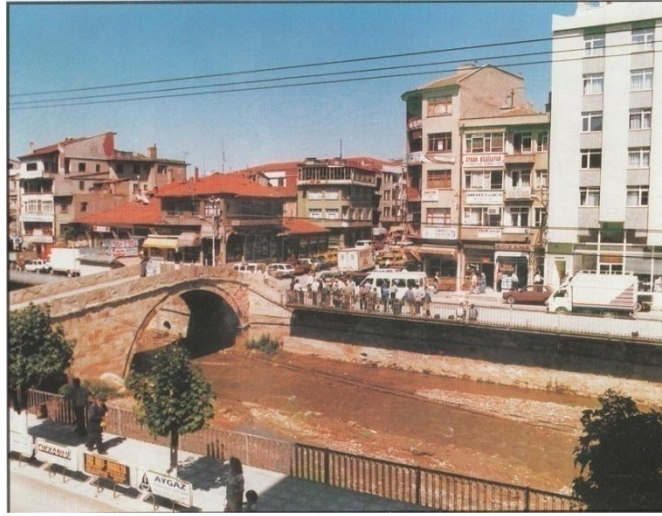
Figure 52: A view of Nasrullah bridge in 1997.
(Source: İl Turizm Müdürlüğü. Dünden Bugüne Kastamonu Görüntüleri 1894 – 1997. Kastamonu: Kastamonu Valiliği, 1997. Pg. 55.)

The third arch of the bridge does not exist in the picture below; it is destroyed by the road. The beauty and the proportions of the bridge and the harmony between the bridge and its environment are destroyed.

Figure 53: A view of neighborhood of Dereboyu and Sinanbey Mosque in 1928.
(Source: İl Turizm Müdürlüğü. <u>Dünden Bugüne Kastamonu Görüntüleri 1894 – 1997</u>. Kastamonu: Kastamonu Valiliği, 1997. Pg. 78.)

Figure 54: A view of neighborhood of Dereboyu and Sinanbey Mosque in 1997.
(Source: İl Turizm Müdürlüğü. <u>Dünden Bugüne Kastamonu Görüntüleri 1894 – 1997</u>. Kastamonu: Kastamonu Valiliği, 1997. Pg. 79.)

Feeling of wholeness and life is again lost in the lower one.

The photographs on the top side of the each page are the older views of the same places in Kastamonu. In each sample, feeling of wholeness, unity and self are present on the top of the pages. They cause a greater feeling of life, and expansion of humanity.

In traditional Kastamonu houses, the property of "life" and the features that make up a "living structure", which Alexander proposes, are present to some extent. Today, traditional housing fabric in Kastamonu is started to be changed. Some of the old houses are being destroyed or replaced by concrete buildings, apartments, which are easier and cheaper to construct, are started to be seen more day by day. However, most of these concrete buildings lack the features that the traditional ones possessed.

In the following chapter, applications of the features that make up a "living structure" will be analyzed in the chosen ten houses from the viewpoint of Alexander.

CHAPTER 5

SURVEYED HOUSES

5.1. House 1: İsmailbey *Konak*
Beyçelebi District, 125. Yıl Atatürk Street, No: 131

İsmailbey *Konak* is a two storey house with a basement floor. The house is located on Atatürk Street, just beside the governor's office building (*Vali Konağı*). It has been restored and is being used as restaurant and café today. The structure of the house is timber frame on the upper floors and masonry on the basement. One of the entrances of the house is on Atatürk Street and the other one is on the garden side. Also there are direct entrances to its garden from the street. It is well integrated with the garden. The house together with the garden represents a complete **"wholeness"**.

Figure 55: Back facade of the İsmailbey *Konak* from the garden.
(Source: "Picture Galery"Retrieved on June, 2008
<www.ismailbeykonagi.com/galeri/konak_dis_mekan/konak_dis_mekan.html>)

As it is seen on the plan (Figure 57), *sofa* is the central space in the middle of the house. The rooms and other smaller spaces that surround it lead to *sofa*; hence *sofa* acts as the center of the overall scheme. It controls all the spaces around it, including the garden. In other words, rooms and other spaces are the smaller centers which supports *sofa,* and *sofa* is a **"strong center"** where everybody meets or gathers.
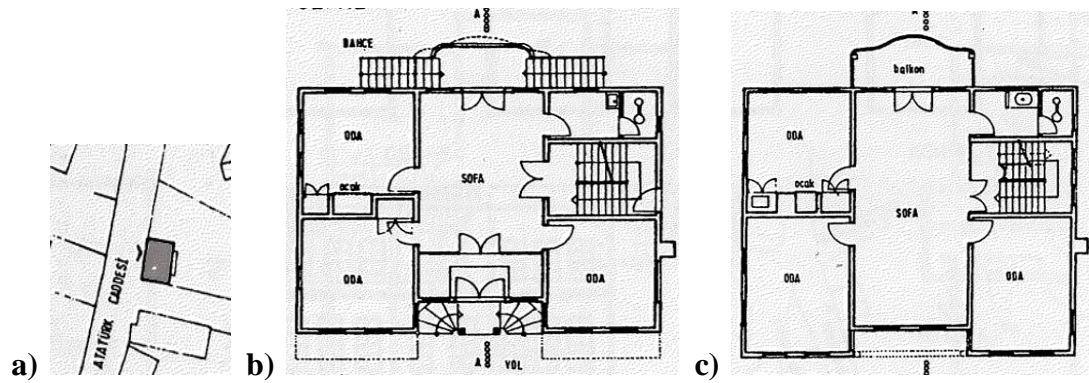
Figure 56: (a) Site plan, (b) Ground floor plan, (c) First Floor Plan of İsmailbey *Konak.*
(Source: Eyüpgiller, Kemal Kutgün. Bir Kent Tarihi KASTAMONU. İstanbul, Eren Yayıncılık , 1999. Pg. 318)
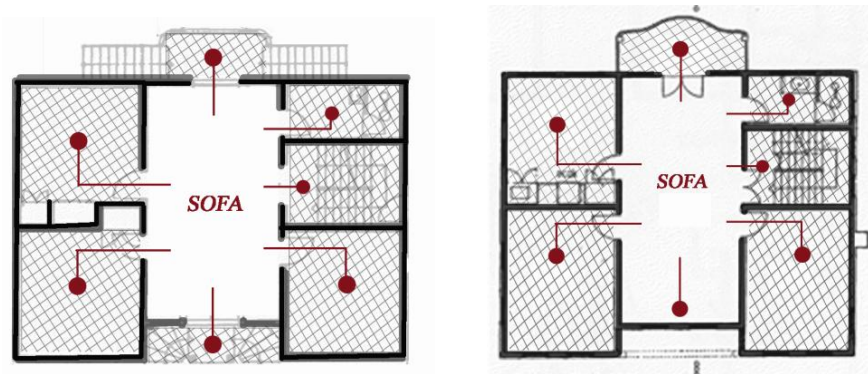
Figure 57: *Sofa* is a strong center and rooms are other centers that support the centrality of it.
(Source: Processed by the author on the original plans taken from: Eyüpgiller, Kemal Kutgün. Bir Kent Tarihi KASTAMONU. İstanbul, Eren Yayıncılık , 1999. Pg. 318)
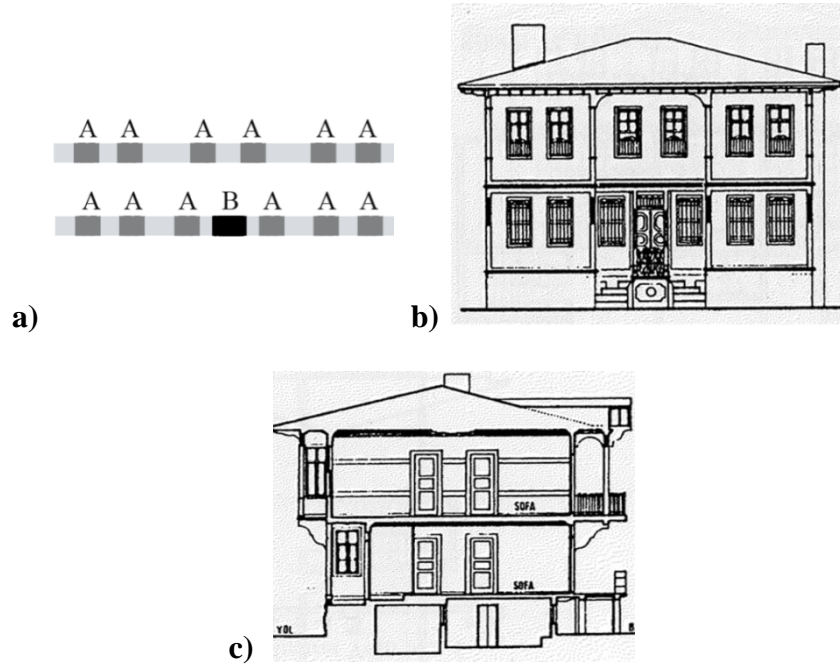
Figure 58: (a) diagram of the symmetries on the front view, (b) Front view, (c) Section of the İsmail bey *Konak*
(Source: diagram is produced by the author. Front view and the section of the house are taken from : Eyüpgiller, Kemal Kutgün. <u>Bir Kent Tarihi KASTAMONU</u>. İstanbul, Eren Yayıncılık, 1999. Pg. 318)

The domination of the view of the *sofa* over the garden makes it more alive, and prevents the feeling of isolation from the nature and the environment around it by uniting the house with the garden. Also, as it is seen in the picture below (Figure 59), the balcony of the *sofa* is an extension of it in nature, a place to relax and refresh. So, the balcony and the garden are also **"centers"** themselves. The balcony supports the *sofa;* and the garden supports the balcony and the house.

On the front façade (Figure 60), which looks out on the main street, symmetrical arrangement is dominant since it is thought that strong symmetry emphasizes the elegance of the house. Beside the overall symmetry on this façade, windows are locally symmetrical. What is stressed and what is in the center is the entrance of the house, which is a **"positive space"** and another **"center"** in the plan. **"The void"** in front of the door and symmetrically arranged stairs leading to door and the columns here create an attraction point and thus intensifies the centrality of the door.

67

Figure 59: View of balcony and the garden from the sofa.
(Source: Photograph taken by the author.[*])

In fact, columns are visual **"centers"** themselves and the spaces between two columns in the entrance area are also "centers" themselves. The bases of columns are other smaller centers supporting these columns. The timber arches connecting them intensify the spaces between them. They are altogether supports the void, and the void supports the door. Hence, the door is a **"strong center"**. Also the space created in front of the door is a transition zone, a **"positive space"** and this space is the place where the outside and inside volumes meet.

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[*] Unless otherwise is stated all the photographs were taken by the author.

Figure 60: Front view of İsmailbey *konak* from the street.

The **"contrast"** created by the use of timber at the edges of the facades which is darker in color than the white coat of the walls, helps different centers to be perceived more intensely and unites these centers together. Also, the use of timber together with the wide timber eave acts as a **"boundary"** thus strengthens the centers and supports the wholeness of these centers. Whole façade, even the windows and their smaller divisions and iron bars, are composed of similar proportions and simple rectangular shapes. There is nothing extraordinary. In this way, **"simplicity and inner calm"** is achieved.

On the other hand, the arrangement of the back façade on the garden side seems asymmetrical. But, with a close inspection, it is seen that there are many **"local symmetries"** (Figure 61). The windows on the both sides of the doors and the windows on the right hand side are locally symmetrical. Although the overall scheme of the façade is asymmetrical, the extension of the *sofa*, the balcony, and the entrance of the house are still at the center. The gable roof above the balcony, the curvilinear extension of the balcony and the props that support it, columns and the stairs are all other centers that make the balcony a **"strong center"**.
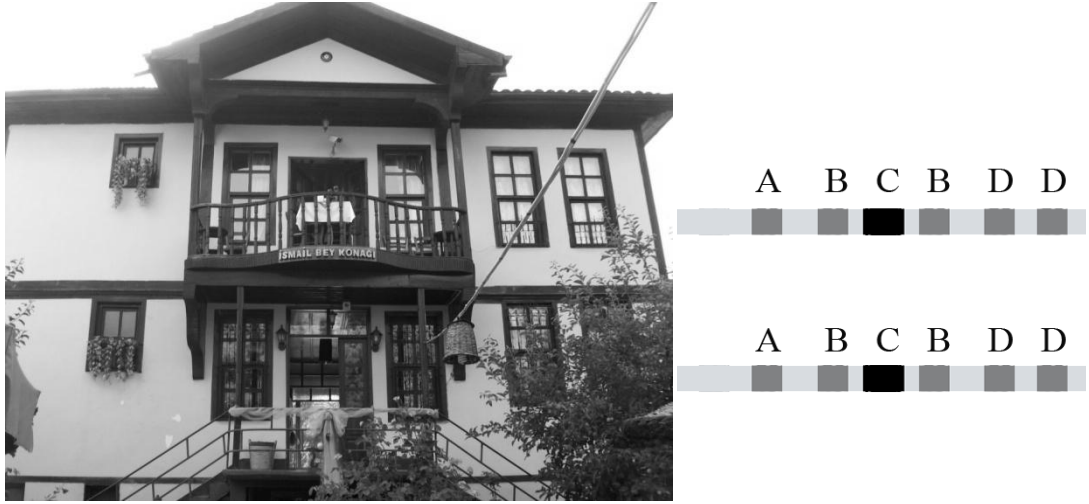
Figure 61: Back view of İsmailbey *konak* from the garden and symmetry diagram of it.

Figure 62: View of the balcony and the entrance from the garden.

Moreover, the divisions of the windows and the smaller sub-divisions inside it and the thickness of the stiles, and jambs are in harmony and they have good **"levels of scale"**. When the props in the Figure 63 are examined, it is seen that the spaces created by them are not meaningless; on the contrary **"positive space"** is created around them. Besides, they have a **"good shape"** since they are composed of the curves of the simple circles.
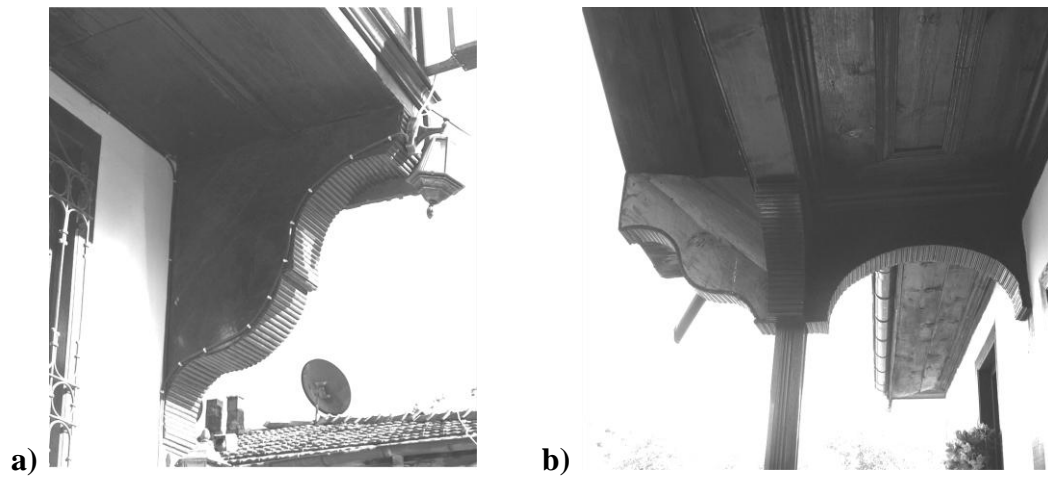
Figure 63: (a) View of the prop, (b) view of the arch that connect the column to the wall.

