FUNDAMENTALS OF ARCHITECTURAL DESIGN
IN COMPARISON TO
FILMMAKING

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ABSTRACT

**FUNDAMENTALS OF ARCHITECTURAL DESIGN
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The relation between architecture and cinema has begun with the first steps of the technology of moving images at the beginning of the 20th century and it has continued progressively until now by importing various intellectual, representational, and practical devices from each other in order to reconfigure their own systems of knowledge. In this investigation, the fundamental elements of architectural design and principles of their organization are used in the field of cinema as a methodological tool to analyze the compositional features of narrative, mise-en scene and editing/montage. First of all, the end products of both domains are conceived as a form of composition, and in this respect, the compatibility of their design dynamics is examined. Secondly, the fundamental design elements and principles of both architecture and cinema are defined. Finally, in order to redefine the design process of a film and to reveal the existence of fundamental principles of architectural design in the process of filmmaking, a comprehensive and comparative analysis is made between the two fields.

Keywords: Fundamental elements of architectural design, fundamental principles of architectural design, composition, organization, order, form, narrative, mise-en scene, editing, montage, film form.

ÖZ

MİMARİ TASARIM TEMELLERİNİN
FİLM YAPIMI İLE KARŞILAŞTIRILMASI

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Mimarlık ve sinema arasındaki ilişki, 20. yüzyılın başlarında oluşan hareketli görüntü teknolojisinin ilk adımları ile başlamış ve kendi bilgi sistemlerini yeniden şekillendirmek amacıyla zihinsel, anlatımsal ve pratik kullanıma yönelik araçları birbirlerinden alarak bugüne kadar gelişerek devam etmiştir. Bu araştırmada, mimari tasarımın temel elemanları ve onların örgütlenme prensipleri, sinema alanı içerisinde öykülemenin, mizansenin ve kurgunun düzensel özelliklerini analiz etmek amacıyla yöntembilimsel bir araç olarak kullanılmaktadır. Öncelikle, her iki alanın sonuç ürünleri bir kompozisyon formu olarak ele alınmakta ve bu bağlamda tasarım dinamiklerinin uyumluluğu incelenmektedir. İkincil olarak, hem mimari hem de sinemasal tasarımın temel tasarım elemanları ve prensipleri tanımlanmaktadır. Son olaraksa, filmin tasarım sürecinin yeniden tanımlanması ve mimari tasarım temel prensiplerinin film yapım sürecindeki varlığının ortaya çıkartılması amacıyla, her iki alan arasında kapsamlı ve karşılaştırmalı bir analiz yapılmaktadır.

Anahtar Kelimeler: Mimari tasarımın temel elemanları, mimari tasarımın temel prensipleri, kompozisyon, organizasyon, düzen, biçim, öyküleme, mizansen, kurgu, montaj, film biçimi.

To My Family

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TABLE OF CONTENTS

CHAPTERS

LIST OF FIGURES

FIGURE

LIST OF TABLES

TABLE

CHAPTER 1

INTRODUCTION

This study will examine the fundamental elements of architectural design and its principles in the field of cinema as a methodological tool to construct an analysis in the composition of narrative, mise-en scene and editing / montage process. The first one, narrative is literally 'a unifying idea that is recurrent in a literary or artistic work' which involves the organization of the story-based components in order to narrate an idea, a feeling or a concept. It is the structure of the ideas. The latter one, mise-en scene can be defined as 'putting in the scene' and it covers the arrangement of the scenery such as the direction of actors, placement of cameras, design of the set, etc. It may be summed up as 'the arrangement of space; it is the design of the frame'. Departing from designing 'within' the frame, there is also one more point to be considered throughout this study, which is to design the sequences of frames in the means of editing / montage. Referring to the third element, editing / montage can simply be defined as assembly; the act of constructing something, putting together or editing. It is a method by which an editor may create different narrations by taking and combining two pieces of film tapes to emphasize their meaning and making them a part of a whole composition.

When composition is explained as designing the elements in an orderly arrangement to obtain an interconnected artistic totality, the milestones of an architectural composition named as "the fundamental principles of architectural

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design can be recognized as a common ground to construct a prolific debate on any artistic product and/or its process of production."[1] Consequently, the seventh art cinema can also be summarized as the composition of space and time, in other words, it is the orderly arrangement of space and time in which the narration is obtained by selecting, arranging and rendering of elements on the visual field with an intended sense of cinematic meaning.

While meeting cinema as a discourse through another discursive experience, architecture, the potential of the fundamental principles of architectural design in bringing spaces and functions together to form a unified whole and assembling materials and elements into a reasonable arrangement will be considered as a tool in order to compose the conceptual and formal infrastructures of a film in three processes, narrative, mise en scene and editing / montage.

1.1   Relationships: Architecture and Cinema

In order to determine the thesis's framework and point out how the focal point of this study differentiates from other studies on architecture and cinema, it is important to inform generally about the most common shared fields in relation between two fields which began in 1895 and has turned into an interaction since 1980s. The relationship between architecture and cinema had begun with the first steps of the moving image at the beginning of the 20th century. "They have been deemed inseparable ever since the Lumiere brothers' first experimental films in

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1 Aytaç-Dural, Tuğyan; 2006. "When Film Follows Form: Cinema as Composition", Design and Cinema: Form Follows Film, editor(s): Belkis Uluoglu, Ayhan Ensici, Ali Vatansever, p.122, Cambridge Scholars Press.

the late eighteen hundreds capturing everyday events and images of the city."[2] The impacts of such cooperation had been seen especially in the 20s and 30s when architects were examining the potential influence of moving pictures on spectators to promote the 'Modern' movement.

This cooperation has growth improvably until now not only in the contribution of the progress of different thoughts, beliefs, and visions belonging to different decades of this century, but also in the use of representation techniques of cinema for the construction of architect's sphere of imagination. It was really a long interactive evolution for both fields.

Throughout this progression, the world of architecture and cinema have reinforced their junction by learning various intellectual, representational, and practical devices from each other in order to reconfigure their own systems of knowledge. "Although cinema and architecture are distant arts, dynamic and static respectively; their complex relationship gives life to each other. Sharing a mutual respect for the parallel processes involved in producing their works, the creators behind these two expressions have an understanding that one will always benefit the other."[3] Therefore, several parallel and similar points have been discovered in the design and production processes of architecture and film by using whom one has looked through the other in order to find a field of study dealing with similar subjects, or similar concepts.

Especially, the representation quality of cinema in the reformulation of life over a planar white surface has been used for the presentation of architecture both in the design process and the documentation of a building. In order to reinforce the statement that both disciplines have been learning from each other, Francois

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2 Webb, Michael; 1987. "The City in Film", Design Quarterly, vol.136, p. 05.

3 Grigor, Murray; 1994. "Space in Time: Filming Architecture", Profile: Architecture and Film, ed. M. Toy, Architectural Design, Vol. 64, No.11/12, pp. 17-21 , Academy Editions, London.

Penz brings together cinema and architecture on this sort of a common ground dealing with representation and illusion. He claims:

> Architects can certainly learn from the filmmaker's ability to represent and move through spaces. They can also learn from the craft and aesthetic of studio-made features where filmmakers have brought a particular vision to bear upon the sets and the architecture in which the actors move. Architects may benefit to understand that their three-dimensional representations are a 'natural set' for the exploration of spaces in movement, which may help to look at one's work in a less static way. Similarly, the modes of representation used by architecture students, as mentioned above, using drawings, physical models and more particularly computer animations, may constitute an interesting starting point for the film industry".[4]

It is seen that in the process of visualization of the unrealized buildings, the work and the working practices of the architects can benefit from the cinematographic abilities. In addition to representation techniques, the techniques of cinematic language such as editing / montage, framing, illusion, movement-image, cut, scene and lighting have also been used for the demands of architecture as the elements of design due to their dialectical relationships to the tectonics of a building. In order to discuss such possibility, Jean Nouvel, saying that the technique of a film has been influential on his projects, suggests a critical approach to architectural design. According to him, the visual-imaginative revelations made by film directors are as something that architects do themselves in designing their buildings:

> Architecture exists, like cinema, in the dimension of time and movement. One conceives and reads a building in terms of sequences. To erect a building is to predict and seek effects of contrast and linkage through

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4 Penz, Francois; 1994. "Cinema and Architecture; Overlaps and Counterpoints: Studio-Made Features in the Film Industry and Studio-Based Experiments in Architectural Education", Profile: Architecture and Film, ed. M. Toy, Architectural Design, Vol. 64, No.11/12, p. 41, Academy Editions, London.

which one passes ... In the continuous shot/sequence that a building is, the architect works with cuts and edits, framings and openings … I like to work with a depth of field, reading space in terms of its thickness. Hence the superimposition of different screens, planes legible from obligatory points of passage which are to be found in all my buildings …[5]

In addition to Jean Nouvel superimposed design process, Bernard Tschumi has developed new architectural strategies and has attempted to enlarge the limits of architecture by "importing" ideas from the field of cinema to his works as in "Park de La Villette Project" (1992). In this project, (figure 1.1) the promenade of gardens is designed as a "film strip" dealing with the Eisenstein's strategy about the vertical and horizontal configurations of "shots". The main concern of this project can be found in the use of the potential of editing / montage in the field of architecture, not only as a design principle but also as the basis of perception and experience of space. Tschumi states that La Villette substitutes an idea comparable to editing / montage since being a precise set of architectonic, spatial or programmatic transformations in the perception of the contiguity and superimpositions of cinegrams; and he points out his design strategy derived from the Eisenstein's editing / montage theory as such:

> Just as architects were looking at the history of architecture for a starting point for their work, I was inclined to look at the theory of film as a starting point. I was quite fascinated by editing / montage theory that is how you assemble to create certain effects, like Eisenstein's "editing / montage of attractions". In other words, looking at cinema as other people were looking at paintings, and trying to derive architectural concepts. Later, after La Villette, I understood the strength and the limits of those analogies.[6]

5 Nouvel, Jean cited in Rattenbury, Kester; 1994. "Echo and Narcissus", Profile: Architecture and Film, ed. M. Toy, Architectural Design, Vol. 64, No.11/12, p. 35, Academy Editions, London.

6 Ran, Ami. Montage of Attractions – Interview with Architect Bernard Tschumi, Architecture of Israel, www.aiq.co.il/pages/EnglishArticle.asp?id=88, September 2006 (last accessed).
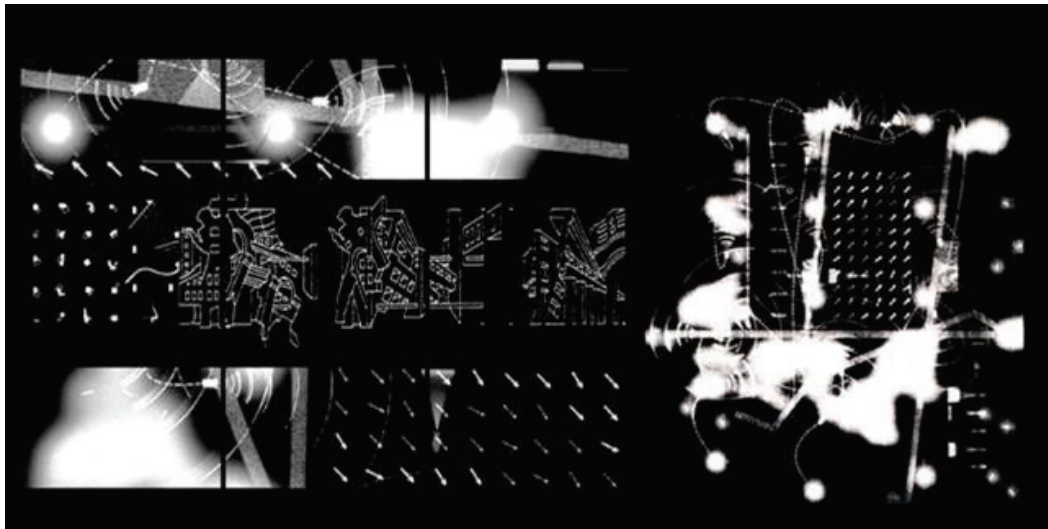
Figure 1.1 a graphic analysis of Bernard Tschumi's La Villette Project
(Source: Donald, James; 1999. Imagining the Modern City, Athlone Press, London.)

These juxtapositions between the contemporary architecture and cinema provide more clues not only as to the way we experience our surrounding but also to scan the general statements of contemporary architecture and cinema in relation. In general, architecture gives film its believability; setting the mood, character, time and space for the action while inextricably providing sequential cues – the temporal unity of a scene shot at different times, in different locations and from different camera angles. Meanwhile, film provides architecture with an outlet for realizing visions that can never exist and conjures up experiences that in reality have not occurred.

1.2   "Film as Composition" [7]

As seen above, the use of cinema as a representative tool for architecture and the application of its techniques in the hands of an architect to formulate a new design process constitute most of the ways penetrating from the field of cinema to the field of architecture. On the other hand, the effects of architecture on cinema have been structured with a shallow agreement that architecture is just a setting and a lived stage for cinema. Most of the time, these assumptions have limited the attempts transferring the ability that is developed in one medium into another one. To uncover a new interaction point between cinema and architecture, this study will focus on a general concept at the intersection of architecture and cinema offering a framework with a critical approach into the subject of "composition". It will discuss the importance of the fundamental organizing elements of architectural design and their compositional principles in cinematic organization from the view point of an architect.

7 This heading has been used before by Tuğyan Aytaç-Dural in her presentation at the Second Design and Cinema Conference (titled as Design and Cinema: Form Follows Film), held on 6-9 April 2005, ITU, Istanbul.

Departing from the statement that film is the most pertinent visual art which architecture can relate to, Diana Agrest argues on the inactive position of the architecture in films. She proposes that "the implications of the relationship between film and architecture are more complex than the usual assumption that architecture is merely a background or formal support for a film's content. Architectural form relates now to the form of film as one text to another, in terms of a structure composed of so many languages – or rather, fragments of languages – organized in time and through space".[8]

Architectural product can be defined as "the final shape of the edifice plus visual qualities like size, color, texture, position, orientation and visual inertia articulating the sense of three dimensional mass or volume."[9] It can also be defined in terms of solids and voids including the interior and exterior as "the manner of arranging and coordinating the elements and parts of a composition so as to produce a coherent image".[10] Composition, defined as the orderly arrangement of elements, enables the organization to be the final product of architectural design. In Francis Ching's terms, architectural product is the "formal image" and "spatial definition" of an architectural program composed with respect to the fundamental principles of architectural design.

Meanwhile, such statements are also valid for cinema due to the fact that organizing the elements of a composition is not only the main subject of architecture, but also it embodies itself in the field of cinema and it affects the perceptional and evolutional criteria of the cinematic experience. It shapes the basics of design in cinema and its effective use in filmic composition has the

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8 Agrest, Diana; 2000. "Representation as Articulation between Theory and Practice", Practice: Architecture, Technique and Representation, essays by Stan Allen, postscript by Diana Agrest, p. 174-175, Routledge, London.

9 Ching, Francis; 1996. "Architecture: Form, Space and Order", Second Edition, VNR Book, John Willey&Sons, USA, 1996, pp. 34-35.

10 Ibid, p. 34.

potential to differentiate the narration and hence the film. In means of composition, the object of cinema and the object of architecture can be pointed out as to display similar qualifications and share similar ordering principles as well. Therefore, it can be claimed that the fundamental principles of architectural design can be operated in both cases. In this respect, Aytaç-Dural confirms the advantage of employing the fundamental principles of architectural design that they offer a universal system of comprehension due to the fact that they can be discussed on a conceptual basis.

As long as the fundamental elements of both architecture and cinema are accepted to have similar ordering principles, it can be stated that the configuration of this sort of elements, both in architectural design and cinema, enables the organization of a number of things with an underlying scheme. "In the case of architecture it is the spaces to be organized with respect to their properties, whereas in cinema organization of images comes into the scene. In both cases rendering of elements and their orchestration requires an underlying system of rules to integrate all sorts of complex relations into a unified whole; the final form of a building or a film owes its quality to the designer(s)'concern for this."[11] Consequently, the fundamental elements and principles of architectural design which formulate the needed structure of an integrated entity can be recognized as a methodological tool to construct a new interactive point between cinema and architecture.

The conventional analysis of a film leads us only to the formal process of images. Whereas, in moving pictures, we speak about an orderly synthesis of three counterparts – the descriptive counterpart of the narrative, the spatial counterpart of the mise en scene and the consolidative counterpart of the editing / montage process. Bryan Singer, the director of 'Usual Suspects', 'Apt People'

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11 Aytaç-Dural, Tuğyan; 2006. "When Film Follows Form: Cinema as Composition", Design and Cinema: Form Follows Film, editor(s): Belkis Uluoglu, Ayhan Ensici, Ali Vatansever, p.122, Cambridge Scholars Press.

and 'X-Men', has stated about the formal process that "a film is designed three times in production; at first on paper, second at the set and third in the editing/montage room."[12]   In a parallel manner, James Monaco defines three areas operating in the design of film such as "what to shoot" which is narrative; "how to shoot" which is mise-en scene and "how to present the shot" which is editing/montage. In other words, it can be stated that "filmic composition is constructed on a narrative by the involvement of shot distance, angles, point of view, movement and positioning of camera together with the arrangement of the shots, producing encounters and establishing visual relationships."[13] Therefore, in this study, the production process of a film will be considered as the combination of three subparts; narrative, mise en scene and editing / montage.

Narrative can be defined as the abstract concept of the scenario that narrates an idea, a feeling or a concept by organizing a number of components which construct the whole story. It is the fundamental element of the scenario. Although it can hardly give clue about the full image of the film, the narration, which is a type of filmic organization in which the parts relate to each other, grows on a story. In the further steps, narrative follows a progressive way such as synopsis, treatment and scenario, which can be defined as the recorded narrative tools. All the events are directly presented in the film according to the narrative tools, including their causal relations, chronological order, duration, frequency, character analysis and spatial locations.

In order to tell a story, a film behaves like a composition, structuring a large amount of heterogeneous information flowing from different channels. Designing a film usually begins with identifying these channels and sources of information in order to assess their individual contribution to the filmic

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12 Şenyapılı, Önder; 1998. "Kurgu, Montaj (Editing,Cutting)", Bir Yığın İletişim Aracı Olarak Sinema: Sinema ve Tasrım,p.183, Boyut Yayınları

13 Monaco, James; 1981. "How to Read a Film: The Art, Technology, Language, History and Theory of Film and Media", p. 148, Oxford University Press, New York.

composition. The order, duration, and setting of those events, as well as the relation between them, all constitute the elements of this composition.

Narrative is the conceptual process of a film and it builds up the initial steps of the design. It is limited only the boundaries of imaginary world. Whereas, the following phase, mise-en scene, is constructed by the organization of the materials within the limits of the frame. In this stage, the composition is obtained by the frame of the screen which functions as the canvas of the moving image. Meanwhile, it is stated that the cinematic space is a three dimensional imaginary space in which the action takes place. In fact the image in itself is two dimensional, like a painting, which shows only what is in the frame. But unlike painting, films are temporal as well as spatial and the cinematic space contains at once what is in the frame as well as what is out of it. Therefore, mise-en-scène which is a French theatrical term refers to the staging and composing / arranging the materials inside and outside the frame, also taking into consideration the type of shots, the camera angles, the set and the photography. It is the composition of all the elements placed in front of the camera to be photographed, that is, part of the cinematic process that take place on the set. It includes the settings and props, lighting, costumes and make-up, and figure behavior.

