

AN INVESTIGATION INTO THE PROCESS OF
ARCHITECTURAL DESIGN WITHIN
THE FRAMEWORK OF GAME

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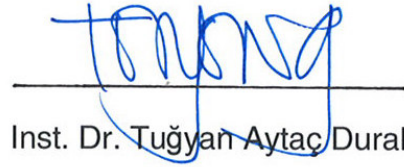
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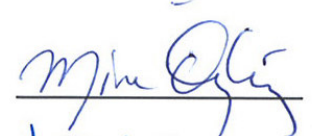
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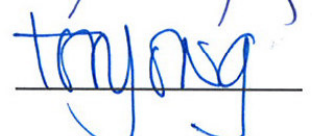
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ABSTRACT

AN INVESTIGATION INTO THE PROCESS OF ARCHITECTURAL DESIGN WITHIN THE FRAMEWORK OF GAME

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The thesis study aims to understand and investigate the architectural design process by utilizing the characteristics and types of another field, game. The steps taken in order to accomplish this aim are 'analyzing game, its properties, and types', 're-reading and understanding architectural design process by investigating the similarities and differences game properties', and 'gathering these similarities and differences with game types in order to end up with informative, understandable tabular results', respectively.

Keywords: Architecture, Architectural Design Process, Play, Game, Types of Game, Characteristics of Game.

ÖZ

MİMARİ TASARIM SÜRECİNİN OYUN ÇERÇEVESİNDE İNCELENMESİ

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Bu tez çalışmasının esas amacı mimari tasarım sürecini başka bir alan olan oyun ve onun özellikleri çerçevesinde araştırıp anlamaya çalışmaktır. Tez çalışmasında bu amacı gerçekleştirmek için sırasıyla 'oyun kavramı ile oyunun özellikleri ve tiplerinin analizi', 'mimari tasarım sürecinin oyun özellikleri ve tipleri ile olan benzerlik ve farklılıklar çerçevesinde yorumlanması' ve 'bu benzerlik ve farklılıkların bilgilendirici ve anlaşılır sonuçlar vermek üzere bir araya getirilmesi' adımları izlenmiştir.

Anahtar Kelimeler: mimarlık, Mimari Tasarım Süreci, Oyun, Oyun tipleri, Oyun Özellikleri.

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CHAPTER 1

INTRODUCTION

1.1 Definition of the Problem

Technology Education Department of Adlai E. Stevenson High School of Illinois defines 'Architectural Design Process' basically as "a systematic procedure used by architects and designers to create structures to meet the needs and desires of the occupants or owners".¹ Although from this definition, architectural design process may seem to end with the construction of the designed structure, changing life styles and environmental conditions bring the necessity to restructure, enlarge, or modify the existing ones. Therefore, in this study, the process of architectural design is accepted as a continuous process that starts with the initial design idea of a building and/or built environment, continues with the process of construction and progresses with alterations in time. Within this period, several designers, many generations, and new technologies come into scene.

Architectural Design Process, as may be understood from the above synopsis, is a complex process, which involves different designers, occupants, styles, environmental conditions, and rules. As a result, architectural design process is difficult to analyze and criticize, and many authorities try to describe architecture and design by investigating their relationships with other disciplines. For instance, instructors of Department of Social Anthropology at Manchester University try to analyze the relationship between human beings and the environments they inhabit by investigating connections between art, architecture

¹ Adlai E. Stevenson High School - Technology Education Department, "Architectural Design Process", 1998, <<http://www4.district125.k12.il.us/Faculty/djohanns/TechEdHomePage/ArchiDesignProc.html>>.

and anthropology.² Taking an approach that is radically different from the conventional anthropologies 'of' art and 'of' architecture, which treat artworks and buildings as objects of analysis, they seek to show how anthropological understanding can contribute to the practices of the artist or architect, and vice versa.

Similar to such studies, which try to benefit from other disciplines to investigate the unexamined dimensions of architectural design process, this thesis intends to utilize the field game to investigate the complicated design process. Re-reading the process of design with reference to the characteristics of game is thought to constitute a basis for a new form of design process that will provide a fresh approach for the field of architecture, from a detached perspective.

1.2 The Aim, Scope and Theoretical Framework of the Study

The basic goal of this study is to investigate the complicated *process of architectural design* utilizing the properties of another field, 'game/play'. In order to comprehend the so-called process, discover its unnoticed dimensions and reveal different approaches, we aim to clarify the basic properties of game/play in consequence propose a distinct path for comparative analysis.

The game and its relations with other disciplines such as art and philosophy are not new concerns among the artists and philosophers of the last century. Especially the researches that intend to disclose the relations between game and the other themes on interactive basis introduced a prolific field that provides the possibility of analyzing the subjects comprehensively.

Gaming/playing is a widespread activity observed in all human civilizations and animal species. Although at the first glance game seems to be an unserious process carried out for fun, the fundamental properties it shares with other

² Tim Ingold and Michael Bravo, "Art, Architecture and Anthropology", 2005, The University of Manchester, <<http://les.man.ac.uk/sa/abstracts/Ingold.htm>>.

disciplines cannot be denied. Johan Huizinga, an important historian of the 20th century, studies game thoroughly comparing it to different domains such as law, war, poetry and philosophy. In his book *Homo Ludens*, Huizinga suggests that play is a cultural phenomenon that is structured with same principles of many disciplines some of which constructing the social rules of human life. Moreover, he acknowledges game as a social phenomenon that goes far beyond entertainment, and involves many people from different social classes.³

If gaming is accepted as one of the basic social behaviors of humankind, it is not surprising to see that game and other disciplines have some qualities in common both in their pure forms and as a consequence of cultural accumulation. Every person does have a 'play instinct', and every society play games during which they follow an order and obey certain rules. Name them as 'rituals' or 'disciplines'; it is for sure that some sort of organizing principles are required. Making comparison between different realms, since they provide new perspectives for each other, may contribute to discover unnoticed dimensions. In this respect, one can utilize the potential in game/play to initiate an investigation on the *process of architectural design* due to its universally accepted properties. Such an attempt may also structure the search for understanding *this* process from a detached point of view.

Different approaches to game can be very operative to form a basic understanding of the subject and may also provide the theoretical framework of the study. Being inspired by the 'explanation of the relation between play and art' by Gadamer, and 'descriptive definition of game/play' by Huizinga we can develop our analysis on architectural design process as compared to game/play. As a result, the theoretical framework of this study is developed in accordance with the ideas proposed by these two authors. Gadamer emphasizes the relation between the experience of art and the concept of game and claims that, contemporary aesthetic thought is based on the 'contribution of

³ Johan Huizinga, "Nature and Significance of Play", *Homo Ludens - A Study of the Play-Element in Culture*, New York: Beacon Press, 1986, 13.

subject' to the aesthetic knowledge. According to him, play is an imitation and the best example of imitation could be seen in ancient Greek concept of mimesis.⁴ In Greek mimesis, imitations were not replicates; instead they were representation produced after understanding and assimilating the truth.⁵

Like art, design has creativity and imitation concepts. Within the framework mentioned above, it can be said that design is a kind of a play that creativity and imitation play together. Imitation, as Gadamer said, is an interpretation of thing that already exists and creativity is an ability that designates how the thing is imitated. In other words, in design process, the things that exist already before are analyzed, assimilated and then represented in another form with the contribution of creativity.

More specifically, Huizinga divides play into two categories: first one is the primitive play observed in animals and children and the second one is the human play that has its own regulations and strategies. It can be easily seen that the structured activity of adults is named as 'game' while undisciplined movement that exposes freely is named as 'play'. So, game is more rational and defined activity that is played by human in certain arrange and is ordered by rules.

Besides Huizinga, Roger Caillois examines games more specifically and classifies them in various categories according to their degree of organization. In his study Caillois does not separate play and game with a concrete boundary but names the forms of it that resembles play and game as 'paidia' and 'ludus', respectively.⁶ Caillois explains paidia as: it "is indulging in and giving free rein to uncontrolled fantasies, free improvisation, and turbulence", and defines ludus

⁴ Hans Gadamer, "The Play of Art", The Relevance of the Beautiful and Other Essay, Cambridge: Cambridge University Press, 1986, 127.

⁵ Emel Aközer, "Sanat, Oyun ve Öykünme Üstüne", XXI, Vol.3 (July-August 2000), 15.

⁶ Roger Caillois, "Man, Play and Games", translated from French by Meyer Barash, The Free Press of Glencoe, 2001.

as: it “is the inverse tendency which keeps the paidia in check by setting up arbitrary rules”.⁷

In between paidia and ludus, Caillois categorizes different types of game under main four groups with respect to principal qualities, which are ‘agon’, ‘mimicry’, ‘alea’ and ‘ilinx’ and these classifications also shape the basis of thesis. The classification ranges from the most improvised, named as ‘paidia’, to the most disciplined, named as ‘ludus’.⁸

In the agon type, competition dominates the characteristic of play through a playground. The qualities and skills of the competitor within defined limits and rules designate winning. In another type, that is alea, chance is the dominant factor and games are based on a decision independent of the player; winning is left to fate. In games of mimicry, simulation dominates the course of action, for imitation accessories such as masks and costumes are utilized. Finally, Caillois refers to ilinx where excitement is dominant.

In his book ‘Man, Play and Games’ Caillois states that, paidia is a disorder, a chaotic and spontaneous activity and ludus took the energy of paidia under control by its own rules. Moreover he implies that, ludus is required to complete and purify the paidia “where the energy presents in paidia can be transformed by means of the rules of the game to a refinement activity”.⁹ Depending on these, it can be said that, paidia is similar to the concept of play with its undisciplined character. On the other hand, ludus is similar to the concept of game with its structured and controlled quality.

More specifically than Gadamer, Huizinga describes game with its main characteristics and claims that its properties make game free from other

⁷ Ibid, 34.

⁸ Roger Caillois, Man, Play and Games, translated from French by Meyer Barash, USA: The Free Press of Glencoe, 2001.

⁹ Ibid.

disciplines and this enables us to understand the nature of game correctly. This approach is appropriate to understand the essence of game because “games are largely dependent upon the cultures in which they are practiced”.¹⁰

Groot separates these characteristics of game into two groups; tangible (formal) characteristics, which universal, and intangible (social) characteristics, which are the subjective ones and affected by cultural values and technological availabilities in the community such as trends, intercultural and international relations, and fashion.¹¹

Within the framework of its intangible characteristics, it can firstly be claimed that imitation is where games are originated. In its primitive form, imitation exists in child and animal games, and from primitive to specific, imitation in games transforms from copying into interpreting. *Willingness* is the basic stipulation of game meaning that it can only be carried out with the own choice of the player. For each time even in the same type, game is a complex of many coincidences, such as time that play occurs, players and game conditions, that actually cannot be exposed twice. Like human, each game is *unique* and has its own characteristic in its own conditions.

The tangible characteristics of game involve *space and time boundaries*. Besides the limitation of space, game certain time limits that act of playing is started and ended. Game also has repetitive character in its whole and repetitive parts in its structure. It has constant parts such as “refrain” defined by rules and an order and during the process this constant is repeated several times that provides the identity to the game.¹² *Order and rules* are more determinant qualities than the others and define the game within its *playground*, the private place where game comes into real. The order of game is a regulative

¹⁰ Loek Groot, “Games of Chance and the Superstar”, *Diogenes*, Vol.48/2, No.190 (2000), 33.

¹¹ *Ibid*, 36.

¹² Johan Huizinga, “Nature and Significance of Play”, *Homo Ludens - A Study of the Play-Element in Culture*, New York: Beacon Press, 1986, 9.

backbone that is detailed with rules. This characteristic also is the meeting point of game with the other concepts especially with beauty. Game can reach to its most perfect beautiful form with its special order. Besides the pleasure of competition, *tension* is the other factor that adds attractiveness into game with its factor of chance and rivalry in it.

As a result, game and play definitions of Gadamer, basic properties defined by Huizinga, and the game classification of Roger Caillois basically form the theoretical background of the thesis. These subjects are examined in detail in chapter two and enable the understanding of architectural design process in a detached perspective.

1.3 The Methodology of the Thesis

The steps that will be followed in this thesis in order to accomplish its aim; are 'analyzing game, its properties, and types', 're-reading and understanding architectural design process by investigating the similarities and differences game properties', and 'integrating these similarities and differences with game types in order to end up with informative, understandable tabular results', respectively.

In order to proceed, first of all, the etymological definitions of game and play and their relationships with each other are examined from various resources. Although in some references the word 'play' is used to describe some structured activities, in most of the resources it represents the non-organized, primitive self movement and the word 'game' undertakes its role in organized processes. Since the boundary between game and play is not formed by the authorities exactly, the analysis of their properties are based on depictions of Huizinga, Gadamer, and Caillois, and in order to betray the differences in between, these properties are evaluated based on the dictionary descriptions of game and play. As a result, the concept of play is found to be free movement of self-expression that appears spontaneously and improves itself informally. On the other hand,

games which humans play are distinct due to the degree of consciousness and involve reasons and targets such as desire to win or representation of life. The act of 'playing a game' has been improved from the primitive to the specific by human ability. It has reached to a more definite form that includes the rules and regulations, which determine the way of performing.

Within the framework of the detailed descriptions of game and play, game is chosen as the field to proceed with since its organized nature shows many similarities and differences with design. The aim of the thesis study is not to analyze characteristics and types of game; instead it is to use these as a tool to investigate architectural design process. Therefore, as the second step in the study, the basic characteristics and types of games are studied. While examining the main characteristics of game, the study is based on the list of Huizinga in which he presents under the heading of 'social characteristics'. The properties Huizinga includes are 'playground, time, order, rules, tension, repetition, alteration, freedom, uniqueness and imitation'. These characteristics are the ones with which design process has common or differentiating points. Subsequently, these general properties are classified and detailed under the headings 'tangible' and 'intangible', as Groot suggests, based on their roles in the process of game.

In the above mentioned classification, 'playground, time, order, rules, tension, repetition, and alteration' are placed in the tangible group. Game has arbitrary and contingent *rules* that organize the *order* and determine the self-discipline of the process. It has also *time* boundaries that action occurs in a special playground. Moreover, game has *repetitive* nature that also allows the *alteration* in time with respect to its identity.

Besides tangible qualities that game gains the universal character with them, it has also other characteristics that are intangibles. With respect to these, game is also a kind of *imitation*, that actually is the origin of game, and it just is played for its own sake which is named as *freedom* and *willingness* quality in intangible

classification. Moreover, although game seems to fabricate process with its strict order and rules, in fact during the process, each game creates own *uniqueness* with the combination of circumstances and belongings.

At this point, we can define the game as a 'structured action, having both intangible (social) and tangible (formal) characteristics that comes from the "civilizing quality and nature".¹³

In its history, game has experienced infinite types and variations as the result of its close relationship with infinite different societies and time periods that come into existence. Hence, in order to re-read the architectural design process properly, the thesis study was based on the game classification of Roger Caillois. This classification, in reality, is composed of four groups in which one or more characteristics of game stand out in the order of game.

The first type, *ilinx*, is the one that bungee-jumping and structural climbing are examples of. In this type, the aim is to experience the 'vertigo' like feeling which is in fact the dictionary definition of *ilinx*. If we analyze this game type with its most organized example, climbing, it may be said that in *ilinx* there is no pre-determined playground. There is the freedom to choose the playground and it is determined considering the existing conditions when the game is attempted. There is no specific order and the strategy and the order of the game are determined considering the conditions of the chosen playground such as climate and steepness. Like playground, there is no time limitation like in the other types. Game period starts with the first action and ends up when the target is reached. The tools used in the game serve the players to achieve his target easier. It can be claimed that, these tool are imitations of the equipments that real inhabitants use to climb. This game can be repeated in different playgrounds such as mountain, climbing wall and hill, and at the same time can have repeated defined actions in it. The game alters in each playground, and what is preserved and continue is the action of climbing in each game.

¹³ Loek Groot, "Games of Chance and the Superstar", *Diogenes*, Vol.48/2, No.190 (2000), 36.

In the second type, *alea*, the dominating factors are chance and the tension it results in. Game types in which the playground itself is the order of the play such as roulette, and the types which are independent of their playgrounds such as dice belong to this group. The players or the instant aim is reached determine the end of the game period, for example sorting all the cards on top of each other in an ascending order ends the card game soliter. As well in backgammon the game ends when one of the players collects his pieces. In this game type, like in the other types, the player is free to determine his moves and he tries to guess the counter action of his rival by imitating him such as in chess and backgammon again.

The third game type, *mimicry*, involves games which are based on imitation, and it may be said to be the origin of all game types as discussed above. The most proper and comprehensive example to this type is theatrical act. The most basic description of theater is 'imitation of life'. The actors present a piece of it which belongs to a certain time period and one or more places. Time concept in a theatrical act plays an important role which adds game a characteristic. Although a theatrical act can be repeated in any period, the story belongs to a specific time. Time can be said to affect the order of game closely. Moreover, in the inner structure of theatrical acts time shows itself as limited time periods of acts. The story of the act has an order that composes of specific sections. Moreover, although the story belongs to a period, the content can be altered and modernized by preserving its main characteristics, and this flexibility helps the continuity of game for centuries. In addition to all these, a game which has strict order and rules such as the written quotes, at the same time, enables free expression of the actor himself using his own mimics and manners.