As it is seen in the interior views of the *sofa* and the room (Figure 64), the timber ceiling which is in contrast with the white plaster of the walls, also emphasizes the space underneath it. Moreover, there is a **"gradient"** in the zone between the ceiling and the walls which softens the transition between two different surfaces.
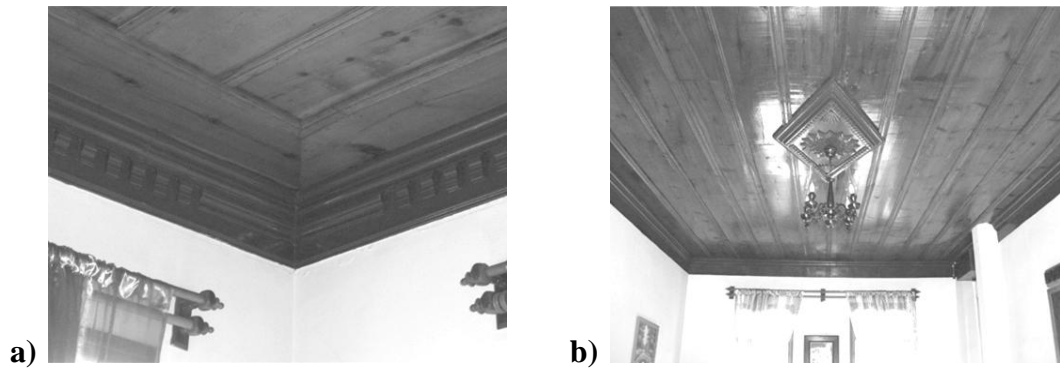
Figure 64: Timber ceiling of (a) a room, (b) the *sofa*.

In brief, "strong centers", "contrast", "boundaries", "levels of scale", "local symmetries", "gradients", "positive space" and " "good shape" are the properties that are grasped at a first glance in the overall arrangement of the house. As Alexander

says, these are the ways which help centers to support other centers and to unify them. Thus, all these configurations contribute to the **"wholeness"** of the structure, and gives life to it.

5.2. House 2: Liva Paşa *Konak*

      Hepkebirler District, Sakarya Street, No: 5

The house reflects the examples of civil architecture of the late Ottoman period. It was constructed by Mir Liva Sadık Paşa (pasha) around 1870s and thus it is called as Liva Paşa *Konak*. The house was expropriated by the Ministry of Culture in 1979. In 1985 restoration studies were started and in 1997 it is opened to public as Liva Paşa *Konağı* Ethnography Museum. It is a three storey house with a basement. The rooms on the ground floor had been used in winter; the ones on the upper floors in summer. The kitchen and the bath of the *konak* take place on the basement. First floor of the house is rearranged so as to exhibit the hand works of Kastamonu and the upper floor is rearranged as museum-house today.[109]

The structure of the house is masonry on basement floor and on the front and back facades of the ground floor, and timber frame on the upper floors. As it is seen on the plan, the house consists of symmetrically arranged two independent sections called *haremlik* and *selamlık,* and each of them has its own *sofa. Sofa* is the central space of both sections, and its central character is intensified by the rooms around it, which are also centers themselves. There are two identical entrances; one is leading to *haremlik* section and the other one is leading to *selamlık*. The landings in front of the doors are reached by the two symmetrical stairs rising on the both sides of the columns of the porticos.

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[109] Web site of Ministry of Culture and Tourism. Last accessed on: 03/07/ 2008.
<http://www.kastamonukulturturizm.gov.tr/BelgeGoster.aspx?F6E10F8892433CFF3562477F0F09B0DC6184B38089B8DF0F>

Web site of Ministry of Culture and Tourism. Last accessed on: 03/07/ 2008.
<http://www.kultur.gov.tr/TR/BelgeGoster.aspx?F6E10F8892433CFF1AD8E71A9A9C2925F18CCC21C43DE9CA>

Figure 65: Front façade of Liva Paşa *Konak*

a)   **b)**   **c)**
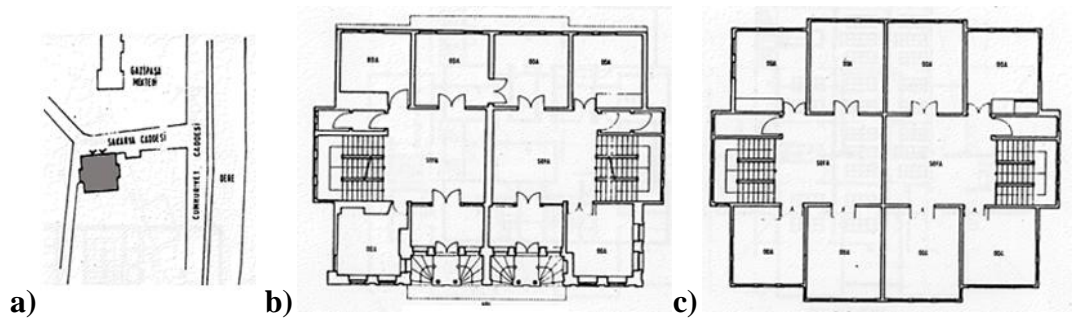
Figure 66: (a) Site plan, (b) Ground floor plan (c) First and second floor plans of the Liva Paşa *Konak* (Source: Kültür Bakanlığı, K ve T.V.K.K Gn. Md. Arşivi. In Eyüpgiller, Kemal Kutgün. <u>Bir Kent Tarihi KASTAMONU</u>. İstanbul, Eren Yayıncılık , 1999. Pg. 355)
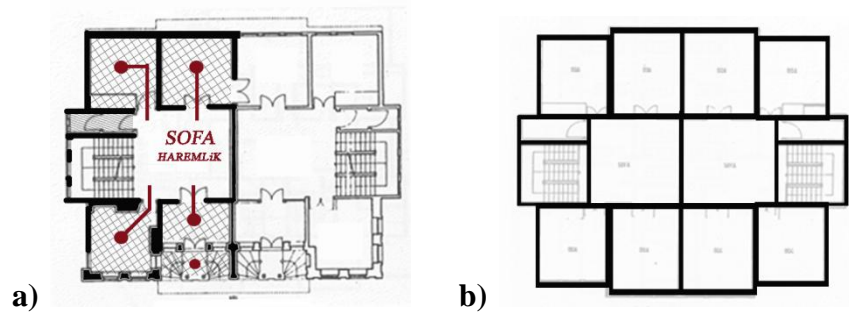
Figure 67: (a) *Sofa* and other centers that support it, (b) good levels of scale and good shape in the plan of Liva Paşa *Konak*.
(Source: Processed by the author on the original plans taken from: Kültür Bakanlığı, K ve T.V.K.K Gn. Md. Arşivi. In Eyüpgiller, Kemal Kutgün. <u>Bir Kent Tarihi KASTAMONU</u>. İstanbul, Eren Yayıncılık , 1999. Pg. 355)

Each portico in front of the doors is a **"positive space"** and a **"center"** both in the plan and façade. The centrality of the porticos is emphasized by the stone columns and symmetrical stairs leading to the landing, which are other visual centers also. The bases and the capitals of the columns are other smaller centers that intensify them. Two columns together create and intensify the space between them. All these centers contribute each other and support the centrality of the portico, and the portico emphasizes the door.
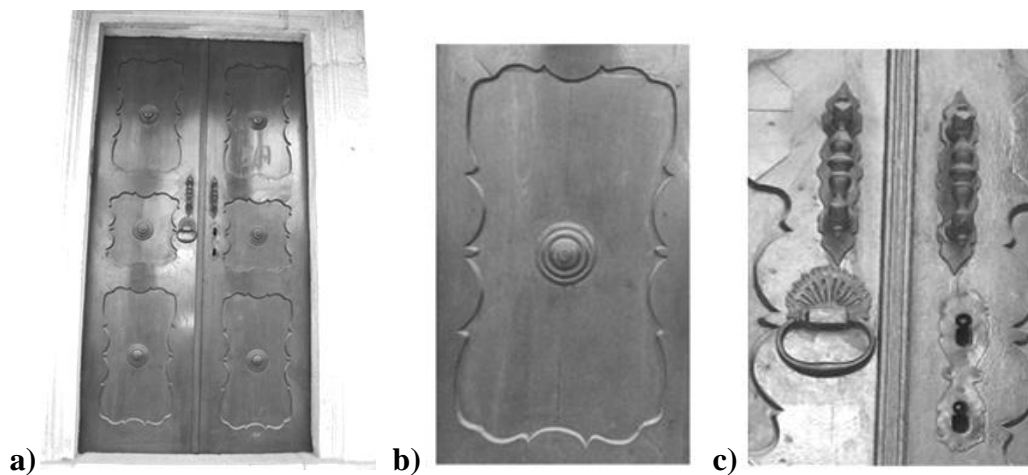
Figure 68: (a) View of the door, (b) Detail of an ornament, (c) Details of handles and knocker.

As it is mentioned before, the house has two identical entrances. The doors of these entrances are also identical, and one of them is seen in Figure 68. The ornaments on the surface of the door are not in the same scale. Here, good "**levels of scale**" achieved by repeating the same units of ornament in different scales. As it is seen in the Figure 68b in detail, the units, which are the centers supporting each other, has also a geometric center, a circular relief, in the middle of them. This circular relief is formed by repetition of circles, each of which is an expanded version of the previous one. That is, **"echoes"** is present in the formation of them. Moreover, the formation of the door has a kind of **"simplicity and inner calm"**, there is nothing extraordinary. Having a closer look in to the handles of the door which have **"good shape"**, it is seen that handles are made of centers, which are simple shapes. Besides, the door knockers have also a **"good shape"** composed of bars originating from the same center and intensify it. But the shapes, ratios and connections of these bars are not in an exact accuracy; hence property of **"roughness"** is seen here.

Figure 69: Entrance section of Liva Paşa *Konak* and props that support projection.

The middle parts of the facades of the first and second floors, just above the entrances, have projections supported by the stone props called *eli böğründeli*. The props are formed by simple geometrical shapes, curves, prisms, cubes etc.; hence has a **"good shape"**.

The ground floor has cut-stone, arched windows. The peripheries of the window apertures are slightly put forward from the surface of the façade, by this movement they act as **"boundary"** and emphasize the windows visually. In addition, **"gradients"** are present because of the profiles used in these boundaries. Each of these profiles and the projected parts on the corners of stone sills of the windows are **"good shapes"** themselves. Also, transition between the stone surface of the ground floor and white plastered surface of the first floor is softened by using timber and stone in levels; in other words, by the help of **"gradients"**. By creating this transition here, adaptation between stone basement and white plastered upper floors is achieved.

Figure 70: Ground floor windows of Liva Paşa *Konak*.

Figure 71: Archway to the garden of Liva Paşa *Konak*.

The gate to the garden is known as *arslanlı kapı* (lion gate) has symmetrically carved figures of lion on the both sides of the arch.[110] The structure of this entrance of the garden (Figure 71), just beside the front façade of the house, is also masonry. The cut-stone archway and the arched windows are the **"voids"** opening to garden visually. In addition, each of these voids are visual centers themselves. These symmetrically arranged small voids on both side of the archway intensify the centrality of archway. In addition, the projected arches framing these voids are visual **"boundaries"** and these boundaries intensify the voids.

The windows of upper floors are timber sash windows, and they are rectangular in shape except the ones just above the main entrance doors. First the windows are divided in two equal parts, and then these parts are divided again in four equal parts with narrower lathes. So the windows are composed of different centers which are in different scales, hence the windows have good **"levels of scale"** which also extends to the whole façade.

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[110] Web site of Ministry of Culture and Tourism Retrieved on: June, 2008.
<http://www.kastamonukulturturizm.gov.tr/BelgeGoster.aspx?F6E10F8892433CFF3562477F0F09B0
DC6184B38089B8DF0F>

Figure 72: Close view of the windows of the front façade.

The front façade has highly symmetrical characteristic, which is thought to be as an indication of elegance and power. The use of timber, which is darker in color than the white plaster, forms **"contrast"**. Besides, by the use of it, windows and the different centers of the façade are bounded and also united.

In Figures 66-67, in the plans, the centrality of *sofa,* which is supported by other centers (rooms) leading to it, is seen. The whole interior of the house is illuminated by many windows. The landings of the symmetrical stairs leading to upper *sofa* are also luminous and spacious (Figures 73 and 74). As it is in *sofa*, the material of the ceilings and floors of the whole interior is mainly timber and the walls are white plastered. The difference of the colors of these materials, while creating **"contrast"**, emphasizes the space between them. Besides, the few number of elements used in interiors, the way they are used, and elimination of unnecessary things contributes to the feeling of **"simplicity and inner calm"**. These materials, timber, stone and white plaster, both in the interior and on the facades of *konak* are used together in a very effective way.

Figure 73: Stairs of the Liva Paşa *Konak*.

Figure 74 Stairs of the Liva Paşa *Konak*.

Figure 75: A view of a sitting room in Liva Paşa *Konak*.

Figure 76: A view of the sitting room of the *harem* section of Liva Paşa *Konak*.

The inner view of the sitting room of the *harem* section is seen in the Figure 76. Together with the light coming from tall windows, and the *sedir* – sitting platform – in front of them create an attraction point, another center in the room. The fireplace is also a focal point, a center in the room both visually and spatially, where household gather around (Figure 77). The carvings, which are created by **"alternating repetition"** and simple geometrical shapes above the fire place, support the centrality of it. Also, the carvings and the fireplace forms **"voids"**. The **"roughness"** of the smaller carvings is not a result of careless design. On the contrary, attention is paid to the centers and the relations between them and finally the wholeness is achieved. Moreover, smaller carvings are composed of **"alternating repetitions"**.

a)   **b)**
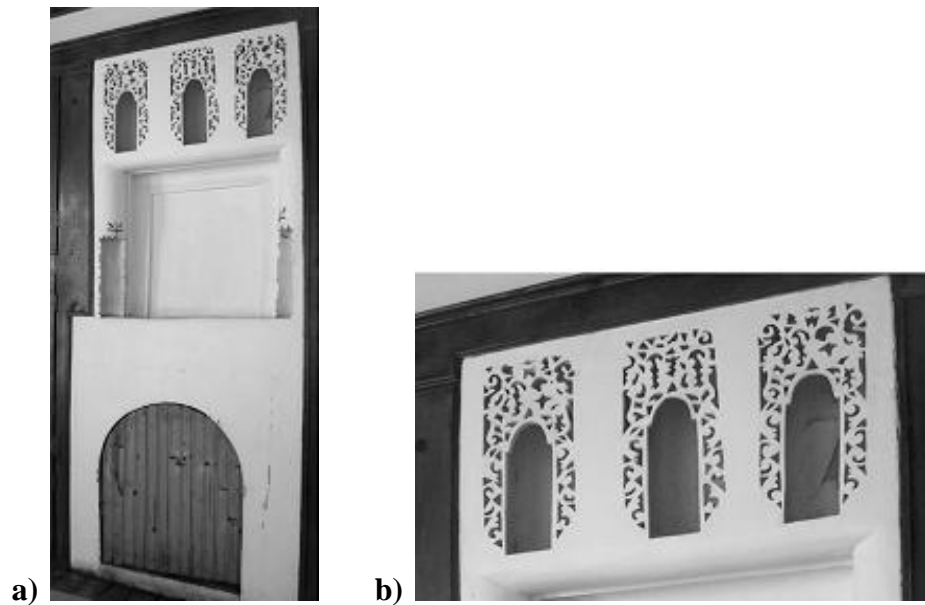
Figure 77: (a) Fire place in a room (b) Details of the carvings above the fireplace.

