An Evaluation of Conceptual Transparency in Architecture of Office Buildings in Turkey After 1980

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ABSTRACT

It has been known that today's transparent building modelling and constructions have been inadequate to expression the transparent building characters in Turkey to date that overwhelmingly those office buildings. The major reason is probably that the lack of conceptual parameters that could be the real factor in the explanation of 'transparency'. It has not been efficiently considered in the modelling process.

The evaluation of transparency that is constructed by variable transmission glasses in Turkey and the capacity of design criteria of transparent walls are the main aim of this study. These evaluations and interpretations can be used as references for determining the design criteria and applying of transparent architecture and scientific researches. By this study, the selected office buildings are classified according to the last term applications of transparent architecture. The classified office buildings are been evaluated according to the questionnaire study. As a result, the building's transparency depends on whether it is sufficient or insufficient. Architects' point of view to transparency will be help to building's classification and evaluation. There is post-modern basis for these classifications.

This thesis study as a normative one offers basically a methodological approach that can be integrated to the normal models: The application of conceptual modelling process for the office building is necessary for determination of transparent design policy.

In the first part of this study, the aim, context and development of the thesis are explained. The second part of this study consists of etymological, historical and conceptual studies.

In the third part of this study, conceptual modelling for transparency in West is explained and determined in a systematic manner. Eric Gans's and Raoul Eshelman's approaches on transparency concept is the basis for perceptual modelling.

In the fourth part of this study, the architectural conditions are determined in Turkey after 1980 from the point of transparency's application. The evaluation criteria of transparency in Turkey have been explained and determined in development phase since 1980. The office buildings constructed after 1980 are been classified according to Post-modern trend. The relation between building surface and architectural space concerning perceptual reading is been analysed.

In the fifth part of this study, case studies on office buildings by variable transmission glasses that were researched and classified in Turkey are presented. A general evaluation office building in Turkey was made after 1980. According to the questionnaire study, the answers given by the architects are directed to determine the transparency's position in Turkey. The answers of questionnaire study are the main determinant in definition of transparency concept in Turkey.

As a result of this study, though more than expected, the conceptual transparency criteria has not been observed in transparency of office buildings in Turkey after 1980. It is observed not surprisingly that transparent design formulations playing around the commercialisation are related with employer's demands. More frequent trials with better conceptual formulations as well would have ended with better designs.

ÖZ

Günümüz şeffaf yapı modellerinin ve konstrüksiyonlarının Türkiye'deki şeffaf yapı karakteristiğini ifade etmedeki yetersizlikleri bilinmektedir. Temel neden belki de şeffaflığın ifadesinde temel faktör konumundaki kavramsal parametrelerin eksikliğidir. Şeffaf yapı modelleme aşamasında yeterince dikkate alınmıyor olmalarıdır.

Türkiye'de geçirgen camlarla oluşturulmuş şeffaf duvarların temel tasarım kriterleri Türkiye'de şeffaflığın değerlendirilmesinde temel amaçtır. Bu değerlendirmeler ve yorumlar temel tasarım kriterlerinin belirlenmesinde şeffaf mimari uygulamalarda bilimsel anlamda referans oluşturması amaçlanmıştır. Bu çalışma ile ,son dönem şeffaf mimari uygulamalara göre bir sınıflandırma yapılmaktadır. Bu sınıflandırma anket çalışması esas alınarak yapılmıştır. Sonuç olarak, mimarların şeffaflığa bakış açıları bu yapılara ait sınıflandırma ve değerlendirmenin yapılmasında yardımcı olmuştur. Sınıflandırmanın temeli post-modern eğilime dayanmaktadır.

Bu tez çalışması norm bir çalışma olarak temelde normal modellere entegre edilebilen metodolojik yaklaşımı önermektedir. Ofis yapıları için kavramsal modellerin uygulamaları şeffaf tasarım politikalarının tanımı için gereklidir.

Çalışmanın ilk bölümünde problem tanımı, amaç, tezin gelişim amaçları açıklanmaktadır. Çalışmanın ikinci bölümünde, etimolojik, tarihsel ve kavramsal çalışmalar yer alır. Bu bölümde şeffaflığın farklı yorumları ve sınıflandırmaları yapılmaktadır.

Çalışmanın üçüncü bölümünde, şeffaflık için kavramsal modeller sistematik bir biçimde açıklanır ve tanımlanır. Eric Gans's ve Raoul Eshelman's şeffaflığa yaklaşımları algısal modellemenin temelini oluşturmaktadır.

Çalışmanın dördüncü bölümünde, şeffaflığın uygulaması açısından 1980 sonrası Türkiye'de mimari koşullar tanımlanır. Türkiye'de şeffaflığın değerlendirme kriterleri 1980 sonrası dönemde ele alınır. 1980 sonrası inşa edilmiş ofis yapılarında algısal okumaya dair yüzey ve mimari mekan arasındaki ilişki analiz edilmektedir.

Beşinci bölüm çeşitli ışık geçirgen camlarla oluşturulmuş ofis yapılarının alan çalışması olarak ele alındığı ve sınıflandırıldığı bölümdür. Genel değerlendirme 1980 sonrası ofis yapılarını içerir. Anket çalışmasında mimarların verdiği cevaplar Türkiye'de şeffaflığın tanımını belirlemeye yönelik cevaplardır.

Sonuç olarak, 1980 sonrası ofis uygulamalarında, kavramsal şeffaflık kriterlerinin dikkate alınmadığı görülmektedir. Bu yapılardaki sürpriz olmayan gelişmenin ise şeffaf tasarım formülasyonlarının ticarileşme ve müşteri istekleri doğrultusunda yok olma noktasına geldiğidir. Bu nedenle, şeffaf mimari uygulamaların kavramsal formülasyonlara oturtulması gereği kaçınılmazdır.

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CHAPTER 1

INTRODUCTION

1.1. The Purpose of the Thesis and Its Contribution to the Literature

The main purpose of this study is to determine the “needs” of transparency of buildings in their architectural condition via the conceptual modelling approach. “How” to expose the transparent character of the building is also the concern of the thesis that is truly the improvement of the transparency architecture that will be present in different stages of the planning. The expectations are presented here under the umbrella term “perceptual concepts”, which primarily are effectual in improvements of architectural conditions. The major aim of the conceptual study is to go beyond the existing studies concerning just as visual tactic and styles. The first aim is intended to serve as a characterization of species “the term of transparency” and, also to warn against the confusion of these species. The characterization of species has been a necessary means towards clarifying the spatial “milieu”. With this urge, our secondary aim appears to define the conceptual of transparency, and then to bring the question what kind of building is transparent. In the following step, for this purpose, we need to answer the question: are the office buildings in Turkey transparent through the perceptual modelling approach?

Thus, the thesis study mainly will be about a perceptual modelling approach. Here, what is called “ideal transparent building” model will not be a radical divergence from the conventional ones but a minor shift, one that seeks a social/historical approaches developed by now.

However, we will have to base our contemporary approach on the historical level of transparent architecture for easy cognition of the perceptual model.

The existing models (from now will be called *traditional*) have not effectively taken into account the today’s architectural conditions. In every era, such as technology, new design parameters, process in material about the transparency of architecture in terms “perceptual” criteria, etc, will be revealed in the interview surveys by architects later.

Initially, it is searched on the Internet whether any identical thesis study recently having the same considerations in the literature existed. The worldwide sources were scanned through library and Internet based searching sites.

It might be appropriate, first, to review the latest studies in transparency of architecture, which is close to the study of ours in the world in general. Although many innovative studies and applications have been realized in an effort to provide perceptual point of the view to “the conception of transparency”, there were only few perceptual studies for specially office buildings.

Architectural critics wrote eminent article on transparency in the past. But, the elaboration of the various aspects of visual perception in architecture went beyond a simple exposition on transparency. Firstly, Colin Rowe and Robert Slutzky’s (1955-56) study about the ambiguity of the term “transparency” was containing a figurative meaning of transparency as spatial order. The study offered on abstract spatial interaction that can replace the conventional thinking for buildings, which have long been neglected model in today.

An architectural historian and critics Colin Rowe and Robert Slutzky wrote his eminent article on term “transparency” “between” 1955–1956 and published in 1963. The text was structured around the ambiguity of the term “transparency” and developed the figurative meaning of transparency as spatial order. Rowe’s critical view on term “transparency” was established a distinct interpretation between “literal” and “phenomenal” transparency.

According to him, “literal transparency” was a condition of being transparent and was found in the dictionary easily. The noun “transparency” was defined as a state in the presence of a “glazed surface”. The adjective “transparency” defined purely physical characteristic.

In other words, transparency not only implies optical characteristic of material but also implies a broader spatial order. According to this rather formalist and abstract reading on transparency, the term is evaluated as a metaphorical phrase. Suppression of depth and frontality are all characteristics of this interpretation. The material quality becomes less important. Generally speaking, he defines the glass as a metaphor. Metaphorical approach without glass material has been a necessary means toward clarifying the spatial “milieu”.

A pure formal and abstract transparency without the actual context or the content of the building does not help any external references. The formalist reading of building cuts those structures from their existing environment and time, and brings them to a different level.

Whereas, Modernism employs transparency with great deal of glass usually uses glass skin to internal formal or structural essences, as exemplified in Mies's notion.

Generally, the conception of transparency cannot be considered and separated from physical and building context and actual environment. The transparent building is not only an outcome of material attitude but also outcome of architectural form, and structure, and building context.

Architectural critics are now on the threshold of a better understanding of how the conception of transparency is expressed.

Recently, a realistic evaluation of term "transparency" is for visual purposes only. This term in today is not quite as traditional as the other one, but for all practical purposes it is just as commercial success of the investment.

Transparent building must influence one's perception of visual stimuli. The conception of transparency concerning visual perception that was forgotten all about it have replaced on the recent architectural studies. These buildings render their bodies lying beyond completely visible from another angle with theirs dynamic impression because the transparent building's main target is to show their characteristic by means of perceptual expressions. The new transparent architecture has perceptual impression beyond glazed surface. Dynamic impression, textural visualise, dematerialization of building form, the perception of building characteristic, conceptual relation with structure-form-space are all characteristics of these buildings.

For this, the irregular light sources are helpful; the material becomes an inherent quality of organization and starts being transparent. Defined light sources expose the material and space's characteristics. The matt and the translucent tissue of glass and ambiguity character absorb the irregular light reflection and help the building surface to explore the transparency by irregular overlapping. From the various aspects of visual perfection in architecture, building's transparency goes beyond simple exposition of fragile characteristics of Modern and Post-modern period.

For theoretical research, ethics of related studies were observed in the studies of W.H.Dowdeswell's, Walter Pater's, Marry Webb's, Harland Manchester's, John Dewey's, Colin Rowe and Robert Slutzky's, Gropious's, Giedion's, Adrian Forty's,

Bruno Zevi's, Arthur Korn's, Whiteley's, Rudolf Steiner's, Fierro's, Anthony Vidler's that basically draw attention to the equity issues.

Walter Pater's ethical guidelines concerning the marvellous fluidity, Gropious's materialist attention, Giedion's artistic definition, and Arthur Korn's spatial concern on transparency are general approaches for professionals' (especially designers) ethical responsibilities. In the practice side of ethics, the Slavist based studies of Raoul Eshelman's concerns on transparency is relatively the most profound and recent ones.

In this research, on term transparency, there is a need of conceptualist studies for visual perception of space because of the problems emerged in this field, not in its metaphorical meaning.

There are valid, and mature studies on conception of transparency, such as Renzo Piano's, Norman Foster's, Jean Nouvels, I. M. Pei's that bring into question if the transparency could be elaborated in a conceptual and perceptual ways.

But, in the architectural buildings in Turkey, most of the buildings prefer only visual communication with observers. Especially, the office buildings are under influence of many experiments of commercialisation. Visual perception does not yet seem to be dominant.

In order to summarize problem emerged in this field, it is possible to itemize these as below:

1. The conception of transparency has been misinterpreted and misunderstood in Turkey, since we met the conception of transparency. The transparency in architecture is a trend occurred due to the use of light and material, but in Turkey, especially in office buildings is an 'end-product' of the idea.

2. It is nearly impossible to ignore the improvements in the field of glass technology that guides to establish a more light for transparency. On that account, it is necessary to consider the result of the contribution to new modernist concepts, such as visual perception, immateriality, conceptual relation with material-form-structure, perspectival depth, acuteness, dynamites and theirs adaptations to thinking 'being transparent'. Whereas, the transparent architecture in Turkey is rather late to recognize 90's new modernist trend with regard to recent office buildings. These buildings do not contribute to visual perception.

3. Most of the office buildings in Turkey prefer communication between building surface and observer. For this reason, the criticisms about transparency are seemed very superficial.

The thesis proposal seems to present a conceptual approaching model and the testing of the concept on a case study will also claim the position of transparency in Turkey.

For the evaluation techniques, the theoretical studies of Raoul Eshelman's, Merleau Ponty's and Eric Gans's were found practically useful. Merleau Ponty's concern on spatial transparency gave especially valuable insights on the evaluation of transparency. Eshelman's recent article (2001) carries a new methodological approach about perceptual reading of transparency.

1.2. The Thesis, Assumptions and Limitations

The purpose of this section is to establish the guidelines and construct the methodology content of the Ph. D. thesis proposal.

Mentioned above, this research is primarily aimed to clarify what the conception of transparency is about. There is certain conceptualised criticism on selected buildings, which is called transparent in the West. In these critical, various conceptual factors have contributed to transparency of architecture. Transparency in architecture does not only outer surface coverage, but also must have several meanings, such as being openly an ideal. Moreover, within the limits of this study, one should say that the transparency in architecture must contribute to new modernist concept of the 90s'. This important contribution to architect's success strengths the building's visual perception. In other words, an attitude of material is seen because light reflection on material establishes feelings concerning perception. Therefore, transparency of architecture does not depend on the attitude of thought system.

The major aim of conceptual study is to go beyond the existing studies concerning just as visual tactic and styles.

Firstly, it is intended to serve as a characterization of species "the term of transparency" and, also to warn against the confusion of these species. The characterization of species has a necessary means towards clarifying the spatial milieu. Thus, such study is expected to contribute much to the theoretical literature.

Secondly, the study aims to define the conception of transparency, then to bring the question “What kind of building is transparent?”

The foregoing, no doubt an overextended discussion of schemes unfortunately these buildings do not enough to be transparent buildings. Therefore, the aim of the doctoral thesis is to evaluate the office buildings known transparent according to new modernist trend of the 90’s. The office building in Turkey after 1980’s will be analysed in respect to the new modernist approach seen in 90s’.

1.3. The Body of Thesis

The thesis will base on three main hypotheses:

1. The office buildings are under influence of many experiments of commercialisation and go through an introversion of ultimate level. A state of being introverted of office buildings causes the loss of meaning to actual content.

2. For this reason, the existing office buildings try to surpass its introversion identity with glazed façade. Therefore, “the conception of transparency” on office buildings is an “end-product” of the idea.

3. It can be possible to help improve their transparent character through an approach of conceptual perception modelling.

The very summarizing statement of the thesis can be put in words as:

“In such an assumptive context, the thesis will come forward with such a statement: The disadvantageous point of transparency because of the reason stated above requires some conceptual design approaches in order to improve their conditions. It granted that this could be done through conceptual relation with material-form-structure and with concept of visual perception, immateriality, perspectival depth, acuteness, dynamics and theirs adaptations to thinking, *being transparent*” (Conceptual modelling).

1.4. The Overall Methodology of Search and the Organization of Thoughts

Briefly, the research methodology is comprised of these steps:

- Literature survey
- Problem definition
- Case study

- Conducting the surveys (data gathering)
- Conceptual modelling runs for office buildings through transparency

Depending on the items above, research on the evaluation of conceptual transparency is based on three main categories: Etymological, theoretical and practical.

The etymological study (Chapter 2) contains all terminological researches and changing meaning of transparency both literal and conceptual meanings existed in architectural dictionary and in theoretical studies.

The theoretical studies concerning the transparency in architecture has been chosen as the main information sources. Theoretical background for the conception of transparency contains all the historical overview on transparency you need. One of the basic aims of the study is to give a general idea about historical context and pioneer designer's point of view on transparency in historical period. Colin Rowe's interpretation on conceptual transparency in late modern or post-modern period plays an important role in perceptual reading of transparency. But not enough is known about what really was understood. For this reason, the Raoul Eshelman's approach on visual perception of term 'transparency' will be analysed (Chapter 3) and seen what went wrong in the past. This analysis shows that the transparency's failure caused to lack of meaning. Therefore, the study is going to evaluate according to Raoul Eshelman's perceptual reading on the new modernist trend of the 90s'.

In case study, (Chapter 4) the office buildings in Turkey after 1990 will be evaluated according to Raoul Eshelman's method of the perceptual reading. This method is not independent from historical reading. The perceptual reading concerns the collaboration of light and glass that collaborated in Gothic cathedral or designing the Japanese architecture. Even, rejects the post-modern attitude towards idea "transparency" but, by the same token, refers to modern movement for visual perception.

In the selected buildings, the primary concern is to determine whether "such perceptual parameters" do exist or not.

In this chapter, a survey was conducted on transparency to provide information about whether the office buildings in Turkey are transparent or not.

Then, the result of the survey will be evaluated according to architects' answers given about conception of transparency.

The usefulness of the perceptual method described is important here from the architectural designer viewpoint. The perceptual modelling should be a tool in producing policies to help improve the existing architectural conditions.

CHAPTER 2

THE CONCEPTION OF "TRANSPARENCY": A GENERAL OVERVIEW

In the first part, ethical confrontations in the existing architectural literature concerning transparency will be discussed. Besides, what kind of design approaches has affected the transparent architecture and, vice versa, will be emphasized and exemplified. Then, there will be deterministic features of the traditional samples, which have already been examined, and their starting point in architectural design.

2.1. Terminology Used in the Study Context

At the beginning of the subject "transparency", the changing meaning of words "transparency" and its origins must be given. Architectural literature will be guiding us to show the overextended meaning of term "transparency".

The terms listed below are mostly the ones used according to what is meant by the use of the term of transparency conformingly within the context of this study.

2.1.1. Etymological Background:

Transparency

Etymology: Medieval Latin transparentia, from transparent-, transparens transparent+Latin-ia-y

The quality or state of being transparent many marine invertebrates tend towards transparency

W.H. Dowdeswell the absolute transparency of the air on this gracious day

Walter Pater the marvellous fluidity, transparency, and curiosity

Transparent

Etymology: Middle English, from Medieval Latin Transparent-, transparens, present participle of transpartre to show through, from Latin trans-+partre to be visible, appear, show more APPEAR

Having the property of transmitting light without appreciable scattering so that bodies lying beyond are entirely visible.

Harland Manchester the *transparent* or hazy air

Marry Webb opposed to opaque and usually distinguished from *translucent*

So loose or open in texture as to admit the passage of light

Dematerialise

Etymology: Middle English *immateriel,* from Middle French, from Late Latin *immaterialis* material more MATERIAL

Not consisting of matter

Absolute: having little body or substance

Visualise

The quality or state being visual or visible

A mental image

Perception

Of relating to sensory stimulus as opposed to abstract concept

Perceptual pattern selects, rejects, and distorts sense stimuli in such a way as to maintain its own integrity

Dept Perception

The ability to judge more or less accurately the distance of objects away from the observer and the spatial relationship of objects at different distance and angles away from the observer.

2.1.2. Conceptual Background of Transparency

Classical definitions for this study may be find in architectural dictionaries, but "Transparency" is a word like "visualise" with uses in both politic discourse and architecture, suggesting some deep meaning or affinity.

The term "transparency" has the numerous interpretations; so to categorize the transparency concerning ideologies is too difficult. So, we need to get some more practise at the beginning of the subject "transparency" before we understand its concerning ideologies. But, as we know, the term transparency has mainly literal meaning because literary meaning is the first professionalized field. In optic quality, the term transparency refers to material as transmitting light so that one can see through it.

“Its aesthetic meets our material and psychological requirements alike” (Gropious 1935, p.43).

More modestly the word “transparency” may be said to have a conceptual potential one can explore to suggest new ways of architectural thinking.

Colin Rowe and Robert Slutzky, determines scope of the term “transparency” and they carry out doing some terminological research into the meaning of Literal and Phenomenal in their book Transparency: Literal and Phenomenal in 1955.

For Rowe, the term “transparency” meant literally that–“physical characteristic” in favour materialistic critique, but phenomenal transparency was comprehended an overextended spatial order.

In Rowe’s words,

1. Transparency is the quality or condition of being transparent; diaphaneity; pellucidity

2. A picture, print, inscription or device on some translucent substance, made visible by means of light behind

3. A photograph or picture on glass or other transparent substance intended to be seen by transmitted light

Transparent

1. Having the property of transmitting light, so as to render bodies lying beyond completely visible, that can be seen through.
2. Penetrating, as light
3. Admitting the passage of light through interstices (rare)
4. Open, candid, ingenious.
5. Easily seen through, recognized, or detected; manifest, obvious 1592” (Rowe and Slutzky 1998, p.86).

Transparency concept has different pervasive influence in twentieth-century practice. Especially, Sigfried Giedion, “among others, has observed transparency as a fundamental quality of artistic production that can be traced back to the origins of art and architecture” (Giedion 1962, p.42).

In today, in practice but not theory the optic quality of glass starts becoming dominant character. But, the modern fascination is another manifestation of transparency. That is, modern fascination of transparency contains metaphorical meaning.

Whereas, its metaphorical or theoretical meaning refers described perceptual quality that allows the mind to discern the underlying governing concept or spatial concept.

For this reason, we can categorize the transparency in its material sense (in optics), in its theoretical or metaphorical means.

Firstly, "*transparency word stands in for object*". Glass material can gesture viewer, blinking back some distortion of her. Both words and glass allow observer to read the material and to be read by it. The gaze is two-way surveillance filtered through materials. Glass stands in for walls and ceilings. But they both lean into ornament, to profile and to gestures beyond.

In this case, the materialist expression can be different from the visionary one. When one is talking about transparency of architecture, the material expression strain to clarity. Using material language in complex way evokes clarity of expression at the same time the material itself delays vision.

Firstly, the tension between literal transparency and literary transparency–this catches words and glass in materiality.

"Adrian Forty identified transparency in his dictionary as a key twentieth-century architectural term while at the same time acknowledging the tendency to discuss transparency in its material sense rather than its theoretical or metaphorical ones" (Forth 2000, p.286).

"But, the uncertain boundaries cause a confusion in the determination of the word "transparency". Facades and walls of the buildings are important elements. But, architecture, however, does not consist in the structural elements, which are enclosed space by walls, but in the void itself, the enclosed space in which man lives and moves. Therefore, the architectural void/interior space must determine the aesthetic pronouncement on architecture. Since every architectural volume and every structure of walls, constitute a boundary, a pause in the continuity of space, it is clear that every building functions in the creation of two kinds of space; its internal space, completely defined by the building itself, and its external or urban space, defined by that building and the others around it" (Zevi 1974, p.30).

Second, of today's criticism problem in theory and practice starts in using material and spatial transparency. In the position of only literary criticism, the problem derives from the use of the alike or same language of buildings. At the same time, dualism in meanings is a revolution.

In Arthur Korn's words:

"Building constructed using material and spatial transparency was a revolution; therefore, the building had a moral or ethical imperative attached to it" (Ascher-Barnstone, 2003, p.3).

In this state, moral or ethical dimension of architectural circle attached to conceptual meaning of transparency.

Ethical dimension of transparency refers logically transparency and virginal of lies. "A modern building must be true to itself, logically transparent and virginal of lies or trivialities, as befits a direct affirmation of our contemporary world of mechanization and rapid transit" (Whiteley 2003, p.9).

Third, in philosophy, transparency refers hidden essence of material. In philosophy, transparent architectural ideal describes a higher ordered visibility through material.

"The anthroposophist, Rudolf Steiner, adopted a similar notion of transparency to his architectural program for buildings whose materials were opaque but whose meaning was transparent to the initiated. Modern discourse is rife with other myths concerning transparency: to paraphrase Anthony Vidler, the transparency of the soul to nature, the self to others and the self to society"(Vidler 1992, p.217).

One of the most important features of transparency and each of term has to be determined both explicitly and widely. The handicaps of transparency in architecture, especially architectural criticism onto transparency is going to be considered during the coming chapters.

Today, transparency reveals the power and appeal of architectural transparency for major parts of public buildings, prestigious offices. "In the public sphere, the word transparency has become excessive, going well beyond the traditional meaning of openness, and in political or economic settings, implying accountability" (Fierro, 2003, p.37).