The last type of game, *agon*, is the one in which the competition concept stands out. The example of *agon* in which all the above discussed basic characteristics of game can easily be observed is chess. The game of chess is mostly composed of strategies that are improved by players for an infinite

variety of possibilities during the game. The playground of chess has perfect squares which are set by nine parallel horizontal and nine parallel vertical lines that orders the way of pieces during the game. There are always one king, one queen, two bishops, two rooks, two knights and eight pawns for each player. Each piece can only make one type of move. All these constants define a homogenous background and restrictive nature of game that at first glance has no variation possibility on it. In spite of the geometry and limitations caused by the internal rules of the game, during the game, the zone of activity that shifts constantly is unpredictable. Moreover, chess is a game of 'strategy' that gives the clues of next two or more events to the player but it has never exact result because of the unpredictable tactics of the other player.

In the third chapter of the thesis, the architectural design process is analyzed with the help of above summarized game properties and types. In this analysis, it is seen that architectural design process involves common and different properties with all game types. The similarities and differences of design basics are examined and they are used to re-read many ancient and modern architectural products such as Walt Disney Concert Hall of Gehry for *freedom*, Villa Savoye and Venice Hospital of Le Corbusier for *repetition*, Mosque of Cordoba of Abd-er-Rahman-1 and St Peter's Basilica of Bramante, Michelangelo, and Moderno for *alteration*, Fun Palace of Cedric Price and Diet Library of Stan Allen for *continuity in time*, Chapel of San Lorenzo of Michelangelo for *order and rules*, and Sagra da Familia of Gaudi for *tension*. Each of these architectural products is referred within the context of game/play characteristics in such a way that the outcomes of the survey determined the outlines of our conclusive remarks.

According to the analysis, the first tangible characteristic analyzed in architectural design process is playground and it is seen that there is no pre-designed or manufactured playground. Field, the playground, is determined before the game starts and the properties of this playground affect the order and

structure of the design game that will be played in here. Increasing or decreasing the level of this effect depends on the designer. The architect can either deny the playground and form an independent game or can include the properties of the field into his design. Where architecture and game-playground relationship meets is the games, in which the playground is not predetermined. Consequently, the game types, like board games, in which the playgrounds are predefined and part of an order, are eliminated. On the other hand, architectural design model which denies playground/field and is based on independent, universal references can be reconciled with the game types, like card games, in which the playground does not play an important role and game structure is isolated. Finally, although the design style in which the designer takes the field and its properties into consideration and the game types, like climbing, in which players choose and consider the playground resemble each other since in both the conditions of the playground affects the game/design process and its flow although they differ in the freedom to choose field.

The order and its formation in architectural design process starts with the imitation of the design environment in the light of background knowledge by the architect. This way, the architect combines and filters the references from the environment, the client requirements and his/her design needs and ideas and reaches perfection. While this perfect structure is formed the architect benefits from basic design principles. The principles such as repetition similarity, proximity, common enclosure, and symmetry that are examined in detail in chapter three are in fact expressions of the assembly of environmental effects, client requests, and creativity of the architect. Although, the combination of these principles in design where repetition is observed as the replication of units or processes in the same game are analyzed under the names of texture, hierarchy and complexity, different than the game, the replications are flexible in themselves although predetermined rules and orders exist. In this sense, architectural design process differs from games of which the orders and rules cannot be changed. On the other hand, we may as well mention about a universal design process in which the predefined order and rules are obeyed in

order to create a style by repeating the output. These kind of designs resemble the game type, agon, which has concrete strategy and structure.

The above mentioned necessity to obey the existing site conditions, social and structural values, regulations, and customer requirements create the tension factor in architectural design during its process. Forcing the available technologies and design capabilities in order to create what is never done before is how tension is incorporated in the design process moreover.

Furthermore, time concept in architectural design involves many approaches like in game and is closely related with another concept of game, continuity and alteration. Like games which have defined time periods, such as basketball and other competition games, architectural design process may include steps that have time limitations such as the necessity to complete the design stage in eight months, or complete the construction in two years. On the other hand, the 'open-ended' design strategy, which gained popularity nowadays and in which the design game can be continued as the result of open-ended design order of which the initial step is completed and readied for use by the initial player/designer, has the same approach with games where the game continues till the last move is made, such as in chess, or till the game takes its final shape. This approach brings in the definition 'continuous and alterable game which can be repeated within the scope of strict rules' for architectural design process.

In the thesis, the study is originally started with the analysis of the similarities between architectural design process and game, but then differences in between have gained an equal weight and effect within the process of rereading.

In conclusion, in this thesis, understanding and investigating the architectural design process from other perspectives is aimed and the discipline, game, and its properties are utilized to perform this analysis. The intend is not to display the similarities and differences in between, instead it is to understand design process based on the characteristics of game. Since when the design process is

examined it is observed that architectural design does not resemble one game type and it is in fact a combination of many types, steps and characteristics of game, while performing this rereading, not only the game characteristics, but mostly their interpretations within the game types are benefited from.

Finally, in the fourth chapter, conclusion, the overall process of the analysis is discussed and the findings are summarized into understandable tabular results. The chapter is concluded with further studies suggested.

CHAPTER 2

UNDERSTANDING THE ESSENCE OF 'GAME' AND 'ACT OF PLAYING'

The topics 'game' and 'play' have been broadly studied by different disciplines such as psychology, anthropology, economy and sociology. However, these studies are generally independent, focusing on small characteristics and without looking for bigger patterns of understanding.

It is important to comprehend and define the concept of 'play', to clarify the complementary relation between 'game' and 'play' and to put forward reasons that 'game' is chosen as an analysis case for the thesis study. The dictionary definitions of both words can be a good starting point to understand the difference.

2.1 Definitions of 'Play' and 'Game'

In English there are two terms to define the activity: 'play' and 'game'. Other languages use just one term (for example, "juego" in Spanish, "jeu" in French, "oyun" in Turkish). The importance of differentiating those two concepts made some authors, like Roger Caillois, to introduce new terms when they were not available in their native languages.¹⁴ Caillois proposed 'paidia' as an equivalent to the English noun 'play', and 'ludus' for the noun 'game'.

Paidia is defined as: "Prodigality of physical or mental activity which has no immediate useful objective, nor defined objective, and whose only reason to be is based in the pleasure experimented by the player".¹⁵

¹⁴ Roger Caillois, Man, Play and Games, translated from French by Meyer Barash, USA: The Free Press of Glencoe, 2001, 11.

¹⁵ Ibid, 7.

Ludus is defined as: "a particular kind of paidia, defined as an activity organized under a system of rules that defines a victory or a defeat, a gain or a loss".¹⁶

Generally 'play' is grammatically matched as 'verb' and 'game' as 'noun'. When we say 'playing a game' play is used to explain the action of game. It refers to movement and game refers to process which act of play is being performed with respect to rules in a defined order.

In the dictionary by Maingay 'play' is defined as: "what is done for amusement; recreation"; "the playing of a game"; "manner of playing; turn or move in a game"; "(contrasted with work) have fun"; "pretend, for fun, to be sth or do sth".¹⁷

In the same dictionary 'game' is defined as: "form of play, especially with rules".¹⁸

Usually, play activities are associated with children, while games are thought to be more adult activities. The reason is that games have a strong social component, and young children need first to be socialized in order to perform that kind of activities. After that period, games start to be played, and they continue through adulthood. However, both play and game activities remain present during adult life (though in different proportions).¹⁹

In their primitive forms, plays that are played by children and pets are not different and these kinds of plays cannot be analyzed formally because of their pure playfulness. In this form, play emerges as an action that is totally free from all restrictions, except from its playfulness and pleasure without purpose.

¹⁶ Ibid, 7.

¹⁷ Susan Maingay ed., Longman Active Study Dictionary of English, 16th Edition, Harlow: Longman Group UK Limited, 1991, 507.

¹⁸ Ibid, 291.

¹⁹ Jean Piaget, "The Beginnings of Play", Play, Dreams and Imitation In Childhood, translated from French by C. Gattegno and F.M. Hodgson, New York: W.W. Norton & Company, 1962, 95.

Huizinga defines this pure essence of play as; 'primitive play' is distinct 'which is not, in our opinion, amenable to further analyses.'²⁰

The 'structured' nature of play was defined by many authorities from several points of view and in most of the definitions this act is named as 'game'. On the other hand, 'play' is used to explain a self-unregulated movement that emerges freely. In general, 'game' is referred as a more descriptive and rational activity, which is played by the human being in an orderly manner and regulated by the rules.

We can give many examples of play; bouncing a ball, jumping, pretending to be a doctor. The limits of play are more diffused than games; the player can start, finish or switch to a different activity without any exterior warning. On the other hand, games are more strictly defined; they have an explicit set of rules, and a defined space and time. A few examples of games are soccer, chess, and hopscotch.

Games are purposed and structured; play is not. In "Man, Play and Games", Roger Caillois makes the distinction that children play and adults game. Play is open; games are closed. For children, unfettered amusement is its own end; for adults, rigid contest is its own amusement. Whereas play engages the child's imagination, games play upon the adult's reality.²¹

Hans Gadamer separates games into two groups: the first one is the simplest form and he prefers to call it as 'play' as mentioned above and the other one 'game' is more complex and played by adults. While explaining the second one, he prefers to use 'game' as the word for defining this activity and states that:

²⁰ Johan Huizinga, "Nature and Significance of Play", Homo Ludens - A Study of the Play-Element in Culture, New York: Beacon Press, 1986, 7.

²¹ Roger Caillois, "Psychological Approaches", Man, Play and Games, translated from French by Meyer Barash, USA: The Free Press of Glencoe, 2001, 168.

On the other hand, the game that someone begins, invents, or learns how to play, has a specificity of its own that is 'intended' as such. Here we are conscious of the rules and conditions of play, whether we are talking about competitive sports, which possess the character of play in an indirect sense. Our playful behavior is sharply distinguished from all our other forms of behavior by this specificity –much more sharply than is the case in the animal world, where forms of play slip easily into other kinds of behavior. The playfulness of human games is constituted by the imposition of rules and regulations that only count as such within the closed world of play.²²

Hans-George Gadamer posits that play is an ontological event in which horizons of understanding are tested and explored.²³ Play is a movement, to-and-fro, with a spontaneity and rhythm.²⁴ Like the play of light or waves, play is "the occurrence of the movement as such".²⁵ Play is not an act of the player, and is not something one does, but rather play itself becomes expressed in the person playing. At the same time the player represents him or herself in play, thereby exploring his or her being through the medium of play.

Gadamer notes that while there are certain rules or structure to the game, play is not constituted by this structure but by the process that takes place "in between" the players.²⁶ This in between space is the place of growth and exploration.

²² Hans Gadamer, "The Play of Art", The Relevance of the Beautiful and Other Essays, translated from German by Nicholas Walker, Cambridge: Cambridge University Press, 1986, 124.

²³ Hans Gadamer, Truth and Method, 2nd. Revised Edition, translated from German by J. Weinsheimer and D. Marshall, New York: Continuum Press, 2000, 124.

²⁴ Ibid, 103.

²⁵ Ibid.

²⁶ Ibid, 109.

There is a suspension of the real in order to encounter the possible. Gadamer tells us that "in being presented in play, what emerges. It produces and brings to light what is otherwise constantly hidden and withdrawn."²⁷ He continues, saying that the "being of all play is always self-realization, sheer fulfillment, *energeia* which has a *telos* within itself."²⁸

In the plays of theatre, there are genres, stages, lines, actors, a hero, a villain, a climax, a conclusion, and most of all, a moral or lesson embedded in the plot. Now parallel this to game play. In games, there are types, boards, rules, players, a winner, a loser, chance, an outcome, and the values learned from playing the game, as ingrained by its objective.

An individual sits down to play a game. They are "players." Their "stage" is the board, upon which they act out this newfound role. Their "lines" are framed by the rules they must follow in order to suit the objective, or "plot." At the rattle and roll of the dice the outcome is evidenced and the conclusion realized. And so the curtain falls as the "hero", the winner conquers the "villain", the loser.

For children, play is its own end. For adults, play is merely a means to an end. Herein lies the difference between "playing house" and playing "Monopoly". Play simply reflects culture. Games induce culture.

As the ideas above are summarized it can be said that the main difference between these two concepts is that games have rules and plays do not. However, anthropologist Daniel Vidart argues that this assumption is wrong and says that also plays have strict rules. He gives the example of a child that pretends to pilot a plane. There is a rule in the play; to behave like a pilot, and act not like a doctor or a car driver. That rule is proposed and accepted by the

²⁷ Ibid, 112.

²⁸ Ibid.

player, and she can drop it whenever she feels like it. While playing she accepts it in the same way she would accept a rule in a game.²⁹

The difference between play and game only is explained by a philosopher Andre Lalande. Although he does not aim to explain differences between play and game directly, the explanation of both by Lalande can be accepted as references because of including. According to him, game and play are differing in two points which are related with their results. Game has a final it claims the winner and looser at the end of its process but play does not have any consequences.³⁰

Shortly, the concept of play is more free movement of self-expression than game that appears spontaneously and improves itself informally. On the other hand, the games, which humans play are distinct due to the degree of consciousness and involve their reasons and aims, which can be desired to win or representation of life. Game is set by the rules and has an order, which determines the self-discipline of the process. In this frame, the act of 'playing a game' has been improved from the primitive to the specific by human ability. It has reached to a more definite form that includes the rules and regulations, which determine the way of performing. At this point, we can define the game as a 'structured action, having both intangible (social) and tangible (formal) characteristics that comes from the "civilizing quality and nature".³¹

2.2 The Nature and Main Characteristics of 'Game'

The structure of this thesis enables us to analyze game from different points of view. In this chapter, after a detailed explanation of main characteristics of game,

²⁹ Gonzalo Frasca, "Ludology Meets Narratology; Similitude and differences between (video)games and narrative", *Journal by Senthil Nattan*, July 11,2004, <<http://my.opera.com/cbsnnn/journal/8>>.

³⁰ Ibid.

³¹ Loek Groot, "Games of Chance and the Superstar", *Diogenes*, Vol.48/2, No.190 (2000), 36.

different types of game will be classified from primitive to specific by referring Caillois. Then, they will also be evaluated according to their dominant qualities; social and formal, as listed in section 2.1 of this study in page 26. This grouping structure facilitates a proper connection between architecture and game and enables rereading of architectural design process.

2.2.1 Intangible (Social) Characteristics

Social characteristics of game are the subjective parts of it since they are mostly affected by cultural values and technological availabilities in the community such as trends, intercultural and international relations, fashion, internet, etc. It is these social elements that form an ideal environment which the players are attracted by and do not want to leave. Players experience different things that they cannot dare or afford in real life. Moreover, games provide equal chances to people from different socio-economical classes.

Games had many dynamic quotations and endless variations since the existence of human kind. Hence, in order to analyze the intangible characteristics of game a comprehensive investigation is required. This detailed examination is beyond the scope of this study and a brief summary of the main features is given below to figure out the basic framework of game.

2.2.1.1 Uniqueness

In spite of all its limitations, rules, and strict orders, each game is unique; even each repetition of the same game is different. This feature is similar to human faces such that all have basically same elements but each combination is unique. Dynamic and static conditions such as time, duration, coincidence, contingencies, rules, order, etc. combine in different ways to form the spirit of the game. Gadamer explains the uniqueness of game with it's to and fro movements patterned in an infinite variety.

2.2.1.2 Willingness and Freedom

Willingness is the basic stipulation of game meaning that it can only be carried out with the own choice of the player. According to Gadamer, play is totally a voluntary activity and he points out this specialty as 'the overwhelming differences of human play are being self-consciousness and free will'.³² In another book, he emphasizes these characteristics of 'playful behavior' with the phrase 'by wanting to play'.³³

The player is free to make the choice what to play, when to play and whom to play with. The reason behind this willingness is surely the 'pleasure' got during the play. Although the type and the amount of pleasure differ in each game, it actually is pith that makes the games be adored by all.

Besides Gadamer, Huizinga also defines game as a voluntary activity and he points out that if play is executed due to some obligations, it can not be a play anymore. Play cannot be imposed by any necessity. Huizinga used the word 'freedom' to represent this idea and determined it as the main feature of game. Playing a game is totally a free decision and that is why the senses of freedom and pleasure emerge as a result.

2.2.1.3 Imitation

Besides the other characteristics described above, imitation has a different place in the structures of games. First of all, imitation is where games are originated from. Moreover, in some kinds of games such as theater, it is simply the way the play is executed.

³² Hans Gadamer, *Truth and Method*, 2nd. Revised Edition, translated from German by J. Weinsheimer and D. Masrshall, New York: Continuum Press, 2000, 124.

³³ Hans Gadamer, "Play as the Clue to Ontological Explanation", *Truth and Method*, 2nd. Revised Edition, translated from German by J Weinsheimer and D. Masrshall, New York: Continuum Press, 2000, 107.

Above statements bring into the question that do all kinds of game have the imitation characteristic or not. At first glance, some kinds of games seem not to have it in themselves. For instance, strategic games seem to be based on the generation of ideas and strategies to win. On the other hand, all strategies are fed on the formerly experienced strategies in real life and in preceding games. Here, imitation exists but in other format; previous strategies are analyzed, assimilated and new ones are constituted based on those for new conditions.