The lacework attached underneath the curtain (Figure 78), is composed of rectangular grids. Though the overall design seems complex, the figures created either filling the areas between the grids or just leaving them empty. In addition, bird and flower figures repeat themselves in an alternating rhythm.
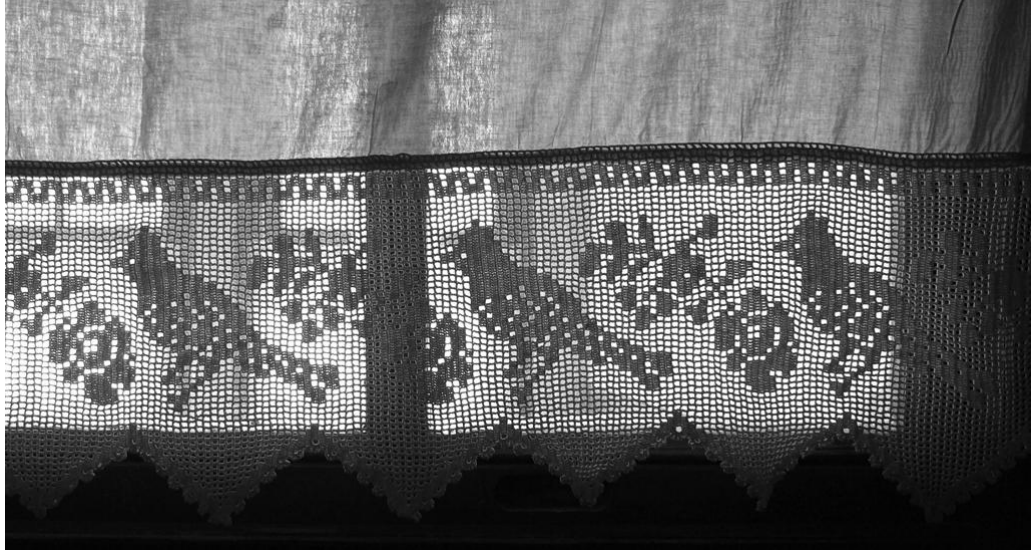
Figure 78: The Lacework of the curtain.

Liva Paşa *Konak* is one of the few houses that are preserved up to now. It consists of many properties that gave the quality of life and supported the human life in its own time. These properties and the quality are seen even today. In general, feeling of silence and "simplicity and inner calm" is the most important ones of these properties.

5.3. House 3: Sinanbey *Konak*
Hepkebirler District, Sinanbey Street, No: 14

Sinanbey *Konak* is a three-storey house with a basement. The structure of the house is masonry on the basement and timber frame on the upper levels. The metal plate on the window above the main entrance of the house (Figure 79) indicates that the house was constructed in H.1319 (1901). The house is located near the Sinanbey Mosque, and it is being used as a restaurant and hotel today.

Figure 79: A view of Sinanbey *Konak* from the street and the meatl plate above the main entrance.

The main entrance of the house is on Sinanbey Street. As it is seen on the first floor plan (Figure 81), the spaces are arranged around the *sofa*. All rooms lead to it and it is a central meeting and gathering place, thus *sofa* is the **"strong center"** in the plan. Though the overall configuration of the plan does not seem symmetrical, it contains **"local symmetries"**: the entrance section, placement of windows, the walls of the rooms that have fireplaces etc.
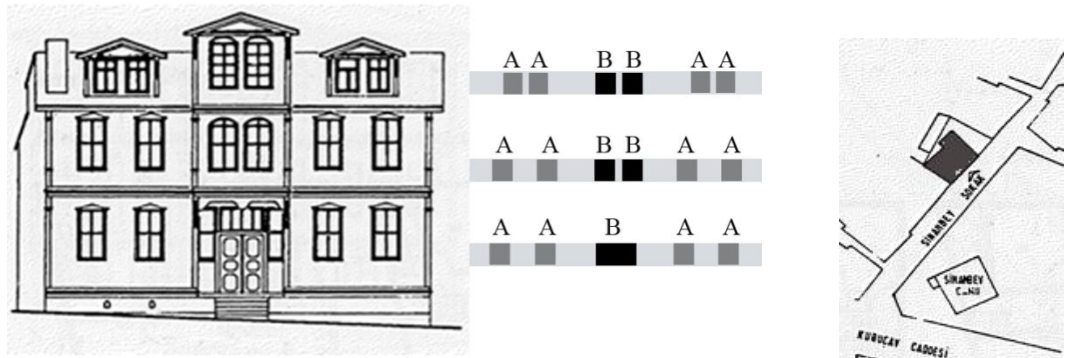
Figure 80: The front view, symmetry diagram and the site plan of Sinanbey Konağı.
(Source: Diagram is produced by the author. Front view and site plan are taken from: Eyüpgiller, Kemal Kutgün. Bir Kent Tarihi KASTAMONU. İstanbul, Erenyayıncılık , 1999. Pg 338)

83
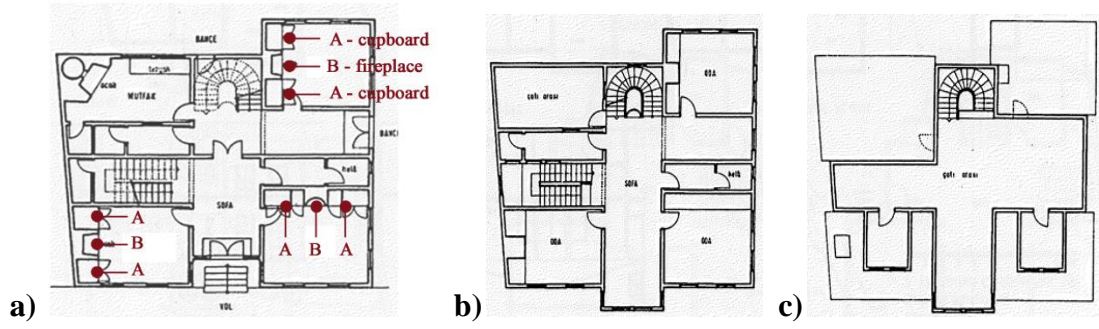
Figure 81: (a) Ground floor plan, (b) First floor plan, (c) Attic floor plan.
(Source: Processed by the author on the original plans taken from: Eyüpgiller, Kemal Kutgün. <u>Bir Kent Tarihi KASTAMONU</u>. İstanbul, Eren Yayıncılık , 1999. Pg. 338)

The front façade of the house is highly symmetrical, as it is seen in Figures 80-82. The focal point of the façade is the middle part of it, the entrance of the house, and the projection of the *sofa* above the entrance. The centrality of the entrance is emphasized by the projection of *sofa,* by the gable roof just above it and by making this section higher. The highest level with a gable roof, called *cihannüma*, is intensified by the smaller spaces on both sides of it. Also there are other centers contributing to the centrality of the entrance section. These centers are formed by and grouped together and also differentiated by the use of **"local symmetries"**, **"contrast"**, **"boundaries"**, and **"levels of scale"**.

Here again in this house, use of white plaster together with the timber creates **"contrast"**. Timber is used as a boundary on the edges of the walls and around the windows, too. It is used also between the stone on the basement and the white plaster on the other floors as a transition material and creates a **"gradients"** with its form. The harmony of different materials used on the façade is one of the properties that create the elegance. Beside the complex appearance of the façade, it has some sort of simplicity in the selection of the materials.

84

Figure 82: View of the front façade of Sinanbey *Konak.*

Figure 83: View of *cihannuma* and props of Sinanbey *konak*.

Furthermore, the front façade and the smaller centers in it, windows, and entrance door are composed of good **"levels of scale"**. The windows of the *sofa* are arched; hence they are differentiated from the windows of the other rooms which have timber pediments above them. These arches and triangles above the windows create smaller centers and intensify the centrality of the windows underneath them. The stone windows of the basement (Figure 84) which has some **"roughness"** are composed of **"good shapes"**.

Figure 84: The window of the basement.

Figure 85: The projection of the sofa and the props underneath.

The space created in front of the entrance door is a **"positive space"**. The props underneath the projection of the *sofa*, and under the eaves, have also **"good shape"**. They support the centrality of the space in front of the door, in other words entrance of the house.

As it is seen in the Figure 86, the sofa is spacious and full of light. The *sedir,* in front of large arched windows, creates a center together with arched windows inside the *sofa,* which is a gathering place of the household. *Sofa* has control over the street with the view provided by the projection and the arched windows placed on the façade of this projected section.

Figure 86: Inner view of sofa at Sinanbey *Konak.*

Figure 87: View of the stairs leading to *sofa* in Sinanbey *Konak*.

The use of timber on the ceiling and on the floors which is in contrast with the white plastered walls, intensify the space between them; and creates a feeling of peacefulness. The simplicity of arrangements of *sedir,* timber ceiling and windows

create a very effective wholeness together. The curvilinear stairs leading to *sofa* is seen in Figure 87. The space between the stairs is not left over, but it is used as a shelf, which is another center within the space.

5.4. House 4: Şeyh Şaban-ı Veli *Konak*
Hisarardı District, Gümüşlüce Street, No: 30/A-B

There are two identical houses, located on the north section of a religious complex. They have been restored, and now one of the houses, which is on the west, being used as a museum; however, the one on the east is not open to public yet. They are both two-storey houses with basements. The structure of the houses is stone on the basement, and timber frame on the upper floors, which is usually a common characteristic of many of the traditional Kastamonu houses.

Although the overall scheme of the plan does not seem symmetrical, front façade of the house is designed symmetrically except the stairs leading to the entrance door.[*] In other words, symmetry of the street façade is broken by the stone staircase which goes up to the main entrance from one side. The rooms arranged around the *sofa* and they lead to *sofa*. *Sofa* is a **"strong center"** intensified by other rooms which are centers themselves as well. Here again the focal point on the façade is the entrance section, the elevated **"void"**, emphasizing and leading to the door. Projection above the door and the gable roof of this part are also centers emphasizing the entrance.

As it is seen in Figure 89, there are symmetrically arranged arched windows on both sides of the entrance section of the basement. They are bounded by a projected stone frame around them. Also, there is a stone cornice between the basement and upper level. Besides bounding basement floor, this stone cornice creates **"gradients"** between two levels together with the timber cornice above it.

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[*] Another stairs leading to the entrance has been attached symmetrically to the other side of the entrance of the house on the west side, today.
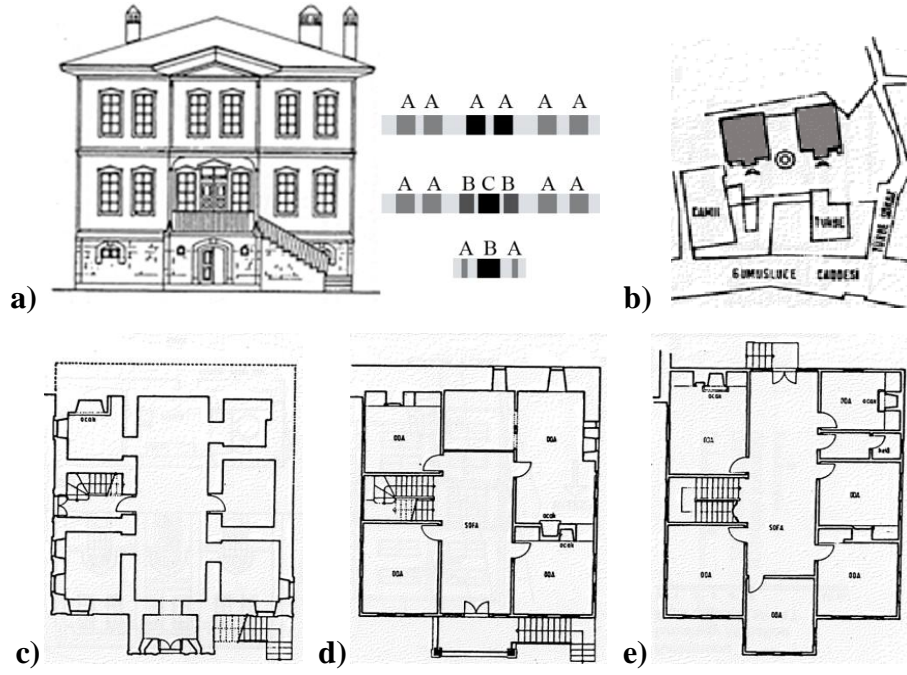
Figure 88: (a) Front elevation and symmetry diagram, (b) Site plan, (c) Basement plan, (d) Ground floor plan, (e) First floor plan of the *Konak*.
(Source: Tülay Taşçıoğlu Mimarlık Bürosu Arşivi. In Eyüpgiller, Kemal Kutgün. Bir Kent Tarihi KASTAMONU. İstanbul, Eren Yayıncılık , 1999. Pg. 313)

Figure 89: Front façade of the Şeyh Şaban-ı Veli *Konak*

The entrance of the basement on the street façade is quite dominant, just below the landing of the main entrance of the house. There are two small arched windows, which are bounded by the projected stone frame around them, on both sides of the basement door. The door at the center of them is also bounded by two projected stone frames. Besides, the key-stones are projected and emphasized more than the other parts of the frame, thus become another center that emphasizes the door. Also, there is a floral relief on the key-stone. With these movements on the surface of the entrance section of the basement, different centers are bounded or new centers are created. This section composed of windows and the door constitutes a center together in the whole façade, and it is also bounded by the stone projections on the sides, on the top and the bottom.

Figure 90: Entrance of basement of Şeyh Şaban-ı Veli *konak*.

Main entrance of the house is protected by a projection and framed by two timber columns. The bases of the columns that are carved out of stone, softens the transition providing a **"gradient"** between stone and timber, and between different forms. The capitals of the columns also create a **"gradient"** together with the curved triangular

elements connecting it to the upper level. The capital of each column together with ornaments on the outer faces of these triangular parts and the base of each column, support the centrality of the columns visually.

Figure 91: (a) Main entrance of the *konak* (on the east), (b) Projection and the column of the *konak* (on the west).