Mise-en scene, the representation of the elements within the frame affects the reading of a film, as well as narrative. Depth, proximity, size and proportions of the places and objects in a frame can be manipulated through compositional principles. To analyze the mise-en-scène of a given shot, in other words the compositional quality of a frame, one can consider the following elements: the lighting, the kind of shot, the camera angle, color, framing, close or open forms, the harmony, the depth, the set, and the placement of the characters.

After the process of mise-en scene, editing, which is one of the most important technique of cinema, constitutes the last step of the filmic design. It is the selection and ordering of shots to create a narrative structure that communicates

ideas, feelings or attitudes. It fulfills the needs of the editor by putting the film together in an order and effects the narration by "cutting" and "continuity". The rhythm of a film can also be created by the frequency of cuts. Many short cuts quicken the rhythm of a film while long takes and fewer cuts slow it down.

In English, the ideological function of editing is called montage. It is an approach to editing developed by the Soviet filmmakers of the 1920s such as Pudovkin, Vertov and Eisenstein; it emphasizes dynamic, often discontinuous relationships between shots and the juxtaposition of images to create ideas not present in either shot by itself. It also creates the juxtaposition of different shots viewed together having a conceptual connection which can be ideological, symbolic or ironic. In this study, the slight difference in the meanings of montage and editing will be ignored and the terms montage or editing will be used as synonyms to each other.

Editing / montage not only include the technique that governs the relationship among shots, but it also enables the task of establishing relations between color, sound and music of the film. The interrelation between these elements may also be used for emphasizing the narration and formulating new ways of cinematographic expression.

In these three production processes, narrative, mise-en scene and editing / montage, the impacts of organizational arrangements can be found in the structure of a film in order to manage and analyze the conditions that make us consider the film as a composition. The fact that any composition whatever the type is requires an underlying system of rules to integrate all sorts of complex relations into a unified whole by the orchestration of different elements, can also be achieved by the examination of the fundamentals of architectural design in the field of cinema.

In the following chapters, the effects of fundamental elements and principles of architectural design on the compositional quality of a film form will be investigated over the three phases of the film production, and the inferences of this study will be used to answer the question of whether such design principles can be used as a comparative point for analyzing the process of filmmaking.

CHAPTER 2

TOWARDS A NEW COMPARISON
BETWEEN ARCHITECTURE AND CINEMA

In this part, the question of whether the fundamental principles of architectural design do exist in the process of film making will be examined. It is not attempted here to explore all approaches to the design fundamentals. Instead, concentration on the use of architectural basic design principles in the field of cinema as an exploring tool to reveal the inner dynamics of a filmic composition is aimed. The approach here will be interdisciplinary about film, with help from the basics of architectural design. Conceptual, visual, topological and organizational elements of both fields will be examined, compared and new possibilities interactive analysis will be studied.

2.1   The Dynamics of Architectural Design:

The act of creating architecture is a kind of design process in which the arrangement and the organization of architectural elements are promoted in order to solve a spatial problem in response to conditions of function, purpose, form and context. According to the usual meaning of the word, "architecture is the art of constructing, ordering and ornamenting buildings in conformity and

practicality with plans drawn beforehand."[1] Not only does architecture provide a physical shelter protecting us from environmental conditions, it also creates an orderly arranged framework for our activities by expressing symbolic or ethical values. In lessons of "Scenic Architecture", Allsop proposes architecture as such:

> Architecture does provide the scenery for our lives, and scenery affects the way we live… It helps to create an atmosphere. It may be respectful or frenetic, cowed or complaisant, but what architects design does affect the way people can live and feel. [2]

Moreover, Beatriz Colomina describes architecture as the creation of spaces intentionally taking into consideration the perception and movement of the habitant. For Colomina, "Architecture is not simply a platform that accommodates the viewing subjects. It is a viewing mechanism that produces the subject. It precedes and frames its occupant."[3]

Also, in Francis Ching's terms, architecture can be described as an apparatus to solve the problems of spatial configuration on the realm of architectural order by articulating the elements of design vocabulary which consists of the basic elements of architectural form and space. Architecture is the most well-known field to study and celebrate space evolving out of such architectural order and its principles. Ching states that "architectural order is created when these elements and systems, as constituent parts, make visible the relationships among

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1 Gilson, Etienne; 1966. "Architecture", Forms and Substances in the Arts, p.39, Charles Scribner's Son, New York.

2 Allsopp, Bruce;1997. "Scenic Architecture", Modern Theory of Architecture, p.25, London, Boston, Routledge&K.Paul.

3 Colomina, Beatriz;1992. "The Split Wall Domestic Voyeurism", Sexuality and Space, p.83.

themselves and building as a whole. When their relationships are perceived as contributing to the singular nature of the whole, then a conceptual order exists."[4]

Therefore, architecture can be defined as being primarily a matter of ingenious organization of spaces in effective use, which has been based upon certain principles of order. Order, which is the proportioning of elements in their perfect expression of beauty and harmony, can be taken as one of the fundamental points for architecture. Bevlin defines it as the cornerstone of creativity. For her, the orderly mind is the creative mind that sorts and arranges the elements for creative uses. It manages the ability to organize a number of things ending with a concrete product which we may call it composition due to its orderly arrangement of parts. She points out the importance of order with a statement that "any good design is, first of all, a plan for order"[5]. Also Denel emphasizes the method of order as a problem solving tool in architectural design; in other words a method of logic. He states that "order is supreme. Without order nothing will make sense. Order is rational. It can be backed by reasons. Order is control; it has no room for accidents"[6]

2.2   The Dynamics of Cinematic Design:

Cinema can be defined as a two-dimensional art that creates the illusion of a third dimension through its "walk-around" capability as a result of both 'editing / montage' and 'composition-in-depth' techniques. Although the stage where the

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4 Ching, Francis; 1996. "Architecture: Form, Space and Order", p. 11, Second Edition, VNR Book, John Willey&Sons, USA.

5 Bevlin, Marjorie Elliot; 1970. "Design and Life", Design Through Discovery, Second Edition, p.4, Holt, Rinehart and Winston Inc, USA.

6 Denel, Bilgi; 1979. A Method for Basic Design, p. 19, Middle East Technical University, Ankara, Turkey.

scene recorded is three-dimensional – except animations produced in computers as a product of virtual reality – the projected image on the screen is two-dimensional. Nevertheless, this does not mean that the art of cinema is limited with the elements of two-dimensional design. On the contrary, it is the organization of a great number of separate pieces as in the processes of scenario, mise-en scene and editing / montage including the elements and principles of three-dimensional design.

In this three-dimensional world constructed first of all in mind, afterwards on stage and then on a planar white surface, the aim of the director, like an architect, is to control the orchestration and arrangement of various elements to create an intended meaning with the use of all possibilities in its own medium. He/she captures shots selectively, frames them in a variety of graphic compositions and assigns them in sequence on the screen under a written text. The end product is a meaningful entity, which is formulated by the flexible sequence of shots showing a changing capacity in space-time dialectics under the control of its director.

Due to the flexibility in the sequence of shots for creating different meanings, space and time may indicate a changeable, slippery quality in the structure of a film. It means that it is possible in films to make shifts in the reality of space and time in order to affect the meaning. This attitude formulates one of the vital inputs of the design process of a film, since it enables us to understand the importance of the arrangement of cinematic elements in the continuation of filmic narration for the creation of expected meanings. In 'Narrative Space', Stephen Heath compares the space-time situation between the real life and its representation in cinema. He states that continuous stories in filmic reality can be obtained by the juxtaposition of shots taken at different time and spaces:

> There are no jerks in time or space in real life. Time and space are continuous. Not so in film. The period of time that is being photographed may be interrupted at any point. Another that takes place at a totally

17

different time may immediately follow one scene. And the continuity of space may be broken in the same manner.[7]

The power of film comes from the technique where the extraction of time and space is in use. Not only the images recorded on a film strip, but also their sequence can create meaning in a film. By using the same images, different meanings can be derived out. Kuleshov experiment can be a good example for this statement. "After the civil war", Heather Puttock states, "the Soviet Union had an extremely limited supply of raw film stock. One way for the cinema to develop was through the re-editing of old films. Kuleshov formed his own workshop where he and colleagues would arrest old film negatives from the studios and re-edit the 'rubbish' filmed by the bourgeoisie in order to turn it into revolutionary art"[8]. Such re-editing studies helped him to develop the Kuleshov Effect. Architect Alan Cohl mentions the details of this experiment:

> In 1920's, Kuleshov placed identical frames of the actor Ivan Mazouchin between scenes of different events and asked viewers to describe the actor's facial expression. They interpreted the frames in accordance with the nature of the adjacent events; although the actor's facial expression had not varied at all. Kuleshov proved that two shots projected in succession are not interpreted separately by the viewer; in the audience's mind, they are integrated into a whole. This discovery of "narrative editing" was later developed by Eisenstein and Pudovkin, both students of Kuleshov, as the "Attractions Editing / montage" technique." [9]

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7 Heath, Stephen; 1986. "Narrative Space", Narrative, Apparatus, Ideology, ed. Philip Rosen, p.394, Colombia University Press, New York.

8 Puttock, Heather; 2000. "Vsevolod Pudovkin and the Theory of Montage/editing", Profile: Architecture and Film II, ed.M. Toy, Architectural Design, Vol. 70, No.1, p.10, Academy Editions, London.

9 Ran, Ami. Montage of Attractions – Interview with Architect Bernard Tschumi, Architecture of Israel, www.aiq.co.il/pages/EnglishArticle.asp?id=88, September 2006 (last accessed).

Therefore, it can be stated that the artistic legacy that Kuleshov left to Pudovkin and Eisenstein was the discovery of two strengths that is inherent in a single piece of edited film: "it's own strength", which is coming from the power of the mise-en scene, "and the strength found in its relationship to other pieces"[10], which is coming from the power of editing / montage. Additionally, the influences of narrative in the formulation of all these powerful relations within a frame and also within a film must not be forgotten, and so narration must be identified as the third strength of a film. To sum up, it can be stated that film art begins when the director reformulates and combines various pieces of visually qualified shots together under the impact of a written dreamed world in order to stimulate different reactions in the spectator's mind to form out new meanings.

What keeps filmic momentum not only fluid but also structurally powerful is, as seen, the design of the cinematic chain of shots and scenes throughout the film. Design in cinema is obtained by selection, arrangement and rendering of spatial and durational elements under a conceptual, visual and relational context in order to finalize with an intended sense of completeness. It is produced by formulating the dynamics of the film as a calculated act under certain principles.

In other words, it can be stated that film art is a combination and reformulation of space and time in the matrix of narrative, mise-en scene and editing / montage under the control of director. It is the organization of the spatial and durational sequences which is divided first of all into scenes, and then scenes are divided into a whole series of pieces of shots which are designed visually qualified in the limits of a frame under the control of a pre-determined written text.

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10 Puttock, Heather; 2000. "Vsevolod Pudovkin and the Theory of Montage/editing", Profile: Architecture and Film II, ed.M. Toy, Architectural Design, Vol. 70, No.1, p.10, Academy Editions, London

2.3   Comparison:

The connection between architecture and cinema has been generated in several contexts as defined before. Experiencing cinematic space versus architectural one, defining the representational relations between two fields, and benefiting from corresponding terminologies such as continuity, movement, depth, framing… etc can be taken as some of the essential interrelated points. However, a new comparative analysis between the systems of two domains – cinema and architecture, may also be constructed on the resemblance of design approaches in the ordering of the elements. The primary elements of three-dimensional design may correspond to the language of cinema, since they both guide the initial decisions and establish the basis for the final appearance of their end products.

In cinema, the leading character of the narrative with respect to mise-en scene and editing / montage, the design principles generated in the limits of a frame and the needs of an order in the sequence of shots constitute the fundamental issues of filmmaking. How scenario structures the basic elements of a film such as character, space and time, what points taken into consideration in the creation of an atmosphere in front of a camera and the systematic placement of shots related with each other must be well thought out. Supporting the statement that film is generated by composing diverse elements, Aytaç-Dural similarly discusses the structure of film within the context of three systems of relations: design of character, design of scene and design of film, each of which establishes a ground for the design of the other. As a result; such consecutive relations engender the form of the film as a whole.

> The configuration of all the elements built upon certain relations
> establishes one scene as a sequence of frames and each scene acts as a new
> element in the accomplishment of whole film. The cinematographic

properties, such as use of light and movement of camera plus arrangement of the setting, use of sound effects and music determine the properties of this new element. The sequential organization of the scenes gives its form to the film. [11]

On the other hand, in architecture similar to the design process in cinema, it is also important to arrange the parts or elements that compose the whole. Architects organize the architectural objects under the constraints of conceptual, visual and relational elements. They may use the visual themes like gestalt principles such as proximity, similarity, closure, good continuation, and common region for the configuration of architectural elements. In its simplistic definition, the fundamentals of architectural design can be formulated as starting with the abstract elements; coming into existence by visual properties; and getting into relation with other parts to form a whole by the help of organizational strategies.

In this regard, the phenomenon that a comparative analysis between architecture and cinema can be considered due to the similarities in the internally established experience of fragmentation, collection and organization; can be studied under the impacts of fundamental elements and principles of design imported from the field of architecture.

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11 Aytaç-Dural, Tuğyan; 2006. "When Film Follows Form: Cinema as Composition", Design and Cinema: Form Follows Film, editor(s): Belkis Uluoglu, Ayhan Ensici, Ali Vatansever, p.128, Cambridge Scholars Press.

CHAPTER 3

UNDERSTANDING THE "FUNDAMENTALS" OF ARCHITECTURAL DESIGN AND FILMMAKING

Fundamentals of architectural design can be considered as a field of specialization in architecture. Departing from an agreement that the basics of architectural design principles can be treated as an apparatus for the design of all kinds of art, it will be insufficient to explain its impacts only within the limits of architecture. In order to prove that it has already been diffused through the fields of other disciplines, cinema is a crucial example to display its impacts on the process of designing a film. The focus of this chapter is to define the fundamental elements and principles of architectural and cinematic design as a tool for the process of 'construction'. In order to make a ground for a comparative analysis, the 'basics' of design for both fields will also be investigated.

3.1   Defining the Fundamentals of Architectural Design:

It can be asserted that the implementation of the concept of "Architectural Basic Design" and its initial employment in the field of other visual arts has been

mostly discussed with reference to Bauhaus.[1] In the systematic education of Bauhaus, the idea of formulating theories, concerning vision and human behavior in connection with a desire to relate to materials, patterns and industrialized technologies in order to answer the needs of tomorrow's design, has been firstly structured within the context of Gestalt Theory[2]. Most of the design theories applicable nowadays have been rooted within such approaches to the subjects of two-dimensional and three-dimensional design strategies.

Gestalt psychology has been attracted the attention of both architects and painters for a long time due to its impact on the comprehension of both form and its production process. Gestalt psychologists, dealing mostly with the outer shape of an edifice, have tackled with the investigation of the rules of appearance.

1 "The Bauhaus wants to educate architects, painters and sculptors of all levels, according to their capabilities, to become competent craftsmen or independent creative artists and to form a working community of leading and future artist-craftsmen in the period of 1940's. These men of kindred spirit, will know how to design buildings harmoniously in their entirety – structure, finishing, ornamentation, and furnishing." (Wingler, Bauhaus, p.32) To implement this aim of the Bauhaus, the Preliminary Course, or basic design as it is universally claimed, offered "observation and representation – with the intention of showing the desired identity of Form and Content – define the limits of the preliminary course." (Bayer and others, Bauhaus, p.24) Hence having gone through this course successfully, the better architecture is defined as, "we want to create a clear, organic architecture whose interlogic will be radiant and naked, unencumbered by lying facades and trickeries; we want an architecture adapted to our world of machines, radios, and fast motor cars, an architecture whose function is clearly recognizable in the relation of its forms." (Bayer and others, Bauhaus, p.27) – all cited from Denel, Bilgi; 1979. A Method for Basic Design, pp.10-11, Middle East Technical University, Ankara, Turkey.

2 "Gestalt Theory is wholism versus the atomistic point of view that applies to the concept of visual structure as the basis of visual perception. By assuming that objects we see in space do not change in relation to our various physical stationary viewing positions toward them, brings tremendous clarity to the mechanism of perception. This way, seeing things as they change in space with relation to positions in perspective views leaves its place to seeing things in a state of constancy as they really are. Thereby, the highly confusing older theory of the mechanism of perception based upon sense impressions aroused by the stimulation and interpreted through experience leaves its place to Gestalt's simpler wholistic perception through constancy" (cited in Denel, Bilgi; 1979. A Method for Basic Design, p. 7, Middle East Technical University, Ankara, Turkey.

Perception of form is believed to be strictly in contact with figure-ground relations and its typological understanding is concerned to be concretized by its physical position located close or remote to others. Katz draws attention to the importance of such experimental study as such that the essential part of our perceptional language, necessary to understand our visual surrounding and its orderly arrangement is formulated by the laws of Gestalt Theory. According to him, "perception follows an intrinsic rule toward simplification by taking complexity and converting them to simpler groups under the impact of basic Gestalt laws, such as the Law of Proximity, the Law of Similarity and the Law of Common Movement." [3]

As a result of all these experimental studies in Gestalt Theories and Bauhaus design principles, one pure yield of knowledge in the name of "Basic Design" has come to existence and it has been referred to as the origin of all arts by Walter Gropius. Later on, studies on the concept of design fundamentals have improved increasingly covering the field of architecture and its design process, and later to begin to be used for supporting the needs of architecture in the fields of creation and perception. Consequently, architecture has confronted with the concept of its own basic design elements and principles.

After the confrontation of architecture with the concept of basic design, the issues such as shape, proportion, scale, color, texture … etc. has started to be used in architecture under certain principles. However, it should be known that the concept of architectural basic design and its principles are not always used consciously or intently in the process of design. On the contrary, there seem to be some examples which occur accidentally. In order to clarify the means of "fundamentals of architectural design" and strengthen its conscious dominance

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3 Katz, D; 1950. Gestalt Psychology, trans., pp. 24-29, R., New York; cited in Denel, Bilgi; 1979. A Method for Basic Design, p. 19, Middle East Technical University, Ankara, Turkey.

in the design process, it will be helpful to define it briefly according to the terms of organization and composition.