2.2. Historical Overview of the "Transparency" Concept

The critics have argued the relationship between glass and architecture for years. Historically, these arguments are the most sophisticated critics in architecture. "The invention of glass took place; it seems, almost by accident around 4000 years ago in the Eastern Mediterranean" (Slessor 1998, p.45). After two thousand years, between the

initial serendipitous discovery and the appearance of blown glass led to the production of thin transparent sheets strong enough for windows. This marked the beginning of a symbiosis between glass and buildings. As Michael Wigginton notes: “With this development, new conceptual languages in architecture became possible, which are still being developed and explored; from the simple provision of light and view without a loss of warmth, to the creation of conceptual and technical masterpieces which derived their essential quality from this wonderful material” (Wigginton 1996, p.10).

“Architecture caught symbolic and practical meaning of forms and enlarged the boundaries of its application field nearly to the boundless lines” (Türkseven 2000, p.180).

Especially, the architectural quest for transparency begins in Gothic cathedrals. Light and shadow effects that consist of the contrasting attitudes between light and colours have been evaluated as the most primitive commentary of the transparency. The light creates the symbolic meaning and its shadow effects expose the physical character of the space together changing trend in social structure. The majesty and the excellence of Gothic Cathedrals points out the important threshold.

“The first break with convention was the Gothic exoskeleton. Notions of illumination were spiritual as well as literal the sumptuous. The architectural quest for transparency, weightlessness and luminosity began, in effect, with the radiant membranes of coloured light in cavernous Gothic cathedrals” (Slessor 1998, p.45).

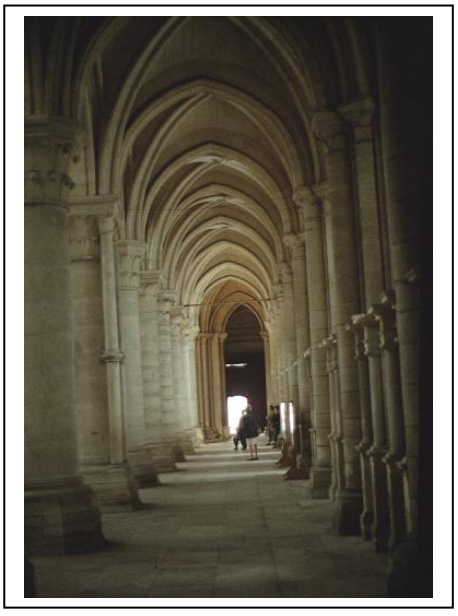


Figure 2.1 Laon Cathedrals, 1160-1225
http://www.bc.edu/bc_org/avp/cas/fnart/arch/gothic_arch.html

The second break with convention was the Roman baths. Glass used in Roman baths found a poetic expression on the coloured glass windows of Gothic Cathedrals in the past. In the 19th century glass became non-abandon able material for industry buildings and green houses and for the 20th century.

Figure 2.2 Roman baths

(Aslanapa, The Turkish Art, 1990, p.137)

"Wealthy Romans filled their windows with shutters, glass, parchment, or thin translucent slabs of alabaster. When used for this purpose, glass was cast by pouring the melted material into shallow moulds or onto smoothed pieces of stone, and the sheets produced by this method ranged in thickness from 1/8 to 1/2inch. Or, perhaps, according to another opinion, most Roman window glass was made from blown cylinders, slit and flattened in a way" (Elliott 1992, p.112).

Figure 2.3 Seljuk mosques

Akurgal, The Art and Architecture of Turks, Rizzoli International Publications, NY, 1980.

In addition to Roman baths, there are some resemblances between Gothic cathedrals and the Ottoman architecture. “Seljuk mosques” are primitive samples of transparency in Ottoman architecture.

“Especially, Sultan Caravansaries are the first edifices, which have passages on the dome to infiltrate the daylight. 2nd Sultan Caravansary, which is on the way of Kayseri and Sivas, resembles an Italian Gothic cathedral with its height, lightness and vault arches directed to two sides” (Aslanapa, 1990, p.137).

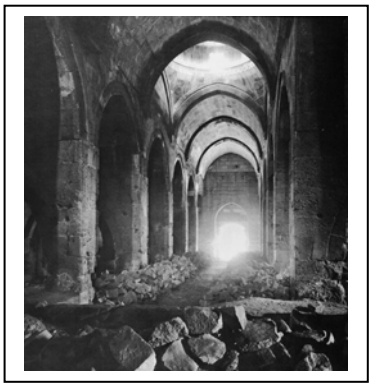


Figure 2.4 Sultan Caravansaries, Konya-Aksaray
http://archnet.org/library/images/thumbnails.tcl location_id=9381

Reflection of inside to outside is seen in Seljuk mosques. A strong space effect and dominant view are characteristics of *Seljuk madras***.** “The dome which has lifted up and lost its weight by embracing the big “*eyvan”* has formed such a space unity that this has been a preparation for Ottoman mosque architecture. Turquoise and dark blue mosaic tiled and large sized geometrical stars of the dome which was built on the corners, formed like an opening fan almost reflects the sky” (Aslanapa, 1990, p.137).

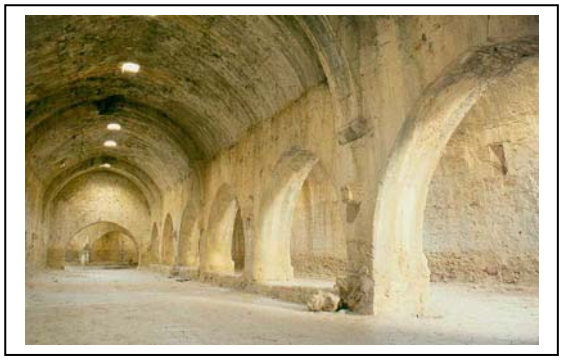


Figure 2.5 A view from hall of Alanya Alara Caravansary
(Firat, The Art of the Seljuks, p.69)

For this reason, the concept of transparency can be categorized as is seen below.

2.2.1. One-Way Transparency

Peter Rice categorizes the concept of transparency in three items.

- One-way transparency
- Two-way transparency
- Expression of transparent surfaces.

According to Peter Rice "with progressive improvements in glass-making techniques, a new dimension the "view out" could be considered. The clarity of the image is perceived from the other side of glazing depends firstly on the smoothness of the glass surface, secondly on the size of glass pieces and the thirdly on the purity of the material (Rice 1995, p.11)

The first aspect of transparency was linked to glass techniques. In the early periods, the glass techniques were the key factor in determining the limitation of the glass usage. In this period, appearing of the transparency closely was related with technical limitations.

Standard limitations of the window wideness and the major developments in optical quality of glass exposed to the one-way transparency and its limited potential.

"During the 1830's, an improved version of the traditional cylinder process began to be used more widely, providing glass of uniform thickness in sizes up to 1mx 1.3 m. Until then manufacturing techniques restricted pane size, as manifest by the intricate divisions of mullions and transforms in windows of the eighteenth and early nineteenth centuries" (Slessor 1998, p.45).

The framework was thus an important part of the window design. The aesthetic potential of the latticework of the frame, which was seen in silhouette from inside, was exploited. "Glass panes were held together with 'H' shaped lead sections. Furthermore, glass made in this way had poor light transmission qualities, the surfaces were not smooth and the material had many small imperfections and discolorations" (Rice and Dutton 1995, p.15).

"During the seventieth and eighteenth centuries, glass and windows were still viewed as luxuries. The English government, searching for means to finance the battles of William III, in 1690 imposed taxes on both glass and windows. The glass tax was discontinued nine years later, but the window tax remained until 1851, when it was replaced by a tax on inhabited house" (Elliott 1992, p.127).

“Rich people had more windows than poor people. Living in a glasshouse was expensive. The more you had, the more vulnerable you were. There was so much to break. In 17th century Dutch painting the middle class began to create images of itself. Jan Vermeer’s paintings depicted people with new money next to windows. Today tinted glass lines the cars of the rich, as though seeing out was a privilege afforded by preventing others from seeing in”(Mc Cue, http://www.hugohouse.org/programs).

Therefore, as a result of the window tax, English houses had half past as many windows when compared with European houses.

“Between 1776 and 1808 the tax on a house with ten windows grew sevenfold, and often some window openings in large houses were filled with brick in order to reduce taxes” (Elliott 1992, p.127).

For the first time in architecture window openings were really in standard size in order that it could receive the daylight to the inside. But the later eighteenth century, the windows were used for protection against to weather conditions.

Victorian iron and glass technology consisted of a new architectural language. “At the first of a succession of iron-and-glass exposition structures, the Crystal Palace pioneered a vast scale of construction and relied heavily on the experience of its designer, Joseph Paxton, in erecting greenhouses for the horticultural enthusiasms of the Duke of Devonshire. Construction of the project demanded speed and technological ingenuity (Elliott 1992, p. 131).

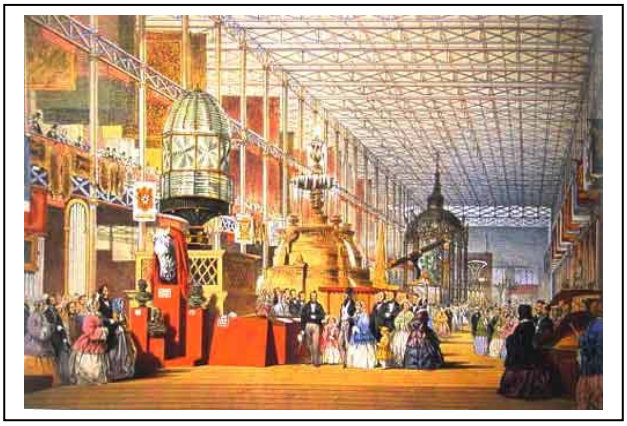


Figure 2.6 The western nave of the Crystal Palace showing the British and Empire sections. Dickinson's Comprehensive Pictures of the Great Exhibition of 1851 (London 1854), from The Great Exhibition of 1851, Jeffrey A. Auerbach (1999) http://www.st-andrews.ac.uk/~city19c/viccity/crystal2.html#top

Crystal Palace exhibition centre was built in London in 1851 and was introduced the new concept and the architectural language. It was not only a completely transparent skin but also infiltrate the daylight. (Özgül 1998, p.44).

Joseph Paxton used glass on a grand scale. He designed and constructed the Crystal Place at Chatsworth a sort of vast cultural warehouse for the London Exhibition.

For its time, the Crystal Palace was the symbol of vast of the industry and the palace was the height of industry and the palace was looked as if of that industry would lift off the ground.

This monument to consumer capitalism was "an application of the most simple and rational system of manufacturing–serial production"(Giedion 1969, p.251).

Joseph Paxton's project resulted in the ideal exhibition hall by virtue of modern materials and construction techniques. The object on display was framed by the building's structural system and admitted the daylight through its transparent skin. The Crystal Palace successfully fulfilled the prophetically modern criteria. It offered a potential escape from the past styles. However, it did have programmatic and material precedents in the 19th century.

Figure 2.7 The Crystal Palace from the northeast.
Dickinson's Pictures of the Great Exhibition of 1851 (London 1854),
From the Great Exhibition of 1851, Jeffrey A. Auerbach (1999)
http://www.st-andrews.ac.uk/~city19c/viccity/crystal1.html

In summary, materially, its extensive glazed surface implied transparency conspicuously literally and metaphorically. Meanwhile, the building's transparent surface offered constant panoramas.

In addition to the sample of Crystals Palace, particularly the commercial arcades were the best samples, which was adopted from the early 1800's.

"The arcades institutionalised "shopping places" as opposed to buying, where the act of looking, fostered by and fuelling desire, was important as actually purchasing items. The glass-enclosed pedestrian streets provided a protected environment for the flaneur or consumer" (Giest, 1983, p.12).

These institutionalised shopping places will be evaluated in later steps.

2.2.2. Two-Way Transparency

A second aspect of transparency was linked to technological developments and to its impressive manner. The transparent surfaces were impressively elegant and smooth. The process of the sheets of glass commonly was used to achieve smooth and transparent surface perfectly.

The glass technology reached to a very high level, and the architecture exposed the dimensional liberty of glass. In the seventeenth century, many companies were manufacturing flat sheets of glass in order to meet the increasing demand for transparent building.

Figure 2.8 Versailles Palace, 17th century
http://nomm.com/NDP-VersaillesPalace_001.jpg

The transparency of the panes of glass enabled the architects to include the view out in their designs. The external environment was, therefore, able to play an important part in the composition of the internal spaces. The advent of opening windows helped

the communication between the inside and the outside; and transparency acquired a new dimension- the two-way dimension. The palace and gardens at Versailles (c.1670) are such an example. At the time Versailles (2) was built, glass windows were widely used and were an essential element of architecture (Rice1995, p.11).

An attempt to assess today's understanding of transparency has related with two-way transparency.

Especially, the using of the large of sheet glass increased at the time of the Modern period. As a result of using sheet glass, the frame system that supports the building was considerably reduced where required.

These technical advances exploited at the Modern movement to create two-way transparency, which was more impressive.

Or, for a closer contact, the Modern architecture came into contact with nature and light to airy spaces.

Figure 2.9 Hallidie Building, San Francisco 1918
http://www.greatbuildings.com/buildings/Hallidie_Building.html

"With the introduction of skyscraper construction, supporting the walls of each story separately on the steel frame, exterior walls became non-supporting, merely curtain walls–term already in use at the time. With feeble gas lighting or even the first electric lights, it was necessary that windows in office buildings be large to take in enough light to fill the depth of offices. In some cases, the expanse of glass was interrupted by little more than the depth of floor beams and the width of columns. This was particularly seen in office buildings constructed on party-wall sites, where the front wall, and perhaps a skylight, had to provide almost all of the daylight within. In the

Hallidie Building in San Francisco (1918), a wall of glass four stories high was placed approximately 3 feet in front of the floor beams, braced by concrete window sills less than 3 inches thick. Only eight years later, the machine shop of the Bauhaus in Dessau sheathed three sides in glass set away from floors and columns. Transparency had become an architectural medium, challenging the solidity of past architecture, and in a world, that associated fresh air and sunlight with physical and spiritual health, openness was festive" (Elliott 1992, p.146).

The airy spaces were another important theme of the Modern period; and the Farnsworth House was a typical example of this idea, Mies van der Rohe, Illinois, 1946-50.

Figure 2.10 Maison de la Radio, Paris. Photo by Jacques Mossot, http://www.structurae.ne/en/photos/img7549.php

Therefore, the illuminated spaces provided interrupted relation in nature and formed the typical examples of Modern movement. The large interrupted surfaces expressed there visualise thanks to the illuminated spaces. This concept was achieved at Modern movement as the most spectacular fashion, such as at the Maison de la Radio, Henri Bernhard, in Paris 1953-63.

Early in the 20th century, glass premised a hygienic look, a clarity that brought in light and seemed to lift heavy, Le Corbusier brought us glass boxes–stacked, transparent die-as dwelling place (Mc Cue).

"In addition to its transparency, glass afforded a clean hard smooth surface to withstand the fouled atmosphere of smoky cities, where soot settled on building surfaces to make pale tones of brick a dull grey and washed down walls to blacken the ground floors of building" (Elliott 1992, p.147).

2.2.3. Expression of the Transparent Surfaces

The third aspect of transparency was linked to particularly inspiring exercises on transparency. The term "transparency" obtained a representative meaning from modernism.

In some cases, the particular effort necessitated to exploit the structural or compositional potential of the glass surface and of the framework.

Some architects, for example, showed particular effort to imply sculptural and compositional potentials of the glass surface. These particular efforts were inspiring exercises in transparency and were received high praise from everyone. Especially, the conception of transparency was related to structural expression of glass architecture. It was exposed its relations with spatial composition and with the idea of spatial transparency.

The spatial interpretation of the transparency clearly has been seen in Bruno Taut's and Walter Gropius's approaches.

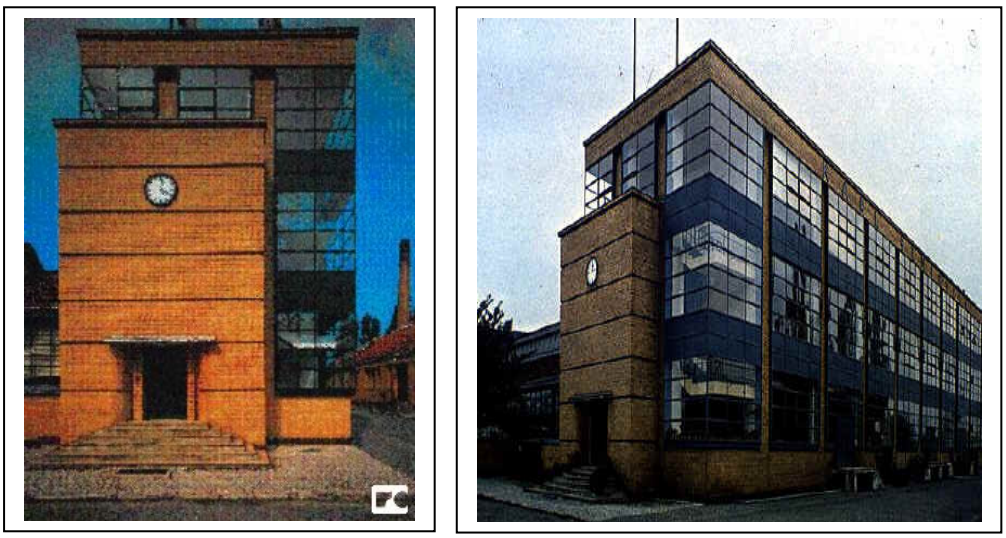


Figure 2.11 Walter Gropius, Adolf Meyer, Eduard Werner Fagus Shoe-last Factory, http://www.roland-collection.com/rolandcollection/section/23/703.htm

"The Glass Pavilion (Bruno Taut, Cologne, Germany, 1914) illustrates didactic representation of all glass materials; the walls, the floor, the dome and even the staircase are made of glass. The glass is used structurally as a building material and load bearing. The interest of such an achievement lies in the intention to place the visit to in an all-

glass space in order that he or she may perceive the subtle modulations of the building's outer skin by natural light. Here transparency becomes three-dimensional" (Rice and Dutton 1995, p.17).

Figure 2.12 Glashaus –1914, Bruno Taut,

(Kisby, Sean) Bruno Taut: Archıtecture And Colour,

http://www.kisbee.co.uk/sarc/ext-sa/taut.htm

Bruno Taut's and Walter Gropious's approaches are linked by theme of spatial composition concerning structure. They are the typical samples that the architectural expression can be completed with the technological dimension of material.

"In late twenty-century, with reinterpretation of transparency, the concept brought a new set of values for modern buildings. This century, the notion of transparency has exerted a particularly seductive and tenacious hold on the architectural imagination. Corb's canonical description of architecture as "the masterly, correct and magnificent play of masses brought together in light" affirmed a new set of values of modern building-transparency and dematerialization, achieved through material lightness and spatial interpretation" (Slessor 1998, p.45).

Only once, "dematerialization" concept and spatial interpretation of transparency was agreed equal in Modern architecture; and in this respect, this interpretation showed the third dimension of transparency.

"This theme is linked to the presence (*or the non-presence*) of the surface through which one looks. Transparency implies looking through something; the viewer must therefore be aware of the glazed plane through which he or she is looking" (Rice and Dutton 1995, p.14).

2.2.4. The Symbolic Meaning of Glass Material in 1900s'

The glass architecture has different meanings in modern architecture. It has no longer a symbolic meaning as transparent, as translucent and as reflective.

Firstly, the glass was a sensible element to inspiring exercises of modern movement. First, it was the sensible collaboration of glass and light to ensure inspiring exercises. In this period, Bruno Taut and Paul Scheerbart had influenced it. They strongly defended the sensible collaboration of glass and light as much as it could change the atmospheric conditions of the building to keep the building's inspiring character.

Variations created by light and colours in space cause sensible intercourse rather than a sensitive isolation. For this reason, there are a lot of samples to explain this sensible intercourse in the 20th century. Especially, Bruno Taut's Glasshouse is a good sample to intercourse of glass and light.

Scheerbart was definitely opposed to defining of glass as an object of unconnected yet to building characteristic and opposed to comprehending of glass only on a visual basis. According to him, there were a spirit of everything and was waiting for being completed. In the Scheerbart's opinion, the function of glass was not only the illumination but also an excellent interpretation of light. In addition to giving a general introduction to glass material, the glass surface on the building could provide ventilation. Furthermore, he thought that the glass was not synonymous with being opened to outer space; at the same time it could have a function as a wall.

"According to Scheerbart's view, these building were showing the potential of glass, but there was a certain lack of colours for this function. Rather colourless character and the dull appearance of surface could be exceeded with light and colour. The most excellent interpretation of light and colour combination could be seen in the windows of Gothic cathedrals" (Ersoy 2001, p.16).

For example, in manuscript of the progressive thinkers Paul Scheerbart and Bruno Taut, or Taut's glass utopias, the glass material is not used to create literal transparency or to dissolve the boundary between inner and outer space.

"According to Rosemarie Bletter's the result of researches, the Taut's and Scheerbart's manuscripts a fragment of mythic and poetic continuity created by glass and crystal throughout the history–Taut and Scheerbart used the glass material to conjured up a vision of the future and to remember necessity of social change. For

instance, in Glasshouse project that was vowed to Scheerbart by Bruno Taut, instead of literary transparency, the person walks slowly from luminous space to darkness space within the sorcerer brightness of psychological environment being created glass. This microcosmic sorcerer of psychological environment is the brightness vision that is reflection the social changing utopia of designer to the architecture" (Dilekçi 2000).

Figure 2.13 Glass House exterior stairs, Bruno Taut, 1914,
http://www.mip.berkeley.edu: 8080/servlet/SpiroDetail? img=96/261/96-261-012

He summarizes the aims of the transparency in a couple of sentences, both the literal transparency and Paul Scheerbart's–Bruno Taut's mythic/poetic propositions as symbolic dimensions of glass.

On the other hand, Walter Benjamin's critics are important. He compromises both the symbolism of transparency and literal symbolism.

Figure 2.14 The Passageways of Paris,Walter Benjamin's Arcades Project
http://www.wbenjamin.org/walterbenjamin.html

“While he argued the passageways of Paris, he refers to Gropious and to Le Corbusier by the means of both Scheerbart and Giedion. According to Benjamin, the glass is an inspiring material because of having characteristic both literal transparent and not. In other words, Benjamin gives up his share in the interest of passageways of Paris. There is a fundamental difference in sort of glass symbolism. This characteristic of glass is in the field of interest of him” (Dilekçi 2000).

According to Benjamin, the Passageways of Paris are the real dream world that is far away place from the real world. The Passageways of Paris shows plenty of imagination and really captures the person’s imagination. In this meaning, the passageways of Paris are good example from the point of microcosmic sorcerer expression.

The inner streets of the passageways show great originality. The boundaries between inner and outer space dissolves the shape up ambiguity. The inner space has been spreaded out rapidly in all directions of building. The traditional dilemma between the inner and outer has been removed. “In other words, the outer covering of the walls has been transformed into the inner walls of building”(Dilekçi 2000).

As Benjamin said in the manuscript, at first, the passageways and glasshouses are the metaphorical phrase, that is, both of them are architectural metaphor of sorcerer environment. Whereas, according to Michael Foucault, the Glasshouses express the being under the control of the observer.

Second, the honesty of glass material destroyed by the difference utterly between inner and outer space and hardly became a way of describing of honesty to bring together public and personal space.

In the Benjamin’s opinion, in addition to metaphoric meaning of glass, the glass material was important, because the glass material challenged the rigid distinctions between the inner and the outer space, between private and public space, and between special and general space.

“According to Benjamin, to live in glass house was a completely progressed sensitivity, that is to say, thanks mainly to exhibitionism, the fixed ideas on secrecy that was part of cultural heritage from aristocracy to bourgeois had removed” (Benjamin 1978).

For reason best known to him, the passageway of Paris shows not only its microcosmic sorcerer environment but also provides the indirect connection between

the inner and outer space. Therefore, the person perceives himself both inner and outer space. This perception of space can be a medium for giving ambiguous transparency.

2.2.5. The Evaluation of the "Transparency" in Modernity

Transparency epitomized the achievement of the new architecture. The "new architecture" has connotation of technology and progress. These connotations hold the key to conception of transparency.

The transparency was remarkable concept in modernism and progress was not just technical, but also aesthetic and ethical during the new architecture. "First, how something was initially associated with honesty and truth rapidly became problematic once the power of the gaze was noticed and, second, contradiction and ambivalence character our contemporary response to a transparency associated with both scrutiny and voyeurism" (Whiteley 2003).