In its primitive form, imitation exists in child and animal games. By imitating what is going around, children gain the sense of responsibility and start to adapt real life without the awareness of what really happens. Piaget explains this effect of imitation in game as "Imitation is therefore, or at least becomes, a kind of hyper adaptation, through accommodation to models which are virtually though not actually usable."³⁴

From primitive to specific, imitation in games transforms from copying to interpreting. Events and actions observed are not directly replicated; instead, they are adapted to the current environment. In the strategic game example mentioned above, the act of interpretation and adaptation can clearly be observed. For instance, military trainings include war simulation parts where the trainees are learn and expected to prove and plan their strategies.

³⁴ Jean Piaget, "The Beginnings of Play", Play, Dreams and Imitation In Childhood, translated from French by C. Gattegno and F.M. Hodgson, New York: W.W. Norton & Company, 1962, 95.

2.2.2 Tangible (Formal) Characteristics

It can be said that game is not serious: that is why we play. We play 'for the sake of recreation' as Aristotle says. In fact, game has a special relation with seriousness. Seriousness is not merely something that calls us away from game; rather seriousness in game is necessary to make it 'wholly a play'. Game has its purpose, rules, order, and constraints. The player knows that it is just a game but has to live the serious world hidden in it. Someone who does not take the game seriously is a spoilsport.

Formal characteristics represent the universal qualities of game. Huizinga's descriptions of main characteristics of game are referred here in order to explain them. Huizinga has studied the subject 'game' and in depth in his book 'Homo Ludens - A Study of the Play-Element in Culture'. He chooses game - culture relation as the starting point to define game with its main characteristics and claims that this relation makes game free from other disciplines and this enables us to understand the nature of game correctly. This approach is appropriate to understand the essence of game because "games are largely dependent upon the cultures in which they are practiced."³⁵

For Huizinga, game is a free and voluntary activity that has space and time boundaries and takes place outside of "regular life" with its own course and meaning.³⁶ Game is regulated by arbitrary and contingent rules and conventions, which are integral to the uncertainty of play. After the first time, game can always be repeated and altered in time.

³⁵ Loek Groot, "Games of Chance and the Superstar", Diogenes, Vol.48/2, No.190 (2000), 33.

³⁶ Johan Huizinga, "Nature and Significance of Play", Homo Ludens - A Study of the Play-Element in Culture, New York: Beacon Press, 1986, 9.

2.2.2.1 Playground

Within the framework of its basic formal characteristics, it can firstly be claimed that game has space boundaries. All games are performed in a special playground drawn before. It is definite and it symbolizes the area of the game that is isolated and surrounded by special rules. Playground is the private place where game comes into real and game only exists in this space. This area is a sacred place such that if the players go out the area, they are accepted as out of game and cannot continue to play.

Human play requires a playing field. In setting off the playing field, just like setting off sacred precincts, as Huizinga rightly points out, a sphere which is a closed world without any relation with the real world of aims is defined.³⁷

In the framework of playground, games can be classified into two groups; the ones that have specially designed playgrounds and the ones that do not. Chess-board is an example of the first one and card games that can be played anywhere and climbing, a performance game, for which available playgrounds are unlimited, are the examples of the second group. In the second group, the game can be played in any place that has sufficient conditions. For instance, it is not important for the climber where the mountain is or even more, for a beginner, the place he climbs can be a wall anywhere. The issue is whether the place makes the player feel enthusiasm and pleasure.

On the other hand, for the first group, playground is an essential factor to complete the completeness of the game. For example, football or chess can not be considered apart from their special playgrounds. Even in some cases, if there is no available special place reserved for the game, players organize the place in order to create themselves the special playground and an example is placing two pieces of stones to symbolize the goal post to play football.

³⁷ Ibid.

2.2.2.2 Limitedness of Time

Similar to the limitation of space, game is played also in certain limits of time. It is the progressive process that “movement, change, alteration, succession association and separation” exist.³⁸ This property of game can be easily observed in games that have well defined time boundaries and process that are divided into two or more parts. For instance, theatrical performances compose of two or more sections and are only acted in specific time periods. On the other hand, some kinds of games, such as climbing, are only aim dependent and can be performed in any suitable time.

2.2.2.3 Repetition

Game can be repeated any time. Huizinga states that, repetition is a significant feature of game that adds a traditional identity to it. It is included not only in the whole of game but also in the inner structure of it such as “refrain”.³⁹ Repetition property combined with the contrasts in game creates its rhythm. Repetitions in the order of game, which is another characteristic of it and will be discussed later, form its aesthetic structure. This aesthetics is one of the things that determine the relation between game and other social branches. As will be discussed later in the study, repetition is what includes rhythm and harmony in architecture in the scope of its basic design principles.

Gadamer points out the repetition property of game in his description of play that uses the examples of play of gears, play of waves, and play of light etc. which all include to and fro movements. According to him, this movement of play has endless nature that is not engaged in any purposes or results. As Gadamer

³⁸ Ibid.

³⁹ Ibid.

claims, the structure of play is observed as “spontaneous tendency to repetition” that substrates the form of play such as refrain.⁴⁰

2.2.2.4 Tension

The element of tension is particularly essential that adds popularity to game. Tension emerges from factors of game like chance, uncertainty and desire of victory. Another factor that results in tension is rules since the player has to obey them while he feels the intense ambition to win. He wants to force these limits and takes risk.

2.2.2.5 Order and Rules

Within the playground, game is formed by orders and rules. Order results in the self-discipline in the game. Moreover, order is a key element that brings aesthetics to the game with the assistance of repetitions. As claimed by Huizinga, game tends to be beautiful and reaches its most beautiful form through its order.

Besides all other qualities, rules are very essential elements to structure and order the game. They constitute the rational aspect of game and also require absolute devotedness. If a player breaks them he is accused to be a ‘spoilsport’ and get thrown out of it. Each game has its own rules that are very strict and that determine the content of the game contrary to the common belief that rules circumscribe game. Instead, they regulate the energy in it in an enhancing manner. They give each player the chance to show and improve their special talents. Moreover, rules absolutely create equality between players. All have to obey the same rules and use the same contraption to reach the end of the game.

⁴⁰ Johan Huizinga, “Playing and Knowing”, Homo Ludens - A Study of the Play-Element in Culture, New York: Beacon Press, 1986, 10.

The victory only depends on using talents properly in defined ways. As stated above, rules are one of the factors that result in tension in games.

2.3 Types of 'Game'

Games exist in multitudes on the scale of orderliness; of which at one end non-regulated movement, which is not subject to any rules, and at the other regulated movement, which includes defined orders and rules. There are infinite places available for a game on this scale and its place differs according to its aim, tangible and intangible characteristics described in section 2.2, and requirements. For instance, in sport games the aim is more defined, which is to vanquish the rivals through scores, whereas in primitive and singular games, such as bungee-jumping, what is sought is the pleasure and the full excitement obtained throughout the play time. Similarly, in some games implementation is essential whereas in others skills play important roles.

Moreover, it can be asserted that, tangible characteristics of games get more visible and important when moved towards the regulated end. For instance, in primitive child games, it can not be mentioned about any defined playground unlike the predetermined boards of backgammon or chess. Instead, children quickly determine the place of game, draw its borders and start to play.

Besides Caillois' definitions of play and game, described in section 2.1, his classification of games is useful to analyze game types. In Caillois' book, "Man, Play and Games", different games are sorted in four main groups; Ilinx, Mimicry, Alea and Agon, according to their dominant qualities.⁴¹ Besides these groups, Caillois asserts two more types of game which are Paidia and Ludus that were mentioned before. Actually, he places these two at a higher perfection level than the other four groups since these forms represent pure energy of game and

⁴¹ Roger Caillois, Man, Play and Games, translated from French by Meyer Barash, USA: The Free Press of Glencoe, 2001, 11.

idealness; paidia with its primitive structure, and ludus with its processed, highly structured style.

Caillois claims that "...paidia have no name and could not have any, precisely because they are not part of any order, distinctive symbolism, or clearly differentiated life that would permit a vocabulary to consecrate their autonomy with a specific term".⁴² He defines paidia as just the previous step before the bifurcations to agon, alea, mimicry and ilinx. According to him, it is kind of a simultaneous energy that is non-defined and non-embroidered by anything or anyone.

Contrary to paidia, Caillois describes ludus as having totally planned and structured nature that disciplines and improves the energy of paidia. Caillois puts forward a kind of sequence in which the first step is paidia with its all vagueness, the second step is the introductions of the variations of game with their rules and instruments and the last step is ludus with its complete, perfect structure. In fact, paidia and ludus are similar to the two edges described above.

Table 2.1 can be used to understand the places of game types on the scale of orderliness. As moved towards right, the games get more structured getting close to the ludus edge. For example, athletics, which belongs to agon, is more closed to ludus than the children "whirling" or swinging which belongs to ilinx because competition generally requires some regulations to create artificial equality of chance for each competitor. On the other hand, children do not need any rules for swinging or waltzing because the purpose is only to swing around themselves.

⁴² Ibid.

Table 2.1. Types of Games - From Non-structured to Structured

Paidia	TYPES OF GAME				Ludus
	Ilinx	Alea	Mimicry	Agon	
<i>Dominant quality:</i> Non-structured movement	<i>Dominant quality:</i> Excitement	<i>Dominant quality:</i> Chance	<i>Dominant quality:</i> Simulation	<i>Dominant quality:</i> Competition	<i>Dominant quality:</i> Structured movement
<i>Example:</i> Plays of animals	<i>Example:</i> Climbing	<i>Example:</i> Roulette	<i>Example:</i> Theatre	<i>Example:</i> Chess	<i>Example:</i> Plays of human

According to Caillois' classification, Ilinx can be claimed to be the type closest paidia. In this type, excitement and accelerated heartbeat are close friends with each other. These types of games emerge with feelings like vertigo and shock that make players nearly unconscious. Generally they are played just for fun. The only aim of game is feeling of being on the line between reality and non-reality since games in this group force the physical limits of body.

Like alea, tension factor also is prevailing in Ilinx. It emerges with excitement during game. Especially in bungee-jumping, which belongs to Ilinx group, tension is the result of fear of death. In Ilinx, there is struggle between physical limits of body and nature rather than other rivals. Mountain climbing or skiing can be shown as the most organized examples of Ilinx type.

When Ilinx is analyzed using characteristics of games, it can be said that order comes from nature and special tools are used just to help the play, play time is unlimited and game finishes when the aim is reached, and playground is where the required action is possible. For example, in climbing, the player chooses the tools to play with, the place and the time to play. The play order and tools used are determined by the properties of the path chosen i.e. steepness, and the game starts with the decision of the climber and finishes as he reaches the peak.

The second type of game, Alea, generally can be defined by words risk, indefiniteness, chance, and coincidence. In alea type, game is totally independent. Player and his talents are inactive. On the other hand, similar to agon, there is equality between all players and they all have the same chance to

win. However, different from agon, justice is given to the game by fortune. Supporting this idea, Caillois claims that “Alea signifies and reveals the favor of destiny”.⁴³ The games of dice, roulette and lotteries belong to this group and in these games all devices, orders and rules are organized so that chance becomes dominant during play.

Moreover, alea is the type in which tension exists very impressively because of the risk highly involved in it. After throwing the dices, the player waits with anxiety to see the result and can only hope to win. There is no action he can take to be the victor.

Mimicry type can simply be described with the word “imitation”. All mimicry games from the simplest children game to its more sophisticated form drama involve imitation. The players feel excited and get pleasure when behaving like someone else who has a complete different life than they do. Similar to agon, mimicry gives players the chance to experience things that they cannot do in their real lives. So it can be mentioned about the ideality or equality qualities in a different manner.

Mimicry is the second most organized game following agon. In mimicry, main characteristics of game can be explained using the example of theatrical act. An act has a special defined playground which is called stage and it carries special settings on it. It can be performed in one or more parts determined according to the flow of the play. All plays are repeated many times but it is for sure that the King Lear of Shakespeare has been represented differently from an actor to another and has been altered and adapted in time since it was written. Tension is slightly less than in other types but it is observed in between the conversations and cues of the actors and actresses. Sometimes, the theme of the play also causes tension. Each play has its own orders and rules that are shaped according to its subject. In each play, there is a stage, a set, a prompter, costumes, players, sometimes music and spectator and they all construct the

⁴³ Ibid, 13.

order of play with the help of rules. The numbers of players, mimics, steps, dances, motions are mostly defined before the play.

In Caillois' classification, agon is the type that is closest to ludus. In agon, competition is the dominant feature and players have equal chances. The purpose is to win the contest with the help of personal talent because strategic thinking plays an important role in agon's uncertain environment. Therefore, professionalism, implementation and training are important factors to conquer the competitors. In his book, Caillois defines agon as;

The point of the game is for each player to have his superiority in a given area recognized. That is why the practice of agon presupposes sustained attention, appropriate training, assiduous application, and desire to win. It implies discipline and perseverance. It leaves the champion to his own devices, to evoke the best possible game of which he is capable and it obliges him to play the game within the fixed limits, and according to the rules applied equally to all, so that in return the victor's superiority will be beyond dispute.⁴⁴

However, the difference of agon lies behind the competition and ambition in it. In ludus, stress is the outcome of the desire to overcome the obstacles and to win against yourself and the game itself. On the other hand, in agon, contest with the rivals and wish to vanquish them exist.⁴⁵

Strategic games such as billiards, basketball, football, go and chess can be placed in agon group. They all are highly structured, in other words, they have infrastructures that are defined by strict orders and rules. They also have certain defined playgrounds and gadgets to play. All tangible characteristics of game are

⁴⁴ Ibid, 14.

⁴⁵ Ibid, 29.

represented in them. Besides all strictness, varieties of strategies for winning the game are infinite. This property actually gives a special spirit and uniqueness to game each time it is played. Tension caused by obedience of rules and unpredictability of the attacks of the challenger can be observed. The pleasure results from the personal satisfaction of victory.

In addition, Caillois also states that ludus can be observed in different kinds of games and it is what results in the improvement of special talents and particular mastery in using one or more tools.

According to Caillois, besides representing the two poles of the regularity scale in between which the other four are placed, paidia and ludus exist also in each game group as its primitive and specific ends. For example, in agon where sports and strategic games are included in, wrestling and athletics represent the primitive, paidia edge whereas football, chess and basketball are closer to the ludus edge.

Table 2.2. Relationship of Game Types with Paidia and Ludus ⁴⁶

	<i>AGON</i> (Competition)	<i>ALEA</i> (Chance)	<i>MIMICRY</i> (Simulation)	<i>ILINX</i> (Vertigo)
<i>PAIDIA</i>	Racing Wrestling Etc. Athletics	Counting-out rhymes Heads or tails	Children's initiations Games of illusion Tag, Arms Masks, Disguises	Children's "whirling" Horseback riding Swinging Waltzing
<i>LUDUS</i>	Boxing, Billiards Fencing, Checkers Football, Chess Contests, Sports in general	Betting Roulette Simple, complex, and continuing lotteries	Theater Spectacles in general	Volador Travelling carnivals Skiing Mountain climbing Tightrope walking

⁴⁶ Ibid, 36.

In his chart of Relations of Game Types with Paidia and Ludus, Table 2.2, Caillois summarizes intergroup properties of games mentioned above. The columns in the chart represent the game groups and paidia element in each group decreases as moved downwards where the ludus property increases. In each group, examples of games belonging to it are sorted on the array of orderliness, from paidia to ludus.

CHAPTER 3

CHARACTERISTICS OF ARCHITECTURAL DESIGN PROCESS AS A CONTINUOUS GAME

In the previous chapter we tried to present our study on 'play/game', thinking that it will guide our investigation on the complicated process of Architectural Design. In this chapter, it will act as tool to organize our analysis from a detached perspective. A survey on the various processes of architectural design with reference to the tangible and intangible characteristics of game/play can be an 'interesting game' to discover different dimensions of the so-called process. It may also enable us to understand the stages and the background of architectural design.

In very simple terms, we can talk about the very basic similarities that exist between architectural design and game processes; an architectural structure is designed for a specific *place*, design *steps* have to be completed within specific *time periods*, and there are ordering principles and *rules* to be obeyed. Both processes require creativity and imagination. However, the differences in between, as well as the similarities, may facilitate to disclose certain facts. "It (the play/game) is rather stepping out of the 'real' life into a temporary sphere of activity with a disposition all of its own",⁴⁷ whereas architecture is 'the life' itself.

Mitchell, in his book called 'The Logic of Architecture', points out the similarity between architectural design process and game by stating that;

Design, then, is a complex game in which exploration of formal possibilities in some world and critical inference from some knowledge base proceed in parallel and

⁴⁷ Johan Huizinga, "Nature and Significance of Play", Homo Ludens - A Study of the Play-Element in Culture, New York: Beacon Press, 1986, 26.

eventually reach a reconciliation. There is also a meta-game, in which the axiomatization of the design world, the rules for interpreting the critical language in that world, the conventions of depiction of the construction world, and the contents of the critic's knowledge base are established.⁴⁸

Although Groot separates properties of game into two groups as tangible and intangible characteristics, it is difficult to make this distinction for the properties of architectural design process. For instance, time is definite for games and classified as tangible, however as will be discussed later, architectural design process is continuous and time, unless otherwise determined, is not a concrete limit.⁴⁹ Besides that, the individual steps of continuous architectural design process include defined time limitations which are similar to periods in some sports games such as basketball.