Fundamentals of architectural design can be described as the basics of any definable order, which is used for evaluating the level of control over various elements in the creation of any designed product. It can be explored as the basic elements and fundamental issues of a design process which grows in the search for an organization. In an organization, although completely different elements are employed so as to achieve an overall entity, common or rare properties can be detected even between distant domains. Actually, the question of how these elements from different mediums are brought together emphasizes the inner dynamics of an organization. In response to this question, Thomas Munro, in his book Form and Style in the Visual Arts, proposes the inner system of organization with a brief definition:

> Organization means the way in which the ingredients are combined and interrelated so as to have some degree of unity or internal coherence. It refers to the process of organizing or the condition of being organized. It implies some power of cooperation among the parts, though not necessarily complete harmony. It implies that the actions of a number of different units, such as workers in a factory or dancers in a ballet, have been coordinated so as to produce a single desired effect or set of effects. The functions of each are combined to some extent in the functioning of the whole, although conflicts and malfunctioning may occur. [4]

Actually, the inner system of organization in the means of the effect of unity for bringing a variety of parts together can be produced in a few steps. Munro

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4 Munro, Thomas; 1970. Form and Style in the Arts: An Introduction to Aesthetic Morphology, p.97, the press of Case Western Reserve University in collaboration with the Cleveland Museum of Art, Cleveland and London.

categorizes it into five headings: similarity, proximity, connection, boundedness and pattern. According to him:

> One way to increase the aesthetic effect of unity is through making the parts more **similar**. This can be done with the presented or suggested factors or both. It can be done through having fewer different modes of transmission, fewer kinds of ingredients, or fewer dimensions and modes of composition. Another way is to put the parts or units closer together in space, time, or both: that is, increase the effect through greater **proximity**. A third is to **connect** the parts more thoroughly, in space, time, or both, as by the string on which beads are strung. Connecting lines, masses, intermediate patterns, or prolonged sounds may have this function. A fourth way is by **boundedness** or detachment from context in space, time, or both. This is done by picture frames and by the proscenium arch and curtains in a theater. A fifth way, at last, is by conformity to an overall **pattern**, or schema, such as the sonata pattern or the Doric order. 5

Beside these initial processes in a system of organization, additional ways of organizing and developing components can also be described. At this point, modes of compositions can be offered as an extra way for an orderly arrangement. Instead of 'organization', mostly used as a general definition for the state of bringing together; the modes of 'composition' have long been recognized in the field of art criticism and aesthetics under various names, and with various meanings. "Modes of composition can be used in a simple, rudimentary way or developed with great complexity in various arts and frames of reference. They are used extensively in the arts of civilized peoples, and some of their beginnings are found in early prehistoric art. Every work of art involves one or more of them. They serve different kinds of use and enjoyment in human

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5 Munro, Thomas; 1970. Form and Style in the Arts: An Introduction to Aesthetic Morphology, p.98, the press of Case Western Reserve University in collaboration with the Cleveland Museum of Art, Cleveland and London.

life. As factors in a work of art, they contribute to its total organization and functioning."[6]

Composition[7] can be explained as the orderly arrangement of artistic parts so as to achieve a unified whole. It is generally associated with the fine arts, including both auditory and visual components. Thomas Munro explains the different types of composition under four main headings. According to him, utilitarian, representational, expository and thematic composition can be described as four modes of composition. It is important here to state that no art can be classed as a whole under any one mode of composition; every major art includes more than one of them. Moreover, it is not implied that these are the only modes of composition in the arts, but as here defined they are inclusive enough to cover the main varieties of form and style in the arts, past and present.

Utilitarian composition can be corresponded with the narrow sense of the term, 'functional'. Although it can be explained as putting parts in an order on the basis of practicality, it is not possible to reduce utilitarian composition to mere utility. It is contrasted with the 'useless' ornamentation for aesthetic reasons only. It may also have decorative or thematic qualities. This style tends to rely on aesthetic critics refusing to be just a 'nonfunctional' ornament.

Representational composition consists of the imagination and understanding of a concrete object, person, scene, situation, or group of them in space with details. The portrait of a person or the naturalist painting is the best to exemplify the case in its simplest form. However, as a mode of transmission, there are two main

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6 Ibid. p.179

7 Com-po-si-tion n. 1. A putting together of parts or elements to form a whole; a combining. 2. The manner in which such parts are combined or related; constitution, make-up. 3. The result or product of composing; mixture, compound. 4. The arrangement of artistic parts so as to form a unified whole. 5. The art or act of composing a literary or musical work. 6. Any work of art, literature, or music, or its structure or organization (The Groller International Dictionary, Massachusets, 1986).

parts of representation: mimetic and symbolic. The initial one is directly presented to our five senses; whereas the latter one to written or oral narration. "In mimetic representation, the presented set of images (arrangements of lines, colors, sounds, etc. which are directly presented to the eye or ear) resembles the set of images which it calls up in imagination. In the linguistic-symbolic type, especially literature, whether spoken and heard or written and read silently, the presented images are words or other conventional signs or symbols" [8]

Expository composition is defined insofar as "it arranges details so as to set forth, explain, or suggest general relationships, as of casual or logical connection, abstract meanings, pervasive conditions or qualities, common or underlying principles"[9]. Much visual art including religious works or a great deal of medieval and Renaissance painting expressing Christian belief through symbolism can be mentioned as the earliest examples of this type. However, it is not concerned wholly with abstractions. When it deals with concrete particulars, it aims to show how they illustrate general conceptions, problems, beliefs, laws, tendencies, values, or ideals. Moreover, it embodies itself in the field of literature, as well. It's most familiar variety is the essay, in which an abstract topic, a person or a thing can be analyzed, discussed, explained, and theorized about in a somewhat abstract or general way. To sum up, expository composition expounds, explains, interprets, or raises question in any field so as to give information on any subject.

Thematic composition is the most abstract and separate of all the other modes. It does not necessarily serve a purpose, represent anything and/or explain any idea. "It can coexist with any or all of them, using the products of utilitarian, representational, or expository art as its themes and patterns, or it can proceed

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8 Munro, Thomas; 1970. Form and Style in the Arts: An Introduction to Aesthetic Morphology, p.184, the press of Case Western Reserve University in collaboration with the Cleveland Museum of Art, Cleveland and London.

9 Ibid. Munro; 1970: 188.

and develop alone, apart from any of them, as pure design"[10]. In this study, as Munro states, theme – thematic composition – is understood to be "a presented or suggested trait or combination of traits which is repeated or capable of being repeated, exactly or with variation, as an organizing factor in a work of art."[11] The integration of the traits may be simple or complex and may involve few or many components. In order to produce a comprehensive pattern; repetition, variation, contrast and integration can be the main constituent phases in thematic composition so as to construct unity by repetition and integration, diversity by variation and contrast, and complexity by the use of both.

The fact is that any composition, whatever the type is, has a level of complexity due its interrelations between the subparts based on unity or diversity. Therefore, the integration of all sorts of complex relations into a unified whole can be mentioned as to require an underlying system of rules which gives the opportunity of reading any product. In order to clarify this issue, fundamental principles of architectural design can be taken as a universally accepted basis to analyze the elements of composition and their principal interrelations. It can be briefly defined as a system that regulates the elements of composition under their conceptual, visual, topological and relational properties. With respect to the type of composition, series of such properties can be structured around a main theme, which is generating from a point, a line or a coordinate system by employing ordering principles of design such as unity, balance, harmony, contrast, repetition, dominance and hierarchy.

For describing the fundamental elements and principles of architectural design, the conceptual frameworks of Francis D.K. Ching, Wucius Wong, Bilgi Denel and Tugyan Aytaç Dural can be a guide to overview the basic elements, systems, and orders of design that constitute a physical work of architecture.

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10 Ibid. Munro; 1970: 190.

11 Ibid. Munro; 1970: 190.

The fundamentals of architectural design are categorized into three main headings by **Francis D.K. Ching** according to their generating process: 'primary elements', 'visual properties of form' and 'organizations'. The primary elements of architectural design are examined as point, line, plane and volume in sequence. Point is taken as the prime generator of form that indicates a position in space. As a result of movement in space, it turns into a line; line into a plane and plane into a volume by gaining spatial dimensions.

Table 3.1.1 Francis D. K. Ching's scheme for the fundamentals of architectural design

The Primary Elements	Point	
	Line	
	Plane	
	Volume	
Visual Elements	Space	
	Size	
	Color	
	Texture	
	Position	
	Orientation	
	Visual Inertia	
Organizations	Spatial Organizations	Centralized Organizations
		Linear Organizations
		Radial Organizations
		Clustered Organizations
		Grid Organizations
	Ordering Principles (additional spatial organizations)	Axis
		Symmetry
		Hierarchy
		Rhythm / Repetition
		Datum
		Transformation

For visual elements, Ching refers to 'shape, size, color and texture' including 'position, orientation and visual inertia' into this category. Beside these primary factors, he adds other conditions that affect the visual properties such as: the

perspective or angle of view, the distance from the form, lighting conditions and the visual field surrounding the form.

The configuration of elements manipulated to define a volume, and its patterns of solids and voids affecting the visible qualities of a defined space are issues of visual properties. However, in the means of composition, it is composed of a number of elements that are related to one another. The third category, organization, discusses the basic ways an element can be related to one another and organized into some coherent patterns of unity. While centralized, linear, radial, clustered and grid organizations are corresponding to spatial organizations; axis, symmetry, hierarchy, rhythm, repetition, datum and transformation are defined as ordering principles which can be named as additional ones. It is known that there exist a natural diversity and complexity in the requirements for an architectural design. In response to such complexity, Ching states that "order without diversity can result in monotony or boredom as such diversity without order can also produce chaos. Therefore, the organizational principles are seen as relational devices that allow the diverse forms and spaces of a building to coexist perceptually and conceptually within an ordered and unified whole."[12]

In his book 'Principles of Three-Dimensional Design', **Wucius Wong** makes a comparison between two-dimensional and three-dimensional design. He persists on the complexity of volumetric design due to its consideration from different points and spatial relationships between counterparts. Like in two-dimensional design, there are three sets of elements in three-dimensional one: the conceptual elements (point, line, plane and volume), the visual elements (shape, size, color and texture), and the relational elements (position, direction, space and gravity).

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12 Ching, Francis; 1979. "Architecture: Form, Space and Order", p. 332, Second Edition, VNR Book, John Willey&Sons, USA.

Table 3.1.2 Wucius Wong's scheme for the fundamentals of architectural design

The Conceptual Elements	Point
	Line
	Plane
	Volume
The Visual Elements	Shape
	Size
	Color
	Texture
The Relational Elements	Position
	Direction
	Space
	Gravity
	Edge
	Face

According to Wong, three-dimensional design is conceived in the mind before it takes on any physical shape. He draws the attention to the elements of three-dimensional design and focuses on their roles for the design profession that "conceptual elements do not exist physically, but are perceived as being present. Visual elements, of course, can be seen and constitute the final appearance of a design. Relational elements govern the overall structure and internal correspondences of the visual elements."[13]

Under the impacts of the completeness of Gestalt Theory and its rational advance that attempts to explain visual organization and perception, **Bilgi Denel**'s approach to the fundamentals of architectural design and its pertinent laws and rules shows a different character than the others. Not only did he deal with the features of two-dimensional and three-dimensional design in the name of 'tangible' products, but also with the economical, psychological and sociological sides of design issues in terms of 'intangibles'.

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13 Wong, Wucius; 1977. "Principles of Three-Dimensional Design", p.09, VNR, New York.

Table 3.1.3 Bilgi Denel's scheme for the fundamentals of architectural design

	Similarity
	Size
	Proximity
	Repetition
	Rhythm
Two Dimensional Organization	Consistency
	Completeness
	Hierarchy and Dominance
	Interdependence
	Symmetry
	Set axis
	Free
	Figure dominant over the ground
Ground Rules	Ground dominant over the figure
	Figure ground equality
	Definition
	Visual structuring
The More Tangibles	Physical structuring
	Light
	Scale
	Social
	Psychological
The Intangibles	The subject of economics
	Movement
	Aesthetics
	Recapitulation

In his treatise, Denel emphasizes the importance of basic principals of organization and order used in graphic (two-dimensional) and plastic (three-dimensional) media in order to formulate the visual perception and conceptual abstraction culminating in mutual communication between the maker and the viewer. He explores the means of developing a concept of spaces and skills with fundamental relationships between line, plane, volume and mass; and also organizes the ways of interrelationship between visual structure, space and materials as related to environment. On the other side, different from Ching and Wong, Denel dwells upon the subject of usefulness during the design process. He

underlines the basic 'intangibles' of architectural design on the concept of effectiveness such as psychology, economy, sociology and aesthetics all of which architecture must serve. [14]

In the book, 'Theater-Architecture-Education: Theater as a Paradigm for Introductory Architectural Design Education', **Tuğyan Aytaç Dural** shows a comprehensive approach to the subject of fundamental elements and principles of architectural design. "Point, line, plane and volume are referred as the 'primary elements'; and they are examined with respect to 'visual and topological' elements for appearance, which make up the final form. The visual elements are stated as: shape, size, color and texture and topological elements as: position, orientation and visual inertia."[15]

Organizational elements in the name of 'principles of organization' are examined in three fields of study such as types of relation in terms of geometric organization, ordering principles for sustaining the relation between different elements, and the conditions that facilitate organization.

The types of relation in terms of geometric organization are grouped according to the generating agent. "In this respect, centralized, radial and spiral organizations which are generated from one point constitute the first group; the second group is linear organization, which consists of series of elements arranged with reference to a line or axis; grid organizations which are the outcome of pre-determined coordinate systems are mentioned as the third group. It is also possible to use the combination of these organizations paying due attention to the axes, directions and orientation."[16]

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14 Denel, Bilgi; 1979. A Method for Basic Design, p. 7, Middle East Technical University, Ankara, Turkey.

15 Aytaç-Dural, Tuğyan; 2002. "Theater-Architecture-Education: Theater as a Paradigm for Introductory Architectural Design Education", p.26, METU Faculty of Architecture Press, Ankara, Turkey.

16 Ibid. Aytaç-Dural; 2002: 26.

Table 3.1.4 Tuğyan Aytaç Dural's scheme for the fundamentals of architectural design

Primary Elements	Point		
	Line		
	Plane		
	Volume → Space		
Elements for Appearance	**Visual**	Shape → Form	
		Size → Scale + Proportion	
		Color → Light	
		Texture → Light	
	Topological	Position	
		Orientation	
		Visual Inertia	
Organizational Elements (Principles of Organization)	**Types of relation** in terms of geometric organization	Centralized – agent:point	
		Radial – agent:point	
		Spiral – agent:point	
		Linear – agent:line	
		Modular – agent:co-ordinate system	
		Cellular – agent:co-ordinate system	
		Grid – agent:co-ordinate system	
		Clustered – agent: composite	
		Free – agent: composite	
	Conditions that facilitate organization	Proximity	
		Similarity	
		Continuity	
		Closure	
	Ordering principles in order to sustain the relation between different elements	Unity	
		Balance	
		Harmony	
		Contrast	
		Repetition	
		Dominance	
		Hierarchy	

Ordering principles determining the positioning and the selection of elements to be employed in a composition are defined for the process of sustaining the relation between different elements. They are listed as unity, balance, harmony, contrast, repetition, dominance and hierarchy in Aytaç-Dural's treatise.

Ordering principles are also interrelated with the conditions that facilitate organization in the name of proximity, similarity, continuity and closure. Proximity can be defined as a condition that makes possible to perceive the elements close to one another rather than the diverse ones. Similarity can be related as well with the 'resemblance' of the elements for the formation of groups. Continuity can also be introduced as a progression of graded change within the attributes of the elements. Finally, closure can be mentioned as the area obtained by using the outlines of the elements of a group. As Aytaç-Dural states that "the relation between the parts and the relation of parts to the whole are regulated in accordance with these principles and it becomes possible to attain an orderly arrangement, which establish the essence of design."[17]

In this study, under the impacts of four different approaches but mostly departing from Aytaç-Dural's scheme, fundamental elements of architectural design will be taken into account under three main headings: conceptual elements, physical elements and relational elements. While conceptual elements are defined as the primary elements of architectural design such as point, line, plane and volume; physical elements will be studied in two fields. The apparent features of an object such as shape, size, color and texture are considered in visual elements; and the locational features such as position, orientation and visual inert are considered in topological elements. Beside these, relational elements will be considered as organizational correspondences of the visual ones. They will be limited within two categories according to their relational qualifications and ordering principles.

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17 Ibid. Aytaç-Dural; 2002: 26-27.

Table 3.1.5 Accepted scheme for the fundamentals of architectural design in this study

Conceptual Elements (primary elements of design)	Point	
	Line	
	Plane	
	Volume	
Physical Elements (real conditions for final appearance)	**Visual**	Shape
		Size -> scale+proportion
		Color -> Light
		Texture-> Light
	Topological	Position
		Orientation
		Visual Inertia
Relational Elements (Organizational Elements)	**Types of spatial organization** in terms of geometric agents	Centralized – agent:point
		Radial – agent:point
		Spiral – agent:point
		Linear – agent:line
		Modular – agent:co-ordinate system
		Cellular – agent:co-ordinate system
		Grid – agent:co-ordinate system
		Clustered – agent: composite
		Free – agent: composite
	Ordering principles in order to sustain the relation between different elements	Unity
		Balance
		Harmony
		Contrast
		Repetition
		Dominance
		Hierarchy
		Axis
		Symmetry
		Rhythm
		Datum
		Transformation

Similar to the Aytaç-Dural's approach, relational types are thought to be composed under geometric values based upon their generating agents such as point, line, coordinate system or composite applications. In order to analyze the location and the selection of elements employed in a composition without any geometric restriction, ordering principles are determined as a second type of organizational elements. Such compositional orders are notified as unity, balance, harmony, contrast, repetition, dominance, hierarchy, axis, symmetry, rhythm, datum and transformation.

Throughout this part, as it is seen, the basic information has been given on the basics of architectural design elements and principles. As well as giving the basic knowledge about organizational requirements of any compositional product, exporting this knowledge from the field of architecture to the field of cinema is one of the important aims of this study. Following this part, the elements of cinematic design, named as cinematography, will be investigated in order to reveal the correspondence between architecture and cinema on the basis of design fundamentals.

3.2   Defining the Fundamentals of Filmmaking:

Following the previous part in which fundamental elements and principles of design has been examined as the basis of architecture; it becomes necessary to define the elements of filmic design in order to make an appropriate comparative analysis between the fields of architecture and cinema. In this part, at first, the concept of film form will be examined focusing on the formal principles of a film. Afterwards, the basic elements of cinematic design will be investigated under three main headings narrative, mise-en scene and editing / montage.

It is approved that a film is not an accidental collection of events. There is an internal system that governs the relations among parts which is called **form**[18]. In its broadest sense, film form can be defined as the total system that the viewer perceives in a film. In other words, it is the overall system of relations among the elements that spectators can perceive in the whole film. In order to find out adequate answers to the questions of by what principles a film is brought together and how the various parts relate to one another to create an entity, the system of film form must be well defined.

Form is a specific system of patterned relationships perceived in any artwork, which helps us to understand how the elements of '**content**' such as subject, matter, or abstract ideas come together for particular functions within a work. Thomas Munro defines form in a broader sense as the mode of arrangement. According to him, form includes the physical and chemical structure of objects and events, as described in terms of the placement of atoms and molecules, as well as their outward aspects and appearances, as perceived or imagined:

> A scene in nature has a certain visible form for one observer, seeing it from
> a certain viewpoint and under certain conditions, and another form for a
> different observer. A painting of the scene has a somewhat different form,
> and a mental image of it, still another. A snow crystal has a highly regular

18 'Form" is defined as follows in Webster's Third New International Dictionary (Springfield, Mass., G. & C. Merriam Co., 1961): "10a: orderly arrangement or method of arrangement (as in the presentation of ideas): manner of coordinating elements (as of an artistic production or course of reasoning); sometimes: a particular kind or instance of such arrangement <the sonnet is a poetical~>." There are many kinds and degrees of order and coordination in art, even in some which have been mistakenly called "formless." The Random House Dictionary of the English Language (New York: Random House, Inc., 1966) defines "form," with a Fine Arts label, as "the organization, placement, or relationship of basic elements, as lines and colors in a painting or volumes and voids in a sculpture, so as to produce a coherent image; the formal structure of a work of art." We shall not restrict the elements of form to "basic" or "formal" ones, as opposed to "informal" or casual ones. (cited in Munro, Thomas; 1970. Form and Style in the Arts: An Introduction to Aesthetic Morphology, p.3, the press of Case Western Reserve University in collaboration with the Cleveland Museum of Art, Cleveland and London.)

visible form. The ticking of a clock has audible form, and so has the song
of a bird. A football game or a battle has form, and so has a poem, a song,
or a dance.[19]

For Munro, the aesthetic morphology of form can be distinguished according the
elements, details, parts, materials, images, ideas or other ingredients involved; or
to the ways in which these are interrelated with the structures and sequences into
which they combine.