The first evolved from architectural theory; and was based on design principle, which derived from the expressive separation of the external wall and structure.

Walter Gropious who was one of the pioneers of the Modern period around the time of World War I explored the possibilities and potentialities of transparency.

Walter Gropious's Dessau Bauhaus of 1926 was a perfect example as were Mies van der Rohe's glass skin buildings. These buildings were the wonderful interpretation of the architectural expression. In addition to functional introduction to buildings, the glass surface of the building transformed into a structural building skin that may upset the balance between the inner and outer space.

Figure 2.15 Dessau Bauhaus, Walter Gropius,1925-26
http://www.bc.edu/bc_org/avp/cas/fnart/fa267/gropius/bauhaus01.jpg

"At the end of the 19th century, Adler and Sullivan searched for architectural slogan called as 'the more light the larger windows'. All the researches point towards collaboration of light and architecture and the arrived point is very well for the past centuries" (Akyürek, p.122).

While in the past, translucency through walls was made translucent to reveal mystery and it also concealed its mystery in coloured glass. The glass walls are now clear and without mystery. Now transparency facilitates an absolutely "clear" vision unblemished by reassuring but anachronistic metaphysical support structures.

The collaboration of the conception of transparency and light had countless samples in the 20th century. This sort of transparency that reached the ideal permeability of daylight was seen at Charreau's building. Clarity, precision, openness and honesty were symbols of a scientific age of transparency.

Therefore, the second evolved from aesthetic experience. The potential benefits of glass in transparent buildings had not only the performance of material but also the aesthetic experience of the extensive transparent areas. For this reason, transparency was loaded with the "dematerialization value" and the "dematerialization" concept was a triumph and represented "effortless mastery" that had not only the reality of materials but also the psychological reality of the physical world as something restricting imagination. By dematerialising the surface, the extensive transparent areas permitted the hovering relations of planes and the kind of "overlapping".

"Architectural transparency whether understood as the dematerialization of the building envelope, the use of open form, or the confluence of form and its meaning, was one of the most pervasive aspect of twentieth-century" (Ascher-Barnstone, 2003, p.3).

Furthermore, with the transparency concept, the walls were opened like curtains to admit daylight and sunshine and solve the soaring problems.

People need a well-planned building offering a pleasant living environment. Therefore, in addition to functional introduction to soaring problems, the glass architecture is a good example that is interested in contemporary culture and environment.

For this reason, progress in the design approach influences spatial organisations in addition to structural development of buildings. The idea of spatial extension has been related with increasing frequency. A further extension of the transparency of building depends heavily on its spatial relations.

The designed buildings have spatial relations opening onto the outer space. The buildings obtain this characteristic by different expression established between light and conceptual relationship that is expressed by designers in a long discourse as spatial fluidity, flexibility, dynamics, an inner-outer integrity etc. These spatial dynamics sat deep in modern thought.

The material's technical capabilities and the free expression are important developments to spatial transparency.

In addition to free expression of material's technical capabilities, the integrating architectural form into the conception of transparency is important too (Bruno Taut).

"Gropious was thinking deeply a building wouldn't be more different from painting that is too distant from the observer. For this reason, it was possible to compare the effect of building and the sign of advertisement in a shop–window. 'The architectural image' had to be exceedingly convincing effect, the viewer had to comprehend its full meaning. A spatial turnout that let the space out was the basic characteristic of understanding of architecture. According to Walter Gropious, the architect's duties were to give shape to architectural form (form–gestaltung) (Ersoy 2001, p.17).

In the Gropious's opinion, the glass architecture was expressing itself by the way of continuous movements gracefully from outer space to inner space or from inner space to outer space. It was called "behaviourism of the architectural space".

Behaviourism of the space that bases not only on outward behaviour but also inner ward behaviour creates simultaneousness on the space. The inner and outer space are perceived simultaneously. The simultaneousness between inner and outer space exposes the spatial fluidity. The structure and visualise of building are important approaches to spatial fluidity.

Bruno Taut's approach on glass architecture is quite different from Gropious. "According to Taut, the architecture must include whole discipline of art form. At the same time, the collaboration of art form is to mean collaboration of perception. In Taut's view, the architecture must have both frame and content to go into details of implicit" (Ersoy 2001, p.17).

For this reason, the glass material becomes the expressing element in designer's handle who spends his whole times working on collaboration of light and image.

From a different point, all thinking people agree that the glass architecture in environmental meaning consisted the new urban areas and new building concept.

Finally, in the course of time the glass material transformed to dynamic structural skin and affected our living conditions and environment.

2.2.6. Commonly Used Terms on the Conception of Transparency

The architectural styles had various meanings at the modern movement, such as purify, solving, distance. These terms caused a great deal of anxiety to conception of transparency. The criticizers put different interpretation of these used terms on current architectural approaches. It can be summarized as below.

Purify

At the beginning of the 20th century, in architectural argument, purify is determined a chance to act out free expression of building. Because, the architecture is very stable to getting free the historical meaning not only discourse but also the manner of language. Any form of building presents us their nakedness, only presents their internal sensations. “All approaches to the conception of transparency, purify reduces the building to main points, that is, it reduces the building to structural system. In other words, another elements have been purified for realization of transparency” (Korkmaz 2001).

Figure 2.16 Le CorbusierVilla Savoye, Poissy, 1928-31
http://www.chez.com/archive/maison/savoye.htm

Purify as an architectural language expresses that the building is simple, the building's tectonic is readable and the building's material is pure. In architectural discourse, purify express itself very clearly and the concept means that the construction and the tectonic and the material of building can confront by a naked truth. It means to say, the concept of purify doesn't contain a hidden meaning in this philosophy.

When it has purified of shape and material, it expresses the presentation of purified surfaces with their nakedness to nature. For this reason, Le Corbusier's Villa Savoye and Ludwig Mies van der Rohe's Farnsworth House are good examples to purity in architecture. The Farnsworth House, Plano, Illinois, 1946-50 is a typical example of the idea of view through the building the quest for light and airy spaces and for a closer contact with nature and interaction with spatial composition.

Figure 2.17 Farnsworth House, 14520 River Road, Plano, Illinois

Mies van der Rohe, 1950,

http://www.galinsky.com/buildings/farnsworth/

The Mass Solving

The technique possibilities of the 20th century sound quite feasible to completely being non-existent of building contour line" (Korkmaz 2001, p.144).

At the end of the 20th century, the mass solving and absent of building contour line are determined as the characteristics of transparent architecture. The mass solving means to that the building elements are freed from the other ones. The glass architecture that destroys the spatial closure utterly, signs certain integrity, enables to be comprehensible and reinterpretable of inner-outer space. Either, it is to reflect its inner

attitude to outer attitude of building (expressionism) or to reintegrate the inner-outer of building attitude into our architecture. “In this point, fixed idea on transparent architecture motivates our perception strongly to describe the inner-outer space of building into continuality again, and to integrate released two worlds that are quite distinct.

This sort of transparency is hotly disputed in the manner of early Modernist, such as the meaning of transparency, and as the being non-existent of building skin and as the destroying the building contours between inner-outer spaces. “The most interesting sample of these suggestions is the ‘idea of glass tower’ that we shall appoint Mies Rohe in 1919” (Wieacker 2001, p.206).

The fixed idea on transparent architecture forced them to abandon traditional usage of building wall to restoring full functionality in wide spread glass material using. The glass architecture concentrated on improving efficiency of reinforced skeleton. Therefore, the function of structural wall was adapted to constructional vocabulary. The building wall completely transformed into building skin that would be able to carry their weightiness and to take horizontal wind loading. “An effect of technology on building surface. As if the surface of building is absent, the transparency is openly existent” (Tabanlıoğlu 2002).

Figure 2.18 L.M.van der RoheBarselona Pavilion, 1929
(http://sozluk.sourtimes.org/show.aspt=barcelona+pavilion&nr=y&pt)

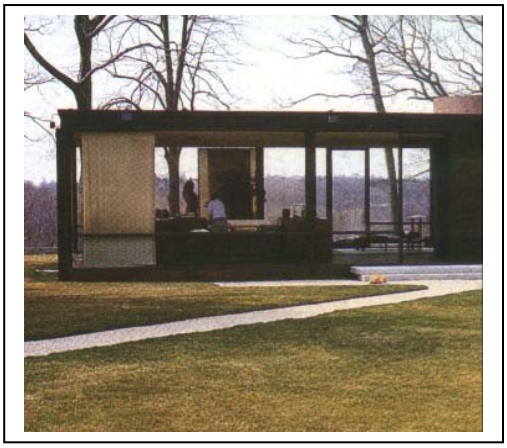


Figure 2.19 P.Johnson Glass House, New Canaan, 1949-50
(http://www.bc.edu/bc_org/avp/cas/fnart/fa267/pjohnson.html)

"There is no attempt to resolve the problems of "privacy" and "show", implicit in a house with no visible barriers between inside and out, in P. Johnson's house, unlike Mies's version. Johnson's House has a regular structure, with columns firmly planted in the corners, and the skin is located in relation to the structure" (Wigginton 1996, p.86).

Figure 2.20 Kaufman House (Fallingwater), Frank Lloyd Wright
http://www.io.com/~pmj/wright.html

Fluidity

The buildings surrounded by translucent spaces have harmonious combination of outer space and the nature to make a beautiful picture. Although the continuity of space is absolute concept, the fluidity between the inner and outer space is an element that affects absolute transparency. For this reason, the other one's interpretation of

transparency relates directly to spatial continuity and fluidity. The fluidity is provided by two-ways. First, it is continuity of space, and second, is the relation between light and space.

Traditional and contemporary meaning in most of regional architecture is used as a relationship between light and space frequently. For this reason, the factor determining the static volume of space is a relation between light and space. The light in space determines the static volume of space, and exposes and hides. Therefore, light in space is the fundamental material and sensory elements of architecture that has complex structure, dynamic meaning. “The capture and manipulation of light has always been integral to architecture. By shaping buildings to receive and display solar movement and to enhance perception of the changing slant of light, the mobility of the skies was revealed and ultimately drawn into buildings”. (Architecture of the Senses 1995,p. 5).

In traditional and contemporary Japanese architecture, the interpretation of light presents interesting samples.

“The study of light in both traditional and contemporary Japanese architecture describes how light was no limited to their static volumes, both of which could enter or excite, but was given the power to fluidity come and go” (Architecture of the Senses 1995, p.5).

“Translucent enclosure ensures visual tidiness and coherence from the outside. Although the continuity of space is absolute, the spatial flow between the inside of the building and the outside is sacrificed to the aim for a pristine quality in the buildings appearance” (Wigginton 1996, p.88).

Mies’s Farnsworth House is a classic example of concept of transparency, that is being transformed into free form of architectural form and that has no anxiety about the structural system. The space has been interrupted by only characteristic dividing walls. This approach to space provides a free-end and fluidity.

Minimum Expression

“Minimum expression in architecture can be used with purely elemental transparency. It is represented as a contained space in a landscape. It is both “site specific” and a “platonic form” (Wigginton 1996, p.89).

The basic principle of modern architecture is minimum expression of the material and architectural statement. This kind approach helps the building to penetrate to the nature and to transform into elemental transparency, because of the existing clarity in

nature when united in showing this clarity as if they were continuation of nature to express.

The Relationship Between Transparency and Architectural Form

In the manner of the early 20th century, simultaneously the architectural discourse was concerned with architectural form and the material.

The harmony between glass material and architectural form in Modern architecture is another way of doing building transparent. "One should strive for structural order by limiting oneself to a few materials and to constructional principles applied specifically to those materials" (Schirmbeck)

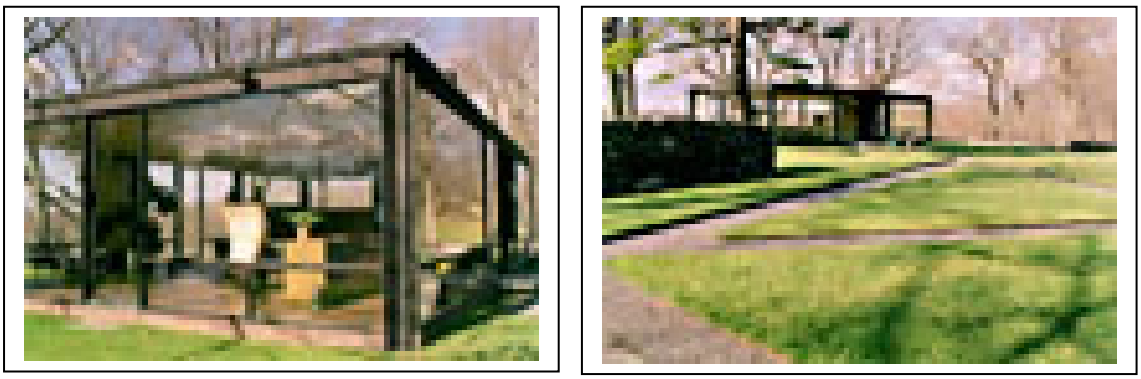


Figure 2.21 Philip Johnson's the project of Glass House: Spatial geometry, New Canaan, CT, 1949,Photo courtesy Louis J Slovinsky (1998) (http://www.bc.edu/bc_org/avp/cas/fnart/fa267/pjohnson.html)

There was a growing tendency for architecture to use glass as a material. The materialistic approach of glass affected the space geometry. Freestanding crystalline shafts determined the spatial geometry of modern movement. Frank Lloyd Wright's glass-curtain walls and Mies's park-like plaza followed all the approaches about glass architecture. Frank Lloyd Wright believed that building's transparency was connected with spatial geometry. Philip Johnson's Glass House in New Canaan is a typical example to spatial transparency as to characteristic of only one functional unit and simple geometry.

Constructional Vocabulary in 1940s'

In 1950's, the different materials of the building were expressed as structural components to expose visualise.

The buildings constructed with glass skin were seen as structural surface instead of structural frame. Mies's Alumni Memorial Hall Building designed in between 1954-56 is the best example. The building differs in details but not in size. The elegant details don't reflect the building surface, but the existence of surface structure give the impression of spatial depth. "Their location, beyond the structural grid, forms the frame to the skin which extends outside structure. The elegance of these details has never been surpassed. They have an internal logic, which makes them seen inevitable, and very expressive. They also give a depth and gravities to the skin of the building" (Wigginton1996, p.88).

Figure 2.22 Crown Hall, Mies van der Rohe, 1956
http://www.greatbuildings.com/buildings/Crown_Hall.html

Figure 2.23 Alumni Memorial Hall, Mies van der Rohe, 1946
http://www.iit.edu/directory/maps/alumni.html

For this aim, in 1945's, the glass material was used together with concept of "liberation of glass architecture", to express surface structure especially in library buildings and in administrative buildings.

Figure 2.24 Mies van der Rohe:Chapel, Illinois Institute of Technology Chicago, 1953 (http://www.bc.edu/bc_org/avp/cas/fnart/fa267/mies.html)

2.3. Different Approaches to the 'Conception of Transparency' after Modernism

Transparency in all fields of life has very different concept unless the boundaries are drawn. Actually, this has been a very fundamental concept for the people. Especially for transparency in architecture, this concept becomes more problematic since the patterns of transparency can be found in many setting. It is a subject of discussion in the field of architectural discourse as being an activity, attitude, approach, practice, and idea at the same time.

The formulation of a conceptual distinction between the outer and the inner elements of the wall is the first stage of this development. First, it was designating the shell, skin, cladding or covering as the non-load-bearing or a tectonic part. Later, it is interested in the outward appearance of buildings primarily- that is, in aesthetic rather than technological concerns. Such as, Mies is interested in visual effects optical impressions, angled the respective facade fronts and rich interplay of light reflections. Mies's "dematerialised" setting reflects his preoccupation with open, flexible space.

Some points in modern architecture and thought where the question of glass and "dematerialization" in Mies van der Rohe has been raised in ways, are still parts of our present history. Here, all the traditional truisms of -modernist ideology- are 'the plan is

the generator', 'the outside skin is transparent to the space of the inside' "the structure is exposed".

"The house becomes an abstraction of vertical and horizontal planes, the plan free to take on various configurations and the facade open to various kinds of transparency. As with the Maison Dom-ino, the house is thus freed from the earth of historical tradition to move in an extendable boundless space, acquiring a Mondrian–like autonomy, where the found is only a vestigate" (Davidson 2000, p.155).

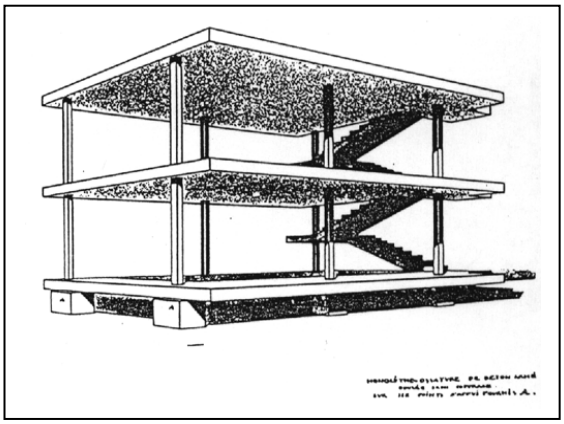


Figure 2.25 Le Corbusier's 1915 Maison Dom-ino House

(http://www.arch.columbia.edu/DDL/cad/A4535/SUM95/domino/domino.html)

"Dom-ino House that contents the several principles of the modern architecture was designed by Le Corbusier to solve the problem of having not a house after World War I" (Tumer 1995, p.17).

"While the dematerialization of the wall can result in vacuous and impoverished architecture, it can also allow for the development of new modes of figuration" (Leatherbarrow-Mostafavi, 1996, p.49).

Among new modes of figuration of transparency concept, Colin Rowe's abstract reading method is interesting. Colin Rowe's and Robert Slutzky's agreement on transparency put on the agenda more and more usage of glass material in buildings. "Especially, at the end of the 20th century, differences' insistence on hierarchy, that is sort of transparency–literal and phenomenal transparency–are being questioned by Rosemarie Bletter, Michael Hays, Detlef Martins, and Rob Somol" (Bletter 1978, p.122).

Figure 2.26 Maison de verre, Pierre Chareau, 1927
http://www.erzed.demon.nl/nlparis.html

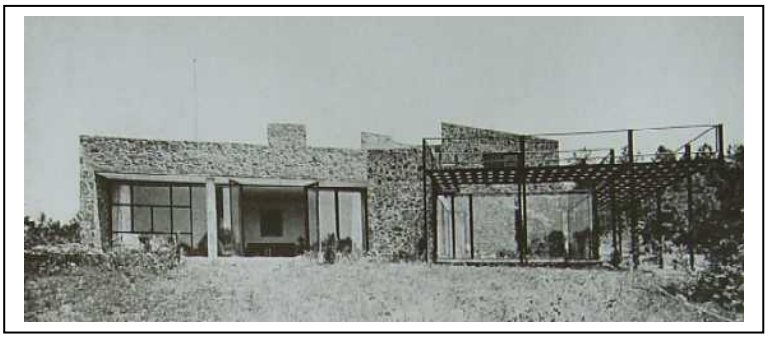


Figure 2.27 Stadsschouwburg Nijmegen, Van Schaeck Mathonsingel.
B. Bijvoet en G.H.M. Holt, 1954-1961. Bar
(http://www.erzed.demon.nl/nlparis.html)

David Leatherbarrow and Mohsen Mostafavi defend their goal with the concept of opacity. Even, Mies's approach on transparency is evaluated partially as its success that is related with concept of opacity. In a circle, Mies's project for a concert hall in 1942 and Pierre Cherau's opaque projects give the impression of being very well organized on concept of opacity. "His inserts in the montage also cover the structure of the building, masking or dressing it, as does the cladding on the columns of the Lake Drive apartments, but only partially, while the structure and the space overlapped" (Leatherbarrow -Mostafavi, 1996, p.56).

According to them, in Mies's collage between the foreground figure and in the background defines both the boundary of the building's interior and its "openness". The definition of the dark and light floor plane generates the contrast together. In addition, the observer view the interior and then admit light from the rear so as to surrounding field. In this stage, its "openness" character is defined with the boundary of the

buildings. In stating that transparent results from opacity and "x-ray" penetration are the real basis.

According to David Leatherbarrow and Mohsen Mostafavi, just as transparency and its embodiment of meaning does not depend upon thickness or depth. Whereas, the usage of architectural contrast together in totalised container provides the transparency too. Regardless of thematic content, the architectural contrasts are opaque walls and disconnected walls and ceiling float in a lightweight, transparent and totalised container. The juxtaposing of architectural elements is the container of the transparent architecture as well. "It is also apparent in the use of material: a thin curved wall of polished marble contrasts with the repetitive and industrialized steel structure. The insertion of opaque surfaces and the figure in the foreground renders the transparency of the perimeter cladding even more vivid-as if transparency results from opacity" (Leatherbarrow-Mostafavi 1996, p.52).

Therefore, the perception of spatial depth in architecture is defined with different interpretation. In respect to them, opaque elements allow for the perception of spatial depth and continuity "from inside to outside". The existence of any overlapping between inner and outer space refers sense of depth in architectural setting. Occlusion or overlapping is an essential to spatial continuity, presuming the layering or overlapping of both hidden and visible elements.

The critics reconsider transparency of the statue from several different angles, as an actually and virtually. Spatial condition involves everyone. Actually, 'seeing through" architectural elements or virtually is doing so. They agree with Colin Rowe and Robert Slutzky about "literal" and "phenomenal approaches of transparency"

"They bring to a conclusion with that one speech. We have come to accept the definitions of "literal" and "phenomenal" transparency developed by Rowe and Slutzky in their famous article of 1963. In neither category does opacity figure prominently. Nor, for that matter, does it seem apposite to the sort of contemporary architecture that uncritically adopts the polemical distinction between inside and outside is greatly reduced or eliminated, allowing each to pass into the other, and the emergence of a thorough going *openness*" (Leatherbarrow -Mostafavi, 1996, p.53).

The concept of opacity is a quite different interpretation of concept of transparency. The scope of this doctoral thesis is based on relationship between glass architecture and spatial effect. For this reason, the basic principles and different

interpretation on concept of transparency are necessity to defend advance of this doctoral thesis.

The first case is Colin Rowe-Robert Slutzky. Their discourses still move within the modernist attempt associated with Le Corbusier, with their sense of openness, continuity, and fluidity, etc. First, they reveal an attempt to "proper" visual form, geometric or rectilinear, horizontal and vertical; thus "transparency" no longer means off the conceptual visualise.

2.3.1. Artistic Approach (Gestalt) / Colin Rowe- Robert Slutzky

At the beginning of any inquiry into transparency, a basic distinction can be established. First, transparency concept may be an inherent quality of substance or second, it may be an inherent quality of organization. For this reason, it is easier to establish distinction between a real or literal and phenomenal or seeming transparency.

Architectural historian and criticizer Colin Rowe with Robert Slutzky wrote his eminent article on transparency between 1955 and 1956. "Its manifold interpretations confirmed the significance of Rowe's parallel reading of artistic and architectural expressions. It is through a discussion of Cubist and post-cubist painting that Rowe revealed certain levels of meanings with which the term "transparency" has become endowed" (Savaş 1998, p.85).

In this article Rowe establishes a real distinction between "literal" and "phenomenal" transparency. In his article Rowe gives Gyorgy Kepes's definition as an example in his new interpretation. According to Kepes, the term "transparency" implies a broader spatial order. That is, term "transparency" not only indicates an optical state of material but also indicates simultaneous perception of different spatial locations.

Acording to him, *Literal transparency* finds its definition in the dictionary as *the quality or condition of being transparent*. Transparent: having the property of transmitting light, as to render bodies lying beyond completely visible, that can be seen through. Thus the adjective *transparent* defines a purely physical characteristic and the noun *transparency* is defined as a state, which can be experienced, as Rowe says, in the presence of a *glazed surface* or a *wire coop* (Savaş 1998, p.85).

In addition to these connotations, as a condition of artwork the concept of transparency has further interpretations, which are admirably defined by Georgy Kepes in his language of vision.

"If one sees two or more figures overlapping one another each of them claims for itself common overlapped part. Then, one is confronted with a contradiction of spatial dimension. To resolve this contradiction, one must assume the presence of a new optical quality. They are able to interpenetrate without an optical destruction of each other. Transparency, however, implies more then an optical characteristic; it implies a broader spatial order. Transparency means a simultaneous perception of different spatial locations. Space not only recedes but also fluctuates in a continuous activity. The position of the transparent figures has equivocal meaning as one sees each figure now as the closer, now as the further one" (Kepes 1944, p. 77).