The sections of the following analysis are determined in accordance with the specific properties of play/game. These properties are utilized as points of departure to examine different architectural design processes, which are supported by concrete examples, rather than classifying the characteristics of architectural design. First, *uniqueness and freedom*, mentioned as one of the basic property of game/play is compared to the freedom of the designer during the process of design is discussed. Then, the architect's inspirations by nature, life, surroundings, other designers, and possible users are argued within the context of *imitation*. The style and characteristics that s/he develops are investigated with reference to *repetition*. Under *continuity and alteration* title, the design process is simulated with the 'moves' of the players, who are expected to play the game in future, thus probable changes on the project and/or building are mentioned in this respect. The concept of *playground* in game/play is compared

⁴⁸ W. J. Mitchell, *The Logic of Architecture*, Massachusetts: The MIT Press, 1994, 81.

⁴⁹ Loek Groot, "Games of Chance and the Superstar", *Diogenes*, Vol.48/2, No.190 (2000), 36.

to the field of the designer that s/he has to work on. The *order and rules* to be obeyed are scrutinized, in both realms, as the fundamental principles of organization. The changing attributes of *time* are questioned with reference to different definitions and *time limitation* both during the act of playing and act of design is disclosed parallel to each other. Finally how *tension*, which may basically mean 'taking risks', comes into the stage is discussed.

3.1 “*Uniqueness and Freedom*” in the Process of Architectural Design

As mentioned before despite all its limitations, rules, and strict orders, each game is unique; even each repetition of the same game is different. What promotes this difference lies in one of its very basic properties: *freedom*. A person decides to play voluntarily; s/he is free to choose *what, when* and *with whom* to play. “It is never imposed by physical necessity or moral duty. It is never a task. It is done at leisure, during free time”.⁵⁰

The definition of 'freedom' is not the same when we translate it into the field of architecture; it is the freedom in choosing *how* to play. Architecture has always the luxury of 'being yourself' and it gives the opportunity to the architects to show their own creativity in their designs, which makes architecture more attractive in terms of being closer to art than other occupations. Moreover, this 'freedom' transforms architecture into a self-expression game, which can be played in infinite ways by different players (creators).

The sense of freedom and the uniqueness of architectural composition have close relationship; one nourishes the other. As mentioned above, architecture gives the opportunity to a designer (player) to be free during the design process (game) and self-expression of designer gives an identity to the design work that

⁵⁰ Johan Huizinga, “Nature and Significance of Play”, Homo Ludens - A Study of the Play-Element in Culture, New York: Beacon Press, 1986, 26.

is unique. In other words, the composition has its own identity as much as the designer's freedom. Of course the identity of an architectural work is composed of not only the designer's idea, but all architectural designs are also 'unique' with their components such as physical and social conditions. But, it is doubtless that, the distinction of work, which also gives the spirit to it, is owing to the designer's idea and depends on how designer interprets physical and social conditions in a composition harmonically.

The designer experiences a great sense of pleasure similar to the pleasure in a game during the process of design. Like in game, enjoyment and satisfaction exist in the steps of design and this is the property that closes up game and design more than in other disciplines. Despite the difficulties and problems involved, architectural design process is what players (designers) practice pleasure in and this pleasure emerges from the sense of freedom involved.

In the book of *Genius Loci*, Norberg Schultz mentions the uniqueness and freedom of place and explains them with an ancient Roman belief. "According to that idea, every 'independent' being has its 'genius', its guardian spirit. This spirit gives life to people and places, accompanies them from birth to death, and determines their character or essence".⁵¹ Like in this belief, game and architecture can only be unique as long as they are free and have spirit.

On the other hand, freedom in architectural design process is in fact the freedom of the designer to choose between the alternatives based on the current situation. Norberg Schultz explains the relation between existing conditions and future choices using an example of a man who has to orient himself evaluating his current position as;

When man dwells, he is simultaneously located in space and exposed to a certain environmental character. The

⁵¹ C. Norberg-Schulz, *Genius Loci: Towards a Phenomenology of Architecture*, New York: Rizzoli International Publications, 1980, 19.

two psychological functions involved, may be called “orientation” and “identification”. To gain an existential foothold man has to be able to orientate himself; he has to know where he is. But he also has to identify himself with the environment, that is, he has to know how he is a certain place.⁵²

In order for a player (designer) to feel free to move, he should understand his place, her/his relationships with the environment; nature, other spaces, nodes, and paths; and direct himself accordingly. In chess, before he moves, the player analyzes the places of his play stones, the movements he is allowed to make and possible counteractions of his rival. Then, the player is free to choose his movement. Similarity in design, the designer first investigates the surroundings, the requirements and the possibilities, and then he devises the solution he prefers.

As discussed above, freedom during processes of game and design resemble. On the other hand, the freedom in the decision to start game or design is far from each other. As said in the previous chapter, to play a game is free decision of men, except the instinctive play action children and animals take. Game is a voluntary activity and the player continues it as long as he wants. If someone is forced to play, game is no longer a game. Nevertheless, the freedom in choice of starting an architectural design does not match with free will in game. Need of design basically emerges from the men’s necessity to dwell. Besides this forced reason to design and conditions and requirements he has to obey, as discussed above, the designer is free in the process of design, free to create any type of structure he wants. On the other hand, although freedom in design process is similar to in game, most of the times designers are limited by their customers and environmental obligations.

⁵² Ibid.

As a good example related with the effect of freedom concept in architectural design process Frank Gehry's description of his own work in Guggenheim Museum reveals Gehry's belief in freedom in design; "The message I hope to have sent is just the example of being yourself. I tell this to my students: it's not about copying my logic systems or me. It's about allowing yourself to be yourself".⁵³ Moreover, in his article, 'Frank Gehry, Public Artist', Giovannini describes the children like, free style of Gehry in designing the Walt Disney Concert Hall's, shown in Figure 3.1, as;

Gehry had come off the drafting board. He liberated himself from the architectural drawing, designing instead like a sculptor, or a child, producing stormy sketches of great energy. He made messy gestural models that advanced notions of formal and spatial complexity, all rendered with a rawness that was combustive. Gehry realized that buildings left unfinished were at their most powerful, and he wanted to sustain that sense all the way to the finished building. As an architect in American practice, he was alone in formulating these still-embryonic thoughts. As an artist, however, he had much company, and he borrowed ideas. Gehry was breaking free, blurring boundaries, importing ideas from another discipline into his own.⁵⁴

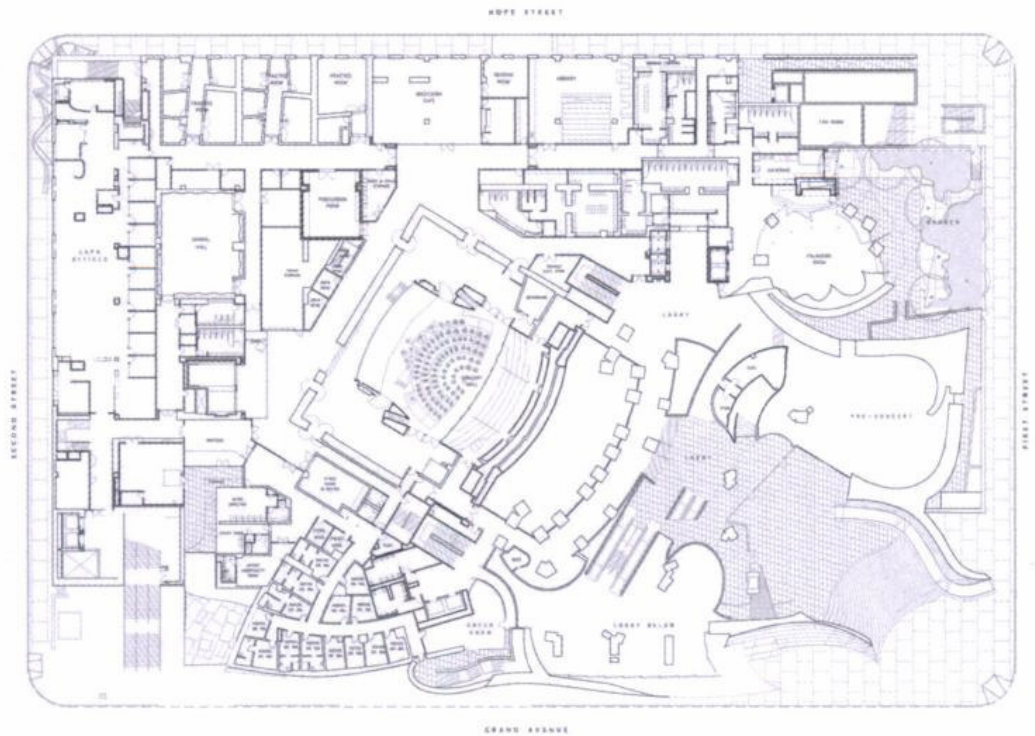
⁵³ Lacayo, R., "Frank Gehry", Time, Vol.163, Iss.17 (Apr il 26, 2004), 84.

⁵⁴ J. Giovanni, "Frank Gehry, Public Artist", Art in America, Vol.92, Iss.10 (November 2004), 95-96.



Figure 3.1. Two views of the Walt Disney Concert Hall, designed by Frank Gehry.⁵⁵

⁵⁵ *Ibid.*, 94.



Orchestra-level plan. Courtesy Gehry Partners.

Figure 3.2. Orchestra-level Plan of Walt Disney Concert Hall, Courtesy Gehry Partners.⁵⁶

3.2 “*Imitation*” in the Process of Architectural Design

Imitation is examined as “Mimicry” in Table 2.2 and associated with all those games that require an effort to act as something/one else; that are the theatre in its most institutionalized and commonly known form. One can relate the process of creating a character to creating a series of spaces and discuss comparatively different degrees of imitation. History of architecture is full of examples varying within a wide range, and full of debates for and against the case. We are not at the position of taking sides, what we intend to do is to search for ways of viewing

⁵⁶ Ibid, 95.

the situation from a detached point thus have a better idea on the architectural design process based on imitation.

Most of games are inspired from the life. They actually represent the life. The game of backgammon is totally representation of 'time' in human life. Four corners of playground symbolize four seasons, two opposite sections with six triangular sections each represent twelve months, total number of pieces represent 30 days in a month, white and black pieces represent day and night, and finally, opposite sections with twelve triangular sections each represent twenty four hours. The survival of backgammon for centuries, which was designed fourteen centuries ago by Buzur Mehir, the main vizier of the Persian Empire, as an answer to the chess game that the Indian Empire sent, is due to its great symbolization of this universal concept, time. Moreover, when compared with chess, backgammon involves chance factor introduced with the dice, which symbolizes chance in real life.

Architecture is a kind of imitation that imitates life, environment and pre-existing conditions of socio-cultural structure. The concept of imitation here can be explained with the concept of mimesis. The word mimesis is derived from the Greek mimesis and it means to imitate.⁵⁷ Generally this term is used to point the imitations is not only the copy; the result of understanding process that is assimilation and interpretation work together.⁵⁸

The relationship between architecture and imitation has always been a primary concern in examinations of the creative process. Design has the process that imitation is used to understand the fact and define the new one by helping of creation with respect to existing conditions that are imitated.

Within the process of architectural design, besides imitating others' structures or styles as a whole, designer imitates possible users in order to figure out their

⁵⁷ Paul Edwards, ed. "Mimesis", The Encyclopedia of Philosophy, Vol. 5&6, NewYork: Macmillian, 1967, 335.

⁵⁸ Emel Aközer, "Sanat, Oyun ve Öykünme Üstüne", XXI, Vol.3 (July-August 2000), 15.

requirements and responses. Like the process of imitation in theatre, where “actor/actress, before animating the fictional character on stage, has to develop a clear idea about all sort of variables in his/her mind,”⁵⁹ architect imagines the forms and buildings before s/he starts the initial sketches of design and imagines a possible user (‘as if’ mode of thinking or empathy rather than imitating) and analyzes possible variables. If architectural design process is analyzed it can be realized that ‘imitation’ is the second step of the process that starts after the analysis of the existing conditions of the project. This step is very important since it is the one in which creative ideas of design emerge.

3.3 “*Repetition*” in the process of Architectural design

Huizinga, when underlining the “faculty of repetition” as one of the most essential qualities of play, states that, “Once played, it endures as a new-found creation of the mind, a treasure to be retained by the memory. It is transmitted, it becomes tradition”.⁶⁰

The old Chinese Puzzle Tangram can be the best example to relate game with architecture within the context of *repetition*. The game, which is said to gave way to the discovery of the Pythagorean theorem in the Orient, consists of 7 pieces, called Tans, which fit together to form a square. The objective of the game is to form a given shape with those pieces, which must not overlap⁶¹. The same pieces are repeatedly used to come up with number of configurations; each player develops his/her method to solve the puzzle and most probably uses the same method whenever s/he needs to challenge.

⁵⁹ Tuğyan Aytaç Dural, Theatre-Architecture-Education: Theatre as a Paradigm for Introductory Architectural Design Education, Ankara: METU Faculty of Architecture Press,2002, 6.

⁶⁰ Johan Huizinga, “Nature and Significance of Play”, Homo Ludens - A Study of the Play-Element in Culture, New York: Beacon Press, 1986, 9.

⁶¹ Wikipedia Encyclopedia, 2005, <http://encyclopedia.thefreedictionary.com/tangram>.

Repetition of architectural design process using similar methods may result with the style of the designer developed in time. This reflects his/her approach to create and materialize. The style then may become the thing that becomes a part of his/her identity and represented in his/her works. Although each architectural design process and its product are independent of and different from each other, the design process and the design involves designer's marks, which make us to distinguish the creator. The strategy repeated during the architectural design process, while enabling the architect to skip certain stages, may give way to the appreciation of a system of thoughts by his/her followers.

One of the best examples for explaining the repetition that added an identity to the designer can be mentioned as the method Le Corbusier had developed in 1926. When introduced "Five points of New Architecture" he linked domestic architecture to five main points and remained loyal to them in each of his design processes. There is no doubt that this approach brought an identity to Le Corbusier in the history of architecture and architectural design. While outlining his design works, Le Corbusier was influenced by short design processes of ships and planes, which result in simple and functional products,. He accepted "house as a machine to live in" and he designed for simplicity and functionality. Therefore, Le Corbusier restructured his design approach and based it on five main rules:

(1) the pilotis elevating the mass off the ground, (2) the free plan, achieved through the separation of the load-bearing columns from the walls subdividing the space, (3) the free facade, the corollary of the free plan in the vertical plane, (4) the long horizontal sliding window and finally (5) the roof garden, restoring, supposedly, the area of ground covered by the house.⁶²

⁶² Anna Tse, "Le Corbusier's Five Points of Architecture", Modern Architecture, 2002, <<http://www.geocities.com/rr17bb/LeCorbusier5.html>>.

The Villa Savoye, developed by Le Corbusier in 1927, is a good demonstration of Le Corbusier's five points of new architecture. Five points of new architecture of Villa Savoye are incorporated in the building in following manner: the *supporting columns*, seen in Figure 3.3, allow the house to be completely off the ground, and allow more efficient use of use of land.

The *roof garden*, shown in Figure 3.4, is a consequence of reinforced concrete, which is a way to construct unified roof structures. The tendency of reinforced concrete to crack as a result of its expansion and shrinkage is eliminated by maintaining an even temperature and constant humidity on the terrace.

The grid of columns and reinforced concrete in the house also provide a *free plan*. The floors are no longer supported by partition walls; they are free, as shown in Figure 3.5. Through the girders of the framework the pillar takes up the entire load in the structure and leaves the walls with nothing to support.⁶³

⁶³ "Le Corbusier's five points of a new architecture",
<<http://home.worldonline.dk/jgkjelds/5points.html>>.



Figure 3.3. Supporting columns and sliding windows of Villa Savoye.⁶⁴



Figure 3.4. Roof garden of Villa Savoye.⁶⁵

⁶⁴ Ibid.

⁶⁵ Ibid.

The *horizontal, sliding window*, seen in Figure 3.3, that runs from one facade to the other in Villa Savoye is the again a successful result of building's reinforced concrete structure.

Finally, a column placed close to the outer surface of the building, seen in Figure 3.6, carries the load and enables the designer to create *free facades* which only serve as insulating walls or windows.



Figure 3.5. Free plan structure of Villa Savoye.⁶⁶



Figure 3.6. Examples of free facades in Villa Savoye.⁶⁷

⁶⁶ Ibid.

⁶⁷ Ibid.