On the other side, Eisenstein explains the correct constitution of art forms as
such that "in the realm of art, the dialectic principle of dynamics is embodied in
'**conflict**' as the fundamental principle for the existence of every work and every
art form"[20]. For him, "art (form) is always (in) conflict according to its **social
mission**, according to its **nature**, and according to its **methodology**"[21].

He enlightens the condition of conflict in social mission with the contradictions
of human-being. Contradictions within the spectator's mind and accurate
intellectual concepts from the dynamic clash of opposing passions are thought as
triggers. Meanwhile, the state of conflict according to nature is explained with
the state of contradiction between natural existence of the object and creative
tendency of the artist. The dialectic relation between the passive principle of
production in the name of organic form and the active principle of production in
the name of rational form causes the intersection of Nature and Industry where
art stands in collision. Finally, methodological conflict is clarified with the
dynamism aroused from the irregularity of the parts in relation to the laws of the

19 Munro, Thomas; 1970. Form and Style in the Arts: An Introduction to Aesthetic Morphology, p.3, the
press of Case Western Reserve University in collaboration with the Cleveland Museum of Art, Cleveland
and London.

20 Eisenstein, Sergei; 1963. Film Form, Essays in Film Theory, edited and translated by Jay Leyda, p.46,
Dennis Dobson, London.

21 Ibid. Eisenstein; 1963: 46.

system as a whole. The concept of an exchange between formally static condition and a dynamic function arises as a conflict in the distribution of emphasizes over an entire arrangement.

In such an entire arrangement, the perceiver can notice many particular elements formulating the inner rhythm and accents of a whole system. In the example of moving pictures; there is, at first, a set of narrative elements which comprise the film's story. Then, a set of stylistic elements is perceived in the means of camera movements, the patterns of color in the frame, the use of lighting, and other devices. At last, all the products of stylistic elements are examined in linkage one to another with a set of relational elements that constructs the whole filmic physical structure. Since film is a system, the perceiver actively relates the elements within each set to one another. The narrative, stylistic and relational elements are firstly linked and compared one to another; then being connected within the larger system of a film. Finally it can be asserted that it is the overall pattern of relationships among the various subsystems that makes up the 'form' of a film.

Since film form is defined as a unified set of related, interdependent elements; in the book 'Film Art, An Introduction', David Bordwell and Kristin Thompson states that there must be some principles helping to create relationships among the parts in which each artwork tends to set up its own specific **principles of film form**. These can be distinguished into five general principles for a film which the spectator perceives in a film's formal system: "**function, similarity and repetition, difference and variation, development,** and **unity / disunity**"[22].

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22 Bordwell, David & Thompson, Kristin; 1993. Film Art: An Introduction, p.55-60, University of Wisconsin, McGraw-Hill Inc.

Table 3.2.1 David Bordwell and Kristin Thompson's definition for the principles of film form

Principles of Film Form	Function
	Similarity and Repetition
	Difference and Variation
	Development
	Unity / Disunity

If form in cinema is agreed to be the overall interrelation among various systems of elements, Bordwell and Thompson assume that every element in this totality has one or more **function**s. It means that every element is fulfilling one or more functions within the whole system. The way to notice these functions of an element is to consider the element's motivation that is needed "to apply to any element in the film which the viewer justifies on some ground"[23]. Because films are human-made products, it can be expected that any one element in a film has some justification for being there, that can be explained as the motivation for that element. Bordwell and Thompson demonstrate this situation with a costume example that if a man in beggar's clothes is seen in the middle of an elegant society ball, it is asked directly why he is dressed in this way.

Similarity and repetition formulate one of the important principles of film form. Spectators must be able to recall and identify characters and settings each time they reappear. In other words, throughout any film, as Bordwell and Thompson states that "repetitions of everything from lines of dialogue and bits of music to camera positions, character's behavior, and story action must be

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23 Ibid. Bordwell, David & Thompson, Kristin, 1993: 56.

observed easily"[24] by the use of repeated elements. They prefer to define any significant repeated element in a film as 'motif'. It may be an object, a color, a place, a sound, or even a character trait. If it is repeated through a film, a pattern of lighting or a camera position can also be perceived as a motif. Motifs, which are used to create pleasure in watching a film, can also assist in creating 'parallelism' that can be defined as a process, whereby the film informs the spectator to compare two or more distinct elements by highlighting some similarities and repetitions between them.

The form of a film could be composed of only repetitions; but just repetition is pretty boring, so that there must also be some changes or variations. Thus **difference and variation** are another fundamental principle of film form. Bordwell and Thompson clarify its benefits as such that "variety, contrast and change are needed in films to offer a better understanding. Characters must be distinguished, environments must be delineated, different times or activities must be established. Even within the image; differences in tonality, texture, direction and speed of movement must be distinguished. Form needs its stable 'background' of similarity and repetition, but it also demands that differences be created."[25] In other words, "repetition and variation are two sides of the coin. To notice one is to notice the other. In analyzing films, it is looked for similarities and differences. Constantly poised between two, we can point out motifs and contrast the changes they undergo, recognize parallelisms as a repetition, and still spot crucial variations."[26]

As seen from the principles given beforehand, a film is constituted by some patterning of similar and different elements. In order to analyze a film's pattern of **development**, Bordwell and Thompson offers an idea of making

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24 Ibid. Bordwell, David & Thompson, Kristin, 1993: 57.

25 Ibid. Bordwell, David & Thompson, Kristin, 1993: 57.

26 Ibid. Bordwell, David & Thompson, Kristin, 1993: 58.

'segmentation' which can be defined simply as "a written outline of the film that breaks it into its major and minor parts, with the parts marked by consecutive numbers or letters"[27]. By the help of segmentation; they propose that "a film enables us not only to notice similarities and differences among parts but also to plot the overall progression of the form"[28]. Meanwhile, they also suggest comparing the beginning of the film with the ending as another way to evaluate how the film is formally developed. According to them, the overall pattern of the film can easily be understood only by looking at the similarities and differences between the beginning and ending of a film.

The total form of a film is created by the relationships among the filmic elements. In order to talk about filmic **unity**, the relationships within a film we perceive must be clear and economically interwoven. If not, filmic **disunity** appears. Bordwell and Thompson explain the state of unity that "every present element must have a specific set of functions, similarities and differences must be determinable, the form must be developed logically, and there must be no superfluous elements."[29]

Among the statements clarified above, the functions of any filmic element in the overall form of a film; its level of motivation; the similarity and repetition of elements throughout the film to create motifs and the feeling of parallelism; the oppositions and differentiations between the elements for the creation of enthusiasm; the degree of progression and development throughout the form of the film; the comparison of the beginning and ending to reveal the overall form; and the degree of unity and disunity between the elements in the film's overall entity can be summarized as the basic principles of film form. While revealing the meanings of such formal principles and discerning their importance for the

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27 Ibid. Bordwell, David & Thompson, Kristin, 1993: 59.

28 Ibid. Bordwell, David & Thompson, Kristin, 1993: 59.

29 Ibid. Bordwell, David & Thompson, Kristin, 1993: 59-60.

structure of a film, the evaluation of **cinema as a written language** having grammar and sentence structure must be taken into consideration to emphasize the fragmentary arrangement of a film.

As Peter Lehman and William Luhr makes we notice that "film is not a 'natural' but a constructed object"[30], it is composed of conceptual, visual and relational notations that construct things both already exist and not real yet. This built-up entity displays some similarities with the formation of a language. Roy Paul Madsen, in his essay 'The Language of Cinema-Television', compares the cinematic elements of scenes, sequences, scene sizes, camera and lens movements, editing tempos and concepts with the linguistic counterparts of words, phrases, sentences, paragraphs, chapters, and punctuation. According to him, "the cinema has evolved a language having syntax, grammar and modes of expression, which, like written language, reveals whether the filmmaker is literate or illiterate"[31]; and he adds that each cinematic concept and technique has acquired its own set of grammatical rules by which the filmmaker formulates the cinematic concepts in order to say what he means to the viewer.

Meanwhile, Leo Braudy and Marshall Cohen dwell upon the relationships between the shot and word. They explain the constitution of film as a language with the communicative qualifications of moving pictures, by which it embodies, communicates, enforces and suggests meanings. According to them, the film's grammar, its vocabulary, and even of its jargon often rely on the analogy between the word and shot. But, they also takes attention to such a point that "simply stringing the words together does not produce intelligible discourse, and

30 Lehman, Peter & Luhr, William; 2003. Thinking About Movies; Watching, Questioning, Enjoying, p.13, Blackwell Publishing, USA.

31 Madsen, Roy Paul; 1973. The Impact of Film; How Ideas are communicated through Cinema and Television, pp. 27-28, Macmillan Publishing Co., Inc., New York.

most theorists agree that simply stringing separate photographic shots together will not produce intelligible works of visual art."[32]

The basic principles of film form and the analogy between language and film can be referred as an outcome to reveal the relations between the elements and overall filmic entity. Beside these, there is also one more point that commonly seizes our interest while viewing a film which can be defined as **the fundamental elements of moving pictures**. Armed with this general knowledge, it is intended now to look at the subparts of a film and analyze how they are formulated within their fields and related to one another to create the spectator's overall experience.

Roy Paul Madsen, in his book 'The Impact of Film; How Ideas are communicated through Cinema and Television', examines the communicative and descriptive elements of film under three main headings: the grammar of cinematography, the syntax of editing and the punctuation of sound. Excluding the last heading, following two tables displays the contents of cinematography and editing.

Madsen explores the consecutive relations between the elements of cinematography, editing and sound to create the whole form as such that "motion pictures communicate ideas and generate emotions by their perceptual appeals to the eyes and ears of the viewer. Their appeals are made in three modes: the vision-in-motion of cinematography; the editing of lengths of film to present a logical sequence of events, to imply meanings not inherent in the original content, and to create a time and distance relationship only peripherally related to reality; and the soundtrack presentation of narration, dialogue, music, and sound effects to contribute exposition and realism and enhance the emotional impact of

32 Braudy, Leo & Cohen, Marshall; 2004. Film Language, p.01, Film Theory and Criticism; Introductory Readings, edited by Leo Braudy and Marshall Cohen, Oxford University Press, New York.

Table 3.2.2 Roy Paul Madsen's approach to Mise-en Scene

MISE-EN SCENE / CINEMATOGRAPHY	Movement	Movements by the subject before the camera		
		Movements by the camera or its lenses over the subject	Camera	Pan
				Swish pan
				Tilt
				Trucking shot
				Dolly shot
				Crane shot
				Hand-held shot
			Lens	Zoom
				Shift focus
	Scene, Sequence and Setting			
	Scene sizes	Establishing shot		
		Full shot		
		Medium shot		
		Tight two-shot		
		Close-up		
		Extreme close-up		
		Tilted camera angle		
	Tonality	Low-key tonality		
		High-key tonality		
		Narrative tonality		
	Control of the Viewer's Attention	Movement		
		Dominance of the lightest area		
		Sharply defined over softly defined subjects		
		Perspective lines and composition in depth		
		Dominance of moving lips or eyes		
		Foreground activity over background		
		Larger subjects over smaller		
		The design of background shapes		
		The rule of thirds		
		Brighter color over duller color		
		Lighting		
		Dominance		

47

Table 3.2.3 Roy Paul Madsen's approach to Editing / montage

EDITING / MONTAGE	**Transition**	Cut
		Fade-in
		Fade-out
		Dissolve
		Wipe
		Superimposition
	The Third Meaning	Narrative editing
		Implicit editing
	Cinematic Time and Cinematic Distance	
	Tempo	
	Other Editing Concepts	Flashback
		Flash-forward
		Editing / montage
		Visual simile and metaphors
	Editing Techniques	Logical continuity
		Motivation
		Suspense
		Cutting on movement
		Lip-synchronous sound
		Cutaways
		The insert
		Expanded and contracted cinematic time
		Cross-cutting
	Atypical Editing Principles	The shock-attraction principle
		The flutter cut
		Associative editing
		Metric editing / montage
		Tonal editing
		Dialectical editing
		Linkage

the edited motion picture".[33] However, it is important to state here that due to its broader aim to explore the interaction between the fundamental elements of architectural and cinematic design; this study will be limited with the elements of cinematography and editing, excluding the approaches to the elements of sound.

On the other side, for the definition of a film, **John Quick** and **Tom LaBau**, in their book 'Handbook of Film Production', point out the characteristics of films, their uses, types, and the formats in which they are produced and released. Rather than making categories to identify the production process of a film, they choose to give information about steps one by one beginning from the development of the idea for a film to the last stages of its storage, care, and distribution after presentation. According to them, the adventure of a film starts with the consideration of the idea, film treatment, script, production planning, budget, film materials and pre-production considerations; then continues with the studies on the lighting equipment, lighting technique, camera equipment, camera set-up, camera technique, sound equipment, sound technique and overall direction; and last ceases with the decisions on the laboratory services such as optical effects, editing equipment and editing technique with the following services of distribution, presentation and storage.[34]

In placing the fundamental elements of a film in a correct framework; **Peter Lehman** and **William Luhr**, in their book 'Thinking about Movies; Watching, Questioning, Enjoying', has classified them under two main sections: 'Narrative Structure' and 'Formal Analysis'. For narrative structure, they give brief information about the formal account of narrative, including a discussion of free and bound motifs and the distinction between story and plot. According to them, "narrative is a term for the way in which the story events of a movie are

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33 Madsen, Roy Paul; 1973. The Impact of Film; How Ideas are communicated through Cinema and Television, p. 28, Macmillan Publishing Co., Inc., New York.

34 Quick, John & LaBau, Tom; 1972. Handbook of Film Production, The MacMillan Company, New York & Collier-MacMillan Limited, London.

49

organized; and in exploring narrative, we explore the structure of those events or the way the story is told."[35] In order to understand the distinction between a story and a plot, they also focus on the subject as such that "the term "story" refers to the events that must be narrated and the term "plot" refers to the arrangement of those events as they are told. Story events occur in chronological order; plot events occur in the order the filmmakers choose to present them, and such choices often reveal a good deal about the meaning of the film"[36].

Meanwhile, for the concept of formal analysis, Lehman and Luhr examines the formal properties of films under the headings of visual images, visual style, visual-narrative effect, deep-focus cinematography, screen space structure; and the use of sound-color free motifs that creates formal complexity. Lehman and Luhr explain their approach to the subject as such that:

> By formal properties, we are referring to the elements of the medium which shape what we see and hear when we watch film. We do not simply or directly see a story when we go to a movie; we see images and hear sounds from which we construct or make a fictional world. Formal properties of images include techniques of composition such as what is in the foreground and what is in the background of the image or what is at the left, center, and right side of the image.[37]

On the other side, departing from an approval that form is located at the core of the importance of any artwork due to its patterned and structured arrangement, **David Bordwell** and **Kristin Thompson** make an investigation about the dynamics of film art starting from the significance of film form. Since form is a detailed organization of patterned relationships apparent in any artwork, film is

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35 Lehman, Peter & Luhr, William; 2003. Thinking About Movies; Watching, Questioning, Enjoying, p.27, Blackwell Publishing, USA.

36 Ibid. Lehman, Peter & Luhr, William; 2003: 31.

37 Ibid. Lehman, Peter & Luhr, William; 2003: 52.

considered to be composed of several mechanisms influencing one to another. They have examined these mechanisms under two sections; the first one is the formal system including narrative and non-narrative structure, and the latter one is the stylistic system including patterned and significant use of techniques such as mise-en scene, cinematography, editing and sound.

Bordwell and Thompson consider a narrative to be a chain of events in cause-effect relationship occurring in time and space. According to them, "a narrative begins with one situation; a series of changes occurs according to a pattern of cause and effect; finally, a new situation arises that brings about the end of the narrative."[38] Although all the components of this definition such as causality, time and space are thought to be important for the narratives in most media, Bordwell and Thompson put causality and time at the centre, since a random string of events is hard to perceive as a story. Therefore, they make sense of principles of narrative construction by identifying its events under a story and a plot; and linking them by cause and effect, time, space and patterns of development.

Determining the relation of mise-en scene to the narrative system of a film, Bordwell and Thompson dwell upon the great variety of mise-en scene possibilities and cinematographic properties through an entire film. They believe that mise-en scene is based on a systematical scheme covering setting, costume, lighting, and the behavior of the figures present in a given film. The arrangement of the mise-en scene elements, their functions, and the constitution of motifs throughout the film with a pattern of space and time is considered "to attract and guide the viewer's attention through the process of watching the film, and to create suspense and surprise."[39] Within this formal context, the filmmaker is also

38 Bordwell, David & Thompson, Kristin; 1993. Film Art: An Introduction, p.55-60, University of Wisconsin, McGraw-Hill Inc.

39 Ibid. Bordwell, David & Thompson, Kristin, 1993: 179.

Table 3.2.4 David Bordwell and Kristin Thompson's definition for the structure of film form

Film Form	Formal System	Narrative	
		Non-narrative	Categorical
			Rhetorical
			Abstract
			Associational
	Stylistic System	Patterned and significant use of techniques	Mise-en Scene
			Cinematography
			Editing
			Sound

Table 3.2.5 David Bordwell and Kristin Thompson's principles of narrative construction

Principles of Narrative Construction	Plot and Story	
	Cause and Effect	
	Time	Temporal order
		Temporal duration
		Temporal frequency
	Space	
	Opennings, Closings and Patterns of Development	

believed to control the cinematographic qualities of a shot – how the image is photographed and framed, how long the image lasts on the screen – to complete the formal context of a film.

Another important element that affects the filmic composition for Bordwell and Thompson is editing. It may be thought of as "the coordination of one shot with the next"[40]. Departing from two agreements that editing contributes a great regularity to the film's composition, and its effect on film strongly shapes viewers' experiences; Bordwell and Thompson attempted to analyze the inner dynamics of film sequences in order to find an adequate answer to the question of how editing functions with respect to the film's narrative form. They supposed that "a shot is perceived as an uninterrupted segment of screen time, space, or graphic configurations for the viewers"[41]; and in order to explain the narrative form as space, time and cause-effect chaining in the manner of classical continuity, editing is believed to offer the filmmaker four basic areas of choice and control of shots including the graphic, rhythmic, spatial and temporal relations between them by the help of gradual and instantaneous changing techniques such as fades, dissolves, wipes and cuts.

With all these approaches to the subject of cinematic design studied above, it has been seen that the process of film-making has its own specific language and use of words, which allows it to discuss its design elements with precision and in details. Either they are put into categories due to their sequential development or taken into account step by step to formulate the overall structure of a film; the elements of a moving picture offer the director a great opportunity to take the attention of the spectator to the separate elements by joining and showing them as a whole under certain principles. In other words, it can be stated that the director in cinema aims to create his/her personal meanings by organizing the elements of moving pictures in an order for describing the possibilities of the

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40 Ibid. Bordwell, David & Thompson, Kristin, 1993: 247.

41 Ibid. Bordwell, David & Thompson, Kristin, 1993: 248.

cinematic medium to the audiences. After understanding the limits of these possibilities, the spectator in the leads of the director is also allowed to analyze a movie more accurately in order to formulate his/her perceptions easily.