This interpretation conception of transparency is quite different from physical quality of substance. By this kind of definition of the transparency, it ceases to be perfectly clear. In fact, it becomes clearly ambiguous.

According to them, our feeling for literal transparency derives from machine aesthetic and our feeling for phenomenal transparency derives from Cubist painting alone.

"Frontality, suppression of depth, contracting of space, definition of light sources, tipping forward of objects, restricted palette, oblique and rectilinear grids are all characteristics of analytical cubism " (Aktüre 1998, p.88).

The orientation of the figures simultaneously in an extended space, they're intersecting overlapping, interlocking. Their buildings up into larger and fluctuating configurations are the genesis of the Cubist motif.

The writer compares and analyses the double nature of this transparency with a typical Picasso painting, The Clarinet Player and a representative Braque, The Portuguese both of 1911. Each picture has pyramidal form. While Picasso defines his pyramid by means of a strong contour, Braque uses a more complicated inference. Picasso's contour is an assertive and independent of its background that the observer defines positively transparent figure standing in a relatively deep space. But with Braque offers the possibility of an independent reading of figure and grid.

Figure 2.28 Pablo Picasso, The Clarinet Player, 1911

Archiscope, p.89.

Figure 2.29 Georges Braque, The Portuguese, 1911

Archiscope, p.89.

But in considering architectural transparencies inevitable confusions arise. In architecture, literal transparency can become a physical fact; that is, materialist phenomenon, but phenomenal transparency is more difficult to achieve. “For while painting can only imply the third dimension, architecture can not suppress it (Aktüre 1998, p.90).

In addition to Picasso and Braque, Giedion and Moholy–Nagy are known as representatives of Cubist period. Moholy’s La Sarrraz of 1920 that it is parallel with another Post-cubist painting is compared a Fernand Leger of 1926, Three Faces.

In La Sarraz five circles connected by an S–shaped band, plane of translucent colour, light and dark flecks are all imposed upon a black background. In Three Faces three major areas displaying organic forms and purely geometric shapes are tied

together by horizontal banding. Leger's concern is with the structure of form; whereas Moholy's concern is with material and light. Leger has preserved the typically Cubist tension between figure and space. Leger sets up a figure ground reading and works within two-dimensional scheme. "Leger's picture becomes charged with an equivocal depth reading, with a phenomenal transparency" (Aktüre 1998, p.88).

Giedion and Moholy have believed the perception of space based on phenomenal transparency. According to them, the subject and aim of space may clarify with point of fourth dimension. But for interferences of Colin Rowe, such a transparency of overlapping planes can very obviously be found in two-dimensional visual support.

"By the same token Rowe's formalist analysis of the visual aspect of building allows him to cut those structures from their existing environment and time, and bring them to a different context" (Savaş 1998, p.84). This abstract reading does not depend on the observer's cultural background, his subjective perception and his particular mood at a given time, and does not depend on either the cultural context or the content of the building.

But, in criticism of building from the point of literal and phenomenal transparency, "Rowe's and Slutzky's comparisons present rather interesting categories on interpretation of building surface" (Akcan 2000, p.12).

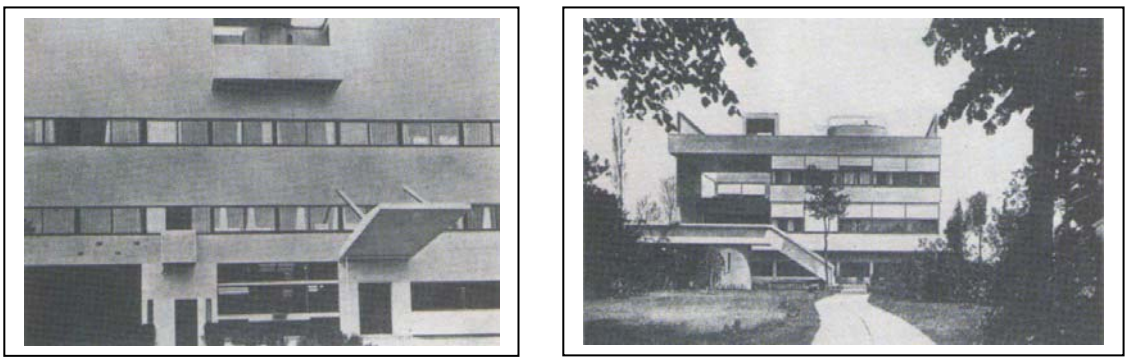


Figure 2.30 Villa Stein, Garches, Le Corbusier, 1927
(Savaş, "Shallow spaces", Archiscope, Transparency, 1998, September, p.85).

Especially, one might say the Rowe occupies with the Le Corbusier's villa at Garches and with Walter Gropious's Bauhaus. According to them, Le Corbusier is primarily occupied with the planar qualities of glass a Gropious with its translucent attributes. Le Corbusier stiffens his glass plane and provides overall surface tension, while Gropious permits its translucent surface appearance. "At Garches one may enjoy

the illusion that possibly the framing of the windows passes behind the wall surface, but, at the Bauhaus, since one is never for a moment unaware that the slab is pressing up behind the windows, one is not enabled to indulge in such speculations" (Aktüre 1998, p.90).

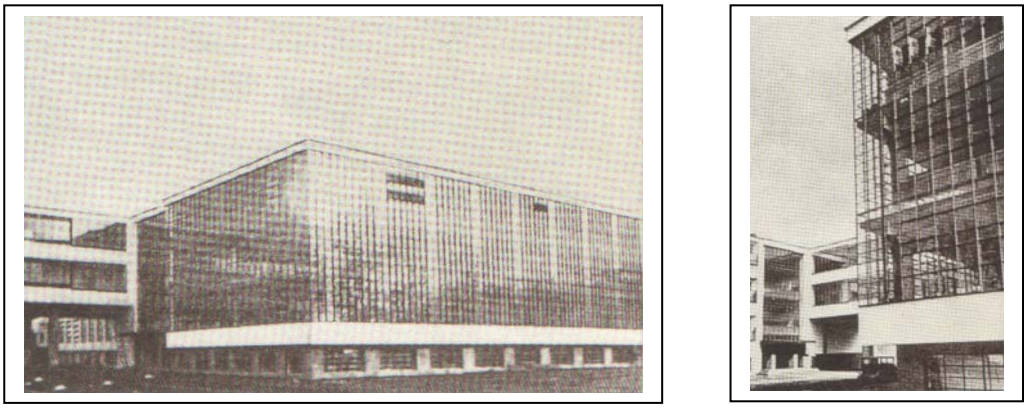


Figure 2.31 Bauhaus, Dessau, Walter Gropius, 1925-26.
(Savaş, "Shallow spaces", Archiscope, Transparency, 1998, September, p.84).

An overextended discussion of schemes is necessary to clarify spatial characteristic of building. This discussion is simply intended to serve as a characterization of species about term "transparency".

2.3.2. Political Approach /Andrea Kahn

Contemporary architectural culture is pre-eminently concerned with the visible architecture, as image; the architectural drawings, as an aesthetic object; and the architectural tendency, as a theoretical discourses. The materialist constructions illustrate these concerns.

As a second approach, the relationship of politic to architecture is also considered in visual terms; particular buildings, forms, or styles are seen as potent representations of authority or political ideology.

The political nature of architecture is related with more deeply surrounding or enclosure.

In simple terms, to enclosure is to delineate a particular space within a larger field. Architecture is the disciplinarian of space that divides, organizes and manages.

In this manner, to regulate action by virtue of its capacity is to exert control and is to constitute form of power.

The deployment of this power depends upon the perception of architecture.

According to Walter Benjamin, architecture provides an example of an art "the reception of which is consummated by a collectively in a state of distraction. "Benjamin realized this mode in perception of art potential to politically affect an essentially absent-minded public. In this word, it allowed for a "covert control" (Benjamin 1989,p.240).

Benjamin's observations have also expanded on function of building beyond the program.

"It is embodied in the presentational elements of architecture, each of which constitutes an apparatus of control: walls erect barriers to free movement; windows, in framing given views, determine the scope of vision; thresholds tell us where to go" This oversight of architecture's political effects allow for unwitting acceptance of, or submission to control power hidden or enclosed within the readily seen. To discern this power one must attend to the invisible in architecture" (Kahn, p.86).

For this reason, the design of particular building (particular use public or private) should be an original as object. In this term, the architecture of politic (power relations) has covert activity and functions. Especially Joseph Paxton's Crystal Palace is the first sketched project for politic of architecture.

2.3.3. Psychoanalytic Approach-Abstract Transparency/Anthony Vidler

The glass architecture has represented perfectly the conception of transparency since the discovery of glass material. Approximately, 25 years before, opacity concept being agreed on universal platform has been transformed into slogan in post-modern discourse. Psychoanalytic character of transparency has come into being with opaque view to show surface's abstract transparency. But, the approaches of Rowe and Slutzky on transparency concept frustrated our hopes on modernist purify. Especially, their approaches caused to falling into discover of transparency and to reducing the popularities of "glass–transparency" on politic and psychoanalytic platform.

The inner and outer space are reinterpreted and reformulated by Andrea Kahn. Reformulated conditions aim to reflect the inner characteristic or condition of building. This sort of approach on transparency necessitates an abstract reading of transparency.

Given characteristic perception to building surface is reason of opacity property of glass material discovered during the years.

"Indeed, it was under the sign of opacity that the universalism of modernism constructed on the myth of a universal subject, came under attack in the past-twenty-five years. Beginning with Colin Rowe's and Robert Slutzky's sly undermining of modernist simplicities in their "Transparency, Literal and Phenomenal", transparency was gradually discredited by the critique of the universal subject in politics and psychoanalysis" (Vidler 1992, p.219).

In recent, the conception of transparency has been rediscovered by repetition of "good modernism". This repetition has been called the uncanny transparency. It has been thought that the houses in the past did have much effect in this development.

"If the old art of dwelling had not been entirely revived, save in kitsch imitation, certainly transparency was dead" (Vidler 1992, p.219).

This new development on transparency points the inherent quality of glass, and these building's character are called as an absolute transparency. There's a hidden meaning in inherent quality of absolute transparency.

For this reason, the conception of transparency is converted into the translucency, darkness and obscurity.

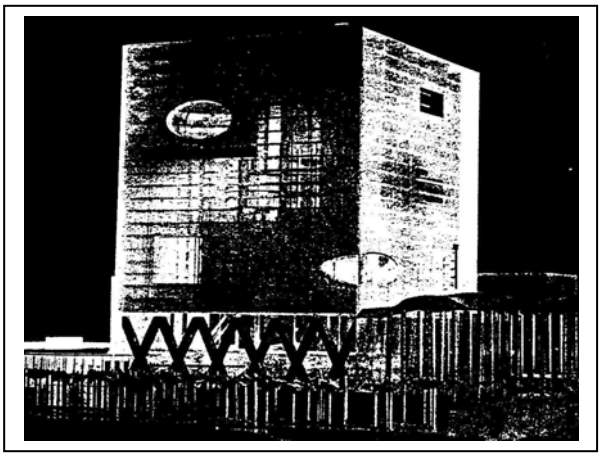


Figure 2.32 Rem Koolhaas, *Bibliotheque Nationale Francois Mitterrand*, Paris, competition 1989, Architectural Precedents
http://www.arch.mcgill.ca/prof/mellin/arch671/winter2000/jliew/precedents.htm

"In this vein, with its internal organs displayed like some anatomical model is at once a confirmation of transparency. The transparency is conceived of as solid, not as void, with the interior volumes carved out of a crystalline block, so as to float within it,

in amoebic suspension These are then represented on the surface of the cube as shadowy presences, their three-dimensionality displayed ambiguously and flattened, superimposed on one another, in a play of amorphous densities. Transparency is thus converted into translucency, and this into darkness and obscurity" (Vidler 1992, p.219).

In this epoch, a search for absolute transparency can be witnessed at Rem Koolhas's library building. The cube of glass envisaged by Rem Koolhaas for the French National Library is an important construction with its internal organs displayed like some anatomical model and absolute transparency. "The inherent quality of absolute transparency to turn into its opposite, reflectivity is thrown into doubt; the subject cannot longer loose itself in infinite reason or find itself in the narcissism of its own reflection" (Vidler 1992, p.221).

2.3.4. A Comparison Between Modern and Post-Modern Theory on Conception of Transparency

At this point, it may be helpful to compare Modern and Post-modern theory from the point of transparency concept. This section will enable to overview about general approaches on transparency, which gained speed from the 1900's and shaped the today's view of the transparency in the world, before it is introduced into the conceptual modelling process.

The openness character of Modern trend is accepted universally. The universal interpretation of building material and architectural space is shared by everyone as an universal agreement. Indeed, as Sigfried Giedion's observed in his Bauen in Frakreich of 1928.

Modernity has been haunted, as we know very well, by a myth of transparency: transparency of the self to nature, of the self to the other, of all selves to society, and all this represented, if not constructed, from Jeremy Bentham to Le Corbusier, by an universal transparency of building materials, spatial penetration, and the ubiquitous from of air, light, and physical movement.

"The houses of Le Corbusier define themselves neither by space nor by forms: the air passes right through them. The air becomes a constitutive factor. For this, one should count on neither space nor forms, but uniquely on relation and compenetration. There is only a single, indivisible space. The separations between interior and exterior fall" (Vidler 1992, p.217).

Whereas, Post-modern trend seen at the end of the 1950 or in the early 1960's has witnessed breaking of modern trend and to rejection of a modern application in respect of an aesthetic. Postmodernism is a style of building, decoration, art, etc., especially in the 1980's, which uses an unusual mixing of old and new forms. Postmodernism shows an aesthetic populism in architecture.

The aesthetic populism in general is directly related to production of material. "Modernism could bring criticizing to having goods and to its surpassing effort of itself by minimal an being not neutral approach of transparent architecture. Although Postmodernism is consumerism of pure having goods as the continuum of time (Jameson 1994, p.33).

Post-modern trend is based on the production of new goods that will endorse in large amount. The satisfaction with the professional conduct of Post-modern trend is based upon consumerism of glass material. To be working with building world that has different nationalities is one of the greatest satisfactions of this trend. The gigantic office buildings designed by Skidmore, Owings and Merill in 1950's and in 1960's always want to be focus on having goods.

But, there are superficial resemblances on the surface between two buildings. This peculiarity of surface transformed building into insipid character.

"At first, a new insipidness is manifest on building surface. Their manifest failure to make transparent the building's character is lack of spatial depth. That is to say, coming into being of a new superficial is the most manifest peculiarity of post-modern (Jameson 1994, p.38).

Jameson puts a different interpretation on concept of having goods between further modernism and postmodernist conduct. For this reason, he concerns with fine arts. At the same time, he represents and gives example on fine arts. He compares Van Gogh's *'peasant shoes'* that is accepted one of the sacred work of further modernism with Andy Warhol's *'Diamond dust shoes'* that takes place in central situation of contemporary visual arts. When having goods of Andy Warhol's picture, art is focused on "superficiality", Van Gogh's shoes express pictorial depth.

"In Van Gogh's picture, the aim is to expose the material and the deep meaning of peasant shoes have. The genesis of the meaning remove secret covering of all world being not existed by mediating of heavy food prints of peasant, the loneliness of field path, hut in light, furrow burgled plow and corroded in furnace broken tools (Jameson 1994, p.36).

"Heidegger in writing of "*the root of art work*"' (Der Ursprung des Kunstwerkes 1960) Van Gogh's 'peasant shoes' expresses as detail about casual life. According to him, in picture of "*peasant shoes*" all world of the peasant is spreaded out clearly" (Heidegger).

Andy Warhol is commercial illustrator who draws fashion models for shoes. He is known as a shop-window designer for halls, which sell female shoes and slippers.

This position is typically manifest in advertisement posters of late capital. There is a strong resemblance between Post-modern theory and late capital theory at the intersection of transparency. Frederic Jameson's nicely exemplify on the concept of transparency have expressed the position of transparency in post-modern culture.

Figure 2.33 Van Gogh's "peasant shoes", 1885
http://www.mystudios.com/art/post/van-gogh/van-gogh-shoes.html

Figure 2.34 Andy Warhol's "Diamond dust shoes" 1980
(http://www.warholprints.com/cgi-bin/Warhol.Andy/gallery.cgi?category
Warhol.E.P&item=FS-II.257&type=gallery)

Another characteristic taken part in postmodernist writings is the relation between transparency and glass surfaces as possible as it could. In this context, postmodernist discourse has defended the characteristic of being privileged aesthetic language.

The buildings being built in manner of Post-modern have challenged to gravitational forces with theirs two-dimensional object. The third dimension that has no spatial depth has lost meaning; however, certainty of building surface has.

"The misleading reflection of gigantic glass surfaces on one another can be accepted as a paradigm of the process of postmodernist culture and the role of reproduction centre" (Jameson 1994, p.67).

Robert Venturi's, Charles Moore's, Michael Graves's who are the representatives of the era, and in recent years, Frank Gehry's commercial buildings are the buildings expressing the same dialect and using the similar sentiments in a formal expression.

Especially, in gigantic building, the glass skin called outer surface isolates the building from the surrounding city tissue and blows the city back.

Frederic Jameson interprets this position of the building in a different way.

"Similarly, the glass skin isolates Portman's The Westin Bonaventure from the surrounding space in such an ridiculous and homeless manner. When we look over the outer walls of hotel, we see slant image of everything surrounding the hotel, which we cannot say anything about outer wall (Jameson 1994, p.67).

But, being pleasurable is not being integrated of architecture with a bad- viewed architecture completely. Because this bad-viewed architecture has caused to strangeness of all cities concerning consumption society. Completely, closed and introverted buildings belong only to the place where they were built. They are not respectful to surrounding and to city tissue. Especially, they cause to neutralise the space with building skin. Whereas, the transparent buildings necessitate relation between the inner space and the outer space instead of their being isolated.

The great majority of the buildings reflect growing concern of postmodernism in the cities. The cities of today lost homogeneity in heterogeneous regime that is the reason of temporary trends caused by advanced technology. The lack of identity belonging to building have caused to monotone, inequality and paling architecture. "A great deal of effort has not given into space whatsoever sense, they tend to neutralise space with in monotonous view. These neutralised spaces are social intercourse spaces that are under society threat"(Sennett 1996, p.22).

“Take charge of a shop-window, and look at how having been distinguished of seeing from touching, hearing and smelling. This shop-window enables to see object, but isolates completely. These glass surfaces have increased the feeling of not being reached. These problems are the result of post-modern trend. Between loneliness and building owner’s lack of confidence, however glass and completely ‘open’ it is, where she/he can hide oneself or where she/he can find sheltered corner in completely isolated house?” (Sennett 1996, p.23).

Our cities have caused to inexistence of confidence because of lack of expression feeling. Therefore, it is seen that people have not strong images. These images are an important from two points.

Firstly, it enables to efficacy among the buildings and own places of people.

Secondly, these images are important for people to form of their moment and to all affective comforts. Because, people have desired to efficacy with place they stood. City tissue that is isolated and deprived from the meaning needs for efficacy how it can give confidence to person.

The barren discussions on transparency are only on the expression of transparency. Whereas, the conception of transparency is problematic design that will be able to reach from surface level to plan level and to relations level between surface and plan. Only this sort of transparency can give it.

CHAPTER 3

AN ANALYSISS OF OFFICE BUILDINGS IN THE WEST ACCORDING TO NEW MODERNIST TREND OF THE 90s'

In this part, firstly, conceptual and perceptual approaches in the existing transparent designs will be discussed. Secondly, conceptual and perceptual approaches of transparency that is desired in new modernist trend after 1990 will be discussed. All the properties of design modelling as belonged the perceptual meaning in terms of basic modelling approaches are examined to see sufficiency in transparent architectural environment.

Thus, it is intended to cite a detailed explanation of a contemporary model in which both designer and engineering perspective are going to be unified.

3.1. Perceptual and Conceptual Relationship Between Space and Person

Thought the resources are scarce on space-related issues, in the literature, theorist Merleau- Ponty's theory provides some thoughtful insights base on the "carnal eco and space" will be useful to apply to transparent architecture conformingly.

"Generally, as Merleau-Ponty's stated, the space can not been excluded from social environment because the state existence is spatial"(Tümer 2003, p.45).

The modern need to comprehend and control our environment has led to the objectification of the material world.

Merleau-Ponty connects people with material world. According to him, architecture plays a significant role in this potential realization of the body's relationship with the world because it is both an integral part of, and our contribution to, the material environment. Architecture that is designed and experienced as a subject, rather than an object, has the ability to re-sensitise our bodies.

Maurice Merleau-Ponty's ideas of carnal echo clarify this need for a subject-to-subject relationship between people and the material world inhabited.

3.2. The Relationship Between Architecture and Carnal Echo According to Merleau-Ponty

The focus of carnal echo is on the human body's needs and wants (not the human intellect's). The relation between the subject, creator, and artifact, described by Merleau-Ponty using a painter is relevant because of the use of the bodily senses. He demonstrates how the painter uses his or her visual perception to bring the exterior, material world into the interior of the body.

Merleau-Ponty's idea of carnal echo is especially pertinent when applied to architecture. While the painting demonstrates the reverberation of the painter's bodily needs in relation to the physical world, the creation of architecture offers more resonance when considering the artifact's continual influence. The empathetic architect becomes the creator and filters his spatial and sensory perceptions of the external world through the bodily needs of the building's intended users.

> Maurice Merleau-Ponty developed his existential philosophy by drawing heavily upon the works of Edmund Husserl. Merleau-Ponty has been categorized as both a phenomenologist and an existentialist,

Merleau's *Primacy of Perception*, published in 1945, explains his theory of perception.

> Our experience of perception comes from our being present at the moment when things, truths, and values are constituted for us; that perception is a nascent Logos; that it teaches us, outside of all dogmatism, the true conditions of objectivity itself; that is summons us to the tasks of knowledge and action (Edmund Husserl, http://www.tameri.com/csw/exist).
>
> Merleau-Ponty's philsophy is much richer than I can do justice to here. But one application is to understand the psychoanalytic unconscious from a phenomenological perspective. As we've seen, for Merleau-Ponty, lived experience is prior to abstract reflection; it is pre-thematic.(Mauris Merleau-Ponty, http://www.tameri.com/csw/exist/merleau.asp).

"The cycle of carnal echo in architecture can grow upon itself. Spaces that are designed with physical senses in mind can in turn inform other designers about their own work. The increasing sense of awareness caused by compassionate architecture has the potential to reignite our senses" (Kemper).

There is relationship between doctoral thesis concerning spatial sensitive and carnal echo theory concerning person's sensitive needs because of the needs of new modernist trend of 1990s'. In this meaning, the concept of transparency is a mediator in providing spatial sensitive.

For this reason, the new modernist trends of 1990s' have developed a new perceptual model based on the transparent building criteria that addresses the conceptual need to compete with the other buildings on the drill field. Therefore, it provides both a conceptual and perceptual way of addressing how this building speaks to people.

3.3. Conceptual Transparency

Conceptual transparency is fundamentally different discipline and is the weakest when it tries to imitate conceptual art and neglects its architectural properties. In this meaning, conceptual transparency is a conceptual art.

This section will enable to overview the general design approach belonging conceptual meaning which gained speed from the 60s' and shaped to the today's view of the transparency in the world, before it is entered the modelling process, which might even determine the way we establish the form of the modelling building.

3.3.1. During the 1960's

Conceptual architecture dated back to the 60's when architectural consciousness was awakening with the swiftly changing architectural thought.

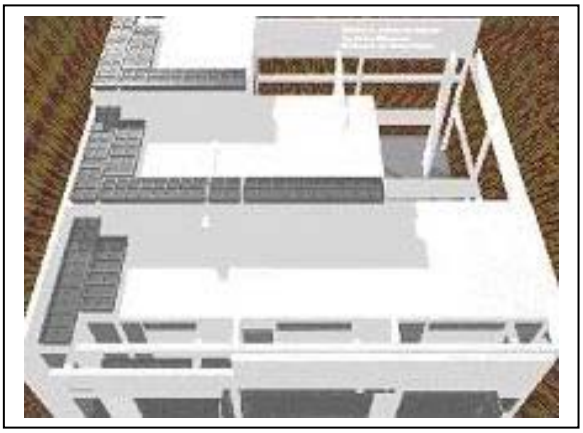


Figure 3.1. House II. (c) 1970, Peter Eisenman,Courtesy Lava
http://www.manovich.net/LNM_SITE_NEW/hii.html

“Conceptual architecture’s focus on process during the 1960’s was an attempt to aesthetic formalism. Indeed, Peter Eisenman’s in his early house projects were ultimately attempting to mimic aesthetic forms” (Lum, 2003, p.7).