Christopher Alexander, when introduced his very famous “patterns” to the world of architecture stating that, “no pattern is an isolated entity. Each pattern can exist in the world, only to the extent that is supported by other patterns: the larger patterns in which it is embedded, the patterns of the same size that surround it, and the smaller patterns which are embedded in it”, was not very far away from the idea of utilizing the same pieces/patterns repeatedly to achieve coherence.⁶⁸

Besides the repetition of the architect his technique in each architectural design process, in some projects, like in later designs of Le Corbusier, repetition property is observed as replication of structural modules as well. In this method while local relations between objects are constant, the structural typology is repeated at larger scale and it is conserved. Stan Allen explains these relations as;

Independent elements are combined additively to form an indeterminate whole. The relations of part to part are identical in the first and last versions constructed. The local syntax is fixed, but there is no overarching geometric scaffolding. Parts are not fragments of wholes, but simply parts.⁶⁹

In Venice Hospital, shown in Figure 3.7, Le Corbusier designed a main module that met the functional requirements and formed a texture that repeats this module. Although the repetition in Venice hospital and Villa Savoye look different at the first glance, Le Corbusier aims to create functional elements and replicates them in time. It can again be said for the Venice Hospital that the architect perceives the building as a functional, machine like entity that can be installed in short time and that facilitates further additions which may come up as a result of building’s hospital function. This approach of the architect is in fact a

⁶⁸ Christopher Alexander , A Pattern Language, New York: Oxford University Press, 1977, xiii.

⁶⁹ Stan Allen, “Field Conditions”, Points and Lines Diagrams and Projects for The City, NewYork: Princeton Press, 1999, 94.

consequence of the continuous characteristic of architectural design process. Moreover, the texture that Venice Hospital involves is as well an example of the field concept that will be analyzed in the heading of playground.

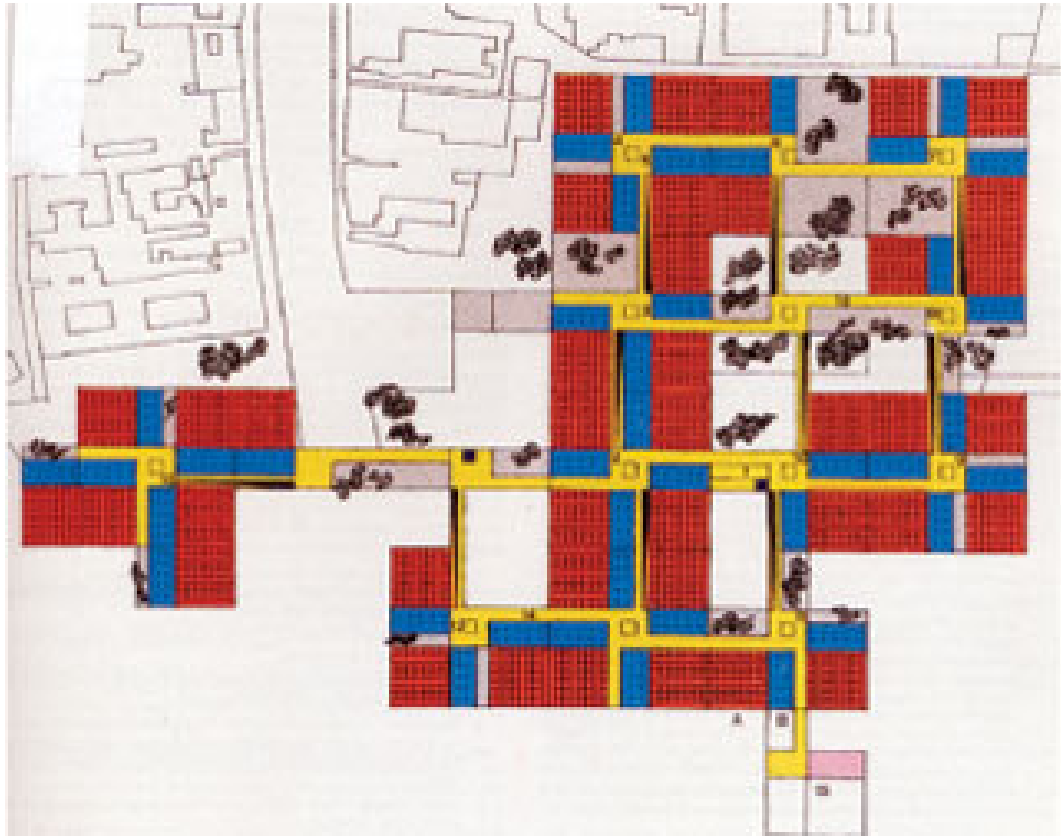


Figure 3.7. Venice Hospital of Le Corbusier.⁷⁰

3.4 “Continuity and Alteration” in Architectural Design Process

“A play community tends to become permanent even after the game is over. Of course, not every game of marbles or every bridge-party leads to the founding of

⁷⁰ Steve and Rachel's Scrapbook,
<http://www.buildingsrus.co.uk/year_6/thesis_project/precedent/image_2.jpg>.

a club. But the feeling of being ‘apart together’ in an exceptional situation of sharing something important, of mutually withdrawing from the rest of the world and rejecting the usual norms, retains its magic beyond the duration of the individual game”.⁷¹

Continuity for game/play, as defined by Huizinga, may not have a one-to-one correspondence with what we accept for architectural design. Still it is a continuous process that starts with the initial sketches of a building and/or built environment followed by the development of the project, and it continues during the process of construction and progresses with modifications and alterations in time. Although in most of the cases design process may seem to end as construction starts, it is just the involvement of the initial designer, which comes to an end. Due to the changing life styles and environmental conditions, it may come out to be a necessity to restructure, modify, and/or enlarge the existing building. As a matter of fact a process of restructuring, consequently involvement of new designers may come into the scene. Therefore, from the beginning, considering the continuity of architectural design process will enable upcoming modifications. Future designers are then limited with the identity and main characteristics of the existing structure, and have to respect the initial design decisions. So the feeling of “being apart together” in the case of a game can be interpreted as an attempt to establish contact between the designer and his/her project even after the project is finalized.

Although the transformation of structures as a result of further demands was not initially accepted as a part of the architectural design process, *alteration* concept had become significant during the design discussions in 1960s. The alteration idea brought the flexibility and open-ended field concepts into architectural design process and was described by different architects with several words such as “renovation”, “open-endedness” and “non-planning”. Cedric Price

⁷¹ Johan Huizinga, “Nature and Significance of Play”, Homo Ludens - A Study of the Play-Element in Culture, New York: Beacon Press, 1986, 12.

explains his idea of Non-Plan in his article *Approaching an Architecture of Approximation* as;

Non-Plan – or as it was originally and more accurately called Null-Plan detailed the advantages of such unevenness. It also proposed that by reducing the permanence of the assumed worth of past uses of space through avoiding their reinforcement, society might be given not only the opportunity to reassess such worth, but also be able to establish a new order of priorities of land, sea and air use which would be related more directly to the valid social and economic lifespan of such uses, replace utopia with Non-Plan.⁷²

Sadler supports the necessity of alteration step in design with his claim “if society grows and changes, then so should its architectural container”, and describes the style of Archigram, an architectural group in 1960s, as “The imperative for Archigram’s generation was instead to create ‘open ends’, an architecture that would express its inhabitants’ supposed desire for continuous change”.⁷³

The alteration concept is related more with the second phase of architectural design process the one that starts after the project comes into existence and starts to live. On the other hand, in the mid fifties, existences of alterations in design in time forced the architects to rethink the architectural design process has to be re-organized to allow the alteration of design with respect to its identity in time. So, alteration started actively to affect the architectural design process. According to this approach, designs should give chance to adapt changing requirements in time. Like Sadler, Norbert-Schultz defends the need for change

⁷² Cedric Price, “Non-plan Diary”, *In Modern Architecture and Urbanism*, London: Architectural Press, 2000, 28.

⁷³ Simon Sadler, “Open Ends. The Social Visions of 1960’s Non-Planning”, *In Modern Architecture and Urbanism*, London: Architectural Press, 2000, 138.

in time and says that “place or any space is erected for only one particular purpose would soon become useless”.⁷⁴

Within the concept of alteration, several design models that were based on the idea of convenient products that let and promote further variations were offered. As Sadler states, the similarity of these models were their “capacity for remodeling after construction”.⁷⁵ These models suggested processes that are not limited with time periods, and structures that involve basic, universal values and enable alteration. With its above stated characteristics, alteration in architecture resembles alterations in games since games, with their basic universal structures, enable variations in time without losing their identities and free of their origination place and period. Any play character continues to keep his/her identity and spirit through generations although the players, stages and costumes differ within time; and chess, for centuries, allows infinite variations within the framework of defined movements of play stones.

Although continuity and alteration of architectural design process became significant in 1960's, as said above, continuity is also observed in old design examples. The Great Mosque of Cordoba in Spain, constituted over a span of nearly eight centuries, is a proper example to explain the continuity and alteration in wide range of architectural design process. The Mosque of Cordoba was first founded by Abd-ar-Rahman-I in 787. Its construction continued for a number of years as each succeeding Caliph added his contribution to the mosque in the form of restoration and extension. Fortunately the building still preserves its unity and harmony as if it is built by a single person, as seen in Figure 3.8.

⁷⁴ C. Norberg-Schulz, Genius Loci: Towards a Phenomenology of Architecture, New York: Rizzoli International Publications, 1980, 17.

⁷⁵ Simon Sadler, “Open Ends. The Social Visions of 1960's Non-Planning”, In Modern Architecture and Urbanism, London: Architectural Press, 2000, 139.

Mosque of Cordoba had been completed in four coherent stages which did not aim to transform the previous one and just included additions that did not disrupt the unity of the mosque. The form of the mosque had been clearly established: an enclosed forecourt, flanked by a minaret tower, opening onto a covered space for worship. The enclosure is loosely oriented toward the qibla, a continuous prayer wall marked by a small niche (mihrab). Stan Allen explains the transition between the stages as,

The mosque was subsequently enlarged in four stages (Figure 3.9). Significantly, with each addition, the fabric of the original remained substantially intact. The typological structure was reiterated on a larger scale, while the local relationship remained fixed.... Unlike the idea of closed unity enforced in Western classical architecture, the structure can be added to without substantial morphological transformation. Field configurations are inherently expandable; the possibility of incremental growth is anticipated in the mathematical relations of the parts.⁷⁶

Expandable characteristic of plan schema allows the conservative approach of Cordoba Mosque identity besides changeable local additions. The configurations of structure anticipated the possible growth in building and in relations of the parts. The logic of Cordoba inspires the architects to construct and rethink the design process of building that gain the immortality to their designs with respect to continuity and alteration concept in their architectural design process.

⁷⁶ Stan Allen, "Field Conditions", Points and Lines Diagrams and Projects for The City, NewYork: Princeton Press, 1999, 94.



Figure 3.8. Cordoba Mosque showing the intrusion of the Christian Church in its heart.⁷⁷

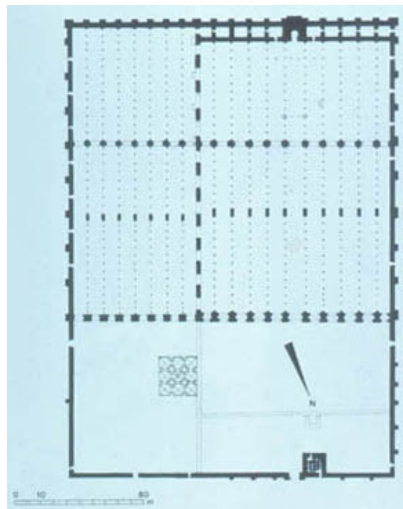


Figure 3.9. The extended plan of the Great Mosque of Cordoba, Spain, c. 785-800.⁷⁸

⁷⁷ R. Saoud, "Architecture in Muslim Spain and North Africa (756-1500AD)", Foundation for Science, Technology and Civilization, January 2002, 5.

Besides the Mosque of Cordoba, St. Peter's Basilica in Rome, Figure 3.10, with its long construction process, can be shown as another example of continuity and alteration in architectural design process. However, there is an important difference in between; while Cordoba Mosque's each stage respected and duplicated the previous ones just with involvement of similar parts, St. Peter's Basilica's additions transformed the building morphologically.

Construction of St. Peter's started under Pope Julius II in 1506 and was completed in 1615 under Pope Paul V. Donato Bramante was the first chief architect. Many famous artists worked on the project and Michelangelo, who served as main architect for a while, designed the dome. After the death of Julius II, the construction of the building was stopped until Pope Paul III asked Michelangelo to design the rest of the church. After Michelangelo's death his student Giacomo della Porta continued with the unfinished portions of the church. After Porta, Carlo Maderno became the chief architect and designed the entrance.⁷⁹



Figure 3.10. St. Peter's in the Vatican Basilica⁸⁰

⁷⁸ Montana State University, School of Architecture, 2005, <www.arch.montana.edu/classes/arch322/islamic.html>.

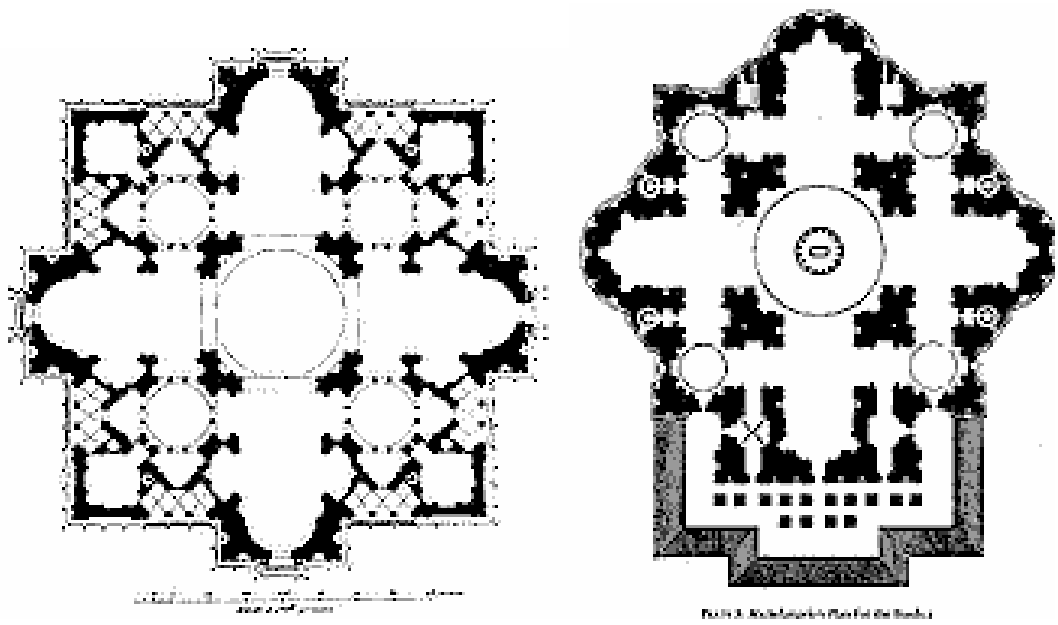
⁷⁹ "St. Peter's Basilica", *The New Dictionary of Cultural Literacy*, Ed. E.D. Hirsch, Jr., Joseph F. Kett, and James Trefil, 2002, <<http://www.answers.com/topic/st-peter-s-basilica>>.

In ArchitecTour, the morphological transform of the Basilica is described as below:

As the basilica was originally constructed by Constantine to mark the spot of St. Peter's entombment, the architects of the Renaissance imagined centralized plans to focus attention, architecturally, upon the sacred spot. The only remnants of Bramante's plan, Figure 3.11 (A), conceived in 1507 for Julius II, are the four crossing piers which were retained in Michelangelo's design, Figure 3.11 (B), of 1546 and beyond. Here the piers become more plastic and sculptural, yet the overall Greek-cross design is retained. One can see in Michelangelo's plan his intention of creating a temple like mausoleum, complete with a tetrastyle/cum decastyle colonnaded entry raised on a podium, albeit unconventional, like a good Roman temple. In 1605 with the papacy of Paul V Borghese, and the post-tridentine mood abound in Rome, we see a switch back to a more conservative Latin cross plan evidenced by Carlo Maderno's, Figure 3.11 (C), addition of three bays to Michelangelo's nave.⁸¹

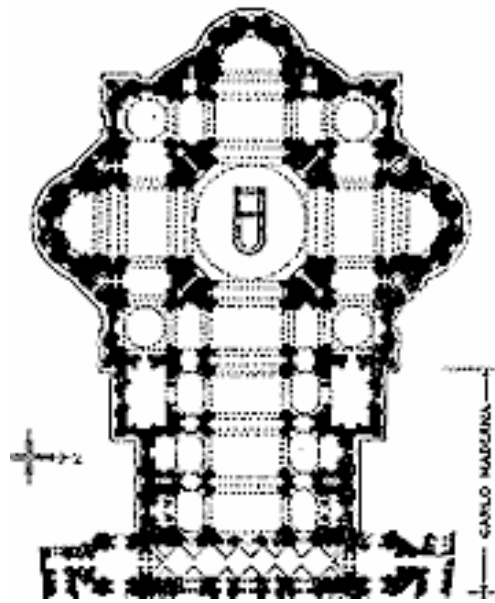
⁸⁰ St. Peter's in the Vatican Basilica", Roma2000, 1995, <<http://www.roma2000.it/zschpiet.html>>.

⁸¹ "Plans for St. Peter's (Bramante, Michelangelo & Maderno)", ArchitecTour, 2003, <<http://www.architectour.com/8.htm#plan2>>.



(A)

(B)



(C)

Figure 3.11. Plans of St. Peter's by Bramante, Michelangelo, and Maderno

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⁸² Ibid.