Table 3.2.6 David Bordwell and Kristin Thompson's approach to Mise-en scene and Cinematographic Properties

Aspects of Mise-en scene	Setting	
	Costume & Make up	
	Lighting	Frontal Lighting
		Side Lighting
		Back Lighting
		Under Lighting
		Top Lighting
	Figure Expression and Movement	
	Space & Time	
Cinematographic Properties	Photographic Image	The Range of Tonalities
		Speed of Motion
		Perspective Relations
	Framing	Frame Dimensions and Shape
		On-screen & Off-screen Space
		Angle, Level, Height and Distance of Framing
		The Mobile Frame – pan, tilt, tracking shot, crane shot
	Duration of the Image	

Table 3.2.7 David Bordwell and Kristin Thompson's approach to Editing / montage

The Relation of Shot to Shot EDITING	Dimensions of Film Editing	Graphic Relations between Shot A and Shot B
		Rhythmic Relations between Shot A and Shot B
		Spatial Relations between Shot A and Shot B
		Temporal Relations between Shot A and Shot B
	Continuity Editing	Spatial Continuity: the 180° System
		Temporal Continuity: Order / Frequency / Duration
	Alternatives to Continuity Editing	Graphic & Rhythmic Possibilities
		Spatial & Temporal Discontinuity

Our approach to the fundamental elements of a film under the impacts of all these statements above can be considered as an abstract of 'the basic elements of film form' involving a progressive technique through which a screenplay becomes a complete movie. This progression will be considered to compose of three sections:

- **Narrative**
- **Mise-en scene**
- **Editing / montage**

Instead of making a deep analysis within each category and identifying their elements by giving just a brief dictionary definition about them, our process suggests making an overall explanation about each step in order to make a groundwork for the following chapter in which a comparative analysis between architecture and cinema will be studied on the subject of the basic elements of architecture and its design method corresponding to cinematic medium.

Narrative means in its simplest terms 'telling a story'. In a broader definition, it is concerned with how stories get told, how they are constructed and how a representative environment is created with the techniques of storytelling.

Allan Rowe states in his article 'Film Form and Narrative' that:

> Narrative involves the viewer in making sense of what is seen, asking questions of what we see and anticipating the answers. In particular, narrative invites us to ask both what are going to happen next and when, and how will it all end. It operates on the tension between our anticipation of likely outcomes drawn from genre conventions and the capacity to surprise or frustrate our expectations.[42]

Although narrative can be explored with the terms idea, story, synopsis, treatment, character, time, space, cause and effect relationships, development patterns, plot, scenario / script, storyboard / screenplay, production planning and cast; the comparative analysis in the next chapter will deal mostly with the harmony within the character, space and time triangle including cause and effect relationships with the development patterns to formulate a story method corresponding to the conceptual elements of architectural design.

In addition to the concept of film narration, the world of film is also defined by the term **mise-en scene** – the frame of the screen which functions as the basis of composition in a moving picture. Since the cinematic space is suggested to be the projection of a three dimensional imaginary space on a white planar surface which shows at first what is in the frame, films are considered with their spatial features that contain at once what is in the frame as well as what is out of it.

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42 Rowe, Allen; 1996. Film Form and Narrative, An Introduction to Film Studies, edited by Jill Nelmes, p.112, Routledge, London and New York.

Table 3.2.8 Accepted scheme for the fundamental elements of film form in this study

Narrative	Mise-en Scene	Editing / Montage
Idea Story Synopsis Treatment **Character** **Time** **Space** **Cause & Effect** **Relations** **Development Patterns** Plot Scenario / Script Storyboard Screenplay Production Planning Cast	**Qualitative properties:** The elements of setting and props, The arrangement of stage, The composition of the frame, Actor's appearance within the frame, Figure expressions, Perspective relations, ...etc. **Quantitative properties:** Camera height and angle, Size of lenses, Size of frame, Duration of sequences, Duration of movements by the subject within the scene, Duration of movements by the camera, Speed of motion, ...etc. **Additive external properties:** Costumes, Make-up, Color & Tone, Tonality, Lighting, etc. **Positional properties:** Position/motion of a character/camera with respect to the others, Position/motion of a character/camera with respect to the stage, Position/motion of a character in frame with respect to the camera (as the eyes of the spectator), ...etc.	**Continuity Editing** (organization for continuity) Spatial Continuity Axis of action Eyeline match Match on action Shot / Reverse Shot Cross cutting Temporal Continuity Order Frequency Duration **Principles of Film Editing** Graphic Relations between Shot A and Shot B Rhythmic Relations between Shot A and Shot B Spatial Relations between Shot A and Shot B Temporal Relations between Shot A and Shot B

Therefore, mise-en scene can be taken into consideration with the terms of both staging and framing including the type of shots, the camera angles, the set and the photography. In short, it refers to everything that is framed and staged in front of the camera. In other words, it includes all the physical conditions in front of the scene including the figurative and camera features which are critical in determining not only what we see but also how we see.

As a result, it can be stated that not only does it operate on the elements of setting, color, tone, lighting, acting and figure movement, costumes, make up, and the effects they create; but it also includes the main graphic composition of the shot considering the framing of the image, the placement of the figures within the frame, the organization and division of space, the special relations of figures and objects, and the movements of figures within the frame and their relations in space.

In the following chapter, instead of quarreling with the technical terms and analytical details of mise-en scene, it is intended to make an analysis on its elements related with appearance and location corresponding to the physical elements of architectural design.

Editing / montage is defined as the cutting and joining of lengths of film to place separate shots together to manage to suggest a sense of a continuing, connected and realistic flow of events and narrative. In brief, it determines how shots are joined together.

With the impacts of rhythms, patterns, continuities and discontinuities produced by editing / montage, the transitions and relations from shot to shot, from scene to scene and throughout the film as a whole can be considered easily. To sum up, it is a manner in which shots flow smoothly without any compositional or spatial inconsistencies.

However, in English, the ideological function of editing is defined as montage, the process by which an editor takes two pieces of film of tape and combines them to emphasize their meaning. It is a method through which two unrelated shots may create a third and different meaning. It is created by juxtaposing different shots together to have a conceptual connection. This connection can be ideological, symbolic or ironic. For example, in 'Modern Times', Chaplin juxtaposes the image of factory workers going to work with that of sheeps being led to the slaughter house. Therefore, as Steve Campsall points out that "montage is an edited series of shots that works as an 'individual unit' of meaning greater than the individual mise-en scenes from which it is created."[43]

As seen, editing and montage can be considered as one of the most important techniques of cinema due to their capacity in putting all the shots of the film together into a coherent whole by fulfilling the functions of narration, rhythm, continuity, and ideological expression. In spite of the slight difference between these two terms, as a rule, this study is dealt with the formal analysis of filmic structure in association with the relations between shots one after another; so that the difference in the meanings of both editing montage will be neglected. As a result, in the following chapter, in order to clarify the continuity features of shots, the organizational elements of architectural design are compared with the elements of editing and montage without any differentiation.

With all these statements above, it has been seen that when we talk about the fundamentals of a film, we actually mean to fragment the film into its subparts and elements in order to reveal their intrinsic relations. Although there are many elements to consider when dealing with such an issue, a categorical comparative analysis can be beneficial to make a deep investigation on designing a film.

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43 Campsall, Steve; 2002. Analyzing Moving Image Texts: 'Film Language', p.01, Media – GCSE Film Analysis Guide (3), SJC.

Consequently, in the next chapter, a comparative analysis between the systems of two domains – cinema and architecture will be held on the resemblance of their approach in the ordering of their own fundamental elements. The fundamental elements of architectural design will correspond to the language of cinema, since they both guide the initial decisions and establish the basis for the final form of the end product. Moreover, the principles of organization in both domains will also be compared and explored, starting with the conceptual elements of each, continuing with the elements related with appearance and location, and lasting with the relational elements that enable the feeling of completeness within the whole structure.

CHAPTER 4

**AN ATTEMPT TO MAKE A COMPARISON
BETWEEN THE FUNDAMENTALS OF ARCHITECTURAL DESIGN
AND FILMMAKING**

Following the previous chapters in which basic elements of both architectural and cinematic design has been examined and their inherent fundamental principles has been clarified, it becomes possible now to make a comparative analysis between both fields on the resemblance of their design elements. This chapter aims at a critical reconsideration of the relationship of architectural design elements with its counterparts in filmmaking. As an underlying theme, it is also intended to emphasize their tendency in making composition or in bringing together disparate elements and presenting them as a unified whole.

While the focus of this chapter is on the significance of the existence of the fundamental principles of architectural design in the field of cinema, it is also intended to support this assumption with certain examples in filmic medium. In other words, with an agreement that basic principles of architectural design can be treated as an apparatus for the design of a film, this chapter will emphasize not only the significant role of architectural basic design elements in the process of filmmaking; but also emphasize the examples to reveal how this correspondence transcends an alternative way in reading/analyzing films.

Within the context of previous chapter, the basic design elements of architecture and cinema were examined. In the field of architecture; point, line, plane and volume were referred as the 'conceptual elements' (primary elements of design); and their real conditions for final appearance were examined under the name of physical elements due to their 'visual and topological properties'. While the visual elements were grouped as shape, size, color and texture; the topological elements were grouped as position, orientation and visual inertia.

Beside these, the organizational correspondences of the visual elements were investigated under geometric values based upon generating agents such as point, line, coordinate system or composite applications. Moreover, in order to determine the position and the selection of appropriate elements to be employed in a composition without any geometric restriction, the relation between different elements was thought to be supplemented by ordering principles; and those principles were defined as unity, balance, harmony, contrast, repetition, dominance, hierarchy, axis, symmetry, rhythm, datum and transformation.

On the other hand, the fundamental elements and principles of cinematic design were investigated in terms of three main sub groups. In this respect, narrative, which consists of all the imagined conditions related with story, character, time, space, cause and effect relations, development patterns and plot, was thought of constituting the first one. The second one was accompanied with the term of mise-en scene including all the visual and topological conditions of the scene. And last, montage/editing was taken into account including all the relational and organizational possibilities of shots and sequences basically based upon spatial, temporal, rhythmic and graphical relations.

In the case of architecture, architects are dealing with the problem of bringing together various separate elements in order to produce two and/or three dimensional unified projects. They are looking for a solution, taking into account the predetermined constraints which may vary in accordance with the type of the

expected output. Whatever the project is, the architect integrates both theory and practice under certain legible ordering principles for the outcome of an architectural object. Throughout such design process; he/she edits, guides and assembles the fragments such as considerations, decisions, functions, design elements and construction elements necessary to make an 'authored architecture'. In this process, the fundamental elements of architecture are assembled, reevaluated and reassembled continuously by architects who are struggling with the complex and fragmented nature of design process. In his book, "Differences: Topographies of Contemporary Architecture", Ignasi de Sola-Morales identifies the architect's contemporary experience of fragmentation as such that:

> The contemporary architect is responsible not only for certain formal and technical decisions but also for putting a process in motion: one that is complex, articulated, and involves numerous operators who act directly on specific parts of the architectonic object. ... If the social division of architectural work tends to be performed out of the hands of the architect, it simultaneously makes him or her responsible for the mediation, that is to say, the multiple, uncoordinated, technical maneuvers, each with its discontinuous logic and each carried out by specialists who have no grasp of their overall integration. ... The idea or the diagnosis is worth nothing if the architectural project does not engage in its every detail these multiple fragments. The social division of work has broken the one-time practical unity of architecture from project through to completed object.[1]

On the other side, similar inferences can also be detected for the case of cinema, filmmaking, as well. In 'The Work of Art in the Age of Mechanical

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1 Sola-Morales Rubio, Ignasi; 1997. Differences: Topographies of Contemporary Architecture, p.135, Cambridge: The MIT Press, cited in Minuk, Simon Neil; 1998. Intention Construction: Towards a Non-Semantic Architecture, A Master Thesis submitted to the Faculty of Graduate Studies of the University of Manitoba.

Reproduction', Walter Benjamin, for example, refers to the fragmented structure of design process in reference to film direction. In response to Russian film, in particular to film maker Sergei Eisenstein, he describes the reasons of such separate conditions revealing from the combination of multiple components and the contribution of several individuals in the production of film. Consequently, he gives emphasis to the need for their assemblage under the direction of an author or director.[2]

Similarly, Eisenstein refers to film making as a principle of building and construction in the hands of a film director. He identifies such role as the creation of a plasticity where parallel story lines are assembled and juxtaposed invoking a tension. According to Ignasi de Sola-Morales, Eisenstein's approach to film directing is like "making a composition through fragments, creating differences to evoke tension; contrasts as the source of compositional coherence".[3]

In the same manner, for John Rajchman, the process of film making can also be utilized with the process of assembling different fragments and processes with the notion of completeness. In this process, the editing of existing thoughts, conceptions, the addition of new ideas and their assemblage in a new form are constructed within a sense of order which enables us to produce an orderly arrangement in the name of a composition. He shares this notion with the use of his word 'recollection' and with the definition of Deleuze's aesthetic understanding. He explains Deleuzian approach to aesthetic as such that:

2 Benjamin, Walter; 1968. The Work of Art in the Age of Mechanical Reproduction, Illuminations, pp.219-53, trans. Harry Zohn, New York: Schocken Books.

3 Sola-Morales Rubio, Ignasi; 1997. Differences: Topographies of Contemporary Architecture, p.., Cambridge: The MIT Press, cited in Minuk, Simon Neil; 1998. Intention Construction: Towards a Non-Semantic Architecture, p. 70, A Master Thesis submitted to the Faculty of Graduate Studies of the University of Manitoba.

A work, an oeuvre, is always a montage, a composition, an agencement (assemblages). Everywhere it is always a question of construction, of architecture: a pragmatic, empiricist question always yet before us in art, in politics as in thought. That is why Deleuze thinks that architecture is first of the arts.[4]

Under the points of such statements in which contemporary experience of fragmentation for both fields and their intrinsic design system is explored, architectural basic design principles can possibly be proposed as a method to reveal the shared production processes for both architecture and cinema. At this point, the recall of Aytaç-Dural's definition that the object of cinema and the object of architecture are like compositions can be useful. She states the fundamental principles of architectural design as operational apparatus for both cases due to their similar processes in the process of construction and the author's ability to use parallel ordering principles. For the importance of basic design principles:

The basic design principles, which grow out of the search for organization, are means of having control over different elements during the creation of any design product; and that product - no matter what the constituting elements are, can only be evaluated on the basis of a definable order. They can be explored through different medium and the common or similar properties can be detected even between distant domains, where completely different elements are employed.[5]

4 Rajchman, John; 1998. Constructions, p. 4, Cambridge, Mass.: MIT Press; cited in Minuk, Simon Neil; 1998. Intention Construction: Towards a Non-Semantic Architecture, p. 70, A Master Thesis submitted to the Faculty of Graduate Studies of the University of Manitoba.

5 Aytaç-Dural, Tuğyan; 2002. "Theater-Architecture-Education: Theater as a Paradigm for Introductory Architectural Design Education", p.25, METU Faculty of Architecture Press, Ankara, Turkey.

The architectural basic design principles, as seen, enables us the ability to organize a number of things. With an agreement that "when the process of organization ends up with a tangible product, the orderly arrangement of parts makes us call this product a composition"[6], it is possible to interpret a film a kind of composition and analyze it in terms of such fundamentals. How the story is constructed, how the frame is organized and how the scenes come together can be discussed within the context of fundamental principles and elements of architectural design.

After describing the main aim of architectural design as to establish visual harmony and order for the final product starting with the conceptual elements, following with the real conditions for final appearance, and lasting with relational and/or organizational elements; it is actually possible to observe the same procedure for the field of cinema in different headings. In cinema, the process of filmmaking starts with narrative; generates with mise-en scene and gets its final shape with the components of montage/editing. Table 4.1 displays the possible correspondence from architecture to cinema in reference to their fundamental elements of design.

Table 4.1 Fundamental Elements of Architectural Design – Fundamental Elements of Filmmaking

Fundamental Elements of Architectural Design	Fundamentals Elements of Filmmaking
Conceptual Elements (primary elements of design)	Narrative
Physical Elements (real conditions for final appearance)	Mise-en Scene
Relational Elements (Organizational Elements)	Montage/Editing

6 Ibid. Aytaç-Dural; 2002: 34.

In the following part, starting with the primary elements of each, the principles of organization in both domains will be compared and further explored in detail. The analysis will then be developed with reference to the physical and relational properties of these elements, as well, with the support of some examples from the world of the cinema.

4.1   Conceptual Elements – Narrative Correspondence

Of all the ingredients that compose a moving picture, the importance of the narrative is the least understood or appreciated by an audience. On the contrary, as Robert Gessner states that it is the key that unlocks most of the secrets in cinema:

> A character can be fascinating for his expressions of love, hate or indifference. A plot can be intriguing for its involvement, detachment, or puzzling dilemmas. The rhythm and acceleration of camera and editing may pace our concentration. Yet all these factors find their first life on paper, without which their final form on the screen could not exist. Even color and music have been indicated or suggested in some scripts. That there is a difference between the script page and the moving image is as obvious as the distinction between a printed play and a performance on a stage. Yet in the beginning there is the word (mind). … It is reasonable to conclude that no picture in cinema resembles exactly the mental image originally evoked in the language of words; conversely, no picture exists on the screen without first having had a prior form in the mind and usually on paper. [7]

7 Gessner, Robert; 1968. The Moving Image, A Guide to Cinematic Literacy, p.13-14, New York, E. P. Dutton & Co., Inc.

The importance of narrative for the process of filmmaking is lying at drawing the outlines of the final product, formulating the parts or elements that compose the whole. Similar to the conceptual architectural elements, narrative enables us to conceive the final product in the mind before it takes on physical shape. Therefore, a comparative analysis between architecture and cinema may be realized on the resemblance of approach in the configuration of these primary elements.

While, in the case of architecture, point, line, plane and volume give basic shape to a design element; in the case of filmmaking, the properties of character, time and space - the place of the story, the combination of these three inputs in the name of 'cinematic volume' and their gathering in cause and effect relation under a development pattern contribute to the primary formation of filmic narrative. As they both guide the initial decisions and establish the basis for the final appearance of the end products, the principles of organization in both fields can be compared, starting with the primary elements of each, as shown in Table 4.1.1.

The similarity between '**point**' and the 'descriptive adjectives of each character, time and space' belong to their resemblance in being the smallest and most basic element of their own fields. The descriptive adjectives can be exemplified as young, tall, thin, handsome, clever, poor…etc. for the character; in an ordinary day, at war time, after 1980's, in the future...etc. for time; and in a town, in a city, on a planet, in a room, at school…etc. for space. Since they have no length, breadth or depth in space, and they influence the origins of their domains by articulating the transformative quality of the end product, 'points' and such 'psychological and physiological properties' are mostly used to form the conceptual thoughts by indicating only the descriptive qualifications. Like a point, marking or indicating the limits of the two ends of a line, descriptive adjectives point out the limits of both concrete and abstract expressive qualifications. Nevertheless, it is difficult to talk about a creation of a

68

composition by using just a number of these elements because the end product will still be neither an 'architectural object' nor a 'film'. In other words, without any visual or topological properties, or without any relational elements, they will be left behind as conceptual.