Figure 3.2 Frank House, Eisenman
http://www.greatbuildings.com/architects/Peter_Eisenman.html

From the 1970’s Alvaro Siza's work begins to exhibit more explicit uses of type. In projects for housing, we see a pattern of siedlungen-like town houses. In several other projects we begin to see the repeated use of U-shaped courtyard schemes.

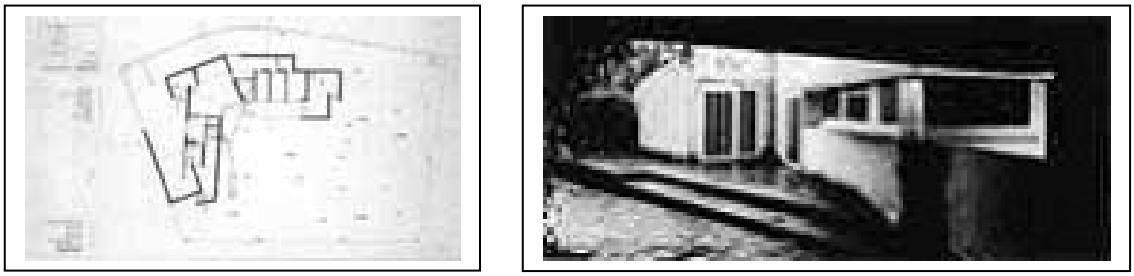


Figure 3.3 Alves Costa house (plan) Alves Costa house (view) Alvora Siza
(Kenneth Frampton et al., *Alvaro Siza: The Poetic Profession* (New York: Electa/Rizzoli, 1986), p.35)

In these projects, conceptual planning modelling is seen.

“This is the case in such works as the Boa Nova tea- house (1958–63), the Alves Costa house (1964), the Alves Santo house (1966–69), and the Rocha Riberio house

(1960–62). In each of these projects a certain more "architectural" character is proposed for the project: the projects adopt a somewhat more traditional vocabulary, using pitched roofs of ceramic tile; also the more traditional notion of rooms and spaces as closed volumetric figures is suggested. Yet, in each case these figures are stated in abbreviated form: they are open "L's" as in Boa Nova, or as in other houses a variety of fragmented "L's" unequal-legged three-sided rectangles, or other more difficult-to-name fragments, as well as simple straight wall segments, attached to nothing. The open figures nestle within each other and "*overlap***"** (Siza and Robert, http://www.appendx.org/issue).

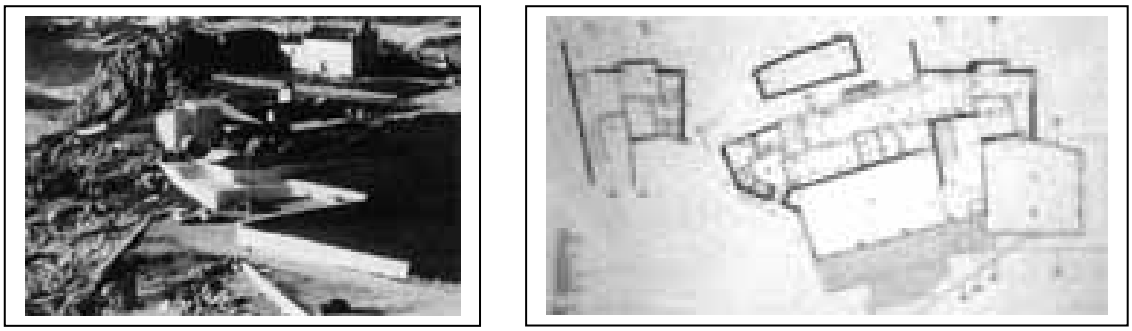


Figure 3.4 Boa Nova tea house (view) Boa Nova tea house (plan)

(Kenneth Frampton et al., *Alvaro Siza: The Poetic Profession*
New York: Electa/Rizzoli, 1986, p.48)

However having traditional vocabulary it is, it always is perceived as a transparent without using glass material. Indeed, it is conceptual transparent.

3.3.1.1. The Conceptual Criteria of Transparency

According to Alvaro Siza's approach, the transparency process in conceptual meaning, the special terms is called such as "disrupt the sense of closure", "open spatial syntax of walls", "spatial integrity", spatially porous", etc.

These conceptual terms are seen as one of the important criteria of transparency that needs the formulation of styles. The important criteria for transparency can be handled at different scales of transparent planning: throughout the whole building, at the urban center scale, or different building type.

“In the Alves Costa house, an emblematic moment occurs at both the front door and at the garage. At both these points fragmented figures overlap trailing walls, like stiff streamers, into the field of another figure. These trailing walls *disrupt the sense of closure* that the figure into which they penetrate might otherwise offer. Thus the virtual closure suggested by the figural fragment is conceptually undone and the reading of an *open spatial syntax of walls* dividing -up space-is forced upon it. In the garage in particular, a low extension of the east wall of the house slides under the open hanging corner of the structure, while the wall extends into the figural domain of the house. Both walls, each a part of a figural fragment, *disrupt the spatial integrity* of the other fragment into which they penetrate. The two figures' conceptual identity flip-flops as these walls are understood in one instant as boundaries of space, in the next as overlapping dividers of space. As with the pool project for Leca, the syntax of the Costa house is *spatially porous*. The conceptual transparency to the field of the site, the conceptual presence of that field in the midst of the very figures enclosing the dwelling space of the house, presents to us the house as intervention "layered" into the site, an open sketch on the site—and thus the persistence in these projects of the archaeological metaphor” (Siza, and Robert, http://www.appendx.org/issue).

3.3.1.2. The Conceptual Form of Transparency

According to Alvaro Siza, when the related forms with conceptual transparency examined, some determined styles are not enough for expression of transparency. There are strong differences between styles and formal types. The transparency must not have building style anytime but it must create its own conceptual language by means of concepts. For this reason, it creates its own style.

It is rather wrong to use determined style for every building type. Because, the formal type of building has certain integrity as a conceptual category, it also implies a kind of *closed autonomy*; its stable and independent conceptual existence is a *form of aloofness.*

“It is here that it becomes susceptible to both the suspicions voiced by Fernando Tavora and Siza as well as Pessoa. It is not "style" but it has something of *style's formulaicness.* It is not language, but like language it seems public rather than intimate; like words, types seem to exist independent of us. Thus, Tavora and his colleagues held types in suspicion because they suggested the possibility of a reified formalization of

architecture. Types never lose their fundamental correlation to the historical things by which they steal away from the actual and specific into a realm of remote concepts and categories" (Siza, and Robert, http://www.appendx.org/issue).

Conceptual completeness is important for proving of transparent completeness. In completed conceptuality, it gets rid of its own internal cohesion and reorganizes its own manner. Therefore, it is independent from the conceptual context.

The transparency and conceptual incompletion of the formal language of the project that allowed the "intrusion" of the site's aloneness into its midst is not obviously in the nature of the type. This is so because the type tends to be a closed or at least a finite world, which tends to conceptually close out or reorganize in its own manner what lies outside of it. It may rest archeologically on what precedes it, but it excludes those things through its own internal cohesion.

3.3.2. During the 1970's

3.3.2.1. Architectural Formalism

Conceptual architecture during the 1970's overlapped the International style and minimalist aesthetics. Architectural formalism is on the primacy of the generating idea over its material properties. "Similarly, Eisenman's notion on of an 'autonomous' architecture privileging form over construction gained currency in critical and academic circles, while other architects such as Rossi and John Hejduk came under the formalist label" (Rossi, Aldo; Agrest, Diana, Gandelsonas, Mario; 1984, p.16).

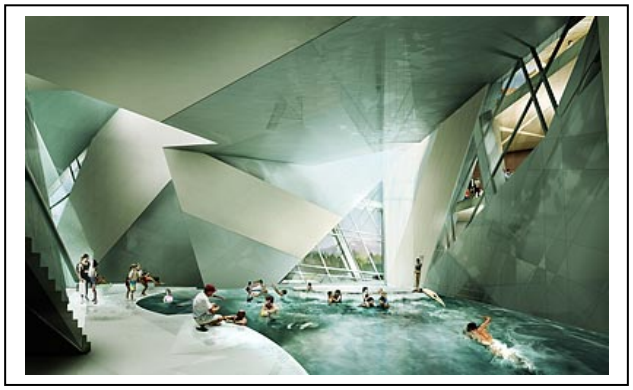


Figure 3.5 Miller hare, London, leisure part,
Daniel Libeskind's presentation of transparency as unique sculptural presence
http://www.daniel-libeskind.com/projects/pro.html?ID=28

Similarly, later, it was seen Daniel Libeskind's projects. Daniel Libeskind's micromegas drawing series invoked both the canonic forms displayed in the Modern Architecture. "Indeed, Colin Rowe had remarked on this deliberate conflation early on, as well as the contradictions such an association raised" (Rowe, 1972, p.3).

3.3.2.2. The Materialist Attitude

But, at the same time, in the expression of transparency of building, the physical properties including consideration of materials, structure, cost, technique and relationship to other practices, events, and places are necessary to architecture's reference and its object nature. "Project, built or unconstructive, that does not consider this physicality closely is less successful as architecture. This statement can be read as simultaneously reactionary, dogmatic, or obvious, but there is no easy way around it" (Material Matters, http://blog.msnfans.com/zhangtao/archieves/2649.html).

There are several practices that consider material as an essential aspect of their design thinking. For instance, Rafael Moneo's use of brick in the National Museum of Roman Art in Merida is explicitly not about the traditional employment of load bearing masonry; the brick is patently veneered surface, and the laying of the modules becomes an exercise in demonstrating its artificial, abstract nature (Moneo, 1987, p.146).

Figure 3.6 National Museum of Roman Art Mérida, Spain
http://www.archidose.org/Jul99/072699.html

The primary goal was to build a museum that would offer people an opportunity to understand aspects of the town's Roman heritage. “Without falling into a strict imitation of Roman architecture, Moneo adopted the Roman construction system - massive masonry-bearing walls filled with concrete. Other Roman building techniques, materials, and proportions were utilized as well, and prominence was given to construction as an expression of architecture itself. The materiality of the Roman brick wall becomes, finally, the most important feature in the architecture of the museum” (http://www.archidose.org/Jul99/072699.html).

This strain of architectural formalism in transparency continues with us today with work Rem Koolhaas, Bernhard Tschumi.

Koolhaas’s acknowledgement of the thorny conditions of contemporary building practices and the limited role of the contemporary architect has led him to produce a rather ironic discourse on materiality and making (Koolhaas; et al. 1995, p. 16). The New McCormick Tribune Campus Center at IIT demonstrates some of issues and refocuses our architectural attention on architecture as building.

Figure 3.7 McCormick Tribune Campus Center, Rem Koolhass
http://photos.innersource.com/group/6610

For example, even Eisenman has turned towards the material especially glass material in his Zoizumi Sangyo Office Building, Tokyo. The building evokes not only associations with grids on surface and landscapes, and so on, but its very material condition also becomes an intrinsic aspect in the conceptual reading of transparency.

Figure 3.8 Zoizumi Sangyo Office Building, Tokyo
Http://Www.Skewarch.Com/Architects/Eisenman/Project.Htm

"Material matters; the specific physical properties of these individual tablets, their colouring, surface texture, reflectivity, scale, spacing, etc. all will have a profound effect on the success or failure of the architectural concept. These examples demonstrate that a profound and thorough involvement in making need not be an embarrassment or an indicator of the architect's anti-intellectualism. Instead it is the mark of the conceptually ample, rich and robust" (Lum, 2004, p.5).

Figure 3.9 Greater Columbus Convention Center, 1989-93 Columbus, Ohio
http://www.Skewarch.Com/Architects/Eisenman/Project.Htm

3.4. A New Approach to Conceptual and Perceptual Transparency after 1990

In the beginning of the 90's the west countries decided to give the way free to a higher urban density of skyscrapers in the commercial area. It was to be expected that

again commercial offices and related services trades would move into the newly built skyscrapers in the city centre. To counteract this monoculture with its tendency towards discreet accessibility the urban planners expected new high- rise projects to different businesses open to public to large extent- at least in there lower or there top levels. Of course, the buildings should be user-friendly and satisfy high aesthetic and ecological demands.

Changes during the planning of the office buildings necessitated staying power from the planners. The new aims and requirements were determined, such as changes of function, circulation system, bearing, structure, and façade.

A conscious developing of new building concepts have necessitated starting all over again. They are being forgotten and being out of fashion concepts of 1960's and 1970's. The possibility of natural ventilation by windows, which can be opened, unit single-layer façade or double façade surfaces are fixed idea of postmodernist trend on transparency.

Growing into vertical line is an inevitable conclusion in postmodernist trend, but in our interest is an aesthetical dimension of building. Perception of visual is the most important problem of glass-surfaced buildings and a forgotten concept in modern period. In this point, the growing into horizontal line is more risky than the growing into vertical line. Because the perception dimension of architecture is important if perception of visual gets into perception dimension of person. The modern buildings of Mies's and Johnson's still have perception of visual. Some architects say the country should spend its money on really important things, not on prestige developments like important-looking buildings.

It is inevitable that the glass surfaced commercial buildings will be constructed in increasing height. But, the buildings have some negative aspects. For examples, these commercial buildings of the 90's are very successful in defining, of speculative growing area, but rather unsuccessful in being enlivened of historical area. It is habit to perceive as identical cities with open area, for this reason, we want to perceive a 'place' with not existent but non-existent. In respect to the above explanation, the gigantic commercial buildings are very unsuccessful in 'place' conception.

But, at the same time, these buildings have speculative meaning in different level, so it's easy to evaluate their success in this era. The interpretation of 'these buildings cannot be reached by none of known methods in history; however, Louis Kahn's words should be remembered. "Little ornaments on the Venice roof are not decorated marble

adorning the edge of roof as a lace work, are detail of lead-roof… To imply a corner of building, for example, is an ornament. The ornament is the first step that we recognize the characteristic of building" (Gür 2003, p.64).

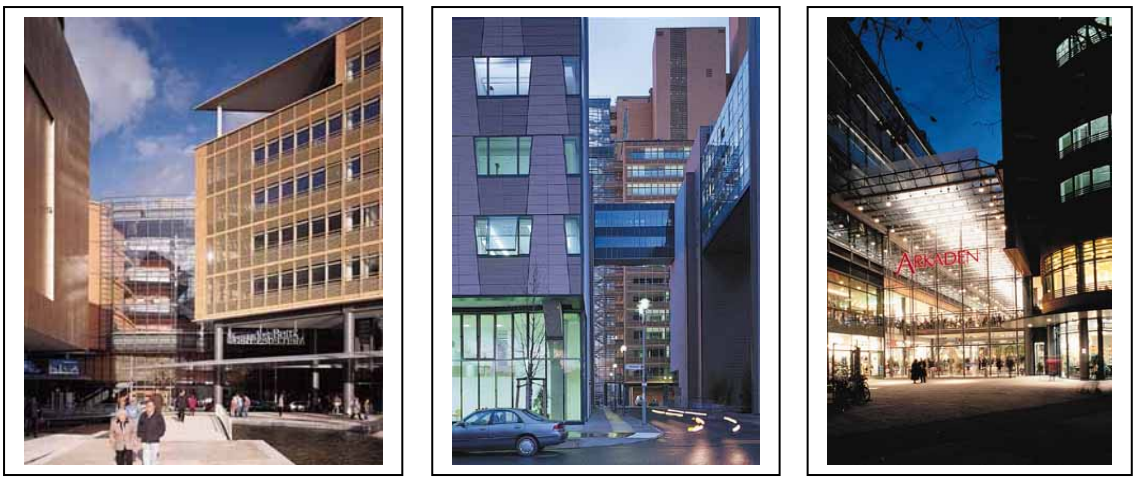


Figure 3.10 Debis Headquarters; Renzo Piano and Christoph Kohlbecker, 1994-7 Postdamer Platz, Renzo Piano
http://www.arplus.com/archive/piano/piano2.html

But, being given pleasure is that the new modernist trend of 90's is linked by the theme of "perception of visual". In this manner, there are some similarities between new modernist trend and modernist trend. Each of them is linked by the theme of "immateriality and taking a material form" that it will be able to express that.

3.4.1. Colour Constancy

Surface detection is important ability of visual system, which allows person to identify objects. Although features like shape and position play their role in the recognition task, it has been shown that the *colour* of a surface is also important. It is an easily recognised object because its colour is recognised. The colour signals for surfaces change depending upon the incident illumination. Our visual system seems to take into account this change and correctly recognise the same object when seen under a variety of different light *sources (colour constancy*).

3.4.2. Perceptual Continuation and Depth

It has been investigated a similar situation whereby surfaces are partially covered by transparent filters. Although the spectral composition of the light reflected by the filtered surfaces has changed from that of the surface itself, our visual system seems to take into account this change and correctly recognise the filtered surfaces as the same surfaces seen in plain view *perceptual transparency* (Westland and Ripamonti, 2000, p.255).

"Perceptual continuation and depth in visual phantoms can be explained by perceptual transparency"(Kitaoka, et. al, http://www.nebi.nlm.nih.gov/entrez).

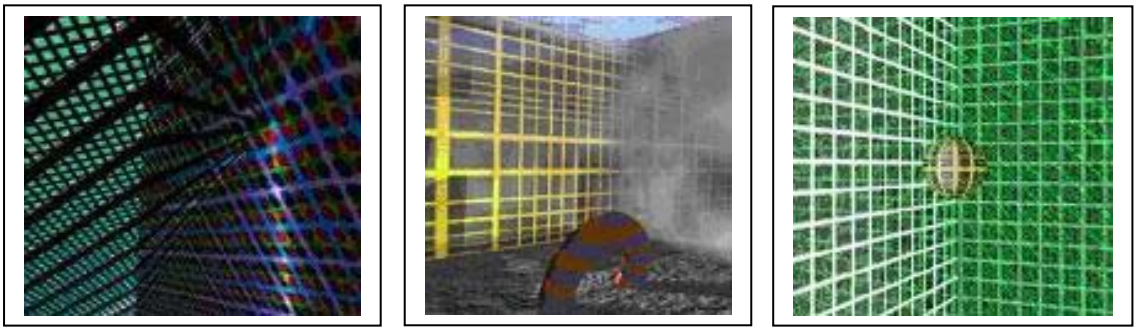


Figure 3.11 Perceptual Architecture
Images From The Digital World Of Jack Bornoff
(http://www.jacksrealm.com/)

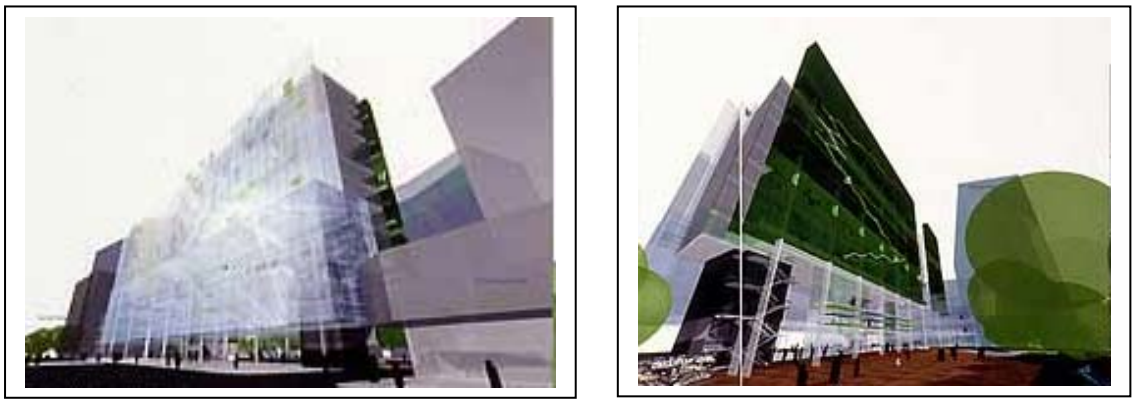


Figure 3.12 The definition of conceptual transparency
Mediatheque: Interfacing people by the means of transparency, Donovan Soon
http://www.presidentsmedals.com/Projectdetails.aspx?student

3.4.3. Dematerialise Attitude

Today, formalism's emphasis lies on the making of often compelling architectural images. The architectural images are created by dematerialised appearance of building for this. Conceptual architecture's attempts are to negate the material aspects of the building. That is, dematerialization is seen in photogenic appearance.

But, dematerialization in architecture is not about ignoring the material entirely; rather, it concerns the different conception relations between materiality and architecture. It does not eliminate their materiality, but rather incorporated an unusual understanding of what architectural design is and how it is made. "The materialization in this context becomes another aspect of thinking throughout materiality and architectural production" (Harrison, 1991, p.20).

"Formal uniqueness in architectural practise that seen in today's practitioners of conceptual architecture such as Rem Koolhaas is to create entirely different forms with each new project" (Inaba, 1999, p.38).

Diller + Scofidio's Blur Building is one such example of advocating shape over process. The Blur Building fight against the winds whipping off Lake Geneva is an attempt to produce the illusion of a static cloud hovering over the water

Figure 3.13 Diller+Scofidio's Blur Building longitudinal section of the 'blur building' courtesy of diller and scofidio http://www.designboom.com/eng/funclub/dillerscofidio.html

This illusion is not mean return to materials. That is, this is not a call for a new kind of formalism. "Edward Ford has eloquently written on the disparity between Modern architecture's desire for tectonic purity and structural expressionism and the rather convoluted steps required to maintain this illusion" (Edward, 1991, p.351).

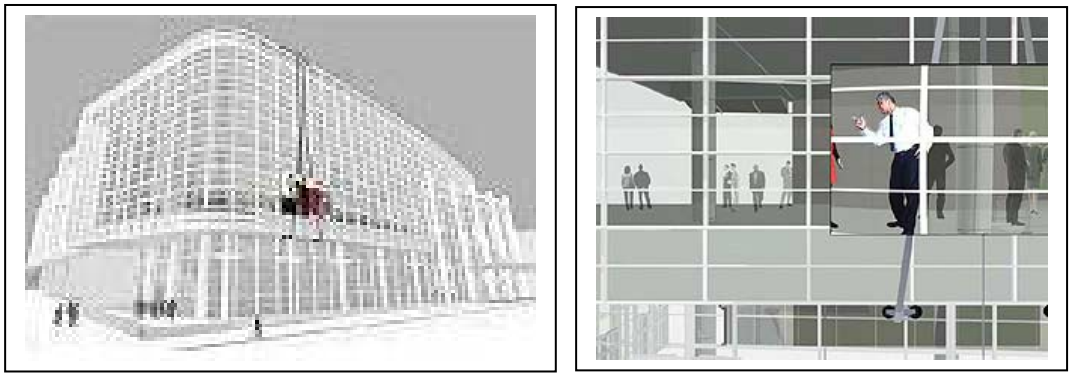


Figure 3.14 Facsimile 2002Moscone Convention Center San Francisco, California http://www.arcspace.com/architects/DillerScofidio/moscone/index.htm

> "A 16' foot high by 27' wide video screen is suspended by a vertical structure that rides on a horizontal tracking system. Several live video cameras are fixed along the height of the structure pointed into and away from the building. The structure travels slowly along the surface of the exterior facade and broadcasts live and pre-recorded video imagery to the screen as it moves.
>
> While the live images naturally correspond with the speed and direction of the scanning motion, the pre-recorded programs (fictional vignettes, virtual transparencies into fictional office buildings) are constructed to simulate the same speed". (http://www.arcspace.com/architects/ DillerScofidio/moscone/index.htm).

Equally, the introduction of new materials in architecture has given to lie to any simplistic formula regarding the proper use of materials in architecture. At the same time, these new materials have specific physical properties that through the magic of these materials, materiality itself can be ignored in favour of shape making.

3.5. The New Modernist Trends of 1990s' on Transparency Concept According to Raoul Eshelman

The first experience of Raoul Eshelman's about transparency marks a new epoch in architecture of the 90's. In his first article on performatism Raoul Eshelman who is

an American slavist calls transparency subject as a “performatist transparency” and brings thing together in way that create an aesthetic experience of transparency.

According to him, ‘the new tendencies of the 90’s’ is the epoch growing out of “performances” called the techniques used in it. To describe this tendency in semiotic terms, he has found to be Eric Gans’s concept of the ostensive. The ostensive provides a key to explaining the aesthetic dominant of the epoch now developing around us. “In other words, I think we are entering an area in which the stylisation of ostensivity. *Qua* performance is becoming *the* unavoidable mode of aesthetic expression. I might also add that Gans has advanced a notion of his own, post-millennialism, to describe the era after postmodernism, or what I call performatism” (Eshelman 2001,p.86).