The windows of the ground floor and the first floor are timber sash windows. The divisions of the windows have good **"levels of scale"**. First, they are divided into two, and then, each part divided into four equal parts with narrower laths. In addition, the windows of the side facades of the house have simpler form, than the ones on the street façade. The windows of the street façade have triangular pediments on the top, and have ornaments on the top corners of the pediments. They also have ornamented sills. All these elements act as other centers themselves, and support the centrality of the windows.
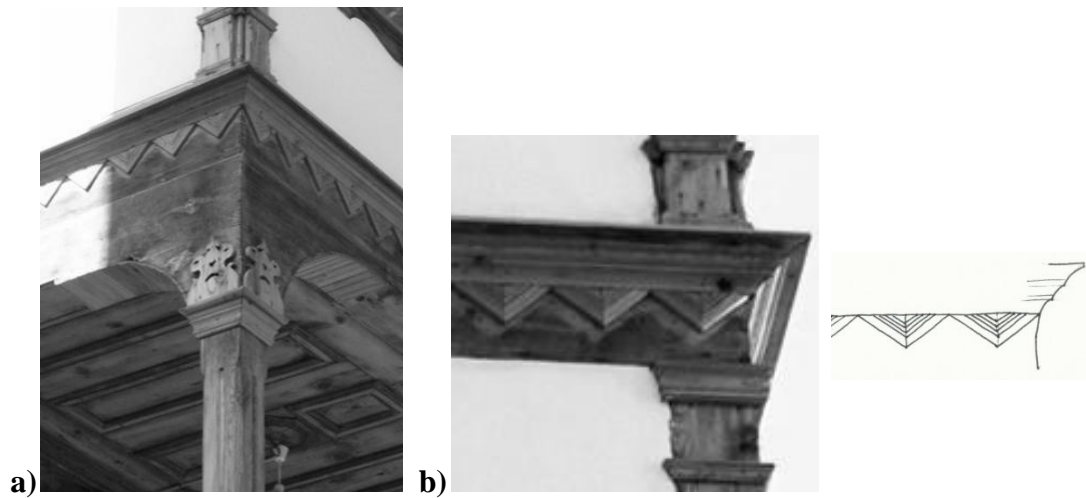
Figure 92: (a) A close view of the corner of projection and column, (b) Detail of the ornament on timber cornice.

Moreover, the property of **"contrast"** created on the façade by the use of timber together with the white plaster is clear here again. Besides, timber is used as a **"boundary"** and as a tool for creating and emphasizing centers. In addition, there are repeating triangular ornaments on the timber cornices, which are also centers themselves (Figure 92b). The formation of these repeating triangular ornaments along the timber band can be given as an example of **"echoes"**. The expanding shape of this timber band towards up forms a **"gradient"**. Furthermore, the eaves of the gable roof above the projection also have a **"boundary"** effect. Besides, these large timber eaves and roof help to the wholeness of the house.

The main entrance door has good **"levels of scale"**; different centers that are created on it are in different scales. The elements that form these centers are the same units repeated in different sizes, profiles and angles. They are in **"good shapes"** (octagonal) as well. Also, the handles used are in **"good shapes"**, again, composed of different centers which have simple geometrical shapes.

Figure 93: (a) Windows of the *sofa* on the front façade, (b) windows of the rooms on the east façade.

Figure 94: Main entrance door and its detail of the handles.

A view of the stairs leading to the upper sofa is seen in the Figure 95. The feeling of peace, quietness and spaciousness is again dominant in this house as it was in previous examples. Timber and white plaster are used together very effectively. That is, the harmony and unity created by use of these two materials which are in **"contrast"**. Arrangements of both utilize **"local symmetries"** as well.

Figure 95: Stairs leading to the upper floor in Şeyh Şaban-ı Veli *konak*.
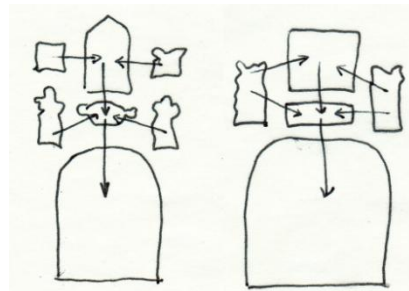
Figure 96: Fireplaces in two rooms and field effect diagrams of them.

The fireplaces in two rooms are seen in Figure 96, both of which create a center and a **"void"** in the room visually and spatially. The centrality of the fireplaces is emphasized again with the carvings above them. The **"roughness"** of the carvings does not make them less beautiful, but creates other centers, the void of the fireplace below them being a **"strong center"**.

Figure 97: Ceiling of a room.

Figure 98: Ceiling of the *sofa.*

The ceilings and the floors of the interior spaces are timber; which are in **"contrast"** with the white plaster of the walls. In this way the space in between the ceiling and the floor is emphasized as a center. The ceilings of the rooms and the *sofa* have geometrical reliefs on their skirts, each of which is a center on the ceiling, supporting each other. There are repeating triangular reliefs similar to the ones on the façade of the house. And the profile of the timber softens the transition between the ceiling and the walls by forming **"gradients"**.

The feeling of peace and **"simplicity and inner calm"** is present on the overall arrangement of the *konak*. This simplicity of all arrangements of elements, including *sedir*, ceiling and windows, create an effective wholeness together. Materials; timber, white plaster and stone, also form an effective unity. In addition, all the spaces have **"good shape"** and good proportions. The house has a simplicity that it is easy to remember. In addition, in this example, symmetry of the street façade is broken by the introduction of the staircase.

5.5. House 5:
Hepkebirler District, 75. Yıl Cumhuriyet Street, No: 33/1-2

The house is located on 75. Yıl Cumhuriyet Street and it is one of the most magnificent houses that are surveyed. It is a three storey house with a basement. The structure of the house is masonry on the basement and timber frame on the upper floors. It consists of two symmetrical sections called *haremlik-selamlık*. Each section has its own *sofa* and own entrance. The façade and the plan of the house is symmetrical emphasizing the power of the owners in its own time.

Figure 99: Street view of the house.

The dominance of the symmetrical arrangement is clear in the plans and the elevation of the house (Figure 100). There are two identical entrances on the front façade, each of which leads to the sofa of *harem* and *selamlık* sections. A room called *mabeyn* provides the transition between these two sections. Also, façade and plans are made a whole by the repetition of certain parts in an alternating way. This **"alternating repetition"** is illustrated in the Figures 101a and 101b. In addition, **wholeness** created by protruding volumes and voids created in between them, as well as with the voids used for entrances (Figure 99).
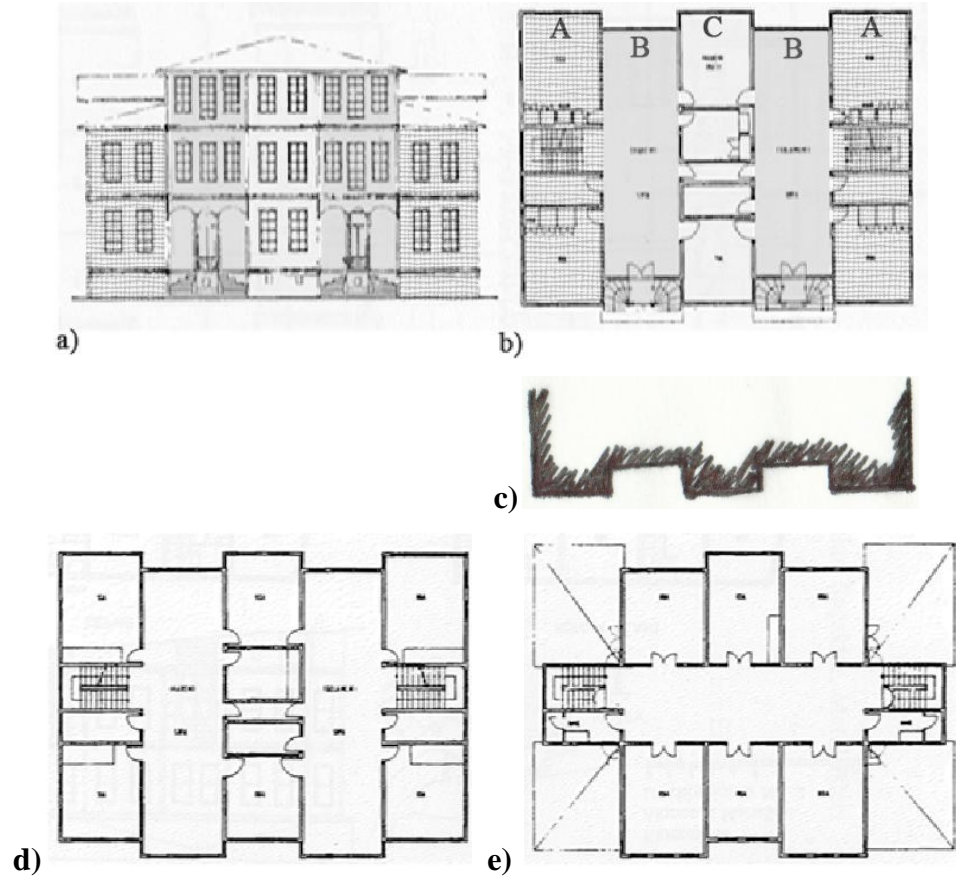
Figure 100: (a) Front elevation, (b) Ground floor plan, (c) Positive space on the ground floor plan. (d) First floor plan, (e) Second floor plan of the house
(Source: processed by the author on the plans and elevation in Eyüpgiller, Kemal Kutgün. Bir Kent Tarihi KASTAMONU. İstanbul, Eren Yayıncılık , 1999. Pg. 356)

Each *sofa* has a projection above the entrance. This projection and **"the void"** create a portico, which is a **"positive space"**, in front of each door (Figures 100 and 101). The projections are supported by two timber columns and props underneath them (Figure 102). Two symmetrical, curvilinear stairs on both sides of the columns lead up to the landing in front of the door. That is, the space created in front of the door is a **"center"** in the plan leading to *sofa* and intensifying the centrality of the *sofa.* It is also a visual center on the façade that emphasizes the door. The centrality of the entrance is emphasized by many other centers, such as columns, the arches between columns, the projection above the entrance, the props supporting the projection and symmetrical stairs, and an opening located under the landing, etc.

98

Figure 101: Entrance section and stairs leading to the door.

The columns, which are other visual centers themselves, have stone bases that support the centrality of the columns. Stone bases are used as transition elements, thus harmony between different materials is achieved. The stone bases are also in **"good shapes"** composed of simple geometrical forms.

The columns are connected with each other and to the side walls with arches. The spaces created between the columns are also supported by those arches. The basement window which is just in front of the landing of the door, between the curvilinear stairs, is differentiated from the other basement windows. While the other ones are simple rectangles in shape, this one is composed of circles and quarter circles carved in stone. Consequently, this differentiation is another property that emphasizes the centrality of the entrance visually.

The props supporting the projection of *sofa* are also composed of simple forms, thus they have a **"good shape"**. Also, the textures on the surface of the props and the arches between columns are formed by the repetition of the same strips.

Figure 102: Arches, props and columns supporting the projection.

As it was in most of the other houses that are surveyed; stone, timber and white plaster are used in harmony. Timber is used on the elevation as a transition material between the stone on the basement and plaster on the ground floor. Timber together with white plaster creates **"contrast"** here again. Besides, it is used around the windows and on the edges of the façade as a **"boundary"** between different centers. It does not only bounds and separates these centers, but also unites and holds them together.

Furthermore the proportions of different elements and centers in the façade have good **"levels of scale"**. The divisions of windows and the door also have good **"levels of scale"**. In addition, **"echoes"** and **"alternating repetition"** can be seen in the handmade lathwork inside the window (Figures 104).

Figure 103: View of the entrance section and windows of the ground floor and the basement.

Figure 104: Window and handmade lathe work and perspective view of the house.

When the handles and the knockers of the entrance doors are carefully examined, it is seen that they have a **"good shape"**. Especially the handles of the doors are composed of simple geometrical forms which are centers themselves and intensify each other. Besides, the knockers of the doors have also different centers made up of simple forms (Figure 105). Also, as it is seen in Figure 106 in detail, the upper section of the knocker composed of the repetition of the same forms in different scales and angles. Hence, examples of **"alternating repetition"** and **"echoes"** are seen here.

Figure 105: Detail of the door handles and the diagram of it.
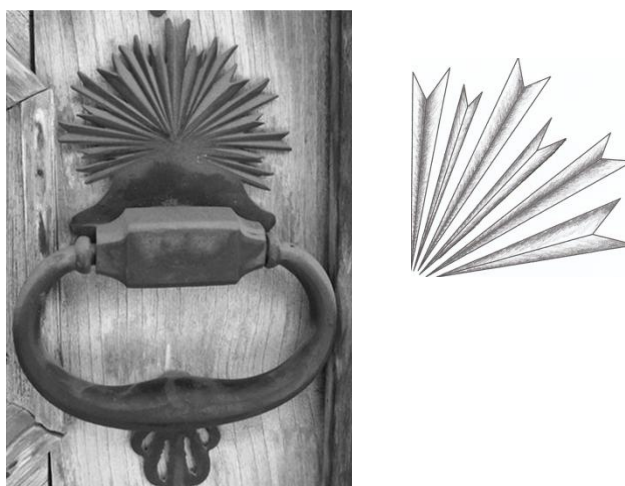
Figure 106: Detail of the knocker and alternating repetition in the formation of it.

In general, simplicity and **"good shape"** are the basic characteristics that are seen on the plans and the facades of this house as in previous houses. Each *sofa* is larger than the other spaces and it goes along the house. Each of them is the center of the sections they belong to. The plan and facades of the house have **"good levels of scale"**. Timber, stone and white plaster are used effectively and in harmony here again. The wide timber eaves are another element that contributes to the wholeness of the overall arrangement of the house. All these simple and effective arrangements create a feeling of stillness, **"simplicity and inner calm"** and wholeness.

5.6. House 6: Sepetçioğlu *Konak*

   Honsalar District, Honsalar Street, No: 19

The house located on the Honsalar Street is a two storey house with a basement. The construction date of the house (1884) is written on the metal plate above entrance door on the Gökdere Street. The restoration studies of the house were completed in 2000. It is being used by the Educational Volunteers Foundation of Turkey (Türkiye Eğitim Gönüllüleri Vakfı), today.[111]

The house has two entrances, one of them is on the Honsalar Street, and the other one is on the garden side. Both of the entrances lead to the *sofa* on the ground floor. *Sofa* is the central meeting point and the largest space in the house, thus it is a **"strong center"**. The rooms are other centers that intensify the *sofa* and they have more intimate dimensions. Thus, floor plans of the house have good **"levels of scale"**. The overall scheme of the house is not exactly symmetrical; yet, it gives the feeling of it with the arrangement of the rooms around the *sofa.* The property of **"local symmetries"** is present in the placement of the windows and in the placement of the different sections. In addition, the overall arrangement of the plan has simplicity and it is easy to remember.