Table 4.1.1 Conceptual Elements enhanced with respect to Narrative

Fundamental Elements of Architectural Design Conceptual Elements (primary elements of design)	Fundamental Elements of Filmmaking Narrative	
Point	The descriptive adjectives of each character, time and space	**Cinematic Point**
Line	Character / Time / Space	**Cinematic Line**
Plane	The duality of character – time The duality of character – space The duality of space – time	**Cinematic Plane**
Volume	The trio of character – time – space	**Cinematic Volume**

 "A point extended becomes a **line**. Conceptually, a line has length, but no width or depth. Whereas a point is by nature static, a line, in describing the path of a point in motion, is capable of visually expressing direction, movement, and growth."[8] The position of each, character, time and space in a narrative resembles to the role of a single line in a three-dimensional composition. As the contour of a line defines the borders of a plane, and then, defines the limits or

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8 Ching, Francis; 1979. "Architecture: Form, Space and Order", p. 24, Second Edition, VNR Book, John Willey&Sons, USA.

boundaries of a volume, the concept of narrative or the collective whole story is created by bringing the inputs of character, time and space together to define the limits of the imagined environment in a cinematic medium. Ching points out the dynamism of lines as such that

> The orientation or direction of a line can affect its role in a visual construction. While a vertical line can express a state of equilibrium with the forces of gravity, or the human condition, or mark a position in space, a horizontal line can represent stability, the ground plane, the horizon, or a body at rest.[9]

Although the direction of a 'line' indicates a kind of mood as such that horizontal lines are calm and quiet, vertical lines suggest more of a potential for movement, while diagonal lines strongly suggest movement and give more of a feeling of vitality to a picture; it is not possible to talk about these concepts within the limits of this examined field. Instead of its potential in orientation, direction or movement, line is considered here as an important element with its potential in the formation of any shape by serving to join, link, support, surround, or intersect other visual elements. However, the concepts like equilibrium, gravity, stability and dynamism can easily find their counterparts in the process of montage/editing which will be studied in the following parts.

Architecture deals specifically with the formation of three-dimensional volumes of form and space; so that the **plane** becomes a key element in the vocabulary of architectural design. It is obtained by the path of a line in motion (in a direction other than its own intrinsic direction). Whereas, in the process of filmmaking, the cinematic plane is obtained as the outcome of the duality of character - time, character – space or time – space. The dualism between the narrative inputs resembles to the bounded behavior of lines to define the external limits of a

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9 Ibid. Ching; 1979: 25.

plane. Since "a plane serves to define the limits or boundaries of a volume"[10], the orderly arrangement of planes serves as one of the primary factors for the process of composition, as in the case of identifying the limits of cinematic narrative.

The descriptive adjectives of each character, time and space

Character / Time / Space

The duality of character – time
The duality of character – space
The duality of space - time

The trio of character – time - space

Cinematic Point   Cinematic Line   Cinematic Plane   **CINEMATIC VOLUME**
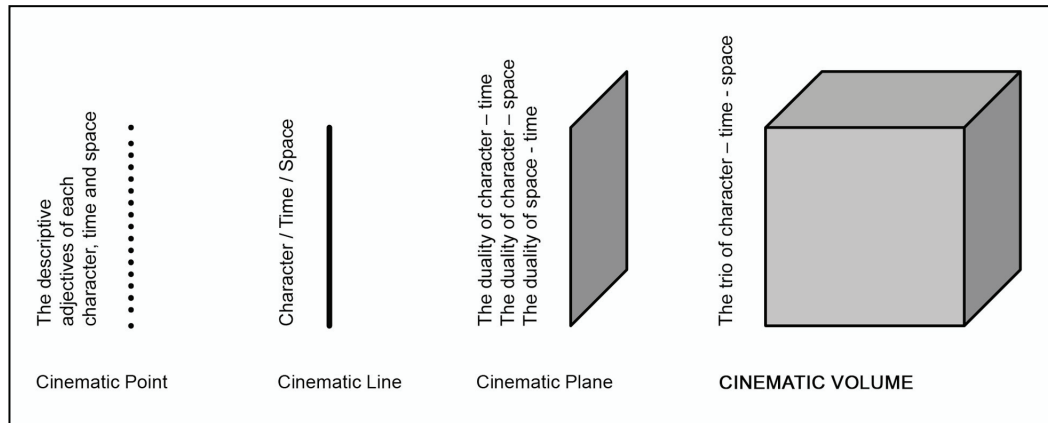
Figure 4.1.1 the generation scheme of narrative as compared to the conceptual elements of architectural design (author)

Finally, as for the formal aspects, **volume** is defined as the extension of plane (in a direction other than its intrinsic direction), and conceptually it has three dimensions: length, width and depth. It is determined by the shapes and interrelationships of the planes that describe the boundaries of the volume, and it defines the amount of space contained. Similarly, the combination of character, time and space in cinematic medium expresses the dimensions of a narrative. In other words, as all volumes can be analyzed and understood to consist of points, lines and planes; the overall narrative in the means of 'cinematic volume' can be defined as the combination of all these primary elements such as character, time and space.

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10 Ibid. Ching; 1979: 36.

The film grows on a narration, which tells a story about something; that can be love, war, or peace or any other universal subject; and the process of this narration, as explained above, presents a hierarchic organization departing from descriptive points to the final form of cinematic volume. Although, by itself narrative can hardly represent the full image of the film, it can be defined as one of the most important components of filmic organization due to the fundamental effects at the beginning of this formal process.

Consequently, the aim of any composition in any narrative structure can be stated as to achieve unity and this can only be possible if the elements cooperate well with each other. Therefore, in the case of narration, to provide this unity we refer to the orderly arrangement of such 'cinematic volumes' that can be described as the main scheme managing the configuration of narrative elements. In other words, it can be stated that each film has at least one cinematic volume in the means of narration, and if a film is generated around a main character, the structure of this film can be mentioned as to be formulated around only one cinematic volume. If more, the conditions that facilitate the organization of such an interwoven narration are formulated with the laws of cause and effect relations and the development patterns arising from the relation between the main volumes or between the sub volumes in this composition. According to Aytaç-Dural, "unity of plot, since Aristotle, has been one of the major concerns for dramatist and in most of the cases unity has been retained on the 'dramatic conflict' and/or the 'opposing forces'. Contrasting characters, representing different aspects of the same situation may be opposing each but since they are complementing each other it is possible to talk about 'balance' within the context of play (film) as a composition". In order to clarify these situations, the concept of cinematic volume will now be exemplified with respect to the context, "unity of plot" on some cases from the world of cinema.

8½ (Otto e Mezzo, Eight and a Half, dir.: Federico Fellini, Italy-France, 1963) is a film of cycles in which past, present and future are subtly intertwined in an

endless continuum of meaning that exists within the mind of the artist as well as in the aesthetic itself.

On its most accessible level, the biographical one, it is the story of a weary, desperate auteur, Guido, a motion picture director like Fellini himself (although most critics are too reverential of the similarities between the two) who has just had a big hit and does not know what he will do next since his loss in his source of inspiration both in his art and in his life. Moreover, due to the publicity about his last film, producers, writers and actresses, all bore him with questions about his next project, which Guido is clueless about. Consequently, he inevitably turns inward to examine the generative events of his development - his boyhood, the Church, his relationship with his parents, and the women in his life - as well as the nightmares accompanying each.

Throughout the film of 8 ½ being interpreted as a film developing around a main character, Guido; the translation of one major cinematic volume into the realm of narrative is realized. The unity of plot is obtained by the impression of centrality and its connection with the sub events dominating the main volume. Although there may happen to be a series of events within a play, during the flow of the narrative these sub events are used to support the authoritarian ruling of the heroic marginal position. In Figure 4.1.2, these conditions are illustrated with reference to volumetric relations, each of which representing the level of superiority with the network of relations.

When we analyze the film, **The Bicycle Thieves** (Ladri di Biciclette, dir.: Vittorio De Sica, Italy, 1948), we come across with two main characters - Lamberto Maggiorani as Antonio (father) and Enzo Stailola as Bruno (son), showing an interconnected story between the father and his son. Both the contrasting and similar properties displayed as the complementary conditions between Antonio and Bruno are the signs of their intrinsic relations; thus signal the formation of a narrative composition with two main cinematic volumes.

73

De Sica presents a simple story about the lives of ordinary people in terms of a man's and his son's relation to a crowd. Antonio Ricci is an unemployed workman in his thirties, married with two children. He is offered a job as a billsticker on condition that he has his own bicycle. He goes to work the next day, but while he is sticking up a poster of Rita Hayworth his bike is stolen. Many bikes are stolen everyday in Rome and the police suggest he looks for the thief himself. Ricci, accompanied by his ten-year old son Bruno, begins an anxious search, learning valuable lessons along the way. To sum up, the movie focuses on both the relationship between the father and the son and the larger framework of poverty and unemployment in postwar Italy.

The narrative connectedness between father and son that advance the way of displaying ideas and the orchestration of two main characters with different elements affects the descriptive quality of the filmic narration. In this film, the unity of plot is realized with the tension between two major cinematic volumes and their intrinsic correspondence on the realm of cause and effect relations and development patterns. Figure 4.1.3 represents the relations as a graphic analysis.

For the last example, **21 Grams** (dir.: Alejandro González Iñárritu, United States, 2003) is almost an interactive narrative in which we are called upon to piece a puzzle together. It is a mosaic of images that gradually resolves itself into a powerful tale of tragedy and redemption. It moves backwards and forwards in time and jumps from character to character with an annoying frequency. But, out of what initially seems to be an irritatingly random approach, a pattern emerges. At the end of the film, it becomes clear that Inárritu is paving a narrative path in which past, future, and present are all coming together. It takes a little while, but a picture begins to emerge. Then, it's just a matter of putting the pieces in the right places. In some ways, this is similar to Iñárritu's recent film, 'Amores Perros', which also reveled in the darkness of human nature and used a non-linear narrative.

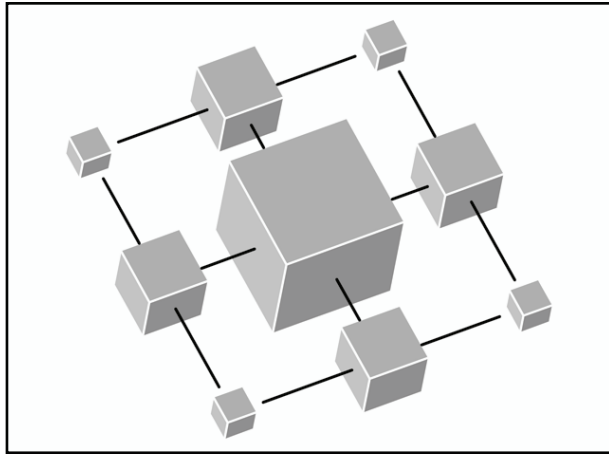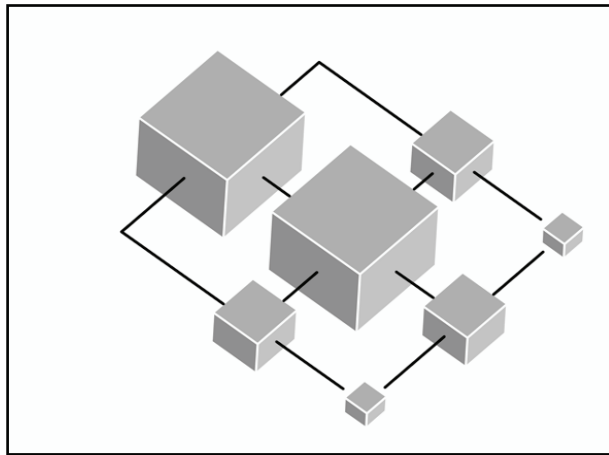**Figure 4.1.2 Graphic Analysis of "8 ½"** (author)

Figure 4.1.3 Graphic Analysis of "Bicycle Thieves" (author)

- the state **before** the accident -   - the state **after** the accident -
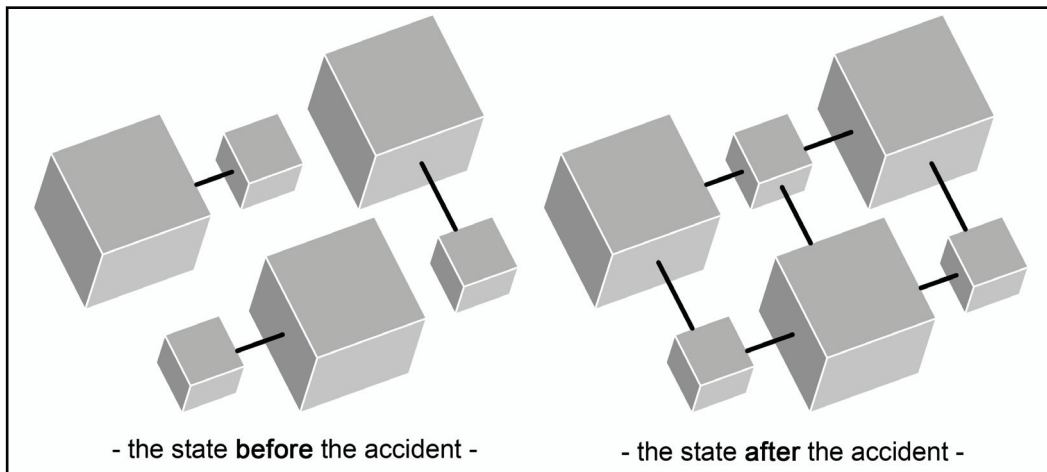
Figure 4.1.4 Graphic Analysis of "21 Gram" (author)

75

21 Grams centers around three main characters whose destinies intersect at a crucial moment. Paul (Sean Penn) is a math professor with a bad heart. His marriage seems as doomed as he is, but his wife refuses to leave him in his terminal state. She wants to have his child via artificial insemination, but, without a heart transplant, he will not live long enough to see his offspring. Jack (Benicio Del Toro) is an ex-convicted who has reformed his life through devotion to Jesus. But there are times, especially in his home life, when glimpses of his past personality shine through. Christine (Naomi Watts) is a happily married woman with a loving husband and two delightful daughters. She is content with her daily routine until events send her life spinning out of control, impelling her back into the drug-induced haze from which her marriage rescued her. Throughout the story, all of these three main characters will be brought together by a terrible accident that will change their lives. By the final frame, none of them will be the same as they will learn harsh truths about love, faith, courage, desire and guilt, and how chance can change our worlds irreversibly, forever.

It is actually quiet difficult to specify a definite understanding of the condition, unity of plot when the networks of relation between the characters and the nonlinear description of narrative are examined. It is even impossible to define which character is dominant within the story because of such narrative oscillation. Still we can follow a hidden path defined within the borders of three characters. Although the individual stories of three diverse characters started at different time and different places get into contact by the chance of an unexpected event, the volumetric limits of each state begin to conflict with each other after the accident. Consequently, the unity of plot is obtained by the organization/arrangement of three volumetric units under certain cause and effect relations and the development patterns. Figure 4.1.4 illustrates the relational status of three volumes in past and present conditions.

It is seen from the examples that the importance of narrative for the process of film making is no less important than the importance of conceptual, primary elements in architectural design. They are all preliminary processes, which include a profound study for future projections. About constituting the primary steps of design, Wong states that "many of our three-dimensional ideas are first visualized on a flat piece of paper. We usually use a fine line to indicate the border of a plane or volume. This line is visual as it appears on the two-dimensional surface, but conceptual its only use is as a means of representing a three-dimensional form." This approach is similar to one in narrative; since neither one is the full representation of the end product. Both the narrative during the process of filmmaking and conceptual elements during the process of architectural design draw the outlines of the final product. Therefore, the primary elements of architectural design and narrative can similarly be considered as the frameworks for the end product due to their help in the process of conceptualization.

4.2   Physical Elements –Mise-en Scene Correspondence

It is the fourth scene of 'Citizen Kane', about fifteen minutes into the film. Using the filmmaking device of a crane shot, the image projected on the screen moves up and over a building and focuses on a skylight. As the camera zooms in and the image dissolves to reveal the scene taking place under the glass, the viewer sees a woman slumped over at a table as a reporter sits down to interview her apparently, the audience learns, against her wishes. It is a startling sequence as the audience, unaccustomed to penetrating a room in quiet this manner, is made acutely aware of the violation of this woman, not only by the reporter's prying inquiry but by the viewer's own voyeuristic position as well. A character is being interrogated, as is the architecture in which she sits. In the transformation

of a skylight to a panopticon, Orson Wells has made available a unique spatial experience, one that is chilling and yet exhilarating. At such a moment the boundary separating two distinct media, cinema and architecture, is blurred.[11]

While such drama does not always exemplify all the relationships in between two fields, there is at least a tradition of connection that both the architect and the director propose worlds for one to inhabit. While the architect imagines the experience of the space he/she is designing, the filmmaker designs the events of that world. Although, in a film, the structure of experiences as put forward by the director allows one to live through the real or imagined experience of inhabiting from the eyes of the director; in the case of architecture, the built space could not be perceived through which the architect have anticipated or imagined. Nevertheless, the composition of a stage, the frame, and the relationship of characters and cameras to both becomes a dynamic controlled by the director similar to the architect's attempt exerting on the design of physical elements itself.

Therefore, the properties, which give the final appearance to any sort of form with reference to the outer appearances and positional attributes, can be examined for both fields under the headings of 'physical elements' for architecture categorized as 'visual' and 'topological' elements, and 'mise-en scene' for cinema. The projections of the physical elements of architectural basic design on the field of cinema are displayed in Table 4.2.1 which prepares a ground for the analysis of the dynamic relation between these two concepts.

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11 Payton, Neal I. Architecture and the Moving Image: Film and Video, National Building Museum, www.nbm.org/blueprints/90s/summer90/page3/page3.htm, September 2006 (last accessed.

Three-dimensional forms are seen differently from different angles and distances and under different lighting conditions. Therefore, following visual elements must be considered in relation to one another for both domains.

The word **shape** - a figure that appears to be flat - is commonly used in architecture as the principal identifying the characteristic of form - a figure that appears to be three-dimensional – resulting from the specific configuration of a form's surfaces and edges. Shape refers to the edge contour of a plane or the silhouette of a volume. As Ching states that "it is the primary means by which we recognize and identify the form of an object. Since it is seen as the line that separates a form from its background, our perception of a form's shape will depend on the degree of visual contrast between the form and its background."[12]

In architecture, "we are dealing with the shapes of planes that enclose space (floors, walls, and ceiling), openings within a spatial enclosure (windows and doors), and the silhouettes of building forms". [13] Departing from the agreements that shape is the outward appearance of an architectural object and each event and their organization in a moving picture get shape depending on the spaces and spatial relations formulated by architecture, the elements of mise-en scene with qualitative properties can be examined within this context. In the case of mise-en scene, the correct selection of elements for an intended setting atmosphere, their arrangement on a defined area, the feeling of unity within a frame by including certain objects and excluding others, the figurative expression of the actor in relation to background and all the intrinsic ordering principles with each other make a ground for the verification of such corresponding.

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12 Ching, Francis; 1979. "Architecture: Form, Space and Order", p. 52, Second Edition, VNR Book, John Willey&Sons, USA.

13 Ibid. Ching; 1979: 52.

Table 4.2.1 Physical Elements (Visual / Topological) enhanced with respect to Mise-en Scene

Fundamental Elements of Architectural Design		Fundamental Elements of Filmmaking
Physical Elements (real conditions for final appearance)		**Mise-en Scene**
Shape	**Visual Elements**	**Qualitative properties:** The elements of setting and props, The arrangement of stage, The composition of the frame, Actor's appearance within the frame, Figure expressions, Perspective relations, ...etc.
Size -> scale + proportion		**Quantitative properties:** Camera height and angle, The focal length of lenses, Size of frame, Duration of sequences, Duration of movements by the subject within the scene, Duration of movements by the camera, Speed of motion, ...etc.
Color -> Light Texture-> Light		**Additive external properties:** Costumes, Make-up, Color & Tone, Tonality, Lighting,... etc.
Position – Location of an element with respect to the surrounding elements and/or the visual field –	**Topological Elements**	– Position/motion of a character/camera with respect to the others –
Orientation – Position of an element with respect to the ground plane, the compass points and the viewing person –		– Position/motion of a character/camera with respect to the stage –
Visual Inertia – The degree of concentration and stability of an element and its orientation relative to our line of sight–		– Position/motion of a character in frame with respect to the camera (as the eyes of the spectator) –

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The relationship of parts within a design is also dependent upon size. **Size** is not just greatness or smallness, length or brevity, which can only be established by way of comparison. According to Ching, "it is the real dimensions of form, its length, width, and depth; while these dimensions determine the proportions of a form, its scale is determined by its size relative to other forms in its context".[14] Scale and proportion are also important for the case of size, because the size of an element without any relations with the neighboring ones may not mean much during the process of composition. Therefore, it can be stated that the decision of how big/small an object is with reference to others is an important issue within the context of size.