3.5 “*Playground*” in the Process of Architectural Design

It is possible to mention a variety of ‘playground’, if we are talking about game/play. A stage, a basketball field, a chessboard, a pool or an ordinary table at home can easily be named as playground. However it is the difference in between that will help us to speculate on the process of architectural design and make different definitions of ‘the playground’ for an architect.

The design game, intellectually, starts on paper or in virtual medium; hence these can be considered as the first playground of the designer. Even though both are used for the same purpose, the results they generate vary due to their separate conditions and tools they provide the user. They both have advantages and disadvantages. While paper may limit the ability of the designer to reflect his/her entire imagination with manual aptitude, with software one can easily fall into the trap of being fascinated with the existing images. It is a mechanical and technical playground, which you have to control the scale all the time.

The playground of the architect, when described as above, is different than the playground in any game. Depending on the type of the game (see Table 2.2) the physical properties of its playground may or may not have an effect on the result. It is always the same chessboard no matter how the size or shape of the play figures change. They remain to be formal changes and do not influence the course of actions during the game.

Contrary to the in board games, which can be classified under “agon”, in those that can be classified under “ilinx”, differentiation of the playground may affect the organization and rules of game. Although the game played is the same, climbing performance of the climber differs with the natural properties of the climbing surface; the steepness of the mountain or the climatic conditions so the order of game differs with respect to playground’s conditions.

While defining the boundaries of their playgrounds, some architects focus on the building to be projected and take no notice of the surrounding conditions thus limit their playground with the boundaries of the construction site. Only geomorphologic properties of the land and formal restrictions are considered as inputs. . On the other hand, some architects take the surrounding structures, local standards and values into consideration as well while they define their playgrounds. They consolidate their ideas in a compromising manner with this social structure and local values of the field, regulations and design plans that are determined by other players in other design games, and the customer schedule and requirements.

Among these two types of architectural authorities, Michel Foucault represents the second group, those who are against the isolation of the structures from their environments, and claims that;

The space in which we live, from which we are drawn out of ourselves, just where the erosion of our lives, our time, our history takes place, this space that wears us down and consumes us, is in itself heterogeneous. In other words, we do not live in a sort of vacuum, within which individuals and things can be located, or that may take on so many different fleeting colors, but in a set of relationships that define positions which cannot be equated or in any way superimposed.⁸³

This point of view of architectural design process can resemble the game of chess in which players develop strategies based on the existing placement of the play stones, relationships between them, and probable movements of the rival. According to each move, players improve their strategies and determine new ones after analyzing infinite possibilities. The process of game is a total mesh that is knitted by the strategies of the players. In other words, after each move, a new playground is created with a new set of relationships and the whole process of the game is a juxtaposition of all these playgrounds.

Besides Foucault, in his "Field Concept", Stan Allen implies that architectural design cannot be separated from its environment. In the essay, "From Object to Field", Allen says that Field Concept proposes an "organizational principle" that suggests new definitions of parts and "alternative ways of conceiving the question of relationships among those parts".⁸⁴ He claims that, "although static in and of themselves, infrastructures organize and manage the complex systems of flow, movement and exchange".⁸⁵ He also states that, Field strategy presupposes the existing site conditions and by re-constructing them in relation with the given program of the project, it creates a conscious field that makes these conditions visible in the design process and product.

Allen names these existing conditions of site as "field forces". While re-constructing the properties of site, field forces that Allen lists within the context of infrastructural urbanism; divisions, urban surfaces, services, networks, communication and exchange of sites which support certain relationships, interactions and activities, give direction to the player. The draft work of site cannot be independent; however it is loosely bounded and divided from site events.⁸⁶

In fact, considering and evaluating existing conditions are closely related with the instrumental approach of Infrastructural Urbanism. Re-constructing the site and creating an artificial infrastructure with references from site provides the adjustment of design to the environment and makes the final work become useful. According to Allen, instrumentality in design means that design respects to local conditions and he explains that in his book as:

Infrastructures accommodate local contingency while maintaining overall continuity. In the design of highways, bridges, canals or aqueducts, for example, an extensive catalogue of strategies exist to accommodate irregularities in

⁸³ M. Foucault, "Of Other Spaces: Utopias and Heterotopias", in *Architecture Culture 1943-1968*, Ed. Joan Ockman, New York; Columbia Books of Architecture and Rizzoli, 1992, 421.

⁸⁴ Stan Allen, "From Object to Field", *Points + Lines*, New York: Princeton Architectural Press, 1999, 102.

⁸⁵ Stan Allen, "Seven Propositions", *Points + Lines*, New York: Princeton Architectural Press, 1999, 54.

the terrain (doglegs, viaducts, cloverleaves, switchbacks, etc.) which are creatively employed to accommodate existing conditions while maintaining functional continuity. Infrastructure's default condition is regularity - in the desert, the highway runs straight. Infrastructures are above all pragmatic. Because it operates instrumentally, infrastructural design is indifferent to formal debates. Invested neither in (ideal) regularity nor in (disjunctive) irregularity, the designer is free to employ whatever works given any particular condition.⁸⁷

Like the design principles, the sense of order in Infrastructural Urbanism profits from repetition, alignment, juxtaposition, harmony and rhythm, which can be explained as constant rules of Infrastructural Urbanism.

Finally, for Allen "Field" means both the playground and game itself and the game here is played to construct the playground. In other words, architectural design process, after combining the ideas of the designer with the surrounding conditions and requirements, may be said to end with a playground or a stage for the future players; the future designers in the open-ended architectural design process.

3.6 "Order and Rules" in the Process of Architectural Design

People require regularity in order to perceive and understand their environment. They need to simplify the complex surrounding to handle what is known about it. Moreover, on the way to form his identity, humankind necessitates to define himself using objects, places, and classifications. Therefore, it may be said that order is the natural result of people's demand to control their world, and the strength of their relationship with their environment depends on their 'sense of order' crested with analogies.

⁸⁶ Opcit.

⁸⁷ Stan Allen, "Infrastructural Urbanism", Points + Lines, New York: Princeton Architectural Press, 1999, 54.

Principle of simplification and ordering are as well applicable when something needs to be designed and constructed. In order to achieve proper, beneficial designs, designer creates an order while analyzing and assimilating the environment. While generating this order, the designer follows existing regularities such as heartbeat, breathing rhythm, drips from a tap, tick-tacks of a clock, and system of seasons, days and nights, as examples. Although it is subject to discussion, order may be said to exist obviously in nature, outside of what is produced by men.

Like game, architecture “has always the tendency to be beautiful”.⁸⁸ While architect imitates the environment to create a men-made, new one, within the process of design, he/she tries to achieve perfection and structures the ideal order for him/herself. Moreover, the concern of the architect to filter and imitate the superior properties of the existing structures as well resembles the aim of game ‘being distinct from ordinary life’. The imitation that comes out is distinguished from the real, original one as a result of this desire and effort to reach ideal.

While order is created within the composition of the distinguished design described above, ‘grouping principles’, or in other words design rules, that exist in the nature of humankind, such as repetition similarity, proximity, common enclosure, symmetry and orientation come on the scene. All these principles contribute to the unification of such fundamentally different elements of architecture.

Rules of game are concrete as regulations and unbroken compliance is required for the continuity of game. On the other hand, in architecture, the above listed ‘basic design principles’ are abused in the sake of forcing the limits and differentiate. In architectural design process, in each case, the essential thing is the relationship between these ‘basic design principles’. In other words, in reality, the style of architectural design game involves similar properties with the preparation stage of a theatrical game, rather than styles of chess or basketball. Architecture is a kind of organization process that ends with a tangible product, different than in game, and the orderly arrangement of parts in it makes us call this product a composition.⁸⁹

⁸⁸ Johan Huizinga, “Nature and Significance of Play”, Homo Ludens - A Study of the Play-Element in Culture, New York: Beacon Press, 1986, 11.

The integrity of a designed composition is defined with the interaction of the ordering principles in it. Architect uses repetition, similarity, proximity, enclosure and orientation. “The elements can be more or less organized starting from the use of a uniform texture, through hierarchy and complexity to a collection of elements without identifiable relationships – chaos”.⁹⁰

Moreover, the ordering principles; repetition, similarity, proximity, enclosure and orientation help to establish the coherence between architectural elements. *Repetition* can appear in many different ways such as an addition, or a division of a whole, or it may simply come out as an architectural elements repeated seriously without a clearly identifiable overall form.⁹¹ Repetition gains rhythm and harmony in design with the contribution of another principle, *similarity*. Creation of similarity in design reinforces the harmony especially where heterogeneity is dominant.

Besides the tendency of eye to group elements of the same type, eye also wants to group things that are close to each other. *Proximity* is one of the strongest principles that give opportunity to alter and articulate the elements in design process. On the other hand, there is no exact measure to define proximity because of the relative sizes of architectural elements. Pierre von Meiss explains this relativity by saying that “when the distance is greater than the size of the smallest element, one often resorts to other means (similarity, orientation, etc), to reinforce coherence”.⁹²

Above mentioned three principles, repetition, similarity and proximity, are meaningless without a limit. Another principle, *enclosure*, defines a distinguished field from outside. Enclosure strengthens the relation between elements and makes unification of design easier.

⁸⁹ Tuğyan Aytaç Dural, Theatre-Architecture-Education: Theatre as a Paradigm for Introductory Architectural Design Education, Ankara: METU Faculty of Architecture Press, 5.

⁹⁰ Pierre Von Meiss, Elements of Architecture: From form to Place, translated by Katherine Henault, Switzerland; Lausanne, 1986, 38.

⁹¹ Ibid,32.

⁹² Ibid, 35.

Finally, unity of design is nourished by *orientation* such as parallelism or convergence towards a void or a solid. Even different figures can be grouped and can define unity when placed in same position. Symmetry is a further effective factor in orientation that supports integrity of architectural elements.

The degree of order in design which is sorted as texture, hierarchy and complexity by Von Meiss can change according to the properties of culture that the structure is designed in. *Texture* can be observed in two different types; *random* or *web*. The arrangement clouds, the gravel on a path or certain clusters of buildings form an order which is called *random*. On the other hand, *web* is a texture that is more non-physical and is organized by the positions of the elements, organizing the space between parts. Web is more organized than random but it also allows articulation and additions. Moreover, web can be observed in anonym structures, historical cities and the idea and methodology of web is tested by several architects who are inspired by these ancient buildings while creating their design criteria and strategies.

For instance, Shadrac Woods' idea of 'Web' takes time and movement into consideration in design process. Woods states that, "The Web emerged, not unlike the Stem, as a kind of framework within which function could be 'articulate'".⁹³ Moreover he added that,

... In fact we might say that the most perfect composition would also be the least interesting, since its very perfection would conceal an imperfect, unstable state of becoming. To add to, or take away from...We are unwilling to sacrifice to change, with its unknown visage, this perfection. So we will keep it – as long as we can – not entirely useless but finally less satisfactory to the spirit than Hoyle's and Narlike's work on the nature of universe.⁹⁴

⁹³ Alexander Tzonis and Laine Lefavre, *Beyond Monuments, Beyond Zip-a-tone, into Space/Time. Contextualizing Shadrach Woods's Berlin Free University, A Humanist Architecture*, London: AA Publications, 1999, 123.

⁹⁴ Ibid, 125.

What is behind the web idea is a main route and elements, such as dwellings, connected to it. Woods got the opportunity to experience his web strategy in a competition for a housing complex for 40,000 people in Caen-Hérouville.

In the presentation of the project, Woods demystified the design process in a series of annotated diagrams that sketched out the simple, incremental notions informing the final configuration of the project. The housing was structured around a linear pedestrian centre of activities: the pedestrian strand, or Stem, incorporated the various collective programmes of the complex-commercial, cultural, educational and recreational. In Caen the Stem was built directly on the ground; it followed an existing ridge in the site, forming a distinctive broken geometry that would reappear in subsequent projects. The dwelling blocks were attached to the central Stem; vehicular circulation and parking were placed at the perimeter.

⁹⁵

Hierarchy has more organized order than web because of the relation between the elements which are arranged with respect to a scale. Similarity is not required in hierarchy and it can be mostly observed as disposition and singularity of form such as “centrality, axially, orientation and geometric opposition”⁹⁶ It bases on geometric configurations and dictates the primary and secondary elements. The all order depends on relation between these elements that the domination of several of them.

⁹⁵ Gabriel Feld, “Shad’s ’Idée Fixe Berlin Free University and the Search for Principles of Organization”, Berlin Free University: Candilis, Josic, Woods, Schiedhelm Gabriel Feld, Mohsen Mostafavi, Manfred Schiedhelm, Peter Smithson, Alexander Tzonis, Liane Lefaivre, George Wagner, Charles Tashima (Photographer), London: Architectural Association Publications, 1999, 111, <<http://www.bk.tudelft.nl/dks/publications/articles/lcb%201998.jpg>>.

⁹⁶ Pierre Von Meiss, Elements of Architecture: From form to Place, translated by Katherine Henault, Switzerland; Lausanne, 1986, 43.

Complexity is the most organized order that can be observed as coordinated and superimposed similar formal structures. Michelangelo's façade of San Lorenzo, Figure 3.12, is a good example to a combination of more than symmetrical systems. The elements are grouped in such a way as to present more than one interpretation to the observer that is called complexity. Besides the several superimposed systems, the correct complexity can be achieved with the balance of independency between the elements and the geometries on the façade.

Besides the basic design principles, in architectural design, existence of rules that come from outside or previous design games can also be mentioned. These rules as well affect the composition of the design. All 'field conditions' that were mentioned before take roles in construction of relations between the elements. Moreover, the existence rules, named 'necessities', by some authorities influence the order of design.

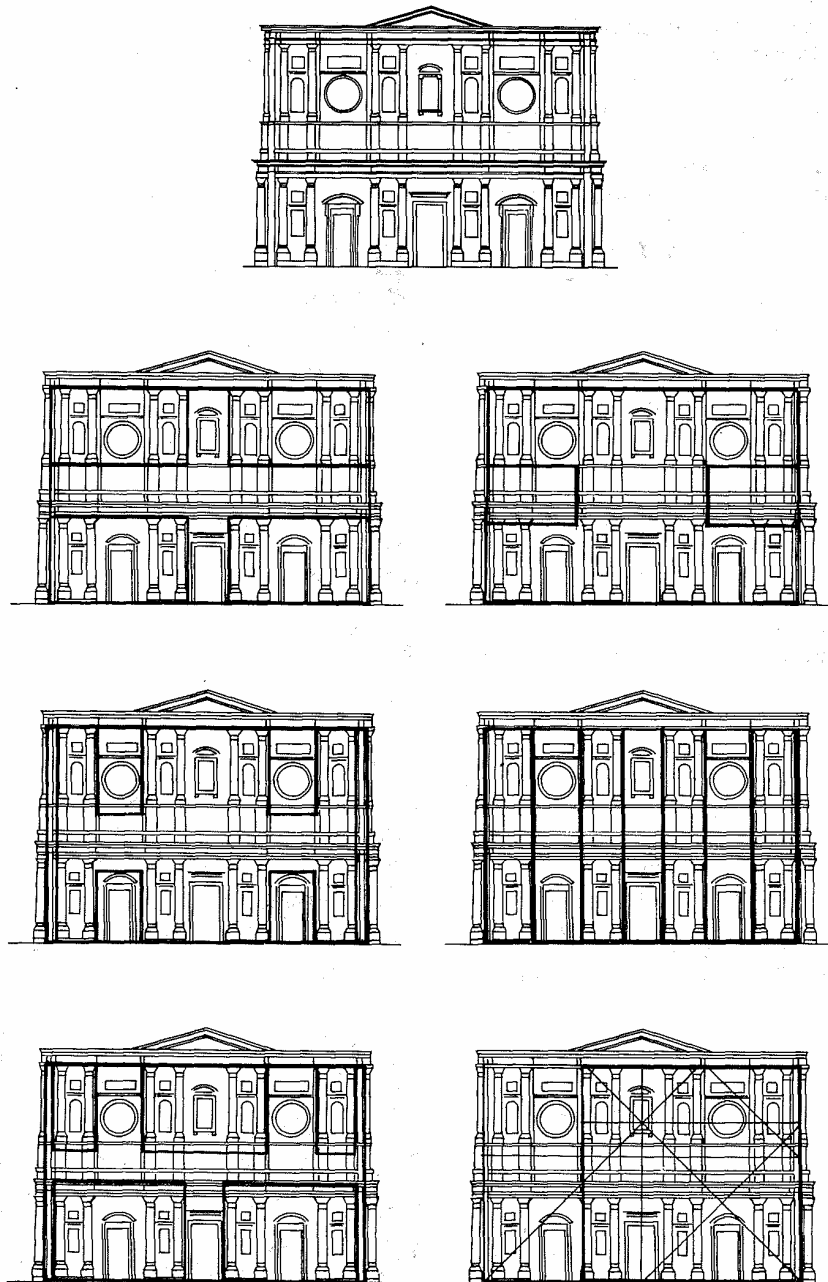


Figure 3.12. Michelangelo, façade for the funerary chapel of San Lorenzo in Florence, 1516-34.⁹⁷

⁹⁷ Alexander Tzonis and Laine Lefavre, Beyond Monuments. Beyond Zip-a-tone. into Space/Time. Contextualizing Shadrach Woods's Berlin Free University, A Humanist Architecture, London: AA Publications, 1999, 45-46.