According to Eshelman, the purpose of performatism as a term is simply to focus on the specifics of aesthetic experience. And, in a first step, he links the concept of framing more closely with Eric Gans’s idea of the ostensive; in a second, he applies the insights to the realm of architecture and spatial relations in general.

Spatial relations are unavoidable mode of aesthetic expression and therefore, Eshelman’s and Eric Gans’s semiotic defining about transparency is important to the realm of architecture in the west.

Based on his observations in West, he calls the some basic devices of the new architecture, arranges roughly in order to imply their importance. One of them is the concept of “dematerialization”.

According to him, new tendency in architecture arises when minimal spatial relations are configured. The background of minimal relations is modernist architecture. There has been no lack of minimalist attempts to stylise transcendence. Like modernist architecture, this architecture stylises functionality, and tends to use simple forms suggesting single end. However, unlike modernism, new architecture aims at evoking transcendence. They are perceived neither as being notions of ideal functionality nor modernist (whose most obvious taken is the grids or square) nor as ornamental plurality the post-modern sense (citing and mixing received). Instead, new architecture devices call attention to spatial mediated, minimal relations, which seem to overcome certain intractable material or physical limitations. One might call this transcendent functionalism, as opposed to the rational or technical functionalism of modernism.

If it is compared the “term transparency” with modernism and postmodernism trend, there is rather logical reaction among them. Modernism seeks to realize the aesthetic qualities of simplicity and unity in architecture. The results are a supposedly

non-ornamental, frame and the glass box universally. Postmodernism, by contrast, has highly context-sensitive, but also stylistically superficial glass architecture. This sort of transparency reacts against to an aesthetic of simplicity that is founded not in functionality or in stylistic citation. The most effective way of escaping from stylistic citation of glass architecture, 90's architecture challenges post-modern and modern architecture. Incredible object relations, transcendence of glass material and their own existence challenge architecture to accept them whether we want to or not. This challenge separates transparency from the post-modern and modern.

According to Eshelman, transparency strongly implies the transcendent act of dematerialization. *Performatist transparency* constantly evokes the possibility of transcending materiality by presenting it in the form of transparent, seemingly transparent planes.

"Postmodernist architecture, by contrast, likes reflective surfaces because they refer back to context and away from an origin, and bright colours, because they evoke secondary semantic associations not particular to the materials being used. Modernism, which also employs transparency a great deal, usually uses it to highlight internal formal or structural essences, building's glass skin should reveal its structural bones. This sort of transparency, by contrast, is demonstrative and tautological. It reifies, albeit imperfectly, the possibility of transcending materiality and doesn't really reveal anything particular about a structure's inner working or essence" (Eshelman 2001, p.92).

According to new modernist trend in the 1990's, transparent planes don't reveal a particular essential content and transparent frames replay semiotic disappearing act on a grand scale. The term 'dematerialization' has crucial sacral implications, that is, it leads the principle missing from the centre.

"According to Eshelman, it represents a radical break with postmodernism, especially thinks it in some respects- new epoch. But, at the same time, this is not just rehash of modernism. Furthermore, unlike modernism, it does not pretend to create authenticity or to experience things directly" (Eshelman, www. Artmargins. com/ content/feature/eshelman.html).

In other words, it sets characters up in such a way that they experience architecture truly new and profound.

The new architecture rejects standard criteria like the iconic, eclectic citation of previous styles, use of popular architectural vernacular in 'serious' buildings, or the extreme relativization of spatial coordinates like in/out or up/down. According to him, if you take standard criteria, you'll find that very few contemporary buildings.

3.5.1. Immateriality

Having been sacred of 'beinache nichts' (Almost nothing) may even be the last design criteria of transparency.

The concept of immaterialization, in principle, is a continuation of the thought of modern period. Mies's ideal total space, which has free-ends, is a great success of modernism, at the same time, is a prototype sample of immateriality. In fact, neither the inner space nor the outer space consists. "The perception of building is not interrupted by the whole former functions belonging to building surface" (Kirkegaard, p.314).

Renzo Piano's office block and dynamic expression of building corner facilitate the being recognized of building. By the same token, textural visualise of building envelopes surfaces of the statue from several different angles. The elegance of non-material consolidations with refined gesture provide to building unexpected effects. A surprised expression created by non- material consolidations is result of light and reflection. One of the effects of this consolidation is expression the building's greatness concerning the building volume.

Figure 3.15 Projecting loggia of the HALO corporate headquarters building in Niles, Illinois by *Helmut Jahn.* Photo: Doug Snower
http://www.architectureweek.com/2002/0717/design_1-2.html

Figure 3.16 Mc Donald's office building, Helsinki-Finland 1995-97
http://www.heikkinen-komonen.fi/mcdonald_e.htm

"Immateriality is a concept that has attracted widespread attention in architecture over recent years. This concept will be instrumental in enriching the meanings and effects, which assist the design process both in architectural theory and practice" (Dilekçi 2000, p.34).

The architecture is a visual art and has a strong visual impact. The term of "immateriality" opened the architecture up catch attention. The boundaries of immateriality and its concerning areas are quite different from each other, but to limit and to express of their contents are easier than to limit theoretical studies because of being practised area. Therefore, the boundaries and the content of immateriality can be classified as follows.

3.5.2. Spatially Porous

Architecturally, spatially porous is emphasis on bodily movement through architectural space. Further more, it is to explore an unfolded and suggested *Being Space*, which celebrates the advancement of technology. The encounter involves memory and experience, from which it is conceived the event and space.

"It attempts to merge two distinct concepts of space, "Actuality" and "Virtuality"; materialise an architecture that is spatially porous that allows one to immerse oneself in it". (http://www.fbe.unsw.edu.au/exhibits/BARCH/Imago/chuah.htm)

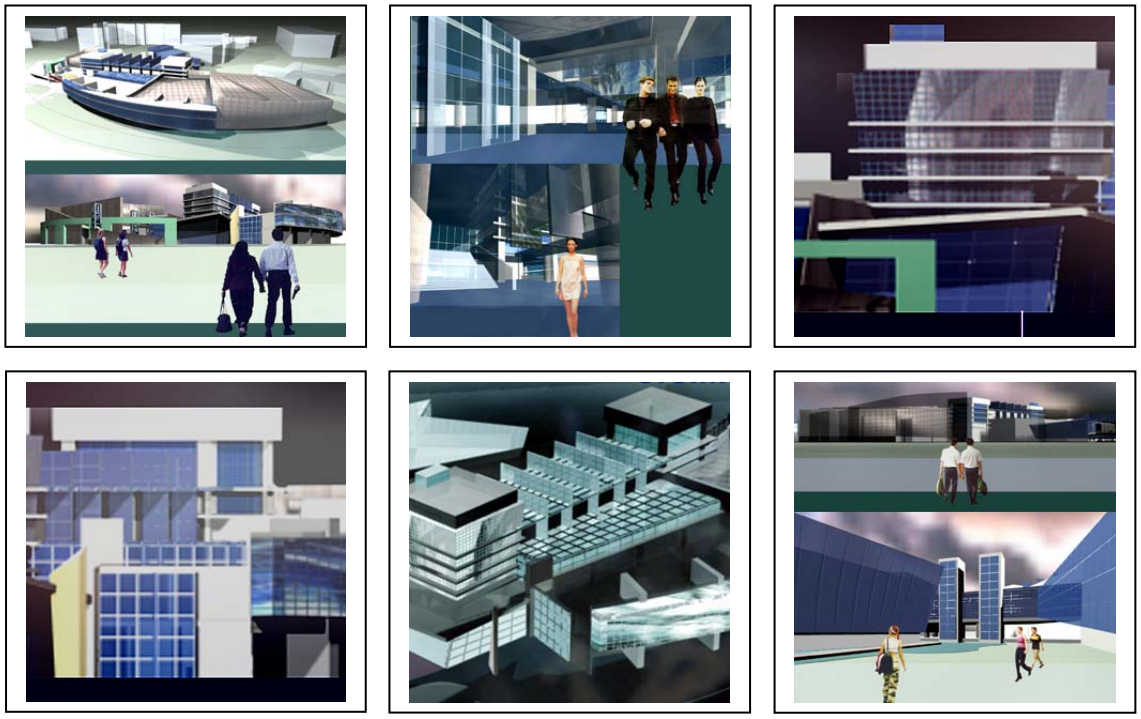


Figure 3.17 Zug-Imago Building,Architect: Chuan Keat Chuah
(http://www.fbe.unsw.edu.au/exhibits/BARCH/Imago/chuah.htm)

3.5.3. The Perception of Visual Stimuli

The transparent surface of the building sets a higher value on case than practical value. The main target is to show further performance of the glass architecture. The volumetric greatness of building, when is integrated with glass surface has exposed the conceptual performance. In this meaning, their mission determines to participated architecture. The building programme aims at out habitual order, such as open, visual, participated, having higher aesthetic quality etc. It is expected from glass architecture to show further performance. For instance, the glass surface must redeem the certain section of building. The building must reflect the panoramic view of the whole land and must be spectacle from the point of certain section of that. In recent designs on transparent architecture, the building oneself is shop-window instead of glazed shop-window surfaces. Having logical thought on transparency, having spectacle from one side to another side of building and being participated in the city centre are the characteristics of the new modernist trend of 90s'. These buildings have changed the whole appearance of the building by reflection of inner space of surrounding building as

a mirror. The buildings have transparent appearance thanks mainly to the reflected surfaces.

The thought of the intelligent building's changing itself depending on weather condition has comprised the idea of aesthetic development that is changeable and programmable completely (Porthogesi 1991, p.7).

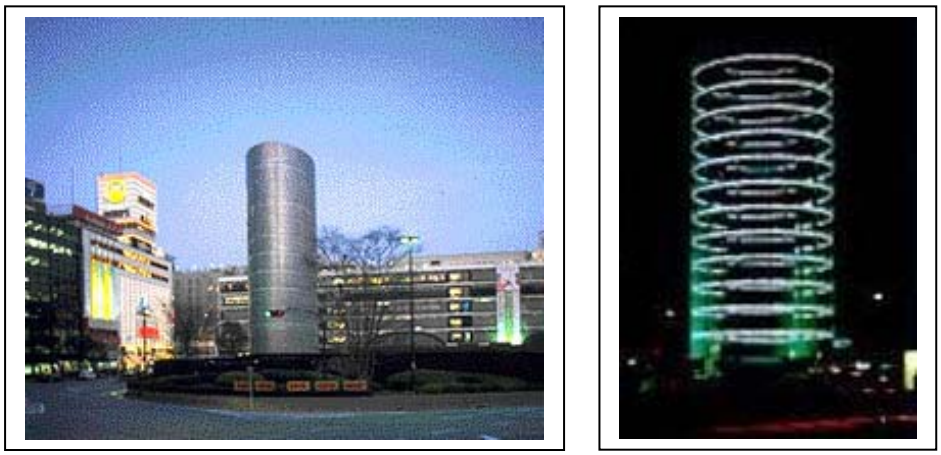


Figure 3.18 Tower of Winds, Yokohama, Japan
http://www.archidose.org/Apr01/040901b.html

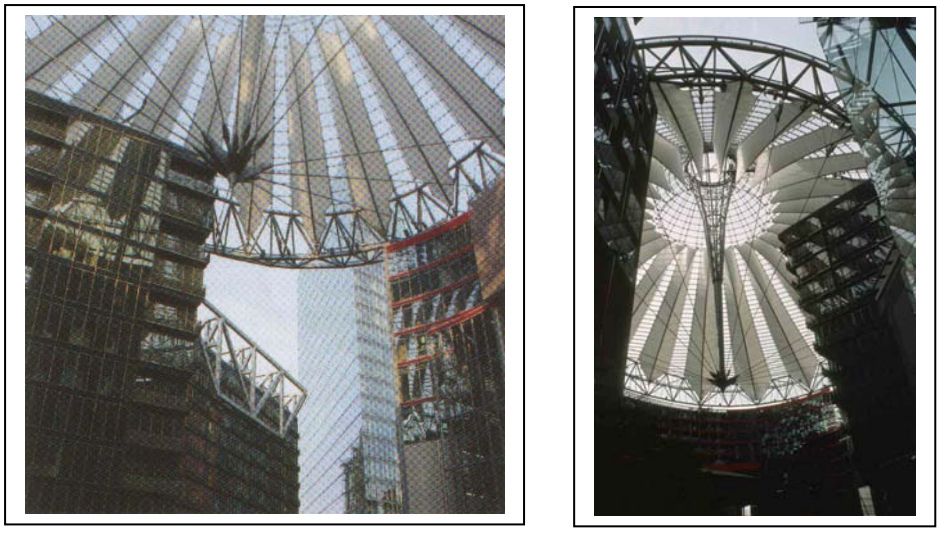


Figure 3.19 The Sony Center, Potsdamer Platz Designed by Helmut Jahn,
http://www.anthropoetics.ucla.edu/ap0702/img11.jpg

The qualities of architectural buildings are comprehended in the manner of a series sensitive perception. Schaffer's Cybernetic sculptured tower is the most interesting samples in this subject. The concept of *immateriality* wants to integrate the architecture

into our society in metamorphose system causing to change into another form. These metamorphose system influences everything being in surrounding, for example, meteorological conditions, the changing of daytime, the changing of the season, or the phases of the moon.

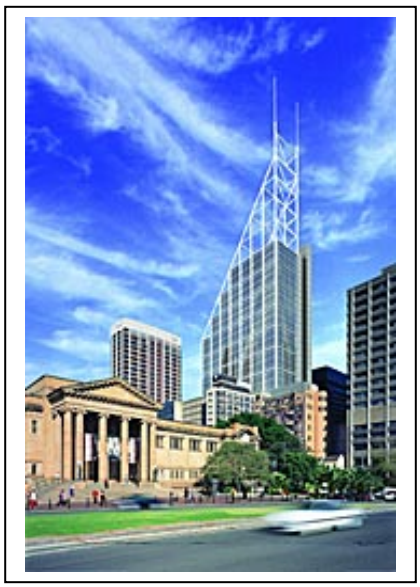


Figure 3.20 126 Phillip Street, Sydney, Australia1997-2005, Norman Foster
http://www.fosterandpartners.com/internetsite/html/

Figure 3. 21 Exchange Square, Broadgate London; Sir Richard Rogers, May 2004
http://www.britishland.com/content/property/dev_10exchange_square.asp

Figure 3.22 Nokia House, Espoo
http://www.safa.fi/ark/ark1_98/nokia_e.html

The conceptual relation between glass and light is based on principle of integration quite distinct and independent construction. This principle is the main opinion of space organisation. The fundamental function of glass material has provided the possibility of very active social life. The inner-outer integration has lightened the building as if the building disappears. They have different interpretation as an independent from the past.

Figure 3.23 Census Bureau, Baltimore, Maryland, 1994, Architect: Davis Brody Bond
http://www.safa.fi/ark/ark1_98/census_e.html

Figure 3.24 Rome Congress Hall, 1999
http://www.richardrogers.co.uk/html/projects/2000-1996.htm

3.5.4. Spatial Integrity-Perspectival Depth

Spatial integrity refers to undivided space and is often used to compare the spatial complexity of two or more spaces.

Figure 3.25 "TDF" headquarters, 1997, A. Zublena, M. Macary
http://results.searchscout.com/content/429/21238-0/content21238-0.html

The new modernist buildings create different spatial effects and look bright because of the reflection of light. Architectural reading always generalizes the building from material on special to general character. It never deals with anything in detail, because of positive effect of reflection to inner-outer integration. Therefore, the spatial and perspectival depths created by reflection are in a position to obtain transparent character. But in this point, togetherness of various glass materials in different character such as glass and opaque glass, the space can have more depth that gives the ones the

sense of being covered from the outside. “If a purely glass is used with an opaque glass, the space can have more depth and feeling of having perspectival depth. And at the same time, the half transparent glass used for the curtain wall can give more hints about the inside and talk to people many other stories than concrete wall with windows” (Chang II-Ju, 2001, p.3).

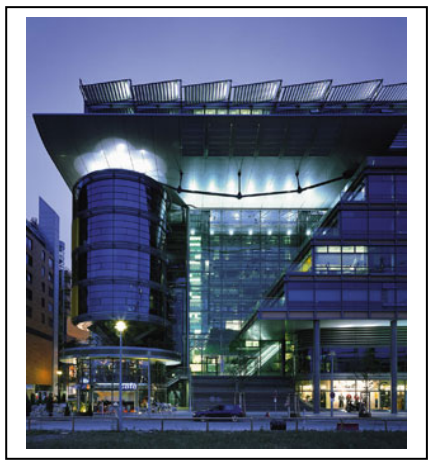


Figure 3.26 Daimler Chrysler, Postsdamerplatz, Berlın,1993 – 1999, Richard Rogers Building 207, 1999, s.66.

As it is said above, the perception of perspectival depth completely is reason of reflection. Temple Building of the 17th century is a best sample prize-winning building in the Dupont Benedictus. “Dupont Benedictus Prize Reigenko-ji Empire Temple was built by Emperor Gorniguno-o and was designed by Takahashi Yamaguchi and Masahiro Kato in 1638. Takahashi Yamaguchi and Masahiro Kato built the new building completely on underground in perfect harmony with old temple building. They designed elevated glass floor from ground to get lift for underground space” (Togay 2001, p.42).

This perfect impression created by light is how the material could express mass of water without using water in fact. In this point, the characteristic and technical capacity of glass are pious expressions of transparency. Therefore, the underground space of temple is seen deeper than being from in reality. The ground gains different view by interpretation on colour of the material. This lovely new temple has a charm that you couldn’t find in any old temple. “Adding up these charmful expressions to design remains a secret formed in conjunction with former times culture and today’s architectural language mixed them up together. The architects can get this distinct

impression of transparency with only laminated glass by coloured several layers of glass together one of tons of blue colour" (Togay 2001, p.44)

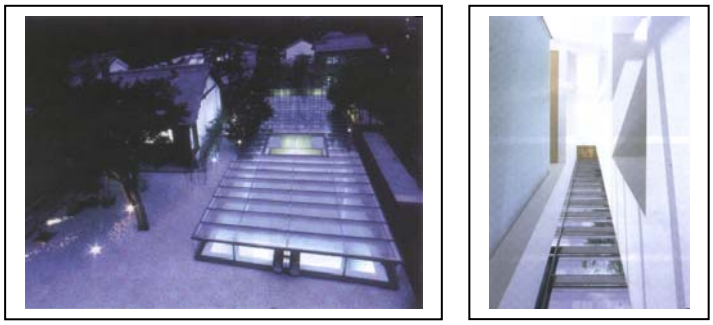


Figure 3.27 Glass floor of service building that is contiguous to Japan temple *Togay, N., DuPont Benedictus Ödülleri,* Arredamento Mimarlık*, 7-8, (2001), p.42).*

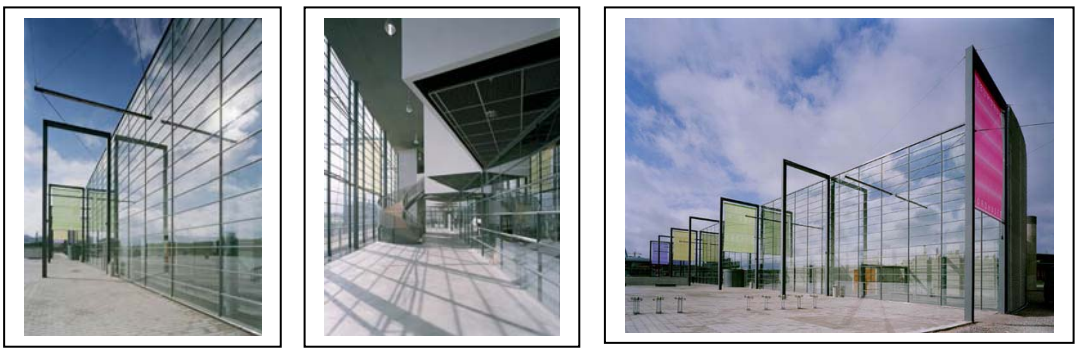


Figure 3.28 Vuatala Cultural Center, Helsinki, Finland 1997-2000
http://www.heikkinen-komonen.fi/vuotalo_e.htm

Figure 3.29 Foundation Cartier Building, Jean Nouvel
http://www.archiweb.cz/builds/kultura/images/cartier/cartier5.jpg

3.5.5. Visual Complexity or Complex Sectional Areas

Designed projects in this meaning, have the character of building skin that can be defined as non-material (immaterial) quality. At the same time, they deal positive and physical characteristics of surface. This new projects; generally, have complex sectional areas containing the cavities between two walls instead of separating the inner space from the outer space with thick glass (as we see it in Tugendhat House). This design approach and the composition have given sometimes the feeling of lightness to the building surface (Rovaniemi Airport, Rotterdam, Heikkinen-Komonen), sometimes the feeling of spatial depth has been given by cavity wall where there is air transition from one wall to another wall (Congrexpo Building, Liile-Rem Koolhaas).

Figure 3.30 Congrexpo Building, Liile-Rem Koolhaas Lille Grand Palais, Lille, France
http://www.gsd.harvard.edu/people/faculty/koolhaas/projects.html

Figure 3.31 Rovaniemi Airport, Rotterdam, Heikkinen-Komonen, 1988-1992
http://www.heikkinen-komonen.fi/roi_e.htm

“Designed sections in this manner, makes increase expression on architectural sections, and causes to further visual comprehension of structural skin. Therefore, the transparent levels have determined relation between outer space and spectator. There are not only isolation between them, but also greatly isolation, and have exposed material characteristics of glass instead of continuity of space” (Dilekçi 2000, p.36).

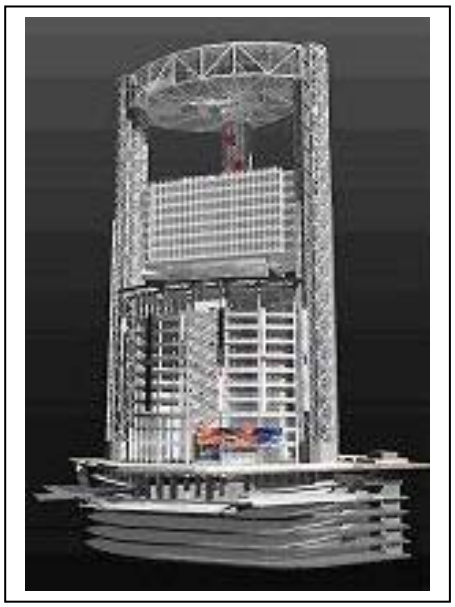


Figure 3.32 The Samsung Cultural Center in Seoul
http://www.dupont.com/safetyglass/lgn/stories/1307.html

“Condescension on structural skin and visual comprehension have caused to be secondary matters of structural discernibility and willingly reservedness. First impressions are created by visual comprehension. The reflected views by several glass layers and surface organisations have expressed the visual complexity. It is seen as a projection screen on building” (Kirkegaard, 2000, p.318).

As it might be understood, all these determinations have meant dematerialization of building form and material.

CHAPTER 4

AN EVALUATION OF CONCEPTION OF TRANSPARENCY IN OFFICE BUILDINGS IN TURKEY

The purpose of the case study is to expose Turkey's existing approaches of transparent architectural and to produce proposals about the concept of transparency.

Necessary but unavailable information about transparency concept sufficiently is mostly evaluated in this study by the means of comparative approach modelling. Thus, the aim was to expose the differences between Turkey and the West concerning conceptual transparency in office buildings after 1980.

Especially, the major cities such as Istanbul, Ankara, and Izmir as the metropolitan area, are our main concern. These areas are quite large, and will suit our study concerns. For this reason, the metropolis cities are preferred in which currently 24 sample buildings take place.

At first, the periods will be researched differently as the periods, before 1980 and after 1980. 1980s' are the main the main threshold in transparent architecture in Turkey. Transparent architecture, especially in office buildings, began to take shape in those years.

4.1. Before 1980

The advertising campaigns of the streets have been at war with each other since 1800. In this period, the dimension and depth of shop-window were very independent from building surface.

The commercial product was presenting in a haphazard way. But, later, the commercial product got free from presentation of product in a haphazard way, and the shops were been transformed into shop-windows. The interior decorators that paint shops' inside and outside had responsible for the exhibition of the commercial products.