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[111] Web site of Ministry of Culture and Tourism. Last accessed on: 03/07/ 2008.
<http://www.kastamonukulturturizm.gov.tr/BelgeGoster.aspx?F6E10F8892433CFF3562477F0F09B0
DC6184B38089B8DF0F>
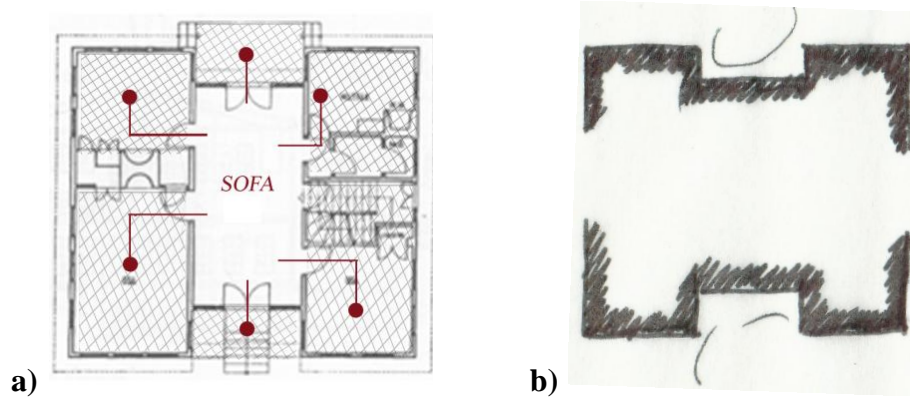
Figure 107: (a)*Sofa* is strong center in the middle and other centers supporting it are seen. (b) Positive space in front of the doors.
(Source: Processed by the author on the original plan taken from: Eyüpgiller, Kemal Kutgün. <u>Bir Kent Tarihi KASTAMONU</u>. İstanbul, Eren Yayıncılık , 1999. Pg. 299)
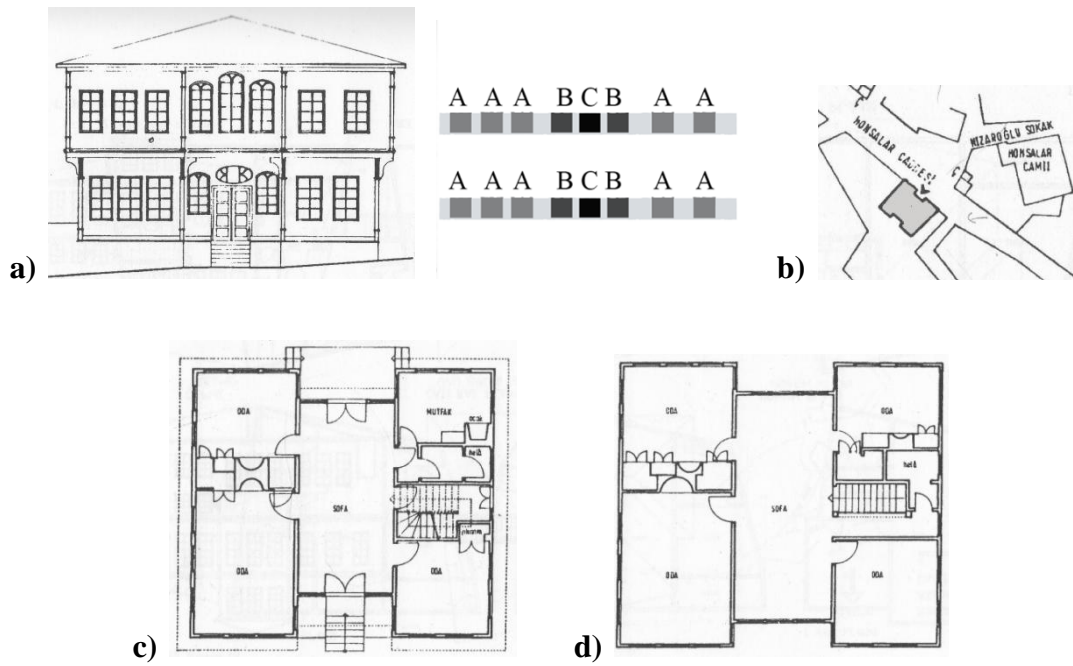
Figure 108: (a) Front elevation and symmetry diagram, (b) Site plan, (c) Ground floor, (d) First floor of the Sepetçioğlu *konak*.
(Source: Symmetry diagram is drawn by the author. Front elevation, site plan and the plans are taken from: Eyüpgiller, Kemal Kutgün. <u>Bir Kent Tarihi KASTAMONU</u>. İstanbul, Eren Yayıncılık , 1999. Pg. 299)

Figure 109: Perspective views of Sepetçioğlu *konak.*

The effect of **"contrast"** created by the use of timber together with white plaster is again important characteristic of the house. The contrast of dark and light color of different materials helps to create new centers, besides intensifying them, bounding them and unifying them together. As it is seen in the Figure 109, the windows of the house are sash windows which are simple rectangles in shape. They are first divided in two equal parts with a timber lathe, and then these parts are again divided in four equal parts with narrower lathes. Hence, the windows have good **"levels of scale"**. In addition the windows of the middle section of the front and back facades, which belong to the *sofa,* are emphasized by the use of arched windows. By this way, also the center and the entrance of the house is emphasized. The projections on the both sides of the entrance and the *sofa* create other centers that emphasize the entrance section and the *sofa* both in the plan and on the façade. This space that is created and emphasized in front of the house, on the ground floor level is a **"positive space"**.

Although facades of the Sepetçioğlu *Konak* are asymmetrical, in the middle section of the plan and façade, the dominance of symmetrical arrangement is seen. The windows of the *sofa* on the upper level, and the windows on the both sides of the entrance doors are the examples of the **"local symmetries"** that are seen on the overall design. That is, the entrance doors are also emphasized by the arched windows on both sides of them and the elliptical window just above it, beside the projections and the movement on the façade.

Figure 110: Front view of Sepetçioğlu *konak* and a closer view of projection and the column on the corner.

Timber columns on the corners create **"contrast"**. They also act as a **"boundary"** to each unit (Figure 110). The centrality of the column is supported by different centers created on the bottom and on the top of it. The projections of the first floor are supported by the timber props, which have simplicity in form. Besides the props, the house has a property of **"simplicity and inner calm"** as it is seen in plans and images. The overall arrangement of plans is simple and easy to remember. Also, timber, white plaster and stone are used in harmony, and they create an effective unity on the facades. Moreover, the entrance door, which is released from unnecessary ornaments, has simplicity and **"good levels of scale"** (Figure 111).

In addition, the wide timber eave of the roof creates **"contrast"** with the white plaster. Besides, it acts as a **"boundary"** and contributes to the wholeness of the house. In general, centers (both on the plan and the facades) are well defined; and, simplicity, peacefulness and wholeness are important characteristics of this *konak,* which are usually common characteristics of traditional Kastamonu houses.

Figure 111: (a) The main entrance door of Sepetçioğlu *konak*, (b) Detail of the knocker.

5.7. House 7:

Akmescit District, Arabapazarı Street, No: 6

The house is located on Arabapazarı Street. The façade of the house was changed during the restoration. When the recent photograph of the house is compared with the elevation drawn in 1990's, this is obvious (Figure 113a-114). As can be seen in the plans, the center of the house is *sofa* as usual. It is the gathering and meeting place of the household and it dominates all the rooms around it. In addition, it has a projection both on the front and back façades. They look out on the street and on the garden respectively. That is, the *sofa* has a good of view over the street and garden, besides it dominates the interior spaces. It is the biggest space that lies along the depth of the house. Rooms that surround the *sofa* are smaller and they have more intimate dimensions. Thus, good **"levels of scale"** is present in the plans. Moreover, *sofa* and rooms have simple arrangement and **"good shapes"** which is easy to remember.

The garden of the house, which is a **"positive space"**, acts as another center. It can also be seen as a **"void"** in the plan. Especially in summers, it is a very important space where the daily life goes on. It is bounded and united with the house by high stone walls (Figure 112).

Figure 112: Ground floor plan of the house. Garden as a void and a center in the plan; and different centers supporting *sofa* are seen.
(Source: The garden is attached and processed by the author on the original ground floor plan in: Eyüpgiller, Kemal Kutgün. <u>Bir Kent Tarihi KASTAMONU</u>. İstanbul, Eren Yayıncılık , 1999. Pg. 322)

The front façade has a symmetrical arrangement. The windows of the house are timber sash windows, and as it is seen in the Figure 113a, they have equal divisions. These divisions of the sash windows and four small elliptical basement windows that are seen in elevation drawing, are not present today (Figure 113a). Today, the windows of the *sofa* are differentiated with ornaments above them. The timber bands on the façade acts as **"boundary"** of different centers, and they also bind these centers together. At the same time, the color of the timber creates a **"contrast"** together with the white plastered walls, and intensifies the centers on the façade. Besides, it forms a **"gradient"** between three levels of the house. Furthermore, whole façade and the different centers in the façade have good **"levels of scale"** and a feeling of **"simplicity and inner calm"** is present.
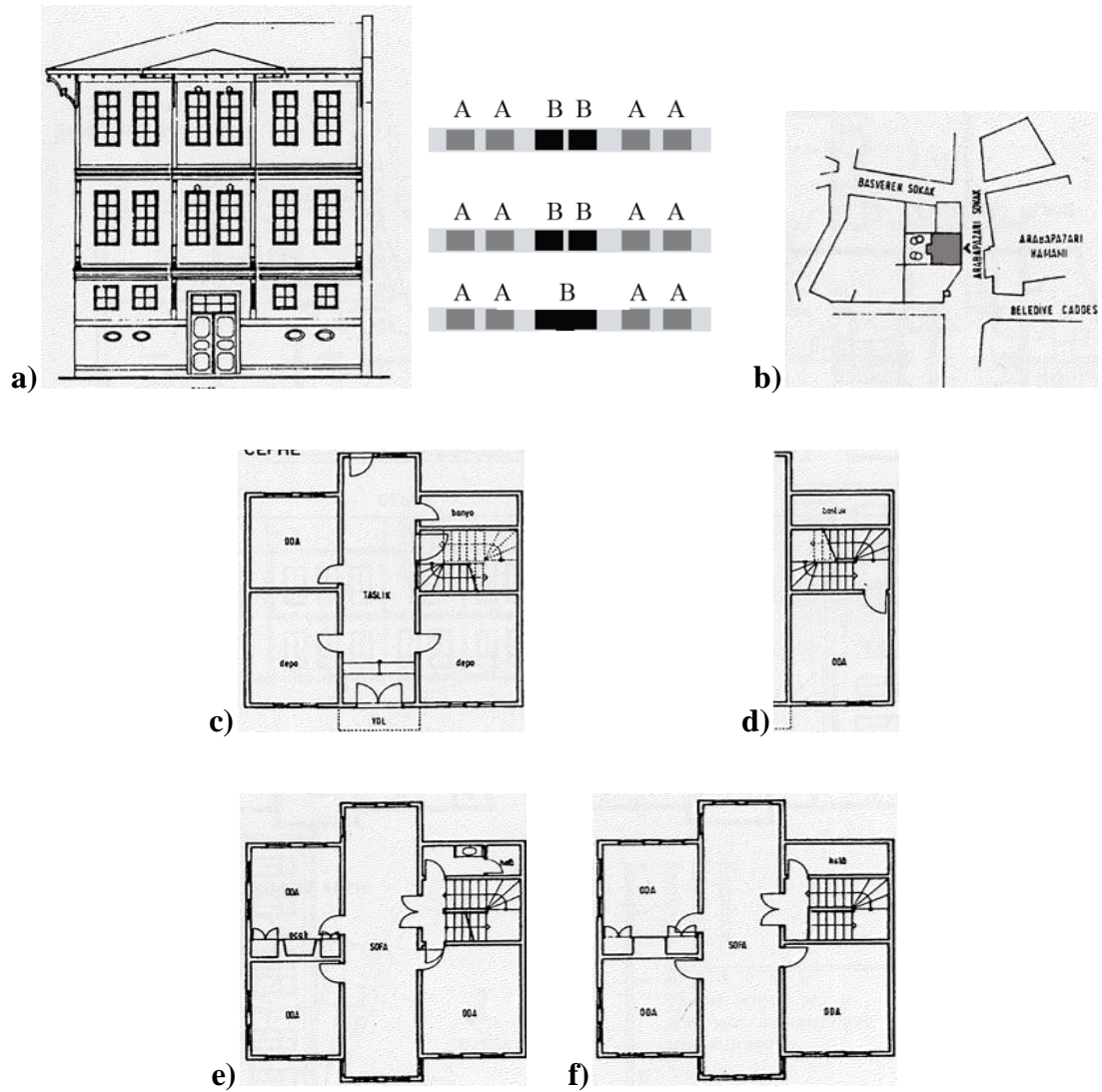
Figure 113: (a) Front elevation and symmetry diagram, (b) Site plan, (c) Ground floor, (d) Mezzanine floor, (e) First floor, (f) Second floor of the house.
(Source: Diagram is produced by the author. Front elevation, site plan and floor plans are taken from: Eyüpgiller, Kemal Kutgün. <u>Bir Kent Tarihi KASTAMONU</u>. İstanbul, Eren Yayıncılık , 1999. Pg. 322)

The entrance door that is seen in Figure 115 has centers which are the repetition of the same units, simple hexagons, in different scales. Hence, it has good **"levels of scale"**. In addition, these hexagons are formed by the same rectangular strips which are different in length. The ornament attached in the middle of hexagonal center, emphasizes it more. Moreover, this ornament has a **"good shape"**. It is composed of

109

the repetition of the same unit originating from the same center in different angles. The handles of the door are also composed of simple geometrical shapes. The relief going along the edge of the door panels is the repetition of the simple diamonds, and acts as a **"boundary"** between the two leafs of the door.

Figure 114: Perspective of the front façade and projection of the *sofa.*
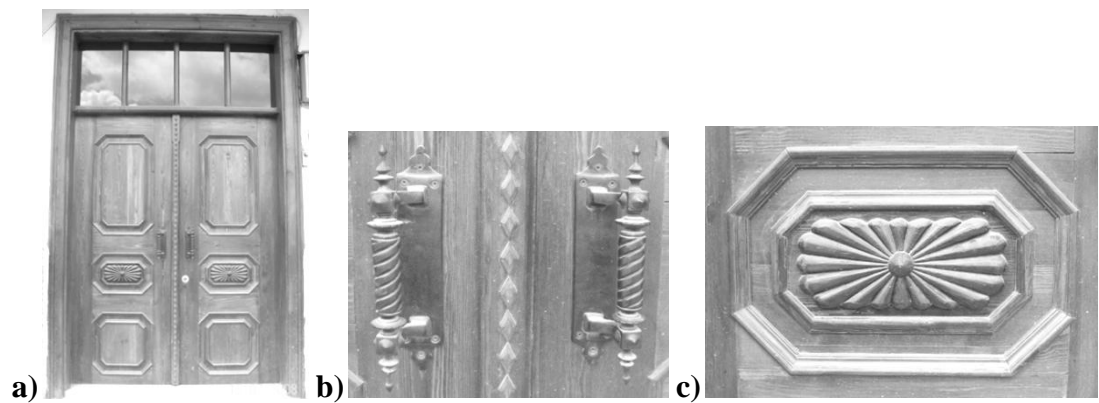
Figure 115: (a) The door, (b) Details of the handles, (c) Detail of the ornament on the door.

The props supporting the projection are seen in Figure 116. Though they seem complex, they are composed of simple geometrical forms. In addition, the reliefs on them are the repetition of the same strips and squares. The reliefs above the props, on the projection, are also repetitions of the same motives in an alternating way. By this way, new centers are formed also. The other relief above the previous one is the **"echoes"** of the same relief.

a) b)
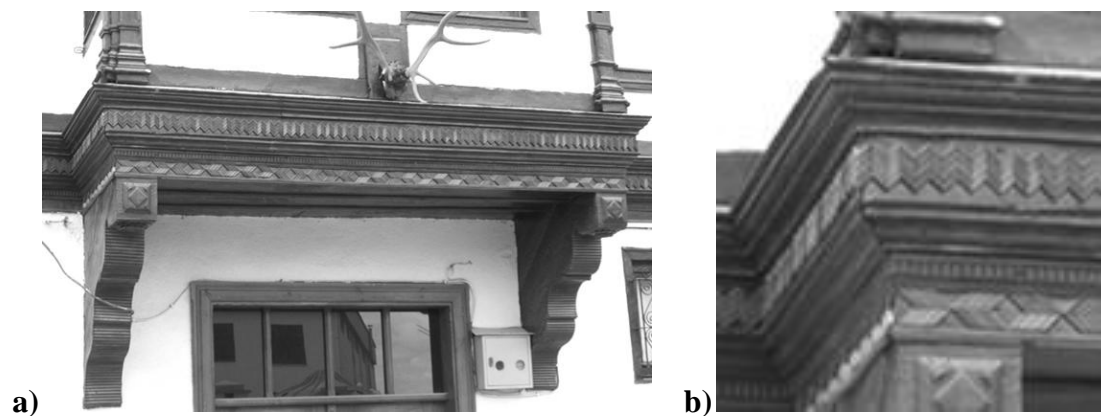
Figure 116: (a) Projection of the *sofa*, (b) Ornaments on the projection.