Thus, the basic design principles and their integrations in ways analyzed above add a universal character to architecture and brings understandability to design so that it can be played everywhere.

3.7 “Time” in the Process of Architectural Design

It is a fact that “time” is one of the most important constraints of certain games. It either determines the total duration of a game, as in the case of a football match, or specifies the instants for each move, as in the case of a chess tournament. Sometimes it comes out to be the content having an effect on the duration, as in the case of theatre; and sometimes it is the players to decide. The different types of time limitations during the games/plays may imply different conceptions of time during the *process* of architectural design.

Like games which have defined time periods, such as basketball and other competition games, architectural design process may include steps that have time limitations such as the necessity to complete the design stage in eight months, or complete the construction in two years if the architectural design is accepted as continuous process that includes construction part.

Merriam-Webster Dictionary defines ‘process’ as, “a natural continuing activity or function”, and puts the accent on the concept of ‘continuity’.⁹⁸ Therefore we must incorporate this concept precisely during our investigation. Architectural Design process is certainly continuous and its different stages are subject to different time limitations, each of which can correspond to one of the game/play type mentioned above.

Furthermore, time concept in architectural design involves many approaches like in game and is closely related with another concept of game, mentioned previously in detail, continuity and alteration. For instance, the ‘open-ended’ design strategy, which gained popularity nowadays and in which the design game can be continued as the result of open-ended design order of which the initial step is completed and readied for use by the initial player/designer, has the same approach with games

⁹⁸ Merriam-Webster Dictionary, <<http://www.m-w.com/cgi-bin/dictionary?book=Dictionary&va=process>>.

where the game continues till the last move is made, such as in chess, or till the game takes its final shape. This approach brings in the definition 'continuous and alterable game which can be repeated within the scope of strict rules' for architectural design process.

Fun Palace Project by Cedric Price, the father of the open-ended ideas, in 1960's (Figure 3.13), is a better example to enhance our comparison between the two realms with reference to the concept of alteration. The frame used in this project is a 'well-serviced shed' that nurtures an infinitesimal number of permutations of modular architectural elements slotted inside. With this project, Price proposed a building which would not last forever, or have to be renovated, but which would disappear after a limited life span of 10 to 20 years. Akiko and Obrist describe the idea behind the flexible structure of Fun Palace Project as follows;

The Fun Palace was to be a flexible structure in a large mechanistic shipyard in which, according to changing situations, many structures could be built from above. Price's key idea is that the building can be altered whilst it is occupied. According to Cedric Price, this loose social pattern would allow the user to be free what he or she would do next. "The Fun Palace" as a responsive building shall respond to the necessity to connect disciplines and different practitioners in changing parameters. Price developed these ideas further in his vision for a 21st century cultural centre utilizing uncertainty and conscious incompleteness so as to produce a catalyst for invigorating change.

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Providing the possibility of 'alteration for the occupants', -intentionally or unintentionally-, displays a tendency to create a game/play. This approach can be accepted similar to the alteration of a game in accordance with the changing players. However it is the 'playground', rather than the rules, that determines and manipulates the game as opposed to any sort of strategic game. So what is it to 'be

⁹⁹ Akiko and Obrist, "Chapter One: Some Quotes in Introduction", Bridge the Gap, April 24, 2005, <<http://www.arts4all.com/newsletter/breakingnews/breakingnews.asp?bb=935&aid=1>>.

permanent' or 'continue' and what is it to 'be altered' becomes an important issue for questioning the process of architectural design.

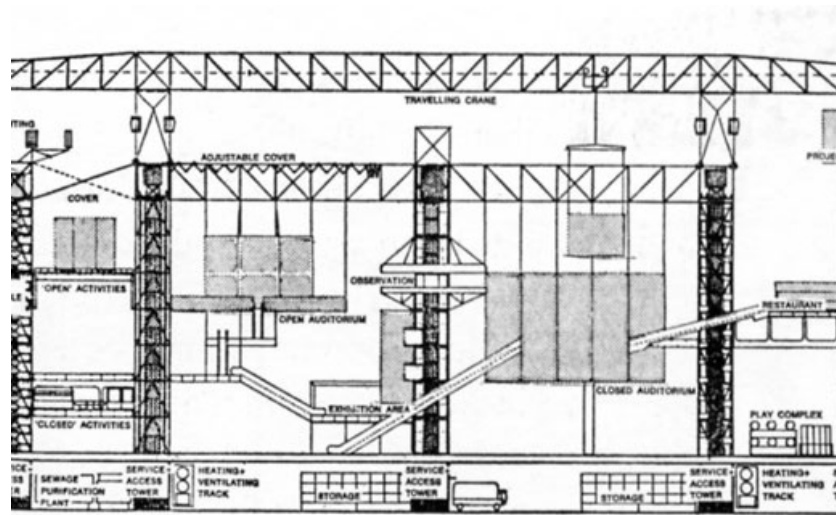


Figure 3.13. Fun Palace, an unrealized project for East London, 1960-1961.¹⁰⁰

These concepts can be clarified when we study the Diet Library Project of Stan Allen.¹⁰¹ The infrastructure and its determinative units can easily be understood in this project, whose main purpose is exhibition. When we analyze the ground-level plan we can notice the griddle organization of the stack units' that determine the infrastructure. Here, stack unit is the fixed element and is repeated in a defined grid system.

It is similar to the constant chess figures that are allowed to move according to determined rules on the permanent board. Contrary to the game new stack units, as long as they display similar properties, can be added if needed in time (Figure 3.14). However, only the course of actions is reverse; the logic of adding the stack units

¹⁰⁰ Cedric Price, "Non-plan Diary", *In Modern Architecture and Urbanism*, London: Architectural Press, 2000, 28

¹⁰¹ Stan Allen, "From Object to Field", *Points + Lines*, New York: Princeton Architectural Press, 1999, 102.

into the project can be compared to the logic of taking the figures away from the chessboard. 'The queen' is always 'the queen' whether on or off the board; and 'the stacks' are always 'the stacks' whether they are inside or outside the building. The *continuity* is retained on the system, hence can be compared on conceptual basis.

The grid in the project, on the other hand, is an open-ended field to be extended (Figure 3.15) thus provides the possibility of *alteration* without destroying the identity of the original design. In this respect, the essence of the original project, that is 'the rules' and 'the playground' of the game remains while the addition, that is the different moves, can be made.

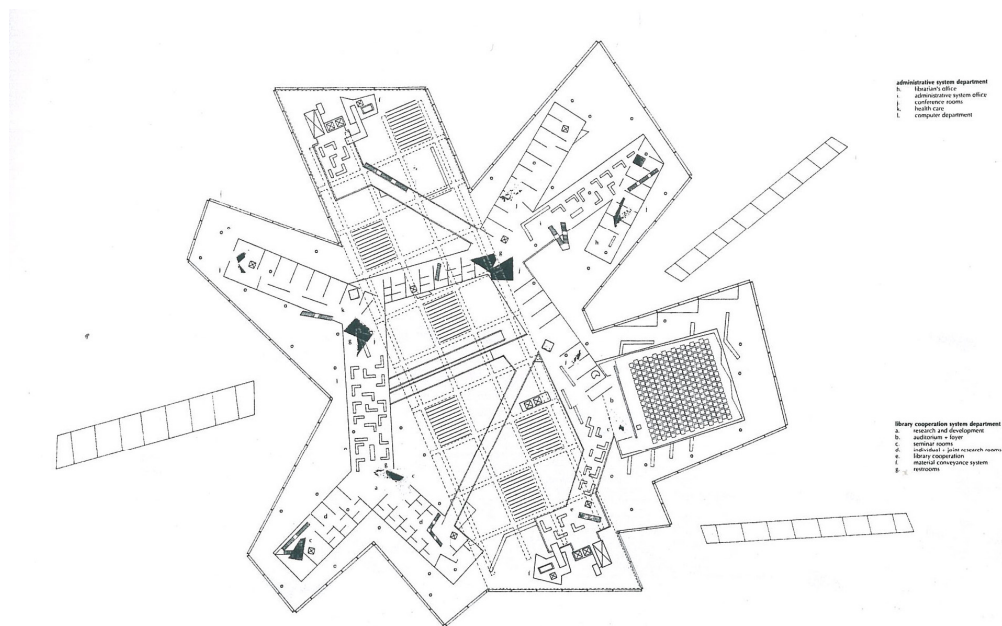


Figure 3.14. (A) Stack Units of Diet Library Project

¹⁰² Ibid.

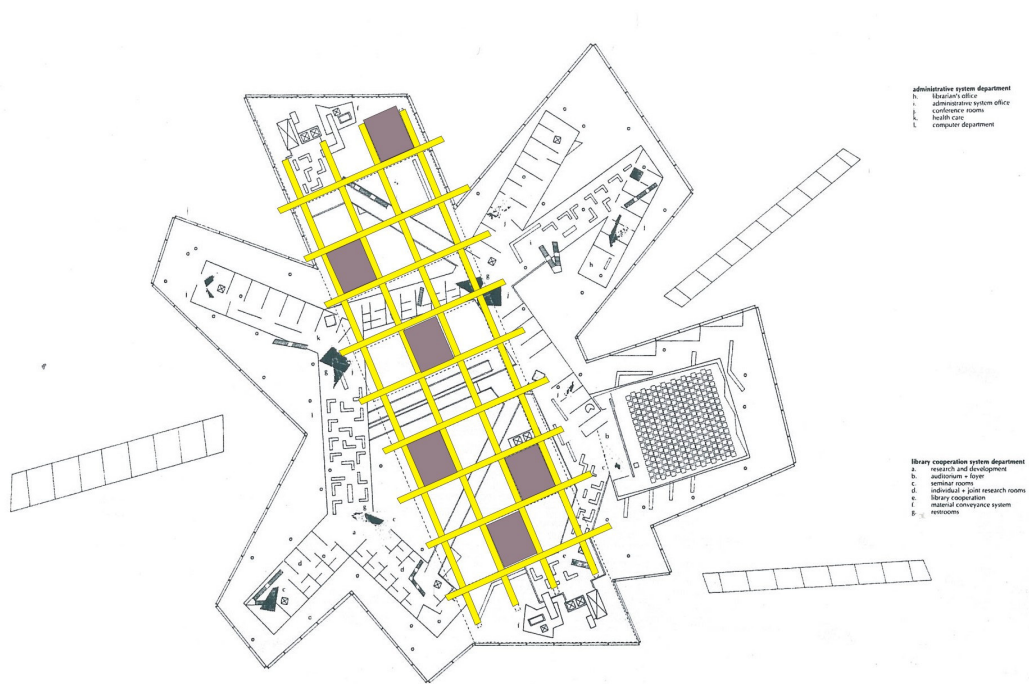


Figure 3.14. (B) Analysis of anticipatory infrastructure of Stack Units



Figure 3.15. Possible Contribution's Diagram of Diet Library Project

3.8 “*Tension*” in the Process of Architectural Design

The final characteristic of game that is examined to reread architectural design process is ‘tension’. Like game, tension in architectural design process results from the physical boundaries that are mentioned as properties of the ‘*playground*’, the limitations of ‘*time*’ and the ‘*order and rules*’.

“The element of tension in play /.../ plays a particularly important part. Tension means uncertainty, chanciness; a striving to decide the issue and so end it. The player wants something to ‘go’, to ‘come of’; he wants to ‘succeed’ by his own exertions”.¹⁰³ Similarly architects take the risk of creating new ideas. S/he wants something to ‘go’, to ‘come up’; s/he wants to be appreciated. There is always the danger of being criticized or failing to fulfill the requirements. The desire of the architect to force the limits, like in the group of plays classified as ‘*ilinx*’ (Table 2.2), as well add tension to design process.

In his design for Sagra da Familia Cathedral, (Figure 3.16), Antonio Gaudi spent a tremendous effort to exceed the ‘known and available’ and came up with one of the most striking examples of the history of architecture to be discussed for centuries. When analyzed considering the technical and scientific know-how level of the period during which it is designed, the cathedral is found to be an important example of the genius of Gaudi, who exhibits his player spirit effectively in all his projects.

In Sagra da Familia Cathedral, Gaudi took the risk of forcing structural limits. While solving the load distribution he modeled each of the load carrying elements with ropes and cases of weights and hung the whole system in order to figure out the shape of the structural elements, (Figure 3.17). He reversed the profile and ended up with the static design of the cathedral in which the tension elements started to perform as compression elements. He challenged social obligations, boundaries of

¹⁰³ Johan Huizinga, “Nature and Significance of Play”, Homo Ludens - A Study of the Play-Element in Culture, New York: Beacon Press, 1986, 29.

the site client demands and designed a building to be constructed in a long span of time.

The architect has to solve a puzzle with these various variables in order to end up with a successful design. Like Robin Boyd says, “architecture is the only art that always starts with a puzzle”.¹⁰⁴ Like puzzles, architectural design has a specific piece that has to be combined into a holistic composition by considering design principles, and the necessity to obey the existing site conditions, social and structural values, regulations, and customer requirements creates tension in architectural design process.



Figure 3.16. Sagrada Família, Barcelona¹⁰⁵

¹⁰⁴ R. Boyd, *The Puzzle of Architecture*, Victoria: Melbourn University Press, 1965, 7.

¹⁰⁵ Colonel Frank Seely School, <[http://www.cfshist.co.uk/Sagrada%20Familia%20\(Gaudi\).jpg](http://www.cfshist.co.uk/Sagrada%20Familia%20(Gaudi).jpg)>.



Figure 3.17. Rope & Case Model of Sagra da Familia

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¹⁰⁶ Photographed by Mustafa Üstertuna.

CHAPTER 4

CONCLUSION

After studying the types and characteristics of 'game/play' and understanding its essential qualities, it is possible to conclude that an investigation into the process of architectural design can be based on a comparative analysis between then two domains. In other words 'game/play' can be utilized to discover the different dimensions of different architectural design processes from a detached perspective.

In this respect, it is important to follow certain steps to accomplish this task. First of all, one should analyze game and play with reference to changing definitions; the different types and their properties can than be clarified to form a background for re-reading and understanding the architectural design process. By comparing the two realms within the context of existing similarities and differences in between one can end up with informative, understandable tabular results.

In most of the sources we referred, the word "play" represents the non-organized, primitive self-movement, which occurs spontaneously and improves informally. It is mostly observed as children and animal activity that happens to progress instinctively. On the other hand, the word "game" represents a more structured action defined by rules, space, and time. It has a target; either evolves out of "the desire to win" or aims to "represent life". In both cases one can easily detect the involvement of reason. Hence, within the framework of our study, "game" can be preferred due to its organized structure.

As the second step of the study, the different types of games are reviewed with reference to their basic characteristics. While doing this, the list of characteristic defined by Huizinga and grouping by Groot appeared to be the appropriate tools for utilizing in association with the process of architectural design.

According to Huizinga, game is set by the *rules* and it has an *order*, which determines the self-discipline of the process. At the same time, it starts and ends in a determined *time* period and has a *playground*. It can be repeated many times and it may alter in time without losing its general properties. Despite its pre-determined strict order and constant rules, game has a spirit and each *repetition* is *unique*. It is only the rules and playing strategy that is repeated with different combinations and changing conditions.

Moreover, every game is an *imitation* of something and what lies in the origin of game is the trial of humankind to imitate the world they live in to get used to it. Above all, game is a *voluntary activity* and even in its very organized structure with strict rules the player has many alternatives; s/he has the right to determine the course of game in strategy games, as in the case of chess or the chance to interpret the original in accordance with the existing situation, as in the case of theatre.

Groot examines the characteristics of game into two groups as intangible or social ones and tangible or formal ones. Social characteristics of game are the subjective ones since they are affected by cultural values and technological availabilities in the community. On the other hand, tangible characteristics represent the universal qualities of game. According to Groot 'play ground, time, order, rules, tension, repetition, and alteration' is mentioned under the classification of the tangible characteristics of game.

Throughout its history, game appeared on stage with number of variations due to the presence of number societies, each of which reflecting different traditional and cultural values and the evolution of humankind in time. This situation brings forth the necessity for further categorization to make a comprehensive analysis to clarify the changing attributes among the different types of game in relation to the process of architectural design. Hence the classification by Roger Caillois is employed to determine the diverging and converging properties of each type of game with architectural design.

The categorization by Caillois consists of four groups: "ilinx, alea, mimicry, and agon". These represent the wide range between the primitive end, called *paidia*, and the structured end, *ludus*.

When *ilinx* is analyzed, it can be said that the rules are determined by nature and special apparatus if needed. There is no time limitation, unless specified for some reason, the game may finish whenever the player(s) want. The playground is selected according to the requirements of the act. 'Climbing' can be mentioned as a representative of this type. So it comes out to be the properties of the selected path to determine the rules and tools. It is the feeling of 'excitement' that fascinates the player and the search for 'tension' on the way to reach "the peak". This type constitutes a specific ground to discuss the conditions that force the physical abilities of the player as correlated with *the enforcement of technical limitations* during the process of architectural design.