"The actions such as the planning, management and marketing that is defined as different sphere of work in today were taking place in a work ship-shop. They were selling their products mainly in the ground of theirs house" (Pekin, 1988, p.46).

The caravanserais were primitive building types on the shopping which were simple hotels with large courtyards. The caravanserais were the shopping places that had small and partitioned rooms that thin walls inside a building divided a larger room. They were both well-ventilated rooms and well-illuminated rooms. The windows were too near to each other. The illumination was too strong to show the product that would be exhibited to sell. These caravanserais are places where many types of clothes and foods were sold.

In spite of a slight relation with caravanserais, today, many buildings have been called as caravanserais or inn. These buildings conveniently have been situated for the office.

In the past, transparent glass plates were obtained by invention of "cast" glass. Therefore, inside the shop could be seen from the outer completely. "The glass shop-window was made first on small dimension and later on single sheet of glass; that of official functions were determining the shopping place and store in simple form and were designed to protect the product against unwanted weather conditions, and to provide being seen of product even if the shop was closed. In a system of collective production, the glass destroyed utterly an assortment of shop-window and an originality of decoration" (Dülgeroğlu 1995, p.58).

The glass destroying the originality of decoration, took up a position as a glazed construction in building surfaces and a single shop widened and the large stores were opened. Necessaries of wider and of more depth and of more high building necessitated a change of architectural programme. It was seen speciality in their architectural programme such as selling departments, offices, warehouses, exhibition spaces, and work ship. It was seen a seeking of architectural form to improve building's profitability with the increasing production, the increasing management and the increasing new requirements.

The small measured shops in the past and today, big measured large store or storehouses are the places where the commercial product is presented to customers in perfect way. As regard, the appearance of stores and suitable location for arrangement are important, for their marketing strategy that is based on a study of product sell.

Office workers have needed a happy office environment and well-planned modern offices have offered a pleasant working environment. For this reason, the building typology has transformed into large office spaces.

Turkey is lucky to create pleasant office environment, because there were an official position in primitive office conditions of the caravanserais, there has been no relation to what we expected, however.

Today's office conditions has necessitated the teamwork, which the group of people will be able to work together effectively instead of working in small office one by one.

At the same time, pleasant office environment has presented the most comfortable position, which means close relation between workers and building surface. For this reason, the architecture of office buildings has been based on two-design philosophy.

Firstly, they are office buildings designed according to international architectural trend. In general, these designs are current design approaches to office design of small measured. If office environment is suitable, taking microclimatic conditions into consideration office designs has been transformed into regional designs.

Secondly, it is to design the office buildings in more universal line. The reason for design approach is that wherever it construct, necessaries for the office buildings is being same situation.

The more difficult one is to establish a universal architecture, because to estimate how kind of building will be established is really difficult.

Turkish architecture has preferred the modernist trend without dispute as an architectural language since 1930. Especially, foreign architects have designed some building types aiming prestige.

Figure 4.1 Exhibition Center, Ankara, 1934 (Şevki Balmumcu) (Modernist trend)
http://www.mimarlarodasi.org.tr/mimarlikdergisi/index.cfm?sayfa=mimarlik&

The more simple building facades were designed to the contrary decorated facades of National Architectural buildings.

This period formed by different foreign effects continued its existence till 1940. Most of the buildings that were built in International Architecture period are the public buildings designed by foreign architects.

Exchequer and Audit Department (1928-30), Ankara University Political Science Faculty, (1935-36), Ministry of Defence (1928-30), Presidency (1929-30), President of the Republic Villa (1931), Grand National Assembly (1938-60), Ankara University, Language and History Geography Faculty (1937), can be counted among the public buildings.

After defeats in The World War II, one of the effects of this defeat was seen on architecture. The reaction consisted against to the foreign architects. The cause of the reaction was not bringing the building materials into our country from abroad. This situation reasoned act of returning of architecture to traditional again. This period has been called as National Architectural II period including 1940-1950's. Istanbul Radio house was built in this period.

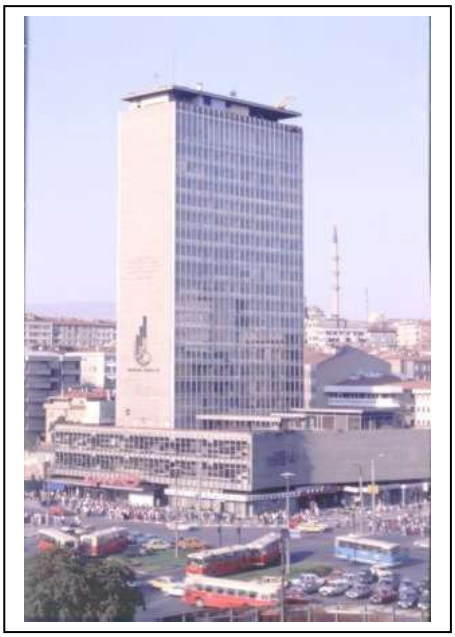


Figure 4.2 *Kızılay* The Red Crescent Building–1959, Ankara
http://www.emekinsaat.com.tr/pages/Kizilayishani_jpg_jpg.htm

At the end of the 1940's, the technological developments in the world caused lot of good feelings in our country. Variation was seen not only in design but also in used

material. The usage of regional material became less; the usage of glass material increased together with steel and cement, as a result, the reinforced concrete building increased.

The contemporary architecture replaced II National Architecture period as an architectural principle. This trend should lead to increased efficiency in architecture. Increasing usage on import material, and returning of architecture students to our country within several years, that had gone to abroad for education and being very active of foreign architects are some of the reasons accelerating the changing in architecture.

Some buildings designed with this architectural forming as are seen below: Istanbul Hilton Hotel (1953), Istanbul Town Hall (1953), Istanbul Sheraton Hotel (1959), Ankara The Red Crescent, (1959). The different building types such as office, factory and company building have been designed according to the manner of contemporary period since 1950.

Figure4.3 *Ulus* Building, Ankara

http://www.emekinsaat.com.tr/pages/Ulusishani_jpg_jpg.htm

Rather modernist designs were constructed until 1950. The period of architectural stability continued until Post-modern period.

The active technologic developments and coming into being of post-modern trend and receding fast of hopes for economy caused pluralism that building of different style, material, and design approach could be seen together in the same society.

Especially in this period, developments in communication and information reasoned the introduction of office buildings having striking appearance. These buildings related to concept of prestige–image-advertisement.

"There weren't any radical differences in 1970s'; but let continuity the design approaches of 1950s' and 1960s'. That of periods were threshold of our building culture, the beginning of the 1970's was as well continuance of preceding year. The designers were on the threshold of a better understanding of how the building surfaces were designed. In Turkey of 1950s' and 1960s', it was seen interference with the west that has rapid economic growth after The World War II to reintegration. Turkish architecture never had been taken eyes off the America for a moment and the imagination of to construct the country as a small America that had had determined the direction of building culture. With large glass surfaces *betebe* covered massive surfaces, with giant *fork* column, slim *luly* columns. Metal bars originating the façade, concrete sun protector and shear walls with holed bricks" (Balamir 2002, p.122).

Figure 4.4 "*Bayrampaşa Özel İdare*" Building,İstanbul
http://www.metalyapi.com/french/referans/alltopic.htm

4.1.1. Searching for Prismatic Mass

In 1950's, the office buildings were purified from unnecessary details and direct presentation of the material was an important. Searching for prismatic mass adapting for having bright, clear and varieties in design determined the architectural form of this period. For this reason, the office buildings were defined of their transparencies with

searching of mass and forming. A rational architecture became popular. “The changes seen in prismatic masses was also available in our today’s country” (Vanlı, 2000, p.98).

Figure 4.5 Turkish Historical Society, Ankara, 1967
http://www.mimarlarodasi.org.tr/mimarlikdergisi/index.cfm? sayfa=mimarlik

The design has been realized in spatial and constructional quality. The building mass that is equivalent to base of building land and smooth prismatic masses has blocked the country. In this period, the conception of transparency has expressed itself on surface of prismatic mass.

Figure 4.6 Halk Bank Head Office, Ankara
http://www.arkitera.com/diyalog/dogantekeli/ornekler.htm#

The prismatic mass-plan of office building had ‘U’ plan and had a hollow space in the solid mass. The wall having hollow space with a narrow space was used in building to take daylight inner space. This plan type used simple diagrams to remain the

massiveness of building in the third dimension and the aim of this diagram was to provide daylight for inner space of office buildings.

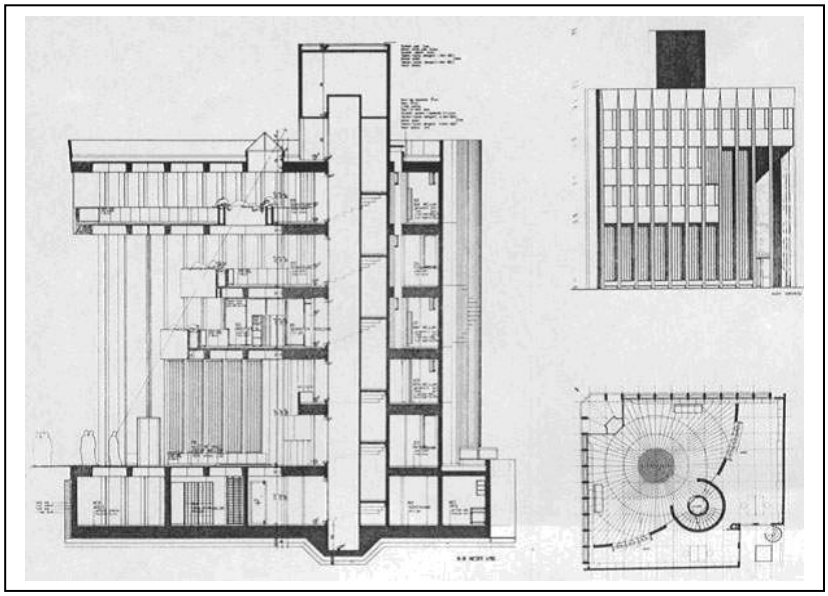


Figure 4.7 Turkish Language Corporations, Ankara-Cengiz Bektaş
http://www.arkitera.com/diyalog/cengizbektas/ornekler.htm

Figure 4.8 İşBank Head management, Çankaya, Ankara 1979.A.Böke, Y.Sargın
(Akay, Z., Sixty-year-old architectural view, story of the two cities,
Arkitekt 1, 1991, s.52).

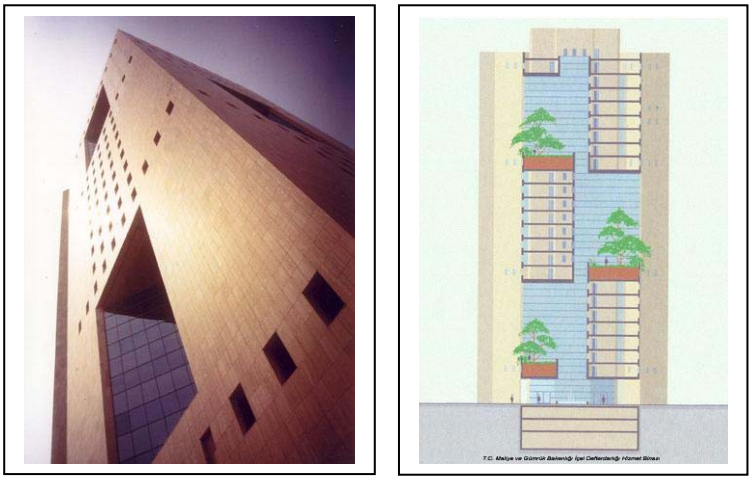


Figure 4.9 İçel Financial Office Building for province
http://www.arkitera.com/diyalog/semraozcanuygur/mimari.htm

4.1.2. Glazed Prismatic Mass

In the second half of 1970s', deviation from architectural form was seen. Office space having standard norm of Ministry of Public Works established the most banal architectural environment for Turkey instead of good standing architectural environment having variation of intensive work needing a lot of productivity. Built of native and import surface systems fitted onto building façade both have exhibited the process of being development and also completely has remained anonymous disinterested two space in building having same type. Building's monotonousness rendered it unable to feel its visualization.

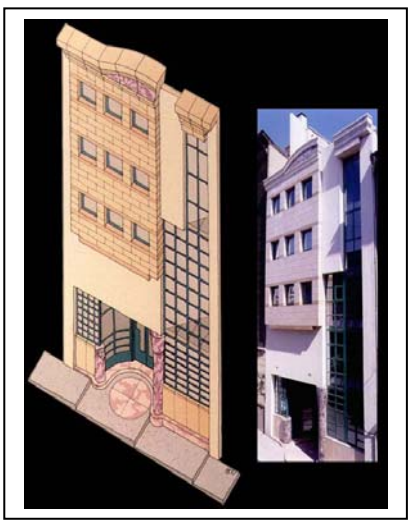


Figure 4.10 Advertisement House, Office Building, Nişantaşı,.
http://archnet.org/library/sites/one-site.tcl? site_id=1181

Especially, after 1970, there was a wide spectrum on transparent design. “Covered and glazed prismatic masses were designed as a primitive approach of today’s transparent architecture” (Eyüce, 1989, p.55).

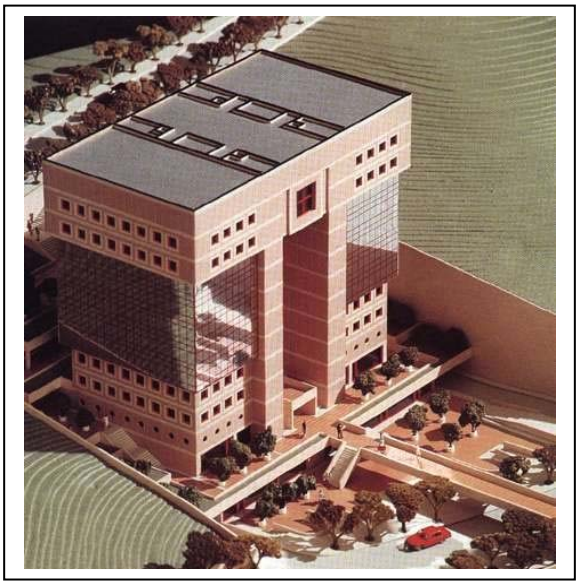


Figure 4.11 The office building in Dikmen, Ankara-Doruk Pamir
http://www.arkitera.com/diyalog/dorukpamir/ornekler.php

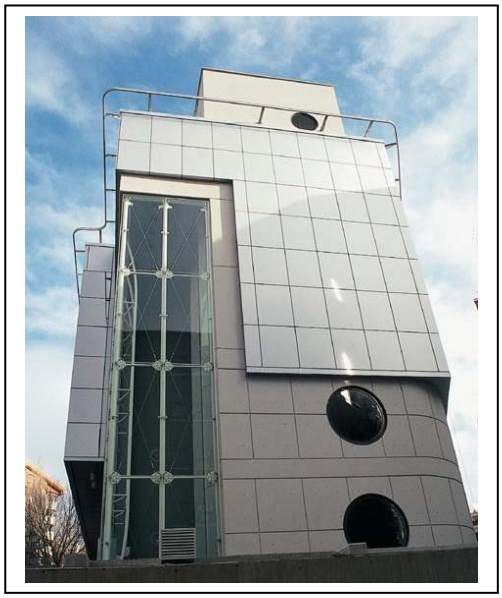


Figure 4.12 The Commercial of Proficient Portable Investment Company–Ankara,
http://www.arkitera.com/diyalog/dorukpamir/ornekler.php

To sum up, the countries needed a lot of symbolic capital, which would be able to express the building character. Therefore, the new office buildings were the reason of spectacular success. Spectacular impression was perceived when the glass surfaced office buildings built up. The trend of spectacular architecture was the most popular period. In this period, the building's consuming interest on symbolic capital was its willingness without forced to become the most attractive, the most impressive the most visual etc. Today, the number of symbolic qualified building has recently increased. Especially, an effort to increase the number of office buildings has been seen since 1980.

4.1.3 Transparent Impression of Framing System

In the 1980's, the architects willing to design new buildings put on one side the natural development. They preferred rational solution instead of bringing proposition to spatial orders of inner-outer space, that is, they preferred to give new vision to prismatic mass of past. Their aim is directed to architectural form seeking. For this reason, they tried different forms and covered them with glass surfaces. This current architectural situation is newness in appearance of the building provided by glass. Because an indisputable truth is that glazed surfaces aren't really proper for designing of transparent architecture. That is to say, these buildings are not reason of spatial seeking to increase their transparent character.

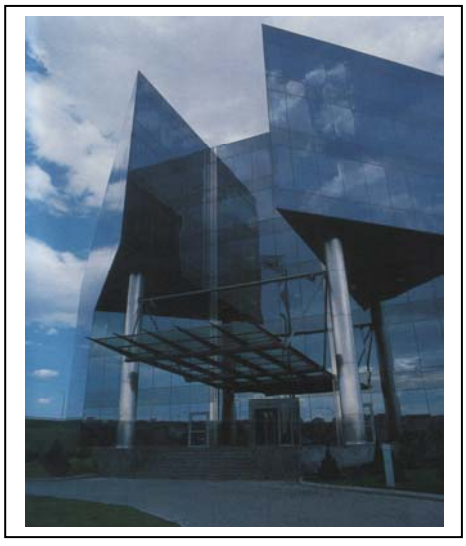


Figure 4.13 Doğan Media Center, (the ability of form)

Design 49, p.49

These buildings have rational behaviour having the ability of material and form as an indisputable manner. Doğan Media Centre can be given as an example to rationalist behaviour of glass architecture.

Figure 4.14 Standard Profile, Düzce, (the ability of form)

http://www.metalyapi.com/

In prismatic or pyramid base, transparency has been obtained from the frame systems in both Doğan Medya Center and Standard Profile. In addition to behaviour of frame system, in this period, the partial motions on building surface aims to increase transparency impression of framing system.

Figure 4.15 Kombassan Holding,Konya,(transparency impression of framing system)
http://www.metalyapi.com/

Figure 4.16 Centrum Business Center, İstanbul (partial motions of building surface) http://www.metalyapi.com/

Kombassan Holding and Centrum Business Center can be given partial motions on building surface.

4.2 The Criticism of Transparency After 1980

4.2.1 The Effect of Surface Hollows to Transparency

Architects were on the threshold of better understanding of how the office buildings become transparent.

For this reason, they tried to take daylight inner space of building. For this, the hollows were established on the building surface. It is the first step on transparency.

The design proposal to integrate nature indirectly into the building was an existent forming as a reaction against to glazed prism called international style. There was a great deal of reason in reaction. The popularity of these new-fashion views reflected uncompleted transparency when was compared with modern period. Because, the glass prisms were not providing transparency enough apart from being too sharp angular face depending on only material and material colour and an angle of daylight. Whereas, the building surface should have been angled so as to reflect light from the window.

Partial hollows on building surface contribute to building's transparent character step by step.

Olive Grove Tower's transparency depends on only material characteristic.

Figure 4.17 Olive Grove Tower, Istanbul (spatial likeness)

http://www.metalyapi.com/french/referans/alltopic.htm

4.2.2 Corner towers

The new development in the second half of 1980s' was to establish a tower on building corner.

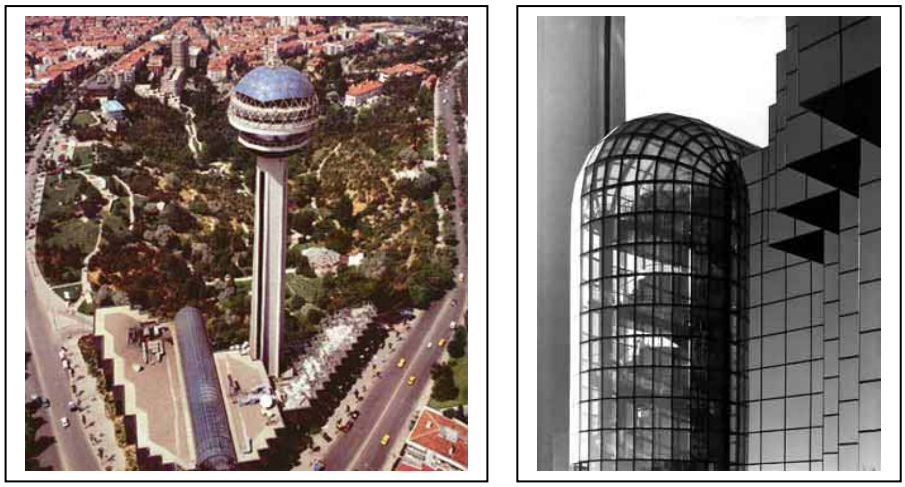


Figure 4.18 Atakule Galleria, (the establish of tower on building corner)

http://www.ragipbuluc.com/eserleri/atakule__02.htm

The large transparent surfaces determined by corner tower were other steps on pyramidal mass of transparency.

Figure 4.19 *Beyaz* Business Center, Florya, İstanbul (corner tower)
http://www.metalyapi.com/french/referans/alltopic.htm

Figure 4.20 Bank Express Head Office, İstanbul (partial motion)
http://www.metalyapi.com/french/referans/alltopic.htm

Figure 4.21 *Dereli* Graphic building, İstanbul (the transparency of building corner)
http://www.metalyapi.com/french/referans/alltopic.htm

Figure 4.22 The office building, İstanbul (the transparency of building corner)
http://www.metalyapi.com/french/referans/alltopic.htm

Figure 4.23 *Toprak* holding, Istanbul (partial transparency)
http://www.metalyapi.com/french/referans/alltopic.htm

4.2.3 Monumental Transparency

Especially, after 1980, there is a strong resemblance between the design styles of the West and Turkey. The gigantic office buildings as monumental symbols of resemblance reflect lack of originality and monotonousness of elements badly.

Figure 4.24 *Eski Yapanlar*, Istanbul (lack of originality)
http://www.metalyapi.com/french/referans/alltopic.htm

The city of Istanbul, especially, the road of Zincirlikuyu-Maslak is tower centre where most of the buildings are in competition with each other. It has no likeness to Hong-Kong, Tokyo, London and New York anytime, it is not similar to it in appearance, but competes with each other. It wants to impress people to show its own prestige and superiority. For this reason, it looses all traditional values concerning environment.

Figure 4.25 Ihlas Holding, Istanbul
http://www.metalyapi.com/french/referans/alltopic.htm

Figure 4.26 The Sample of Monumental transparency, Ankara
http://www.metalyapi.com/french/referans/alltopic.htm

One of the first design proposals of glazed surface plaza is the office buildings designed by E. Coşkuner and Sedef Tuncağ in Izmir. However they were not constructed, they were only design proposal. It is one of the samples of glass architecture, but not transparent architecture, where glazed surface was used.

E.Coşkuner's and S. Tuncağ's design proposal is an example for reinterpretation of right-angled prismatic mass.

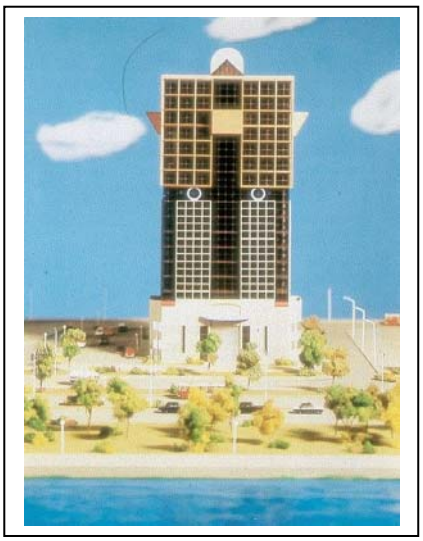


Figure 4.27 Office Building, İzmir 1989, Coşkuner, E. and Tuncağ, S.
(Reinterpretation of right-angled prismatic mass)
(Eyüce, "Design approaches for High-Rise Buildings", Design 1989, p.56.)

The argument of “transparency” of the West in today is not roughly equivalent to that of the Turkey’s point of view. It has not equivocal behaviour and not difficult to understand or explain. In Turkey, the conception of transparency has been understood as equivalence to glazed surface’s use, function, size, value, and behaviour.

The West, in 1990s’ when most of the countries, were seeking new concept and approaches of transparency, the architects in our country were reinterpreting the last styles, forms concerning the prismatic mass. Even, reinterpretation of glass material covered with glass completely was the expression way of transparency. For this reason, these different approaches between them can be compared with that of the transparency’s materialist performance.