Size, for the case of architectural design, may be corresponding to the elements of mise-en scene with quantitative properties for the case of cinema. Camera height and angle, the focal length of lenses, size of frame, the duration of sequences, the duration of movements by the subject within the scene, the duration of movements by the camera, speed of motion, ...etc. are all arranged proportionally under certain ordering principles by the scriptwriter or director. Although it is difficult to talk about one-to-one correspondence between 'size' and 'quantitative properties', the role played by both, in terms of implying a similarity between the sizes of various parts under some to proportional relations, is alike.

An example of an ordinary use of screen in different shape and size comes from Brian De Palma's film, **Carrie** (dir.: Brian De Palma, United States, 1976). In this film, De Palma used a split screen, but only in certain scenes. "Throughout most of the films, De Palma composes the screens in accordance with the current conventions of filmmaking, which presented one unified image filling the entire scene. During certain highly dramatic scenes, as in the case of Carrie, he suddenly shows two images juxtaposed directly next to each other with only a

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14 Ibid. Ching; 1979: 50.

dividing frame line separating the images which show the same action, but photographed from a drastically different camera positions"[15] (figure 4.2.1, figure 4.2.2). By this way, audiences unused to this shape and size of screen are likely to find themselves in an awareness of such stylistic technique that might not normally notice.

The role of **color** and **texture** for architecture in terms of giving the final appearance to the elements, named as stylistic norm, are also for cinema. Zelanski states about the effect of color in offering new opportunities that "when artists are limited to black and white, using a range of grays permits a great variety of effects. But, when there are opportunities to work with color, a whole new world of visual sensations opens up".[16] Moreover, the use of color in design plays also an important role in psychological reactions. Bevlin states that "a design that is interesting in black and white becomes an exciting composition when done in warm bright colors. The same design becomes soothing and restful when executed in soft tones. People react differently in different color settings; this is why the psychology of color has become increasingly important in architectural design".[17] These attributes are also similar for the case of cinema. It is obviously used in the setting, props, costumes and make-up in order to draw spectator's attention with the support of its psychological effects.

In addition to the effects of color, texture referred as the surface characteristics of the material used in the design can be thought as a counterpart in determining the outer appearance of a character or an object within the context architecture and

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15 Lehman, Peter & Luhr, William; 2003. Thinking About Movies; Watching, Questioning, Enjoying, p.55, Blackwell Publishing, USA.

16 Zelanski, Paul & Fisher, Mary Pat; 1996. Design Principles and Problems, p.226, Harcourt Brace College Publishers, USA.

17 Bevlin, Marjorie Elliot; 1970. "Basic Ingredients", Design Through Discovery, Second Edition, p.35, Holt, Rinehart and Winston Inc, USA.

Figure 4.2.1 / 4.2.2 A scene from the film, Carrie
(Lehman, Peter & Luhr, William; 2003. Thinking About Movies; Watching, Questioning, Enjoying, Blackwell Publishing, USA.)

cinema. For both cases, the importance of lighting in exploring the environment through the sense of seeing must not be forgotten. While the emphasis of lighting on the textures of a subject can make it seem so real the viewer can almost touch it, feel it, taste it; it may contribute color as an eye-catching element that supports the film's enrichment and the viewer's perception.

As Lehman and Luhr states that "creative filmmakers sometimes employ surprising stylistic features that are unusual for the time and of their release precisely because such departures the stylistic norm may have a strong impact on the audience. Such moments offer particularly good examples of style since we are likely to be struck by something novel".[18] The same is true for the film, **Schindler's List** (dir.: Steven Spielberg, USA, 1993), which can be an example of using the patterns of color intentionally as a narrative effect on visual style. "It is a black-and-white movie over three hours long. It came at a time when nearly all films were made in color, so the mere fact of it, being in black and white, made it stands out (figure 4.2.3). Spielberg did, however, use brief moments of color in the film. We repeatedly see a little girl wearing a red coat (figure 4.2.4) and, in one scene, we see the flames of candles lit during a religious ceremony burning in color (figure 4.2.5). Finally, the epilogue is a full-color scene in the cemetery where the historical character upon whom the film is based is buried (figure 4.2.6)."[19] Again, about the visual style of this film, Lehman and Luhr states that "these color schemes in the name of surprising stylistic features will surely be remembered by spectators who have never seen anything like it."[20]

The elements of visual properties are not enough to define the final appearance of any sort of an architectural object. The physical state under which we view

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18 Lehman, Peter & Luhr, William; 2003. Thinking About Movies; Watching, Questioning, Enjoying, p.54, Blackwell Publishing, USA.

19 Ibid. Lehman & Luhr; 2003: 54.

20 Ibid. Lehman & Luhr; 2003: 54.

them must be determined with the elements of **topological properties** as well as the visual ones. The topological properties can be stated as position, orientation and visual inertia. **Position** is "a form's location relative to its environment or visual field".[21]   **Orientation** can be defined as a "form's position relative to the ground plane, or the person viewing the form".[22] Finally, **visual inertia** can be mentioned as "the degree of concentration and stability of form depending on geometry as well as orientation relative to the ground plane and our line of sight".[23]

These 'topological properties' can also be a ground to make a comparison between the physical elements of architectural design and '**positional elements**' of mise-en scene. In architecture, the physical properties of elements are affected by the conditions under which we view them. In other words, their appearance changes depending on "our perspective or angle of view, our distance from the form, lighting conditions and the visual field surrounding the form".[24] Owing to the fact that architectural elements have strong structural qualities with a concrete stability, the topological properties of their appearance belongs to the position of the spectator in motion and the environmental settings. On the other side, for the case of cinema, the position of the character/camera with respect to the others, the position of the character/camera with respect to the stage, and the position of the character in frame with respect to the camera (as the eyes of the spectator) can be stated as a source of reference to discuss such topological properties within the field of cinema.

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21 Ching, Francis; 1979. "Architecture: Form, Space and Order", p. 51, Second Edition, VNR Book, John Willey&Sons, USA.

22 Ibid. Ching; 1979: 51.

23 Ibid. Ching; 1979: 51.

24 Ibid. Ching; 1979: 51.

Figure 4.2.3 / 4.2.4 / 4.2.5 / 4.2.6 a scene from the film, Schindler's List
(Lehman, Peter & Luhr, William; 2003. Thinking About Movies; Watching, Questioning, Enjoying, Blackwell Publishing, USA.)

Moreover, the mobility of the characters or objects before the camera and the position/mobility of the camera with respect to the director's or spectator's eye are other important inputs for the case of cinema. "Since these elements are in motion," as Aytaç-Dural states, "their relation with the visual field and with each other has to be organized with special care. Therefore, the positioning plays an important role at each instant and the sequence of these instants becomes a part of the design process."[25] For example, creating physical distance between two characters in a frame can indicate emotional distance that might be experiencing at that point in the film.

The composition of the stage in cinema has a specific importance in order to draw the spectator's attention to a point, and so, to create an intended effect in relation with the narrative. Therefore, the position/motion of the character or camera with respect to the stage in the name of orientation can be used to give an immediate sense of attraction in the film and their status with the world around them. For example, a filmmaker can successfully draw an audience's attention to an important character merely through placing them in the foreground of the stage. Likewise placing a moving body in a stationary background or vice versa has the same effect.

In architecture, as Eisenstein argues, the spectator moves through a series of carefully disposed phenomena which are observed with 'his visual sense'; in cinema, on the other hand, the eye follows an imaginary route through a series of images revealing diverse positions passing in front of 'an immobile spectator'.[26] Therefore, with respect to the term visual inertia, the degree of stability and orientation of a form relative to the our line of sight in the case of architecture and the position and movement of the character in the limits of the frame relative

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25 Aytaç-Dural, Tuğyan; 2002. "Theater-Architecture-Education: Theater as a Paradigm for Introductory Architectural Design Education", p.39, METU Faculty of Architecture Press, Ankara, Turkey.

26 Eisenstein, Sergei; 1994. "Montage/editing and Architecture", Towards a Theory of Montage/editing (1937-1940), Selected Works, Vol.2, p.59, ed. by Michael Glenny and Richard Taylor, London: BFI.

to the position of the camera in the case of cinema are also critical in determining both what we see and how we see.

At this point, the two examples from Carl Dreyer's **Day of Wrath** (Vredens Dag, dir.: Carl Theodor Dreyer, Denmark, 1943) can be useful to examine how the elements of mise-en scene come together to emphasize the narrative elements, to direct our attention and to set up dynamic relations among areas of screen space. Departing from the fact that our vision is sensitive to differences within the composition of a scene, David Bordwell & Kristin Thompson make the formal analysis of both scenes as such:

In the first shot, the heroine Anne is standing before a grillwork panel (figure 4.2.7). She is not speaking, but since she is a major character in the film, the narrative already directs us to her. Setting, lighting, costume, and figure expression create pictorial cues that confirm our expectations. The setting yields a screen pattern of horizontal and vertical lines which intersect in the delicate curves of Anne's face and shoulders. The lighting creates a patch of brightness on the right half of the frame and a patch of darkness on the left, creating pictorial balance. Anne's face becomes the meeting point of these two areas. Her face becomes modeled by the relatively strong key lighting from the right, a little backlighting on her hair, and relatively little fill light. Coordinated with the lighting in creating the pattern of light and dark is Anne's costume - a black dress punctuated by white collar, a black cap edged with white - which again emphasizes her face.[27]

The scene is comparatively shallow, displaying two major planes with little distance between them. The background sets off the more important element, Anne. The rigid geometrical grid in the rear makes Anne's slightly sad face the most expressive element in the frame, thus encouraging our

27 Bordwell, David & Thompson, Kristin; 1993. Film Art: An Introduction, p.169, University of Wisconsin, McGraw-Hill Inc.

eye to pause there. In addition, the composition divides the screen space horizontally, with the grid pattern running across the top half and the dark, severe vertical of Anne's dress dominating the lower half. As is common, the upper zone is the stronger because the character's head and shoulders occupy it. Anne's figure is positioned slightly off center, but with her face turned so as to compensate for the vacant area on the right. (Imagine how unbalanced the shot would look if she were turned to face us squarely and the same amount of space were left empty on the right.) Thus compositional balance reinforces the shot's emphasis on Anne's expression. In all, without using motion, Dreyer has channeled our attention through the lines and shapes, the lights and darks, and the foreground and background relations in the mise-en-scene.[28]

In the second example (figure 4.2.8), Bordwell and Thompson state that Dreyer draws our attention into a to-and-fro movement:

Again, the plot guides us, since the characters and the cart are crucial narrative elements. But mise-en-scene also plays a role. Size diminution and cast shadows establish basic foreground/background relations, with Anne and Martin on the front plane and the cart of wood in the background. The space is comparatively deep. The prominence of the couple and the cart is reinforced by line, shape, and lighting contrasts. The figures are defined by hard-edged lines and by dark costumes within the predominantly bright setting. Unlike most shots, this puts the human figures in the lower half of the frame, which gives that zone an unusual importance. The composition thus creates a vertical balance, counter weighting the cart with the couple. This encourages us to glance up and down between the two objects of our attention.[29]

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28 Ibid. Bordwell & Thompson; 1993: 169.

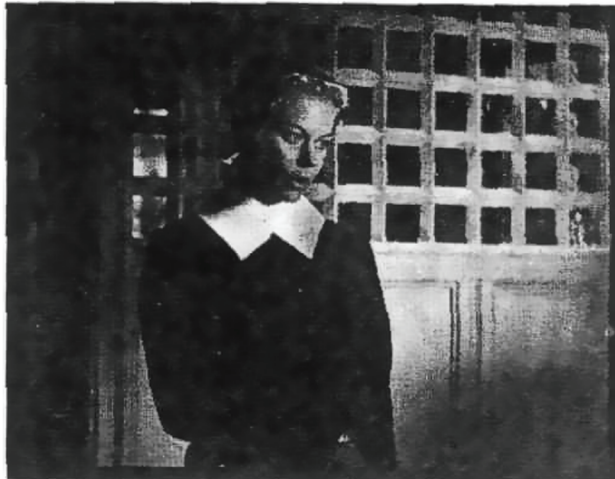29 Ibid. Bordwell & Thompson; 1993: 170.

Figure 4.2.7 / 4.2.8 A scene from the film, Day of Wrath
(Bordwell, David & Thompson, Kristin; 1993. Film Art: An Introduction, University of Wisconsin, McGraw–Hill Inc.)

4.3   Relational Elements – Editing / Montage Correspondence

The last section discussed how visual and topological properties of form affected the conditions we view them and how their patterns or intrinsic relations affected the visual qualities of the end products. Although, a composition consists of several elements with different visual and topological properties, the way how these elements are related to one another and organized into coherent patterns of form is quiet questionable.

Therefore, the following section lays out the basic ways of arranging and organizing the elements of an architectural or filmic composition with reference to certain principles. If visual and topological properties of the elements of both domains are on one side of the design process, the orchestration of these elements under certain ordering principles is on the other. Examining the manner how these elements are arranged, and clarifying their relative importance with respect to one another under some functional or symbolic roles in an organization lead us to a search for an underlying system that is used for integrating all sorts of complex relations into a unified whole.

After making a comparative analysis between architecture and cinema, it is seen that the relational elements of architectural basic design and the elements of montage/editing are displaying similar behaviors. In order to prepare a ground for a deep investigation as shown in Table 4.3.1, the 'types of spatial organization' for the field of architecture are corresponded with 'the types of continuity' in the field of cinema, and the 'ordering principles' of architectural basic design are corresponded with 'the principles of film editing' in order to support the relational argument between these two domains.

Table 4.3.1 Relational Elements enhanced with respect to Editing / Montage

Fundamental Elements of Architectural Design **Relational Elements** (Organizational Elements)	Underlying system for a unified whole	Fundamental Elements of Filmmaking **Editing / Montage**
Types of Spatial Organization **Centralized – agent: point** Radial – agent: point Spiral – agent: point **Linear – agent: line** Modular – agent: co-ordinate system Cellular – agent: co-ordinate system **Grid – agent: co-ordinate system** **Clustered – agent: composite** Free – agent: composite		**Types of Continuity** (organization for continuity) **Spatial Continuity** (Axis of action, Eyeline match, Match on action, Shot / Reverse Shot, Cross cutting…) **Temporal Continuity** (Order, Frequency, Duration, …)
Ordering principles Unity Balance Harmony Contrast Repetition Dominance Hierarchy Axis Symmetry Rhythm Datum Transformation	in order to sustain the relation between different elements	**Principles of Film Editing** Graphic Relations Rhythmic Relations Spatial Relations Temporal Relations

The main aim of an architectural composition is to compose a number of spaces that are related to one another by function, proximity or continuity. The manner in which these spaces are arranged can clarify their relative importance and functional or symbolic role in a building's organization. About the decision as to what type of organization is used in a specific situation, Francis Ching states that it depends on:

- the demands of the building program, such as functional proximities, dimensional requirements, hierarchical classification of the spaces, and requirements for access, light, or view;

- exterior conditions of the site that might limit the organization's form or growth, or that might encourage the organization to address certain features of its site and turn away from others.[30]

The types of relations in a unified whole for architectural design can be classified in accordance with the generating agents such as point, line, or co-ordinate system. While centralized, radial or spiral organizations are generated around a point; linear organizations are developed through a line, and modular, cellular or grid organizations are on a coordinate system.

A **centralized organization** is a concentrated composition that consists of a number of secondary elements grouped around a central point. Circulation patterns within a centralized organization may be radial, loop or spiral in form. In almost every case, however, the pattern will terminate in the central space. Therefore, a radial organization and a spiral organization can be defined in the limits of a point-agent organization; however, elements of linear organizations that extend in a linear manner are also employed. The centralized organization is generally regular in form, and large enough in size to gather a number of

30 Ching, Francis; 1979. "Architecture: Form, Space and Order", p. 204, Second Edition, VNR Book, John Willey&Sons, USA.

secondary elements around its form. These secondary elements can be equivalent to one another in function, form and size; or may differ from one another in form and size as a response to their individual requirements of function, relative importance or context.

A **linear organization** consists of a series of repetitive elements, displaying similar or different properties in size, form or function. These elements can either be related directly to one another, or be linked through separate and distinct linear elements. For indicating the importance of an element in the course of organization, Ching states that "elements (spaces) that are functionally or symbolically important to the organization can occur anywhere along the linear sequence and have their importance articulated by their size and form. Their significance can also be emphasized by their location: at the end of the linear organization, offset from the linear organization, or at the pivotal points of a segmented linear form."[31]

When the organization is generated according to a co-ordinate system, as Aytaç-Dural states, "the underlying pattern establishes a constant field of reference through which the elements having different properties share a common relationship"[32]. A **grid organization**, consisting of forms and spaces whose positions in space and relationships with one another are regulated by a three-dimensional grid pattern or field, can be asserted as one of the underlying patterns stated above. It is created by establishing a regular pattern of points that define the intersections of two sets of parallel lines. Projected into the third dimension, the grid pattern is transformed into a set of repetitive, modular units of space. About its organizing power on the arrangement of elements dissimilar in shape and utility, Ching points out the source of this power as such:

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31 Ibid. Ching; 1979: 204.

32 Aytaç-Dural, Tuğyan; 2002. "Theater-Architecture-Education: Theater as a Paradigm for Introductory Architectural Design Education", p.42, METU Faculty of Architecture Press, Ankara, Turkey.

The organizing power of a grid results from the regularity and continuity of its patterns that pervades the elements it organizes. Its pattern establishes a constant set or field of reference points and lines in space with which the spaces of a grid organization, although dissimilar in size, form, or function, can share a common relationship.[33]

For the last case, a **clustered organization** can be defined as a type that uses all the possibilities shared by centralized, linear or grid organizations in the relation of its elements to one another. It consists of all the properties of other organizational types and shares a common visual trait such as symmetry or an axial condition. It can also be defined as to be the composition of elements that are dissimilar in size, form and function, but related to one another by proximity and a visual ordering device such as symmetry or an axis. "Because its pattern does not originate from a rigid, geometrical concept", Ching states, "the form of a clustered organization is flexible, and can accept growth and change readily without affecting its character";[34] and he adds that "symmetry or an axial geometry can be used to strengthen and unify portions of a clustered organization and help to articulate the importance of an element or group of elements within the organization"[35].

These types of spatial organization in architecture have a specific importance in terms of formulating an underlying system for a unified whole. It serves to one of the main aims of architecture in means of establishing spatial relationship between different individual elements. Assembling fragmented pieces together to set up an entity under a certain rule is also a process in filmmaking as well as in

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33 Ching, Francis; 1979. "Architecture: Form, Space and Order", p. 238, Second Edition, VNR Book, John Willey&Sons, USA.

34 Ibid. Ching; 1979: 230.

35 Ibid. Ching; 1979: 230.

architecture. Whereas creating a composition based on spatial relations is a purpose for the end product of architecture, setting up an organization based upon the feeling of continuity between the fragmented pieces is a purpose for the field of cinema. Although there can be constructed an analogous relation only between 'the linear organization' and 'the feeling of continuity' due to their intrinsic functional or symbolic repetitive qualities, the main of this section is to reveal the resemblance between the elements of both domains used for amalgamation.