As the second type, *alea* can be mentioned. Since chance is the dominating factor it is somehow related with the unexpected results. The player can control neither the course nor the outcome of the game. The playground may have a strong effect on the game, as in the case of roulette or the game can be totally free from a specific playground, as in the case of dice games. The players determine to end the game or new players may take over at any instant. In some cases, especially in more organized ones such as poker, the player is free to determine his moves and he tries to guess the counter action of his rival by imitating his/her possible attacks. The game may continue forever on the same basis, on the same playground (the roulette table) with changing players, there is no end for the game but it suggests *alterations*.

The third game type, *mimicry*, involves games which are based on imitation. The humankind as soon as it existed on earth started to imitate things for number of reasons. It came out to be one of the basic instincts to survive. One should have imitated nature to construct, or should have imitated the animals to hunt thus feed him/herself. Kids imitated their parents to carry on the tradition. Finally theatre developed as the most institutionalized and comprehensive example of all the rituals. Time concept in a theatrical act plays an important role for our debate, due to

its multiple interpretations. Although a theatrical piece can be staged in any period, the story belongs to a specific time. On the other hand, it is structured around the limited time periods of acts, hence time becomes an important component for the play. Together with time it is the text, which predetermines the design of the end product. Despite the verses the author put into the mouths of the players it is possible for an actor/actress freely express him/herself using his/her own mimics and gestures. The significance of mimicry, as investigated within the context of architectural design, is that it provides the basis for discussing different degrees of imitation.

Finally it is *agon*, in which order and rules, consequently strategies comes into the scene. Although its most important property is stated as competition by Caillois, one should note that universality should also be underlined especially if it is going to be referred in relation to architectural design. The rules are accepted and followed by players all around the world without the need for a common language. It is the play itself to provide the possibility of communication. However there is also room for improving the gaming strategies by means of introducing a variety of tactics. The playground is defined and well organized and is an inseparable part of the game, together with the constant rules determines the homogenous background. Although the restrictive nature of game that seems to offer no freedom at the first glance, parallel to the capacity of the player number of variations can be achieved. It is similar to the power of the fundamental principles of design, those that can universally be recognized no matter where and/or how they are employed.

The different types of games, their properties and general characteristics of play/game discussed so far can be summarized in a table (Table 4.1), and departing from this table, the differences between the main characteristics of different game types can be clarified. This table can also bring us to the conclusion that architectural design process involves both common and different properties as compared to different game types. On the occasion of highlighting these similarities on Table 4.1, it is possible to obtain another table (Table 4.2) which constitutes a backbone for our investigation. The highlighted issues can be commented in an other table (Table 4.3) as discussed in details in Chapter III, help us to understand the architectural design process from the detached perspective.

Table 4.1. Game Characteristics Analyzed within the Frame of Game Types

CHARACTERISTICS OF GAME	TYPES OF GAMES				
		ILINX	MIMICRY	ALEA	AGON
	Freedom	alternative of playgrounds	interpretation of play	chose of action	chose of action
	Imitation	tools as the imitations of environmental habitants that make reaching the purpose easier	imitation of life	imitation of the rival in order to guess his counter actions	imitation of the rival in order to guess his counter actions
	Repetition	repetition of process using different order but same tools / repetition of defined action	repetition of process using same order	repetition of process using same order	repetition of process using same order & repetition of movement types of stones
	Alteration	each of game alters according to different playground	alteration of playground, each game has its own special playground / same game can be modified or adjusted in other time	game allows alteration with respect to protect the chance factor in game	alteration of play stone types
	Continuity	action of game	game can be altered and changed with respect to main order of game so it can continue its existence in time	non-defined time limitation of game	non-defined time limitation of game; game continues till the last attack is played
	Playground	playground that effects the order of game in its process	defined playground constructed before according to order of game	isolated game, playground is not important in the game	defined playground that effects the order of game
	Order and rules	order is a strategy that is defined by conditions of playground and rules are the results of them	defined order that is repeated each game	defined order that is repeated each game	defined order that is repeated each game
	Time	non-defined time limitation; game continues till reaching the purpose	time is one of the most important characteristics that effect the order of game / time limitation as division as one or more acts in its order	time limitation defined by players or score.	defined time limitation in game
Tension	Conditions force the physical abilities and technical limits that force the design.	tension between the characters and their rejoinders or subject of game	tension that is caused by unknown possibilities which are results of chance and winning is left to fate	necessity to obey the order and rules / unpredictability of other player's attack	

Table 4. 2 Similarities of Architectural Design Process with Game Types and Characteristics

CHARACTERISTICS OF GAME	TYPES OF GAMES				
		ILINX	MIMICRY	ALEA	AGON
	Freedom	alternative of playgrounds	interpretation of play	chose of action	chose of action
	Imitation	tools as the imitations of environmental habitants that make reaching the purpose easier	imitation of life	imitation of the rival in order to guess his counter actions	imitation of the rival in order to guess his counter actions
	Repetition	repetition of process using different order but same tools / repetition of defined action	repetition of process using same order	repetition of process using same order	repetition of process using same order & repetition of movement types of stones
	Alteration	each of game alters according to different playground	alteration of playground, each game has its own special playground / same game can be modified or adjusted in other time	game allows alteration with respect to protect the chance factor in game	alteration of play stone types
	Continuity	action of game	game can be altered and changed with respect to main order of game so it can continue its existence in time	non-defined time limitation of game	non-defined time limitation of game; game continues till the last attack is played
	Playground	playground that effects the order of game in its process	defined playground constructed before according to order of game	isolated game, playground is not important in the game	defined playground that effects the order of game
	Order and rules	order is a strategy that is defined by conditions of playground and rules are the results of them	defined order that is repeated each game	defined order that is repeated each game	defined order that is repeated each game
	Time	non-defined time limitation; game continues till reaching the purpose	time is one of the most important characteristics that effect the order of game / time limitation as division as one or more acts in its order	time limitation defined by players or score.	defined time limitation in game
Tension	Conditions force the physical abilities and technical limits that force the design.	tension between the characters and their rejoinders or subject of game	tension that is caused by unknown possibilities which are results of chance and winning is left to fate	necessity to obey the order and rules / unpredictability of other player's attack	

Table 4. 3 Similarities and Differences of Architecture and Game

GAME CHR.	DIFFERENCES		SIMILARITIES	
	ARCHITECTURE	GAME	ARCHITECTURE	GAME
Freedom	necessity of dwell	free will	choose of possibilities	choose of possibilities
Imitation			imitation of life & env.	imitation of life
			imitation of possibilities in future to guess the needs	imitation of possibilities in future to guess the attack of rival
Repetition			repetition of process using same order	repetition of process using same order
			repetition of architectural elements	repetition of inner parts or movements of stones
Alteration & Continuity		alteration playstone's types/styles		
	continuity appears as contribution to existing building - the same game is played for centuries	continuity appears as the repetition of a game by different players - the same game is repeated for centuries		
Playground	non-organized place for design at the beginning	organized playground for game and it is one of the active character effects the order of process / board games	isolated place from the order of design during process / modernist architecture; one single building for all climate and for all place	isolated game that playground is not important to play / alea - card games
			place that effects the order of design in its process / Stan Allen, Shadrac Woods	playground that effects the order of game in its process / ilinx - climbing
Order & Rules	rules are flexible can change according to designer	rules are constant if any broken game is over	defined order that repeated in each design process / architectural styles	defined order that repeated each game
	existing rules and previous orders (social structures, traditions, laws, environmental conditions) effect the design /	existing games or previous games does not effect the other games		
Time			defined time limitation in individual design steps during the process	defined time limitation in game / basketball, competitive games
			non-defined time limitation of design process continues till last stone is settled and composition is completed / open - ended	non-defined time limitation of game; game continues till the last attack is played
Tension			necessity to obey the existing site conditions, social and structural values, regulations, and customer requirements	necessity to obey the order and rules
			Quality concerns and desire of the architect to force the limits	conditions forces the physical abilities and technical limits that force the design.

Despite all the limitations, rules, and strict orders, each game is *unique*; even every repetition of the same game is different. Although the strict order and rules define the main frame of architectural work, architecture has always the luxury of 'being yourself' and it gives the opportunity to the architects to show their own creativity in their designs. Moreover, this 'freedom' transforms architecture into a self-expression game, which can be played in infinite ways by different players.

Freedom during the processes of game and design may seem to be similar, however the degree of freedom, on the occasion of deciding to start, changes. One decides freely to begin playing but s/he may not be that free to start making a project. It is the need for dwelling that forces people to build and consequently the architects to design. Besides this compulsory reason to start designing there are conditions and requirements the architect has to obey. S/he is free during the process of design; free to create any form and/or choose any type of structural system but there are always limitations due to the environmental conditions and requirements of the customers.

One of the most important properties of game/play, *imitation* can be mentioned due to its similarity with architectural design. First of all they both imitate life. The players, in theatre, create characters being inspired by already existing personalities or in the field of architecture it is the former experience in design activity to be imitated. In both cases nothing is exactly the same with the 'imitated'; there is always room for interpretation.

In games categorized as agon, like chess, imitation can be understood as "putting yourself in somebody else's shoes" to guess the probable moves of the rival. It is also possible to imagine the architect imitating the user. By way of doing this s/he may have the chance of figuring out the requirements and responses of the client.

Repetition, as another property of play/game, can be examined with reference to architectural design from two different points: the repetition of the design method by the architect and repetition of certain elements throughout the design.

Any game can be played by different players using different strategies. But a player may have the tendency to repeat the same tactics in all his/her games. Benefiting from the former experience can be considered as a step on the way to win. Similarly an architect may prefer to repeat already tried set of circumstances and may result with the style of the designer developed in time. This reflects his/her approach to create and materialize. The style then may become the thing that becomes a part of his/her identity and represented in his/her works. Although each architectural design process and its product are independent of and different from each other, the design process and the design involve designer's marks, which make us to distinguish the creator.

Besides this, repetition can be observed in the use of certain elements. These may be structural modules as well, like refrain in game. In this method while local relations between objects are constant, the structural typology is repeated at larger scale and it is conserved.

It is possible to introduce the concepts of *continuity and alteration* to further our comparison. As mentioned before certain type of games, especially those that are classified as *alea* may continue with changing players. It depends on how you intent to interpret. This is also valid when the architectural design process is defined as such.

Design is a continuous process that starts with the initial sketches of a building and built environment followed by the development of the project, and it continues during the process of construction and progresses with modifications and alterations in time. Although in most of the cases design process may seem to end as construction starts, it is just the involvement of the initial designer, which comes to an end. Due to the changing life styles and environmental conditions, it may come out to be a necessity to restructure, modify, and/or enlarge the existing building. As a matter of fact a process of restructuring, consequently involvement of new designers may come into the scene.

Although the transformation of structures as a result of further demands was not

initially accepted as a part of the architectural design process, *alteration* concept had become significant during the design discussions in 1960s. The alteration idea brought the flexibility and open-ended field concepts into architectural design process and was described by different architects with several words such as “renovation”, “open-endedness” and “non-planning”.

On the other hand, alteration in architecture may also be compared to alteration in games classified as mimicry. Such types of games, with their basic characteristics enable variations in time without losing their identities and free from their origination place and period. Any play character continues to keep his/her identity and spirit throughout generations even though the players, stages and costumes differ in time. Or the strategy games are being played since centuries following the same rules; the alteration lies in the changing configuration of the stones on the chessboard rather than their defined moves.

A very specific property to be investigated is the presence or absence of a *playground*. It is either an unavoidable component or does not exist at all. In both cases playground as a concept offers a fertile ground to discuss the similar or different situation in the field of architecture. It is important to note that playground can either be compared to the medium of production or to the site on which the building is going to be designed, depending on the different stages of the whole process.

At the beginning of the architectural design process there is no imposed or manufactured playground. The architect is free to decide the “playground/production medium” on which s/he is going to start playing. The properties of this playground affect the order and structure of the “design game”, as long as the architect lets. Increasing or decreasing the level of this effect, again, depends on the designer. The architect can either deny the playground/medium and form an independent game or can include the properties of the field into his/her design. To be more specific we can say that an architect working with any computer program may either benefit from the advantages of this tool or just use it as a device for presentation. Similarly in game types *ilinx* and *alea*, you can play wherever you want with or without taking the environmental conditions into consideration. It depends on the

climber to take the assets of the climbing path into consideration or just run in full speed towards the peak.

When playground is investigated with reference to the further stages of architectural design process, it comes out to be “the construction site” without which any project can be realized. Similarly it is not easy to ignore the playground in game types mimicry and agon. Although there are exceptional cases, in general neither the chessboard nor the theatre setting can be disregarded. In both cases, one starts playing/designing with a predetermined site/playground. However it is also possible to neglect the influence of the playground if the other conditions are more dominant and if the playground is present just to define the boundaries.

In type of architectural design, which presupposes the elimination of the fields' conditions, one can find a resemblance with the type of games that has the playground just for the sake of organization. If the situation is as such the existing conditions of the field/site are totally disregarded and the architect creates a special playground to construct his/her own design.

Finally, although the design approach in which the designer takes the field and its properties into consideration and the game types, like climbing, in which players develop their strategies according to the conditions of the playground, can be seen as similar to each other, they may differ in the degree of freedom to choose the field. Player is free to choose a playground which he wants to play on it but architect generally has not chance to choose the field which s/he designs on.

When the *order and rules* in a game are concerned, the very basic property that matches with that of architectural design is universality. It is possible to mention a universal language for both. One can play chess with someone from the other side of the world without knowing even one word of his/her rival's language. Similarly a designer can immediately understand the symmetrical organization without looking at any dictionary of any language.

The order and its formation in architectural design process starts with the imitation of

the design environment in the light of background knowledge by the architect. This way, the architect combines and filters the references from the environment, the client requirements and his/her design needs and ideas and reaches perfection. While this perfect structure is being formed, the architect benefits from the basic principles of design based on human perception. These principles are tools to achieve unity however they are enhanced by concern for the environmental conditions, client's requests, and creativity of the architect. In this sense, architectural design process differs from games of which the orders and rules cannot be changed. There is one way to move the bishop, it cannot move like a queen. However in architectural design there are number of ways to configure the elements, the rules are not as strict as they are in a game. As long as unity is achieved an architect has the chance to select among the fundamental principles of design. On the other hand, we may as well mention the rules and regulations defined by laws to be obeyed with no exception and conditions to be satisfied in terms of engineering. These are the order and rules for architectural design that can be matched with the game type *agon*, which has strict order, however there is always room for forcing the limits.

Lastly, the necessity to obey the existing site conditions, social and structural values, regulations, customers' requirements and time limitations create the *tension* during the process of architectural design. Forcing the available technologies and design capabilities in order to create what has never been done before is one of the ways to incorporate tension.

Architectural design process was investigated from a different perspective using game and its basic characteristics as the tools. Within this framework, we tried to search for possible answers to questions that may help us to determine:

- How the architect may have the luxury of being him/herself despite all limitations and obligations. This can be explained with the concept of *freedom* within the context of game,
- How an architectural design approach can be based on the continuous use

of constant attributes may transform into a design method, and consequently how using an architectural module can create the texture of the product. This can be explained with the concept of *repetition* within the context of game,

- How the building changes within a wide range of time can be observed with reference to the concept of *alteration* within the context of game,
- How the *order & rules* in game and in architectural design can be compared to one another. It comes out to be the 'universal language' of both which is the common attribute,
- How the technical limits can be forced by the architect to achieve his/her desires. This can be the concept of *tension* to be referred within the context of game.

In addition to all these questions, we can conclude that it is possible to group number of buildings, which may seem to be inappropriate to categorize under the same heading in any other sort of classification, by the help of a common dominator, game.

Moreover, within the framework of thesis study, architectural design process should not be compared to just one of the game types, it is a combination of many types, steps and characteristics of game, while performing this rereading, not only the game characteristics, but mostly their interpretations within the game types can be benefited from.

In this respect, field of design and site properties analysis can be matched with *ilinx*, repetition, time and freedom in architectural design process can be matched with *agon*, imitation in architectural design process is similar to mimicry, order and rules is similar to *agon* and *alea* and tension factor in architectural design process can also be matched with *ilinx*, *alea* and *agon* types of games. At the same time, alteration & continuity, field, and order & rules can also differ from *agon* type of

game in architectural design process in some cases. For instance, in chess game, alteration can only be observed as variety of play stone types such as king as be model of real king or as be classical type, the alteration of order or rules in time is not acceptable. On the other hand, each architectural design process creates its own order and rules by using constant values or design elements.

Besides the similarity between freedom and agon the necessity to dwell in architectural design process makes the difference between design and game whose essence or in other words reason is only itself.

At the end of this thesis we can say that an investigation into the field of play/game puts forth the possibility of making number of studies referring to different dimensions both in the field of architectural design and any other field that requires creativity. An example, in this respect, can be a further investigation within the framework of urban fabric. Especially historical traditional urban contexts, that deposit all information on transformations of architectural design processes throughout history, accommodate the evidences of different design games and the civilizations that had played them. The analysis of these fabrics within the framework of main characteristics of game, such as architectural organization of cities as an order, architectural typologies as rules and their fabrics as playground, can result the fabrics be perceived as an entity with their physical, social and economical structures.

Moreover, this analysis provides continuity to the designs so that additional new design parts can be introduced into the historical districts as the latest part in the evolution of the game.

As the closing remark of this study, I personally would like to confess that I enjoyed playing a game and realized that I am at the paidia stage of the whole categorization.

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