Figure 117: Alternating repetition and echoes in the reliefs and props supporting the projection of *sofa*.

Figure 118: The props that support the eave.

The props that support the eaves have an ornamental form, which is the composition of two simple curves (Figure 118). In addition, the wide timber eaves of the roof are in **"contrast"** with white plastered walls. It has a **"boundary"** effect; and, by this way, it contributes to the wholeness of the whole arrangement. Calmness and **"simplicity and inner calm"** are the basic characteristics of this house as in many of the examples in Kastamonu. Besides, the harmony in use of materials (timber, stone and white plaster) constitutes an effective wholeness.

5.8. House 8:
Akmescit District, Honsalar Street, No: 5

The house, which is located on the Honsalar Street, is a two-storey house. The structure of the house is partially masonry on the ground floor and timber frame on the first floor. The house has two entrances; one of them is on the Honsalar Street and the other one is on the garden side. Both of the entrances lead to the *sofa*, which

is a **"strong center"** in the plan of the house again. The rooms around the *sofa* are smaller in size. They have good proportions and overall arrangement of them has good **"levels of scale"** in floor plans. The house is shaped in a trapezoidal form in order to fit to the surrounding streets (Figure 119). Besides, plan of the house is a **"good shape"**; it is composed of simple geometrical shapes.
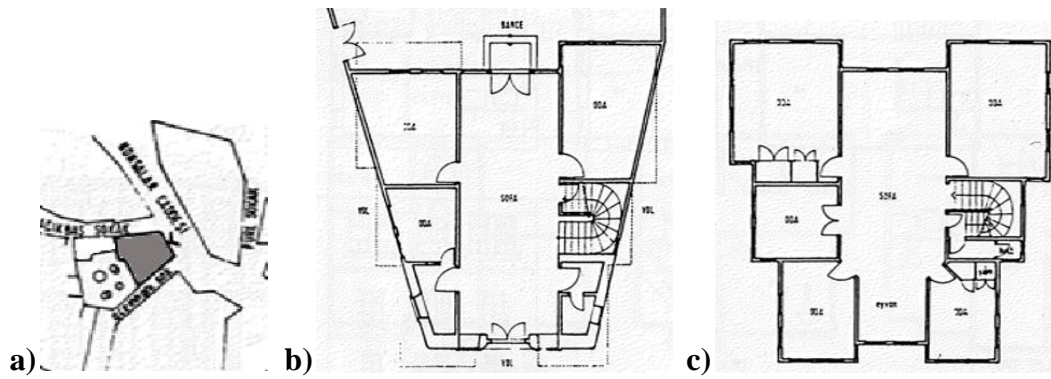
Figure 119: (a) Site plan, (b) Ground floor plan, (c) First floor plan pf the house.
(Source: Eyüpgiller, Kemal Kutgün. Bir Kent Tarihi KASTAMONU. İstanbul, Eren Yayıncılık, 1999. Pg. 327)

The garden is an important part of the overall scheme of the house. Just like the house, its shape fits to its surrounding. As usual, it is another **"center"** in the plan, and can be seen as a **"void"**. It is not something separate from the house; on the contrary, it can be seen as an extension of it. In addition, the garden has high stone walls that act as a **"boundary"** (Figure 120).

The windows are timber sash windows on the first floor and stone arched windows on the ground floor. Besides, it has fewer windows on the ground floor. In Figure 121, dominance of the symmetry in the arrangement of the front façade can be seen. On the ground floor (Figure 122), the stone arch acts as a **"boundary"** to the door and the window above the door; besides it emphasizes the centrality of the door. The transition of the arch here is pleasantly smooth and although shallow, creates a **"positive space"** in front of the door. In addition, this transition of the stone arch

creates **"gradients"**. Also, the key stone is emphasized by projecting it forward, as another center. There are arched windows on the both sides of the entrance. They are also bounded and emphasized by an arch and the projected frame around them.

Figure 120: Ground floor plan together with the garden of the house.
(Source: The garden is drawn by the author on the original plan in: Eyüpgiller, Kemal Kutgün. <u>Bir Kent Tarihi KASTAMONU</u>. İstanbul, Eren Yayıncılık, 1999. Pg. 327)

Figure 121: A view of the house from the street.

Figure 122: The front door of the house.

The house has double projections on both sides of the front façade. These projections create a **"void"** between them, and this movement on the façade also emphasizes the centrality of the entrance portion. These projections are supported by stone props which have a **"good shape"** and simplicity.

Unlike the front façade, side facades have asymmetrical arrangements. The house is in harmony with its surrounding. It has repeating triangular projections on the sub-streets going along both sides of the house. The repetition of those triangular projections creates the property of **"echoes"** in a sense.

The effect of **"contrast"** is achieved here again by the use of stone on the lower level and stucco on the upper. Also the use of timber in the corners of each space creates **"contrast"**. Besides, timber elements both in vertical and horizontal directions act as a **"boundary"**. By the help of these properties, different centers are emphasized and united together. Façades, including the windows, doors and other different centers represent a good example of **"levels of scale"**.

Figure 123: Projections on the both sides of the house

The overall arrangement of the house is simple. Timber, stone and white plaster are used in harmony in a very effective way. The house is bounded by wide timber eaves of the roof. By this way, the wholeness of the house is supported. The house is a whole together with its garden and surrounding environment. To sum up, feeling of **"simplicity and inner calm"** is again the most important characteristic of the house.

5.9. House 9:
İsmailbey District, Aşağı İmaret Street, No: 4

The house, which is located on Aşağı İmaret Street, is a two storey house with a basement. The *sofa* is the central space in plan arrangement of the house, as in the other examples. That is, the centrality of the *sofa* intensified by the rooms around it, which are also centers themselves. Though, some kind of **"roughness"** is seen in the floor plans and on the façade, the centers are well-defined and well-emphasized.

All the windows of the street façade are timber sash windows, and their placement does not seem precise; that is, **"roughness"** is present in a sense. The windows of the *sofa* on the first floor, which has a projection on the front façade, are differentiated from the other ones. The windows of this part are arched windows, and as the other ones they have good **"levels of scale"**. By this differentiation, this section is

116

emphasized on the façade. Also, projecting part of the *sofa* emphasizes and protects the entrance below it. In addition there is a portico in front of the entrance door. This space created in front of the door is a **"positive space"**, besides it is a visual center on the façade, a center on the plan and also it can be seen as a **"void"**. The columns that support the projection of the *sofa* and arches that connect columns are also centers intensifying the centrality of this entrance section (Figure 126). These timber columns are supported by stone bases, both visually and structurally. The stone is carved in a way that, it is in harmony both with the timber column and with the foot of it. Thus, by creating a **"gradient"** between different materials, a complete wholeness is achieved.
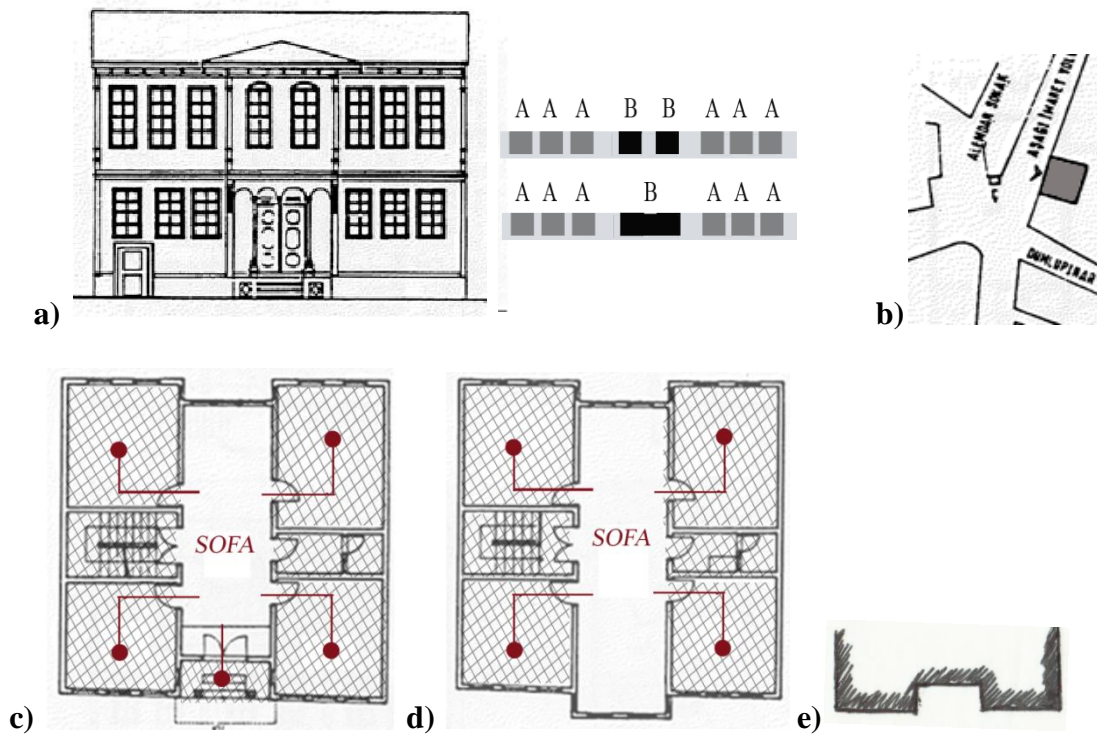
Figure 124: (a) Front elevation and symmetry diagram, (b) Site plan (c) Ground floor plan, (d) First floor plan of house. Different centers supporting the *sofa* are seen on the plans, (e) Entrance section as a positive space.
(Source: Diagram is produced by the author; and processed by the author on the original plans taken from: Eyüpgiller, Kemal Kutgün. <u>Bir Kent Tarihi KASTAMONU</u>. İstanbul, Eren Yayıncılık, 1999. Pg. 317)

Figure 125: Views of the portico and front facade.

Figure 126: The main entrance of the house.

In addition, **"echoes"** can be seen in the formation of the bases of these columns. Besides, here there is not only a harmony of forms created in stone and timber, but also a **"contrast"** between the colors of the stone bases and feet of timber columns. The upper section of each column is also differentiated in shape; forming a capital, another center between the arch and itself.
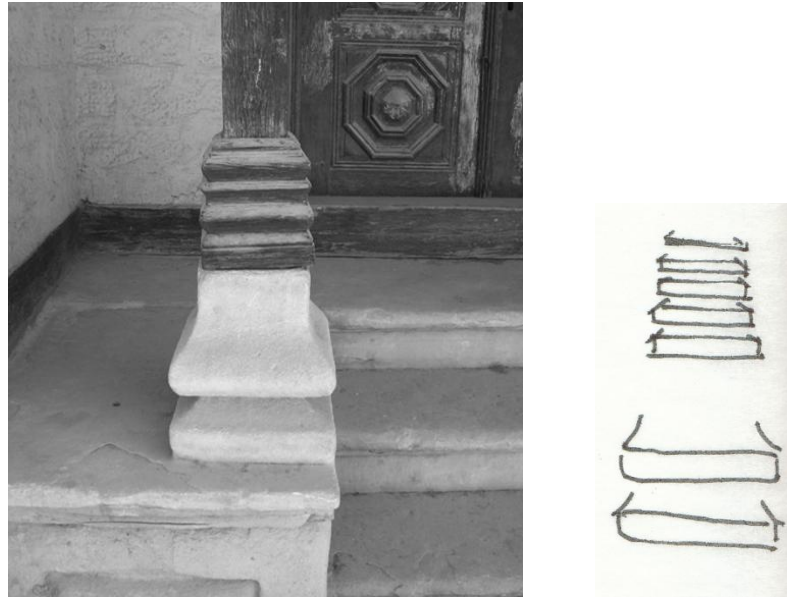
Figure 127: Harmony in the base of the column. Alternating repetition and echoes is seen in the formation of the basement.

The arches between the columns emphasize the centrality of the columns and the space created between them. The texture on the bottom faces of the arches is composed of repeated timber strips (Figure 128). Besides, the texture on the face between arches and the projection is composed of **"alternating repetitions"**, repetition of different centers.

Figure 128: Arches between the columns and detail of the arches.

Furthermore, the timber bands running all through the façade and timber studs in corners create a **"contrast"**, and additionally act as a **"boundary"**. Also they have textures composed of **"alternating repetitions"** of centers, and these centers are also composed of repetition of the same simple shape (Figure 129).
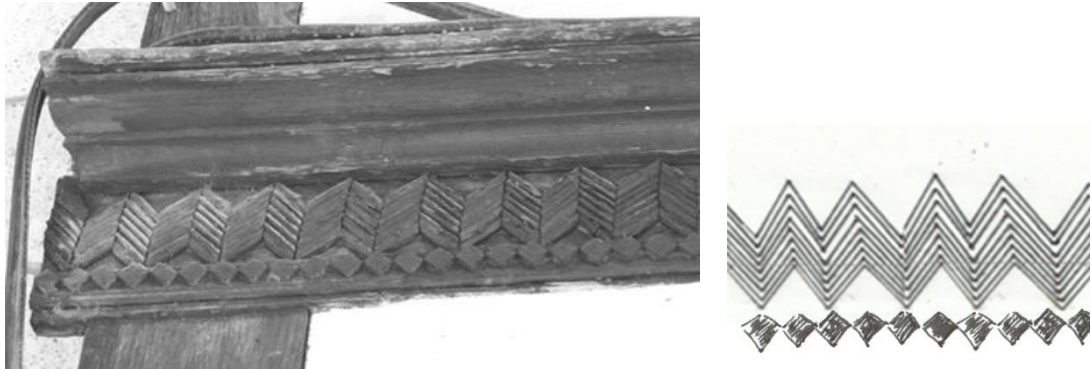
Figure 129: Detail of the ornament on the timber cornice.

Figure 130: The detail of the door and the props supporting the projection.

The props that support the projection have **"good shape"**. It is the repetition of similar curves in different angles and directions. Also the door has good **"levels of scale"**, it has different centers in different scales. Besides, the forms of these centers

are the same. They are formed out of an octagon which is repeated or elongated. That is, the examples of **"echoes"** and **"alternating repetition"** are also visible here to some extent.
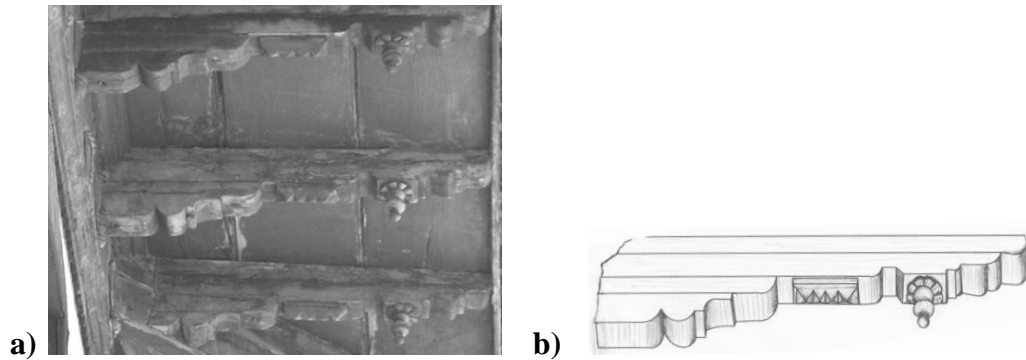
Figure 131: a) Supports under the eave, b) sketch of the support under the eaves

The wide timber eaves of the house, has an effect of **"boundary"**; it bounds the whole together. The elements under the eaves are the supports of the eaves and ornaments at the same time. Though they seem complex, they are composed of many different centers which are simple shapes in themselves. Hence, the elements that support the eaves have **"good shape"**. In addition, the figures between two supports are repeated, thus, **"alternating repetition"** is also created (Figure 132).