In editing / montage, the cinematographic shots and sequences, composed visually and topologically in the process of mise-en scene, are brought together one after another in order to create meaning within the limits of the "feeling of continuity". On one hand, the physical break between one shot and another may seem to have a disturbing effect, interrupting the viewer's flow of attention. But on the other hand, it is undeniably a primary tool for constructing a film. It is used to ensure continuity, supported by specific strategies of cinematography and mise-en scene. Therefore, the basic aim of this continuity system can be defined as to create a smooth flow from one shot to another.

While doing this, similar to the 'spatial relations' in architecture, some types of **'spatial' and 'temporal' continuities** are used in cinema in order to arrange or organize the products of mise-en scene under their relative importance, functional or symbolic role in an overall organization. While axis of action[36], eyeline match[37], match on action[38], shot/reverse shot[39], cross cutting[40], …etc. can

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36 The angle of camera in relation to the object remains the same from shot to shot.

37 A cut in which two characters in different shots appear to look at each other because of the direction of their glances.

38 An action begun in one shot is continued or completed in the next shot.

39 One shots shows one end of the central line, the other shows the other.

40 It gives us an unrestricted knowledge of causal, temporal or spatial information by alternating shots from one line of action in one place with shots of other events in other places.

be thought under 'spatial continuity', order, frequency and duration can be under 'temporal' one.

Editing / montage serve not only to control the fragmented structure of a film but also to construct filmic **spatial continuity** as well. The power of constructing cinematographic continuity in the means of space was stated in the writings of such filmmakers as the Soviet director Dziga Vertov:

> I am Kino-eye. I am builder. I have placed you … in an extraordinary room which did not exist until just now when I also created it. In this room there are twelve walls, shot by me in various parts of the world. In bringing together shots of walls and details, I have managed to arrange them in an order that is pleasing.[41]

Editing / montage permit the filmmaker to relate any two points in space through similarity, difference or development with its devices of axis of action, eyeline match, match on action, shot/reverse shot, cross cutting, …etc. All the devices of spatial continuity actually bring the spectator into an active process. By the help of its ability to build up a smoothly flowing space which remains as a primary factor for the filmic narration, spatial continuity becomes a powerful tool for the filmmaker who wishes to reinforce habitual expectations. It also becomes a central objective for the filmmaker who wants to use spatial continuity to alter our normal viewing activities.

In a filmic composition, **temporal continuity** is also manipulated for the flow of the story of events as well as the spatial continuity. It seeks to support and sustain the feeling of continuity pointing out three areas in which plot time can

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41 Vertov, Dziga cited in Bordwell, David & Thompson, Kristin; 1993. Film Art: An Introduction, p.257, University of Wisconsin, McGraw-Hill Inc.

lead the spectator to construct the story time. The filmmaker controls the temporal succession through editing under the control of order, duration and frequency.

First, there is the order of presentation of the events. The story event is typically presented by the temporal continuity in a 1-2-3 order. But sometimes, the manipulation of events may lead to changes in the order of story plot relation. The most common violations of this order are flashbacks, which present one or more shots out of their presumed story order, and flashforwards, which breaks the presumed order of story events by juxtaposing a shot of the "present" with a shot of a future event before returning to the present.

Continuity editing / montage also offers ways for the filmmaker to alter the natural duration of story events and their frequency as presented in the film's plot. In the conventional continuity system, story duration is seldom expanded; that is, screen time is seldom made greater than story time. Usually, duration is in complete continuity (plot time equaling story time) or is squeezed (story time being greater than plot time). By the help of duration, the filmmaker enables to present an action in such a way that it consumes less time on the screen than it does in the story. Meanwhile, frequency, a strategy of repetition to build up tension in the expectations of spectators, can also be used as another area of choice and controls that, like duration, gives the filmmaker considerable temporal possibilities in the feeling of continuity. Consequently, it can be asserted that the filmmaker can create an assemblage of events, occurring in different time or in different number of times, with minimum lengths reconfigured in the last post-production process of filmmaking for the narrative purposes. The story events in chronological orders with the rearrangements through flashbacks and flashforwards, the frequency of them and the duration of the actions relevant to the story are all the organizational factors to permit the filmic continuity.

In order to exemplify the case of the perception of a shot on screen as an uninterrupted segment of space and time configurations, the inferences of Bordwell and Thompson about four shots of Alfred Hitchcock's film '**The Birds**' (dir.: Alfred Hitchcock, United States, 1963) from 'the first attack on Bodega Bay' can be considered. For that sequence, Hitchcock could have presented the action in a single shot, either by means of a camera movement or by means of a deep-space composition. Instead, he presents it in more than one shot by using the potential of editing / montage.

> Each of these four shots presents a different segment of time and space. The first shot shows three people talking. An instantaneous change - a cut - shifts us to a medium close-up shot of Melanie. (Hitchcock could have utilized a fade, dissolve, or wipe instead, with a slower change from shot to shot, or he could have handled the scene as one continuous shot, as we shall see presently.) In the second shot, space has changed (Melanie is isolated and larger in the frame), time is continuous, and the graphic configurations have changed (the arrangements of the shapes and colors vary). Another cut takes us instantly to what she sees. The gas station shot (Fig. 4.3.3) presents a very different space, a successive bit of time, and a different graphic configuration. Another cut returns us to Melanie (Fig. 4.3.4), and again we are shifted instantly to another space, the next slice of time, and a different graphic configuration. Thus the four shots are joined by three cuts.[42]

As seen from the example, the tools of spatial and temporal continuity are at the service of the filmmaker through the technique of editing. Similar to an architect, configuring a system of organization for the unification of different elements under certain organizational types; a filmmaker constitutes a composition by connecting separate units/groups one to another for the experience of both spatial

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42 Bordwell, David & Thompson, Kristin; 1993. Film Art: An Introduction, p.248, University of Wisconsin, McGraw-Hill Inc.

Figure 4.3.1

Figure 4.3.2

Figure 4.3.3

Figure 4.3.4

Four shots from the first attack on Bodega Bay in Alfred Hitchcock's film The Birds (1963)

Figure 4.3.1 Medium shot, straight-on angle. Melanie, Mitch, and the Captain standing by the restaurant window talking. Melanie on extreme right, bartender in background.

Figure 4.3.2 Medium close-up. Melanie looking to screen left by Captain's shoulder. She looks to right (out offscreen window) up, as if following with eyes. Pan right with her as she turns to the window and looks out

Fig. 4.3.3 Extreme long shot. Melanie's point of view. Gas station across street, phone booth in left foreground. Birds dive-bomb attendant, right to left.

Fig. 4.3.4 Medium close-up. Melanie, profile. Captain moves right into shot, blocking out bartender; Mitch moves right into extreme foreground. All in profile look out window.

(Bordwell, David & Thompson, Kristin; 1993. Film Art: An Introduction, p.257, University of Wisconsin, McGraw-Hill Inc.)

and temporal continuity. It has been seen that both the 'types of relation' in architecture in terms of geometric organization and the 'types of continuity' in cinema are taken into account as a process of structuring the underlying system for both domains in order to formalize the relationships among the elements of an organization with respect to the main purpose of amalgamation. This does not mean that these are the only rules for fitting the parts together to make a coherent whole. While 'the types of relation' or the 'types of continuity' enable us to understand the intrinsic structure of an architectural or cinematic organization; for answering the questions of for which purposes and in which ways the elements of an organization come together, the need of an additional system of organization seems inevitable.

Departing from an agreement that if all the parts are working together, the whole will seem to be more than the sum of its parts; there has to be one more system to sustain the relation between different elements and to determine the positioning and the selection of elements to be employed in a composition, which is defined as the ordering principles. About the positive capacity of ordering principles in an arrangement of an organization, Francis Ching mentions the controversial relation between order and chaos. He points out that "order without diversity can result in monotony or boredom; and diversity without order can produce chaos"[43]; and he adds that the ordering principles can be thought as "visual devices that allow the diverse elements of an organization to perform perceptually and conceptually within an ordered and unified whole."[44]

Similar to Ching's statements, Aytaç-Dural also emphasizes the role of ordering principles in the arrangement of an organization. According to her, "the ordering principles of architectural design can be interrelated by the conditions that

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43 Ching, Francis; 1979. "Architecture: Form, Space and Order", p. 332, Second Edition, VNR Book, John Willey&Sons, USA.

44 Ibid. Ching, 1979: 332.

facilitate organization in order to have control over the elements and/or groups of elements which constitute the whole. The relation between the parts and the relation of parts to the whole are regulated in accordance with these principles and it becomes possible to attain an orderly arrangement, which establish the essence of design"[45]. Although it is possible to come across with interpretations displaying slight verification and/or study them under different headings, these principles, in general, can be listed as: unity, balance, harmony, contrast, repetition, dominance, hierarchy, axis, symmetry, rhythm, datum, and transformation.

Many attempts have been made to define these principles by which architects create this dynamic unity within their works. The list of strategies used to create a sense of harmony - of orderly, pleasing relationships between parts of the whole – commonly includes some of the principles listed above such as repetition of similar elements, variety, rhythm, balance, emphasis, …etc. The correspondences of these principles in the field of cinema will be explored in the following paragraphs, with an important reminder: "They are valuable as guides (organizational types) but not absolute rules that must be followed in every work of art (architecture)"[46].

Deeply investigated in previous chapters, editing / montage determine how shots are joined. It includes the transitions and relations from shot to shot, from scene to scene, and throughout the film as a whole. While spatial and temporal continuities from one shot to another are considered on one hand, what rhythms, patterns and relations editing / montage produces is on the other. Similar to the ordering principles in architecture performing for an ordered and unified whole, we are confronting with '**the principles of editing**' in the field of cinema that

45 Aytaç-Dural, Tuğyan; 2002. "Theater-Architecture-Education: Theater as a Paradigm for Introductory Architectural Design Education", p.26, METU Faculty of Architecture Press, Ankara, Turkey.

46 Zelanski, Paul & Fisher, Mary Pat; 1996. Design Principles and Problems, p. 34, Harcourt Brace College Publishers, USA.

enable us to make an arrangement in the composition of scenes and sequences for the feeling of continuity and wholeness in cinematic medium.

On this subject, the American film scholars David Bordwell and Kristin Thompson list four different relations between two shots joined together: "Graphic relations, rhythmic relations, spatial relations and temporal relations"[47].

According to Bordwell, graphic and rhythmic relations are present in any kind of editing / montage, whereas spatial and temporal relations are not seen much in more abstract forms of non-narrative films. Another way of treating the four relations is to suggest that the graphic and spatial relations are in relation with the pictorial composition, while the rhythmic and temporal relations have to do with time. In continuity editing, spatial and temporal relations serve to tell the story, explaining where we are and what is happening at any given moment, and the two other sorts of relations are often thought of as a kind of aesthetic materials, making the nice and meaningful flow of shots looking even better.

Graphic configurations are often considered with the patterns of light and dark, line and shape, volumes and depths, movements and static, independent of the shot's relation to the time and space of the story. According to Bordwell and Thompson, "editing together any two shots permits the interaction, through similarity and difference, of the purely pictorial qualities of those two shots. The four aspects of mise-en scene (lighting, setting, costume, and the behavior of the figures in space and time) and most cinematographic qualities (photography, framing, and camera mobility) all furnish potential graphic elements"[48]. Consequently, it can be stated that every shot provides possibilities for purely graphic editing, and every cut creates some sort of graphic relationship between

47 Bordwell, David & Thompson, Kristin; 1993. Film Art: An Introduction, p.250, University of Wisconsin, McGraw-Hill Inc.

48 Ibid. Bordwell & Thompson, 1993: 250-251.

two shots by the use of some graphic similarities or differences in the configuration of an overall composition.

As we know, a shot can be as short as a single frame, or it may be thousands of frames long, running for many minutes when projected. Editing / montage thus allow the filmmaker to determine the duration of each shot. When the filmmaker adjusts the lengths of shots in relation to each other, he/she is controlling the rhythmic potential of editing / montage. As Bordwell & Thompson state, "rhythm in cinema includes many factors – principally accent, beat, and tempo. The filmmaker relies on movement in the mise-en scene, camera position and movement, the rhythm of sound, and the overall context to determine the editing rhythm as well as the cinematic rhythm deriving from the potential of editing."[49] Moreover, the filmmaker can also create dynamism by using shots one after another in rhythmic arrangements. While a gradually slowing tempo can be generated by the use of steadily lengthening shots, an accelerated one can be created by the successively shorter shots. Therefore, rhythmic relations can be defined as a fundamental resource of the director in the use of rising excitement of the scene within an organization of sequences.

Editing usually serves not only to control graphics and rhythm but to construct spatial and temporal relations as well. Deeply investigated before in spatial and temporal continuity, spatial relation can be defined as the ability to move from one spot to another within potential of cinematic possibilities. In other words, editing / montage allow the director to relate any two distinct spaces according to their similarities or differences. In short, spatial relations enable to construct a whole filmic space out of component parts in order to construct a spatial coexistence. Like spatial relation, director can control the time of the action denoted in the film. This is to say that the filmmaker can also control the organization of filmic composition through the temporal succession of editing.

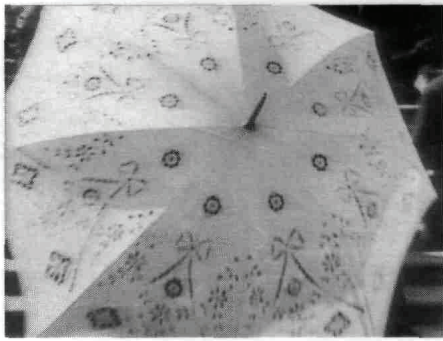49 Ibid. Bordwell & Thompson, 1993: 256.
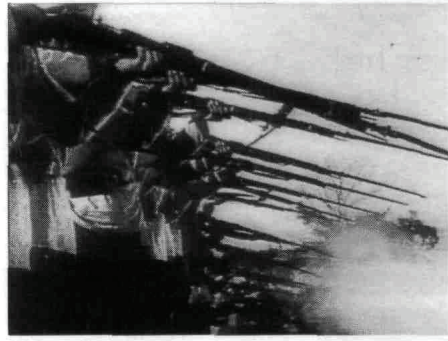
Figure 4.3.5

Figure 4.3.6

Figure 4.3.7

Figure 4.3.8

Figure 4.3.5 / 4.3.6 / 4.3.7 / 4.3.8 a scene from the film, the Battleship Potemkin
(Lehman, Peter & Luhr, William; 2003. Thinking About Movies; Watching, Questioning, Enjoying, Blackwell Publishing, USA.)

In conclusion, graphics, rhythm, space and time are all at the service of the filmmaker in order to formulate a coherent whole in the structure of a film through the technique of editing. In order to clarify the potential range of these areas of control and make a brief summary of this chapter, Eisenstein's formalist film '**The Battleship Potemkin'** (Bronenosets Potemkin, dir.: Sergei Eisenstein, Soviet Union, 1925) based on editing / montage can be an expressive example. Nearly all aspects of composition, including shape, line, and the direction of rhythmic movement, were used by Eisenstein to construct the film in accordance with the governing concept of 'the feeling of continuity' and 'the relational principles of film editing'. These principles can be seen in the 'Odessa Steps' massacre with the statements of Lehman and Luhr:

> The people gathered on the steps are associated with round shapes such as hats, umbrellas, carriage wheels, and eyeglasses, and the Cossacks with the sharp, pointed shapes of their rifles with fixed bayonets. Even the tactility and materials of the shapes are involved. The tautness of the vulnerable umbrella, an image of which fills the frame at one point (figure 4.3.5), stands in opposition to the piercing sharpness of the bayonet blades (figure 4.3.6), and the fragile glass of eyeglasses is shattered in several images (figure 4.3.7). The parallel, horizontal lines of the steps conflict with the diagonal lines of the rifles thrust out in front of the soldiers.

> Although the massacre appears to move in one downward direction, Eisenstein even creates conflict here by having a mother cradling her dead son move up the steps toward the advancing soldiers (figure 4.3.8). The upward movement of the vulnerable mother and the relentless downward movement of the Cossacks create extreme tension. Everything - civilians and Cossacks, circles and pointed shapes, fragile materials such as cloth and glass in contrast to sharp and hard rifles and blades, parallel and diagonal lines, and upward and downward movements - is in opposition throughout the section. … [50]

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50 Lehman, Peter & Luhr, William; 2003. Thinking About Movies; Watching, Questioning, Enjoying, p. 258, Blackwell Publishing, USA.

CHAPTER 5

CONCLUSION

In this thesis, we have examined the fundamental elements of architectural design and its principles in the field of cinema as a methodological tool to construct an analysis in the composition of narrative, mise en scene and editing / montage process. While making such a research on this subject, cinema is considered as a good source of correspondence with respect to its formal properties similar to architecture. Therefore, the cross referential analysis on both domains contributes to realize the different dimensions of 'act of composing'; on accepting any art product as a form of composition.

Within the context of this study, the relation of architecture and cinema which started at the end of the nineteenth century and turned into an interaction at the end of the twentieth century has been clarified. Instead of dealing with the conventional studies on the subjects of "architecture in cinema" or "cinema in architecture", this thesis tried to formulate a new comparison between the field of architecture and the field of cinema on the subject of the existence of fundamental principles of architectural design in the formal process of a film.

To clarify the possibilities of this assertion, we referred to the context of fundamental elements and principles of design in architecture and dealt with the relationship between the architectural product and the film in the means of a composition. After investigating the possibilities of making a comparison

between the fundamental elements of architectural design and filmmaking on the subject of 'composition', the dynamics of both architectural and cinematic design have been examined.

In the third part of this dissertation, inquiry focused on understanding the 'fundamentals' of design in architecture and cinema. Under different attributes to the subject matter of the thesis, the definitions of the fundamental elements and principles of both architectural and cinematic design in the means of composition and film form have been identified. Under the points emphasized throughout the text that the main aim of this study is to reveal the similarity of approach to the process of making a composition, rather than searching for one-to-one resemblance in between the products of two domains; a comparative analysis between both domains has been encountered on the correspondences of conceptual elements – narrative, physical elements – mise-en scene, and relational elements – editing / montage in the limits of the fourth chapter.

What is achieved throughout this investigation can be considered both as a means to evaluate the hypothesis at first hand and to cause an initial step to constitute a general outlook on the subject of architecture and cinema. After such a comparative analysis, we have confronted with architecture and cinema as different forms of composition that are produced through a process of unification. Moreover, it becomes possible to detect the similarities in between two fields, both from the viewpoint of the principles of organization and the characteristics of elements employed in this arrangement. Therefore, cinema, in its formal structure, also becomes a fertile ground to discuss the compositional characters, as well as other design activities such as scene design, lighting design, frame or camera design, etc. In other words, it is considered as a source of reference to comprehend the basic principles of architectural design and a tool to execute the design activity.

Despite the fact that a wide perspective is tries to be presented, there are still intact issues, which could advance the study as well as introduce new dimensions. It is also a fact that every section deserves to be elaborated on its own through further investigation. So, it may be useful to point out the possible ways of enhancement, to cast light on future studies. Especially, it should be noted that each chapter demands to be fostered by specific 'case studies'. In this respect, the fourth chapter, focusing on the comparative analysis between the fundamental elements and principles of architectural and cinematic design, rather than being retained on some filmic examples, can be supported by an analysis of 'a certain film' selected and examined with reference to these principles. Moreover, a comparison between a film and an architectural product, rather than their design elements, may give important clues about the similarities and differences.

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110

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