Figure 132: Corner of the eave and supports of the eaves.

In general, **"simplicity and inner calm"** is seen in the overall arrangement, in the plans and the facades, of this house. This simplicity of the arrangement of the house makes it easy to remember. As usual, timber, stone and white plaster are used very effectively and in a good harmony.

5.10. House 10: A Center for Exhibition of Crafts
İsmail bey District, Kışla Street

This center had been constructed in 2001, and is being used by the Directorate of Kastamonu Crafts Research Institute as a center of exhibition and sale (Kastamonu Elsanatları Araştırma Enstitüsü Müdürlüğü Teşhir ve Satış Merkezi). The house reflects the characteristics of traditional Kastamonu houses both inside and outside.

With the help of the projection above the main entrance door, the entrance section of the house is emphasized visually. Besides, a **"positive space"** is created in front of the door and it can also be seen as a **"void"** on the façade.

Figure 133: Front view of the Exhibition of Crafts Center.

Figure 134: Perspective views of the Exhibition of Crafts Center.

The front elevation of the house has a symmetrical arrangement. The windows of the house are timber sash windows and they have equal divisions (Figure 133). Timber frames around the windows act as **"boundaries"** and emphasize the centrality of the windows visually on the façade. With the help of the **"contrast"** created by the use of timber and white plaster together, different centers on the façade are bounded, emphasized and unified. Facades and different centers on them (windows, doors, etc.) represent a good example of **"levels of scale"**. In addition, roof of the house, together with the timber eaves of it, acts as a **"boundary"** and contributes to the wholeness of the house.

Figure 135: View of the windows on the front façade.

Figure 136: A view of *sofa* from the entrance and a room leading to the *sofa.*

The *sofa* and a room on the ground floor are seen in Figures 136. The interior of the house is illuminated by large windows and looks quite elegant and spacious. The ceiling and the floors are timber and the walls are white plastered as it was in other houses. Each of these surfaces acts as centers themselves and they intensify each other and the space between them. The carvings on the ceiling create different centers as well as another **"strong center"** in the middle. The windows which are locally symmetrical have the function of binding the ceiling and the floor. Besides, they create another attraction point in the room – a center together with the *sedir*. In the *sofa* the timber section, where the walls and the ceiling meet, has repeating ornaments on it and has a **"boundary"** effect. In addition, this section has an inclined shape, thus creates a **"gradient"** between two different surfaces, intensifying the centrality of the *sofa* it bounds.

A view of one of the bedrooms is seen in Figure 138. The **"local symmetry"** in the arrangement of the windows is seen. Two horizontal bands of timber, running all around the walls and vertical ones between these horizontal bands create **"contrast"** between themselves and the white plastered walls, and create a center between them. The windows are fitted in the area between those bands. That is, the areas divided and the centers created by timber bands are not meaningless. All these arrangements help the room to be perceived as a whole.

Figure 137: A view of kitchen from the door.
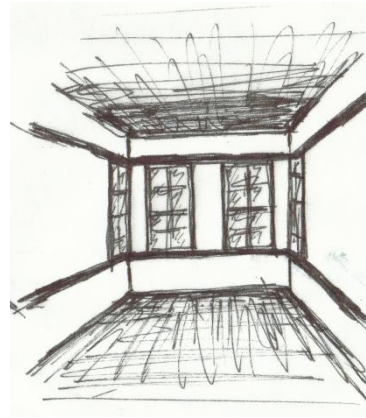
Figure 138: One of the bedrooms and a sketch of it.

In Figure 139, pictures of two different rooms of the house are given. In both figures, the feeling of peacefulness and quietness is perceivable, in other words "**simplicity and inner calm**" is present in both interiors. The windows, as centers themselves between the timber ceiling and floor, illuminate interiors and the *sedir* just in front of it. With the effect of the window, *sedir* creates a special space – a center in the room, a gathering place. In addition, even the small handmade draperies act as centers and intensify the centrality of the windows.

Figure 139: *Sedir* in front of the window in a room, and another room- the view of the sitting quarter.

As it was in the other examples, **"simplicity and inner calm"** is the most important characteristic of the house both inside and outside. Interior spaces are spacious and feeling of peace is present. The harmony of materials, timber and white plaster, is effective.

CHAPTER 6

OVERVIEW OF SURVEYED HOUSES

In the light of Alexander's theories of "wholeness" and "centers" and the properties of life proposed, traditional Kastamonu houses are investigated in the previous chapter. By examining these fifteen properties in chosen houses, the ways of application of these properties are revealed.

The first property **"levels of scale"** is "the way that a strong center is made stronger, partly by smaller strong centers contained in it, and partly by its larger strong centers which contain it".[112] As Alexander states, it is not a mechanical property that arise automatically with the existence of a wide range of different scales. "It arises properly only when each center gives life to the next one."[113] When traditional Kastamonu houses are examined, it is a feature that is seen most frequently on the arrangement of rooms and the *sofa*, in plans, and arrangement of facades; especially on windows of upper floors and on the entrance doors. In general, *sofa* is bigger than other spaces and sometimes it lies along the depth of the house. Rooms that surround it are smaller in scale. That is, they have more intimate dimensions. With the help of these different ranges of scale, a continuum is formed between different centers and they are united together and made a whole.

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[112] Ibid. Pp. 239-241.

[113] Ibid. Pg. 146.

Figure 140: Levels of scale in windows.

Figure 141: Levels of scale on a façade, a doors and a plan.
(Source for plan drawing: Eyüpgiller, Kemal Kutgün. <u>Bir Kent Tarihi KASTAMONU</u>. İstanbul, Eren Yayıncılık, 1999. Pg. 327)

Second property, **"strong centers"**, "defines the way that a strong center requires a special field-like effect, created by other centers, as the primary source of its strength".[114] It is present in the plans and on the facades frequently, where *sofa* is a "strong center" in the plans; and on the façades, the entrance section is emphasized as a "strong center", visually. In addition *çardak,* garden and courtyards can be seen as a "strong center" in the plan. Usually, s*ofa* is the largest space of the overall arrangement, and it controls all spaces around it. A strong center contains many other centers and there are other smaller centers supporting the centrality of it. For

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[114] Ibid.

example, centrality of *sofa* is supported by surrounding rooms. Besides, *sofa* contains other centers inside it, such as, *sedir* together with the windows. In addition, fire places are other centers inside the rooms.
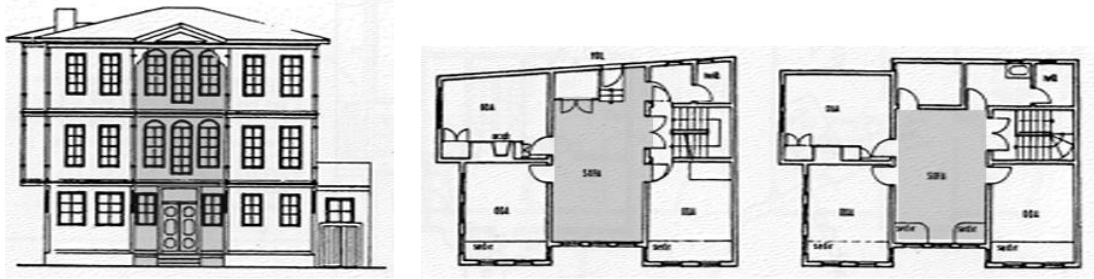
Figure 142: Strong centers on the façade and plans.
(Source: Painted by Yasemin Melez Biçer on the original plan from: Eyüpgiller, Kemal Kutgün. <u>Bir Kent Tarihi KASTAMONU</u>. İstanbul, Eren Yayıncılık , 1999. Pg. 319)

"Boundaries", the third property, "is the way in which the field-like effect of a center is strengthened by the creation of a ring-like center, made of smaller centers which surround and intensify the first." It does not only separate the center but also unites it with the other centers.[115] The examples of this property are seen on the facades. For example, the timber bands going along the edges of the facades vertically and horizontally, wide timber eaves of the roofs and profiles that frame the entrances, doors and windows act as boundaries. This property is also seen on the ornaments of the timber especially on the doors, ceilings, cupboards. In addition, the garden walls of the houses which are approximately two meters high act as a strong visual boundary.

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[115] Ibid.

Figure 143: Timber frames and bands on the façades and the eaves as boundaries.
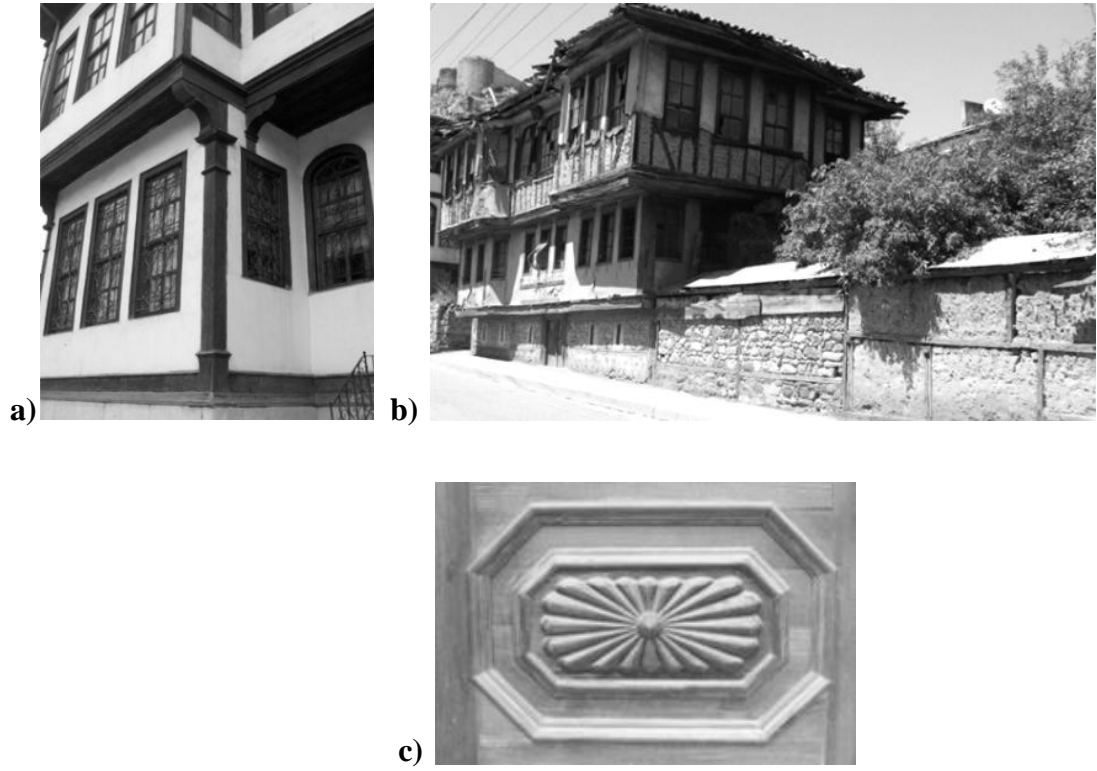
Figure 144: a) the column on the corner as a boundary, b) garden wall as a boundary, c) boundary on the ornament of the door.

"Alternating repetition", is a way "in which centers are strengthened when they repeat, by the insertion of other centers between repeating ones".[116] It is present in the formation of ornaments on the timber both inside and outside and metal works, handles and knockers of the doors and ornamental carvings above the fireplaces most of the time.

Figure 145:.Alternating repetition on a timber cornice, metal work and door handle.
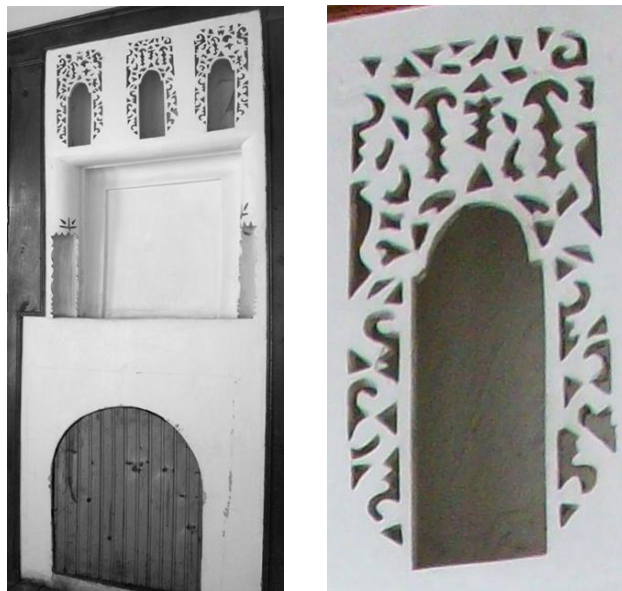
Figure 146: Alternating repetition in the carvings above a fire place.

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[116] Ibid.

"Positive space", is a way that, "a given center must draw its strength, in part, from the strength of other centers immediately adjacent to it in space".[117] Generally, the entrance spaces that are created in front of the door are observed as a "positive space". The *çardaks*, balconies, courtyards, gardens and alcoves in front of the entrance doors are important components of traditional Kastamonu houses and they all are positive spaces.
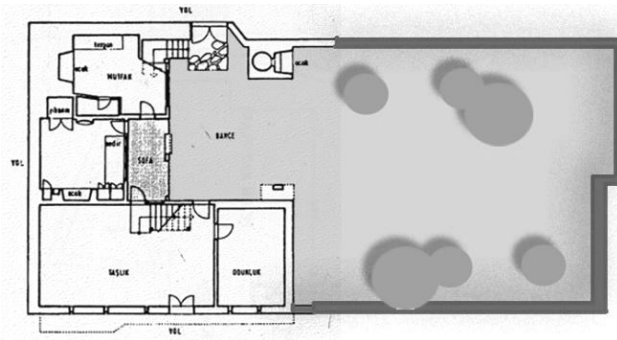
Figure 147: *Çardak* and the garden as a positive space in a house on the Kuruçay Street.
(Source: Garden is attached by Yasemin Melez Biçer to the original ground plan taken from: Eyüpgiller, Kemal Kutgün. Bir Kent Tarihi KASTAMONU. İstanbul, Eren Yayıncılık, 1999. Pg. 346.)

Figure 148: Entrance portion of a house in Topçuğlu District; portico, as a positive space.

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[117] Ibid.

"Good shape", is a property which is the way that "the strength of a given center depends on its boundary, and the spaces around it are made up of strong centers".[118] Rooms, *sofas*, windows, ornaments of the timber ceilings, knockers and handles of the doors, ornaments on the cornices of the facades, and props themselves, etc. all have the feature of "good shape".
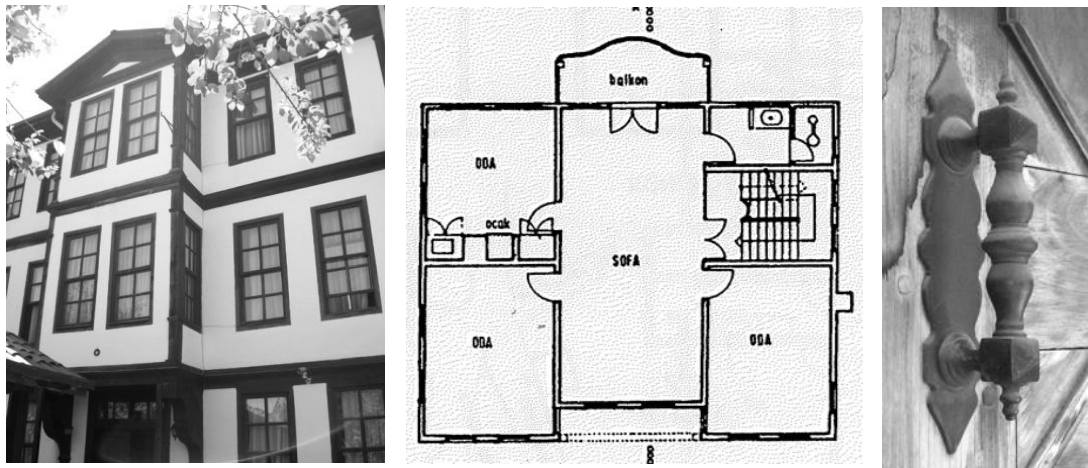
Figure 149: Good shape on a façade, a plan and a door handle.

Figure 150: Props as a good shape.

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[118] Ibid.

"Local symmetries" is another way that "the intensity of a given center is increased by the extent to which other smaller centers which it contains are themselves arranged in locally symmetrical groups".[119] In traditional Kastamonu houses, "local symmetries" are observed in the arrangements of the windows, rooms, entrances, fireplaces, projecting parts of rooms, staircases, balconies, etc. On the other hand, beyond having locally symmetrical centers, there are houses, overall arrangement or the arrangement of the front facades of which are symmetrical; and it is thought as a sign of elegance and power. This property helps to wholeness of overall structure by binding and grouping different centers together.

Figure 151: Local symmetries on the facades.

Figure 152: Local symmetries on the interior wall.

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[119] Ibid.

"Deep interlock and ambiguity" is another way in which "the intensity of a given center can be increased when it is attached to nearby strong centers, through a third set of strong centers that ambiguously belong to both".[120] This feature is observed mostly in the formation of ornaments on the doors, facades, ceilings, projections, eaves, columns, arches and on the cupboards, etc.

Figure 153: Deep interlock and ambiguity on a cupboard, door and façade.

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[120] Ibid.

"Contrast" is a way that "a center is strengthened by the sharpness of the distinction between its character and the character of surrounding centers".[121] It is a quality which is dominant both on the interiors and on the facades of the houses. It is achieved by the use of different materials (timber and white plaster mainly or stone basement and timber upper floors) which are in contrast in terms of their color and texture. In other words, timber which has a dark brown color creates contrast with the white plastered walls or light colored stone. Contrast is a property which is usually a common characteristic of traditional Kastamonu houses, both in the interiors and on the facades of houses.

Figure 154: Examples of contrast created interiors.

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[121] Ibid.
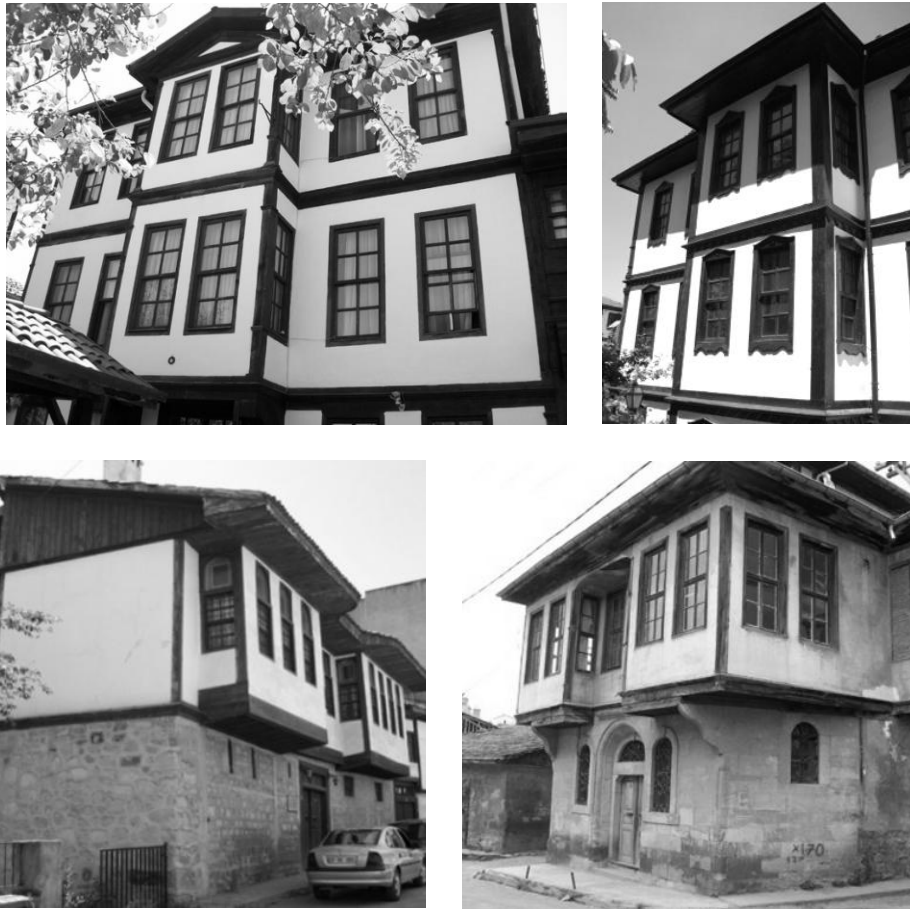
Figure 155: Contrast on facades.

"Gradients" is another way in which "a center is strengthened by a graded series of different sized centers which then 'point' to new center and intensify its field effect."[122] It is observed between the transitional zones of different materials mostly on the skirts of the ceilings and on facades as a cornice at different levels, on the corners of surfaces where different materials meet (columns/studs and walls), on the formation of column bases, etc. This property contributes to the wholeness of the overall arrangement by creating graded centers between changing conditions of different centers.

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[122] Ibid.

Figure 156: Gradients on the column bases and timber cornices.

Figure 157: Gradients between the ceiling and the walls.

"Roughness" is a way in which "the field effect of a given center draws its strength, necessarily, from irregularities in the sizes, shapes and arrangements of other nearby centers".[123] Roughness is observed on surfaces and metal works of the doors, basement windows, in some of the ornamental carvings, on the facades and on various other surfaces such as; garden walls, some window arrangement on facades, etc.

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[123] Ibid.
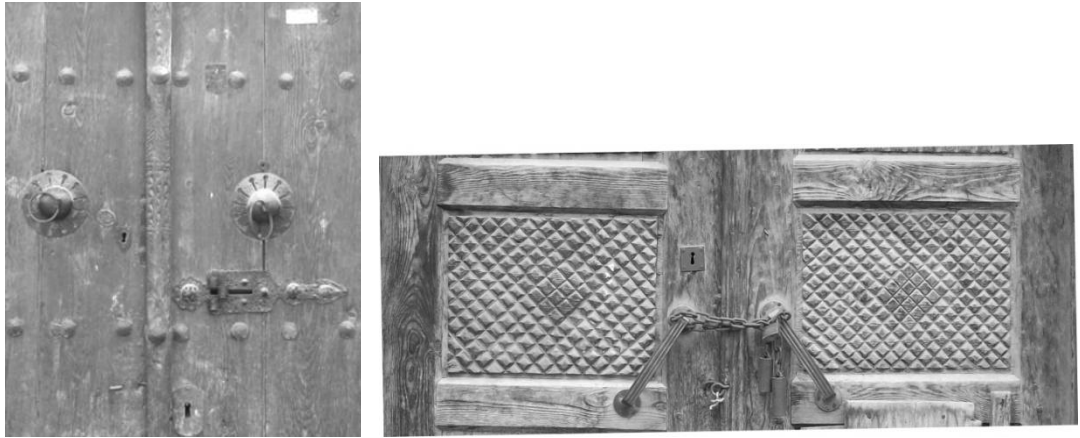
Figure 158: Roughness on the doors.

Figure 159: Roughness on the garden wall.

"Echoes" is a property that "the strength of a given center depends on similarities of a given center depends on similarities of angle and orientation and systems of centers forming characteristic angles thus forming larger centers, among the centers forming characteristic angles thus forming larger centers, among the centers it contains".[124] Projections that are in harmony with the streets going along the sides of the houses, ornamental carvings above the fireplaces, ornaments on the ceilings and on the cornices, etc. are the observed examples of the "echoes".

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[124] Ibid.

Figure 160: Echoes formed by props, projections on the facades, and echoes in the upper portion of the door knocker.

"The void" is the way that "the intensity of every center depends on the existence of a still place – an empty center – somewhere in its field".[125] Basement windows, fireplaces in the rooms, archways, gardens in the plans, balconies are some of the examples that are observed as an example of "void". In addition, *sofa* can be given as an example of void in the plan in a sense. It is an empty point, a large silent space to calm down and rest the eye.

Figure 161: Void on the archways, basement door and fireplace.

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[125] Ibid.

"Simplicity and inner calm" is the way "the strength of a center depends on its simplicity – on the process of reducing the *number* of different centers which exist in it, while increasing the *strength* of these centers to make them weigh more".[126] This property is present generally in the facades, interiors, plan arrangements, doors and metal works of the doors, etc. This is the most important and most common characteristics of traditional Kastamonu houses. The feelings of tranquility, silence, calmness and inner peace exist in both interiors and exteriors of almost all traditional houses.

Figure 162: Simplicity and inner calm on the façades.

Figure 163: Examples of interiors that give the feeling of simplicity and inner calm.

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[126] Ibid.

Figure 164: Simplicity and inner calm in a room, on a door and a handle.

"Not-separateness", the last property, is another way "the life and strength of a center depends on the extent to which that center is merged smoothly – sometimes even indistinguishably – with the centers that form its surroundings".[127] It is a property found both in the house scale as well as in street scale. That is, different centers are unified together in the houses; and each house somehow not separated from the neighboring ones. Thus, a complete wholeness is achieved.

Figure 165: Not separateness of different centers on the entrance, houses and streets.

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[127] Ibid.

Figure 166: Not separateness of different centers on the entrance, houses and streets.

These properties, which are not independent from each other, are the ways that centers support each other. They have an effect of glue, through which space is able to be unified.[128] It is observed that, these fifteen properties exist in different parts of the houses to some extent. "Strong centers", "contrast", "boundaries", "levels of scale", "good shape", "positive space", "gradients", "voids" and "local symmetries" are the most common ones among these properties. Particularly, "simplicity and inner calm" is the most important property that gives the characteristic both interiors and exteriors of traditional Kastamonu houses.

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[128] Ibid.

CHAPTER 7

CONCLUSION

There are some features different in some artifacts or buildings that stand closer to human soul. Alexander defines these features with the concepts of "life" and "living structure" that improve the quality of human life. As he emphasizes, the architecture which has life, "reflects the human self", and it does this "in accordance with the culture and society"; that is, living structure is "wrapped in culture, based on culture, and mixed with culture, to be sure".[129]

In this thesis work, the concept of "living structure" based on the theories of "wholeness" and "centers", which Alexander proposes, was put forward in Chapter 2. It was pointed out that, the beauty and life of a thing directly comes from the "wholeness" and the wholes of it. That is, a building is not something isolated from its parts and from the environment that it stands on. Therefore, as it is said before, "the *wholeness* is the important thing: the local parts exist chiefly in relation to the whole, and their behavior and character and structure are determined by the larger whole in which they exist and which they create." Namely, the local wholes in a larger whole are the different centers which make the whole; and life comes directly from the wholeness.

Then, the importance of "the particular details of the ways the centers in the wholeness cohere to form a unity, the ways they interact, and interlock, and influence each other" was emphasized.[130] In other words, fifteen fundamental properties that

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[129]Alexander, Christopher. <u>The Nature of Order: An Essay on the Art of Building and the Nature of The Universe, Book One, The Phenomenon of Life.</u> Berkeley, Calif.: Center for Environmental Structure, 2002. Pp. 372-401, 443.

[130] Ibid. Pg. 80, 106.

Alexander proposes, which are "recurrent geometrical structural features whose presence in things correlates with their degree of life", were presented.[131]

By examining these properties of life in traditional Kastamonu houses in Chapter 5, values of traditional housing concepts, which stands closer to human soul and supports the quality of life, was revealed and understood. Also, how different centers are united together to create wholeness by the help of these features was seen.

According to Alexander, "life supporting quality" and thus expression of self and life are seen in the examples of traditional architecture much more than the most of the examples of contemporary architecture.[132]

> *In traditional society, building was almost always something that stood for human value, that raised life to its greatest possible heights, that supported a spiritual and meaningful conception of human existence.[133]*

As it is cited previously in Chapter 2, unlike the architecture of traditional society, the architecture of 20th century is mostly based on a profit and image making industry. Alexander indicates the mechanistic worldview, which controls the way architects think, as a reason of this problem.[134]

Accordingly, this study shows the ways of getting away from this "trap of mechanistic view" and ways of creating "life" and life supporting quality in buildings with the help of Alexander's new view of architecture, which is the theory of "wholeness" based on a mathematical structure. That is, this study aims to contribute to the future of architecture by revealing these features that support the quality of life in traditional Kastamonu houses which are usually neglected.

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[131] Ibid. Pg. 144.

[132] Ibid. Pp. 50-62.

[133] Ibid. Pg. 6.

[134] Ibid. Pg. 6-8.

As a result of this study, Alexander's theories can be proposed as an alternative way to create better environments to live. That is, it is seen that the theory of "wholeness" and fifteen properties of life are very important and useful tools to achieve this aim.

In addition, it was observed that, traditional houses in Kastamonu are the products of experience of building for many years. Outcomes of these experiences were not thrown away; on the contrary, they were carried one step further and made use of them. This evolution of building experience was clear in all the examples surveyed in this study. Materials; mainly timber, stone and white plaster, are used together in a very effective way and in harmony. Also, a high quality of craftsmanship is present in use of these materials, ornaments and different details of the houses. Fifteen properties of life were observed in different parts of the houses to some extent. "Strong centers", "contrast", "boundaries", "levels of scale", "good shape", "positive space", "gradients", "voids" and "local symmetries" were the most common ones among these properties. In particular, feeling of simplicity and inner calm was observed as a dominant characteristic of the houses on both interiors and exteriors. In brief, by the help of fifteen properties analyzed in Chapter 5, local wholes, in other word centers are created, emphasized and unified together. As a result, a complete "wholeness" and thus feeling of "life" is achieved in traditional Kastamonu houses, which reflect the life style belonging to its own time and own place with their specific plan and facade characteristics and interior arrangements.

As a conclusion, to create more sensitive environments, which support human life, traditional housing concepts should be studied more deeply and the characteristics and the values that are the heritages of life style and culture should be reevaluated. I believe that by examining, understanding and appreciating these values, structures having more life, which reflect the self of individuals and better environments to live that support quality of life can be produced.

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