Therefore, in the metropolitan districts in İzmir, İstanbul, Ankara, Bursa that are called metropolis, the office buildings are the pioneers of transparent architecture. According to recent transparent architectural samples in Turkey, spatial likeness in metropolis is equivalent to that of the West. The plan and overall design of metropolis is planned with only elaborate structure and glass surfaced office buildings to establish working condition. An imaginary line through the centres and zones is being created. The metropolis has no environmental, cultural and historical values thanks to any unified design and projects. The spatial planning has been rendered non-functional. Post-modern tendency has tried to surpass more egalitarian principles of planning. In addition to this explanation, it has tried to surpass the functions belonging to common living place. The result is lack of variety and spatial sameness (Hacısalihoğlu 2001, p.86).

The only glaze surfaced office buildings having transparent character are not equal to office building having spatial transparency. Because in glaze surfaced office buildings, the building quality has been sought in building appearance anytime. The building does not earn symbolic and aesthetic meaning with only outer surface of building.

Although this is true in Turkey, most of office buildings that can be called in society as a prestige building have made continue idealism of the modernist architecture simply by monumentality of building and by simple shape of that. But the symbolic being of that have tried to be the make continue of Post-modern culture having formal principles of transparency.

It should be said that, a lot of office buildings after 1980 have been designed by these approaches. Therefore, new approaches are needed to solve this problem. The only solution is to create entirely new design approaches, that is to say, to give meaning to transparency concept. The structure of architectural language must be sought in strata of society and in dynamics of a society instead of in superficial similarities with the same one. The intersection area between inner and outer space must gain meaning and function and in this area conceptual and perceptual concept determining transparency must be created.

Glass is very important in legitimacy of symbolism. The buildings characteristic should be perceived in level of spatial order instead of not in the way of merely transparent character or an aesthetic quality of the building.

In recent years, the rational and clear-cut solution has been seemed in the architectural tendency of Turkey. Especially, according to architects in Turkey, the openness and clearness of plan and façade are necessary for perfect transparency. But, getting dressed or packed certain architectural types in latest approaches have caused to loose open-minded approach of glass building. While we are trying to comprehend how transparency was deeply under the influence of modern architecture, late modern and post-modern designs reveal the wrong and unconscious design.

Figure 4.28 Office building, Kozyatağı, İstanbul Arolat Architecture
(Rational and clear-cut solutions)
http://www.arolat.com/kozyatag.html

Technology, material, construction, and structure have expressed freely by the means of Late and Post-modern discourses. Whereas, the juxtaposition of that in Turkey

has lost the meaning with the conception of “get dressed façade” including the latest architectural literature. But, in the West, transparency has included ‘theme concept’ instead of dressed of building. In many respects, while it has openness character, sometimes, it has submitted continuity, and sometimes, it has showed the permeable character of building to reveal oneself transparency. While the building is surrounded by glass, at the same time it can also express own self as an inner-outer spatial formation roughly.

The new modernist trend of the 90s’ has determined today’s architectural tendency. Architecture critic’s agreement exists on the criteria for defining truth transparency in architecture.

In Turkey, one of the main criticisms against to office buildings is whether having enough glass surfaces or not. They like to criticise superficially rather than analyse more critically. The transparent building on the whole is a very different character. The building covered with glass surfaces cause to perfect camouflage and therefore the criticism often becomes introverted. Togetherness of space and outer skin in way of not continuousness cannot reflect the motion in space enough.

At first glance, the perception of the buildings has increased with three-dimensioned expression. Building’s relationship with plan level and building wholeness and light has formed well-proportioned shape. The attraction of the office building has laid in its perceptual visual. Architects who care about the transparency want to take daylight as much as possible to inner space. Otherwise, the loss of energy is very great, so they have to economize on energy.

Taking charge of the structure in office buildings of Turkey has a minor importance but completely has not been suppressed. Unfortunately, transparency has lost the meaning by unconscious usage of structural elements and expressions. In Turkey, the building structure does not take place as a priority. In the West, structure is an element of transparency and has moderate views all together.

All of them those are mentioned above, the problem of transparency in architecture are entirely relation of concepts. These concepts help to building in obtain meaning. Especially, it doesn’t mean inner-outer difference. Furthermore, it has a complete relation.

In this meaning, to make any progress of transparent architecture in Turkey is seen impossible.

CHAPTER 5

CASE STUDY: AN ANALYSIS OF OFFICE BUILDINGS ACCORDING TO EVALUATION OF "TRANSPARENCY" CONCEPT AFTER 1980

In this part of study understanding the transparency of building surface in Turkey and the samples of architectural application since 1980 has been analysed with case study. How organizations are important belonging to surface and space in gaining on transparent character of building has been evaluated. An evaluation consists of sample building called transparent. Their transparent architecture qualification will be analysed. These buildings are the sample buildings known parallel with transparent building criterion which were discussed being fixed in chapter 3. In the first part, selected buildings are evaluated with questionnaire study.

Second part is an analyse study, the selected group buildings were analysed according to whether they have transparent design criteria or not.

An evaluation tables will be base on scientific studies in this subject and will give references to later studies.

The transparent architectural qualification or not belonging to selected group buildings is the result of questionnaire evaluations.

5.1. The Questionnaire Study

The aim of the questionnaire study containing architects in Turkey is to expose the point of view to transparency of architectural environment in Turkey. This study contains all the information about transparency it needs.

In case study selected 24-reference buildings have been presented.

For this study, the questionnaire form containing designer architects in Turkey was prepared. The aim of the study was to take their opinion.

This form has been presented in Appendix B. The questions in the questionnaire are definite questions that the relationship between office architecture and transparency concept will be evaluated easily.

The questionnaire study includes especially the designers of selected reference buildings. The aim is to inquire about transparent architecture and is to expose the design thought of the architects.

Thus, colliding and separating points will provide the relation between their design thought and application.

The architects agreed to give a face-to-face interview. The questions were prepared as multi selected questions. Thus, the design thoughts of designers of reference buildings would be determined in existing architectural conditions.

In general of questionnaire study the aim is direct to determine the exterior wall of building designing with glass material taking effect on space and reflecting to the observer.

The aim of the study in the direction of determining criteria, is to confirm that the office buildings in Turkey are not transparent

5.2. An Evaluation of Questionnaire Study

The questionnaire form consists of 24 questions. This part of questionnaire study consists largely the occupant of İzmir, İstanbul, Ankara where the office architecture has been constructed in there fluently.

There are some questions containing preference of material and detail appropriating to transparent surface system, construction system technologic application, and the questions concerning design, architectural space, architectural meaning and concept. The origin of questionnaire questions is based upon assimilation gaining possession of transparency architecture thought system in chapter 3. The findings of questionnaire study are necessary to prepare the analysis tables.

5.3. The Result of Questionnaire Study

In today's architectural conditions having contemporary knowledge of concerning transparent architecture and giving the main decision during building production process must be able to carry out conscious building applications.

The aim of the thesis with a questionnaire study is to determine what kind of criteria is used to judge a transparent building. For this; the studies made for this aim is mentioned below.

- To determinate what kind of criteria are used for choose of glass material.
- To have an idea of the subject involved transparency from them.
- To determinate the conditions of existing designs concerning transparent architecture in Turkey.

A prepared questionnaire study has been arranged with architects most of who occupy in Istanbul, Ankara and Bursa to have an idea. For this reason, to see the greater participation in the design-making process expresses desire. It is expected to see them with greater participation in the decision-making process of transparency. At the end of the questionnaire study, the researcher asks the question about transparency concept to the 89 participants who attend to the survey. The questions grouped round three categories.

The first group questions are the questions aiming architect's criteria in choosing of glass material and to determine capability of choosing.

The second group questions are the questions that are directed to determine architect's knowledge and approach about transparent architecture in Turkey.

The last group questions are the questions that are directed to determine design interest in architect's transparent architectural works and to determine the existing design conditions in Turkey.

The method and evaluation table were prepared to analyse according to the result of questionnaire study.

The analysis tables have been arranged on every sample building. The results of questionnaire study have exposed the position of transparent architecture in office building

after 1980. This result has exposed, in reality, that the office buildings in Turkey after 1980 are not transparent.

According to the questionnaire result, the designer's point of view to the transparency concept is not colliding with designer's applications. In this meaning, there are strong differences between starting point and the end product.

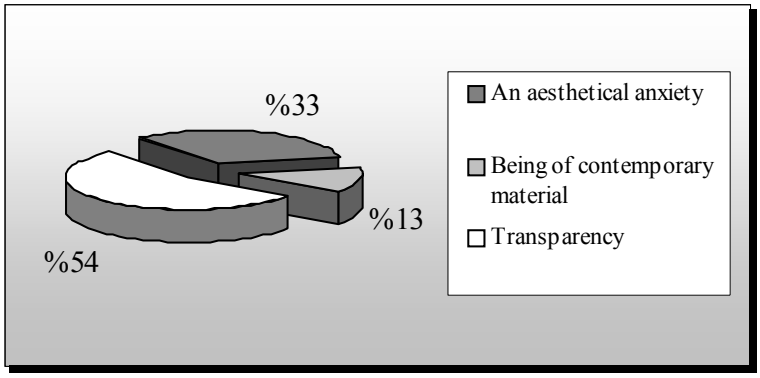
In result of questionnaire study, arrived comments and fixations about transparency have been given in Table 5.1. These evaluations reference to analyse tables establishing the later part.

Capability choise of glass material determined by architects.

The researcher asked the architects the question "What is the reason of your preference of glass in architecture?"

Graphic 1: The reason of preference of glass material

An aesthetical anxiety	33 %
Being of contemporary material	13 %
Transparency	54 %
Totally	100 %



According to the average of the answers that have been given by architects, the reason of the glass preference of an architect is given in graphic 1. According to an architect, glass is a medium for transparency beyond being a contemporary and a new material. If transparency is provided enough, it is inevitable that the building will be aesthetic.

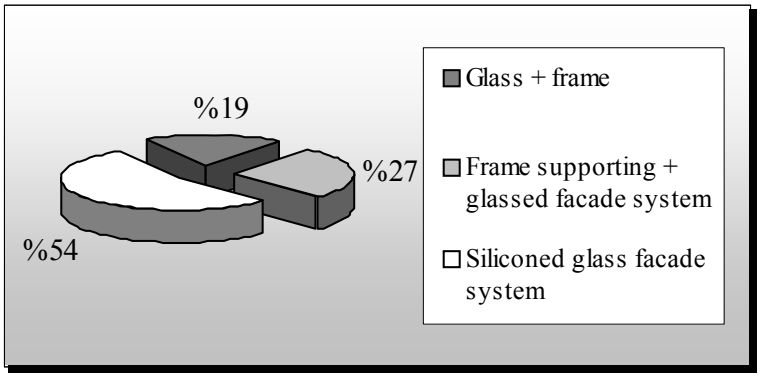
It is inevitable that the building is aesthetic if transparency is provided; therefore the aesthetic anxiety is the second preference.

"Which system is used on surface for effective view in gaining transparent character" is asked to architects. This question has a 54 percent (= 54 %) silicone glass surfaced system.

They prefer silicone glass surfaced system to aesthetical reasons as a big percentage of the questionnaire study. 27 percent (= 27 %) is frame supporting + glass surfaced system the remainder of the answer, that is 19 percent (= 19 %) is the answer of glass + frame. According to the answers given by architects, it has been understood that any structural element on building surface is not necessary (= it is thought it is not a required system) (Graphic 2)

Graphic 2: The contribution of building surface system to transparency

Glass + frame	19 %
Frame supporting + glassed facade system	27 %
Silicone glass facade system	54 %
Totally	100 %

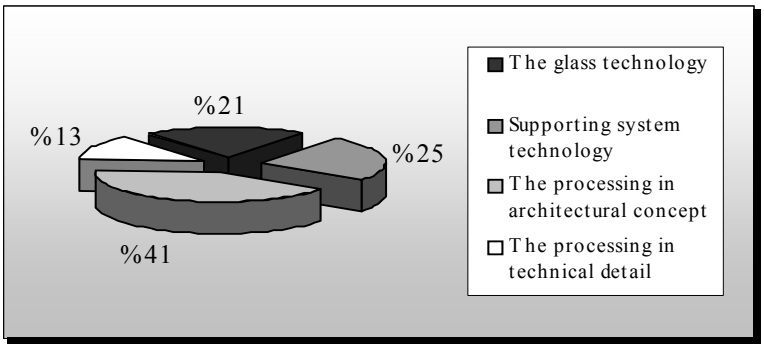


The question of “choose the effective origin in completeness transparency of building” is to determine the design method and knowledge about transparent architecture of architect. According to the average of the answers that have been given by architects, the processing in architectural concept supply 41 percent (= 41 %) of what we need.

According to the answers given, it has been understood the “theme concept” different from surface level linking by transparency concept of is expected by architects. (Graphic 3)

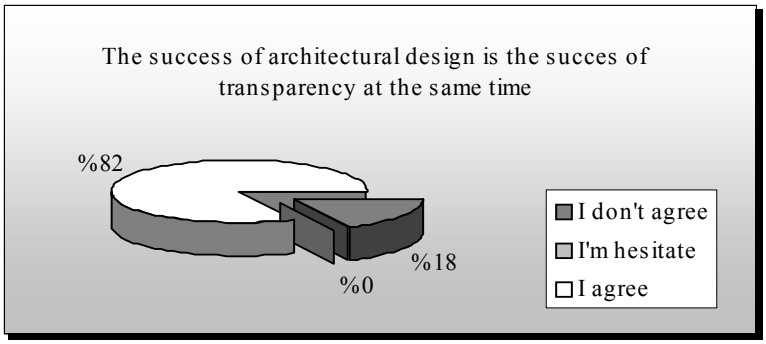
Graphic 3: The effectual origin in completeness transparency of buildings

The glass technology	21 %
Supporting system technology	25 %
The processing in architectural concept	41 %
The processing in technical detail	13 %
Totally	100 %



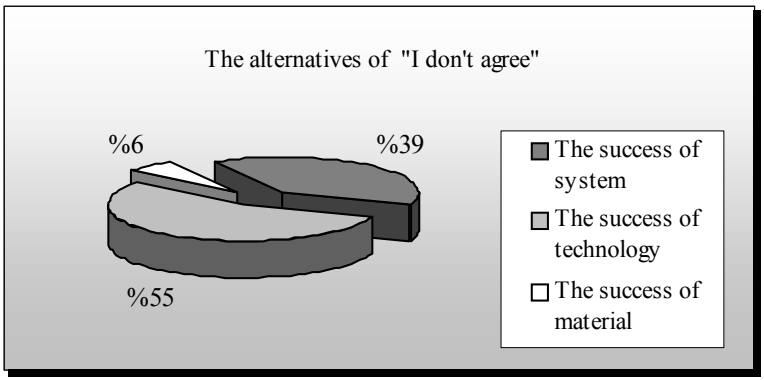
As it is seen in Graphic 4, in addition to the question of “Chose the effective origin in completeness transparency of building” the question “The success of architectural design is the success of transparency at the same time" is asked. This question has 82 percent (= 82 %) with the alternatives of “I do agree”. According to the answers given by architects, it has been understood that the success of architectural design is equal to the success of transparency. (= It is thought there is similarity between the two concepts) (Graphic 4)

Graphic 4: The success of architectural design



In addition to Graphic 4, the question "Whether they have alternatives or not" was asked the architects who disagree. The alternatives of "I don't agree" can only supply 18 percent (= 18 %) of that. According to them, technology is the top priority (Graphic 5).

Graphic 5: The other alternatives in transparency success



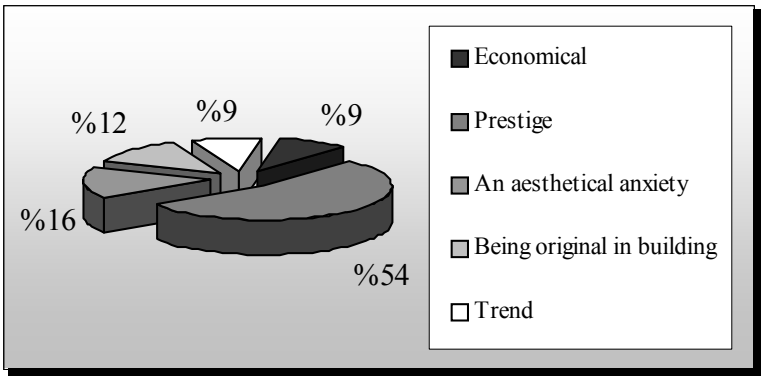
The question "Why do the employers prefer the glass in buildings" is asked to see the employer's prefer. This question is directed to determine the formation of the architectural environment in Turkey. According to the average of the answers given by architects, the "prestige" supplies 54 percent (= 54 %) of what we need. This result has determined the preference level of transparent architecture in Turkey. (Graphic 6)

In addition to giving a general question to employer's preference the question of "Glass or glass surfaced buildings have been preferred because of prestige" has exposed the

employer's influence on office building. According to the average of the answers given by architects, the "prestige" supplies 54 percent (= 54 %) of what it needs. (Graphic 6)

Graphic 6: The employer's the reason of glass preference

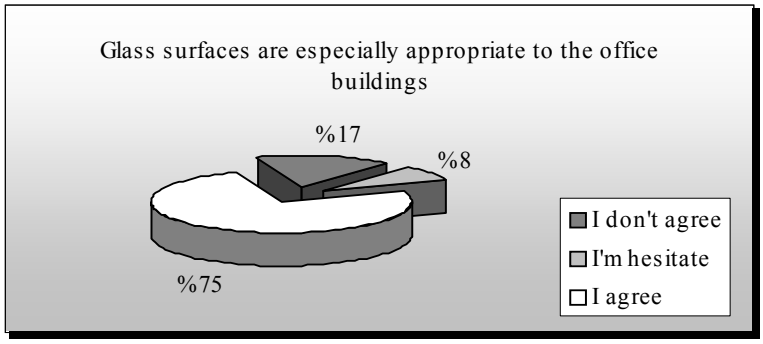
Economical	9 %
Prestige	54 %
An aesthetical anxiety	16 %
Being original in building	12 %
Trend	9 %
Totally	100 %



The influence of glass surfaces on transparency of office building

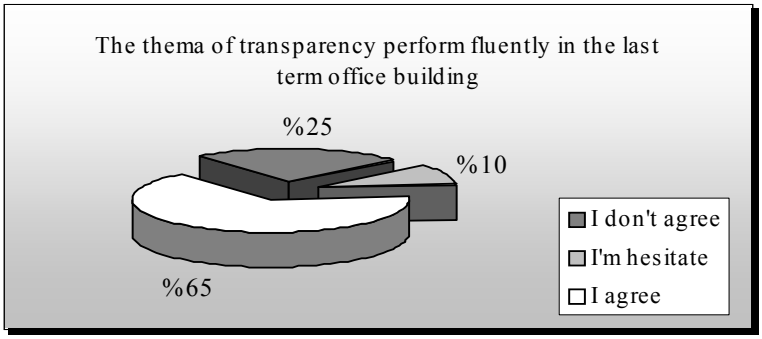
When the answers that are directed to determine the influence of glass material on office building are studied carefully. It has been understood that glass has influence on office buildings. This question has a 75 percent (= 75 %) with the alternative of "I agree" (Graphic 7).

Graphic 7: Appropriateness of glass surfaces to office buildings



One group architect, even if they have not judge the transparency, they feel oblige to have a think about this before they answer it. The majority of architects agree that the theme of transparency was performing fluently in the last term office buildings in Turkey.

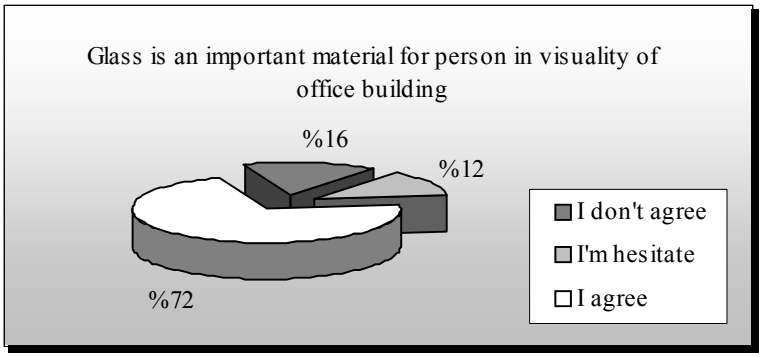
Graphic 8: The performing concept in the last term architectural applications.



According to the average of the answers “I do agree” given by architects, supply 65 percent (= 65 %) of what it need. In conclusion (=as the last thing), the office architecture in Turkey is in effort to save trend architecture. (Graphic 8)

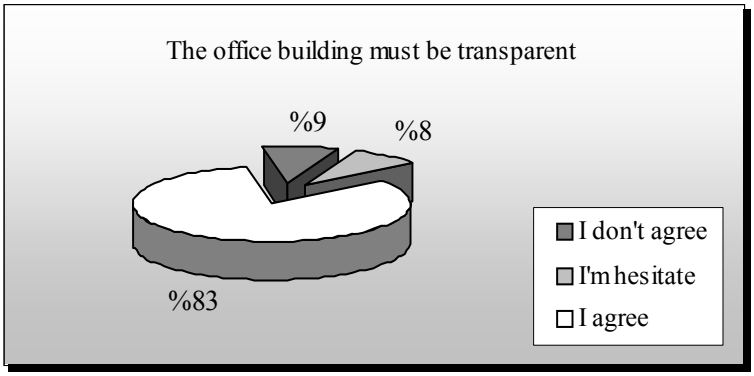
Consequently, the question of “Glass is an important material for person in visualising of office building” has a 72 percent (= 72 %) with the alternatives of “I do agree” According to the average of the answers “I do agree” given by architects, it has been understood that transparency architecture depends on the visual concept concerning the town or city. (= It is thought) (Graphic 9)

Graphic 9: The real importance of glass material in visualise



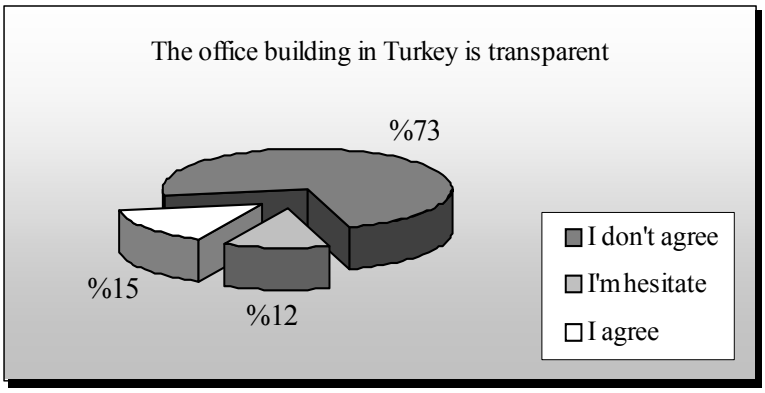
In addition to giving a general question to public concern about the transparent architecture, the question of "The office buildings must be transparent" is directed to determine the architectural condition in Turkey. According to the average of the answers given by architects, "I do agree" supply 83 percent (= 83 %) of what it needs. (Graphic 10)

Graphic 10: Necessity of transparency concept in office buildings



However, 73 percent (= 73 %) of all participant architects in the questionnaire study have thought the office buildings in Turkey are not transparent. This question has a 73 percent (= 73 %) with the alternatives of "I don't agree".

Graphic 11: The position of transparency concept in office buildings.



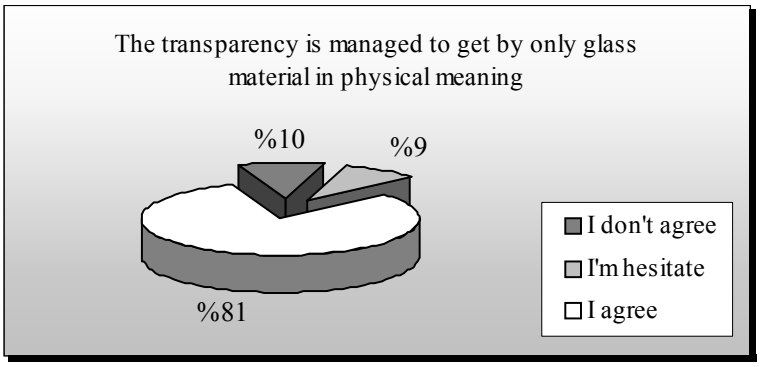
The criteria concerning the conception of transparency

The researcher asked "The transparency is managed to get by only glass material in physical meaning, do you agree, or not?" According to the average of the answers given by architects, "I agree" supply 81 percent (= 81 %) of what it need; the reason of the physical success of the glass material is given in Graphic 12.

According to the evaluation, the glass material is the main determinant in perceiving building identity.

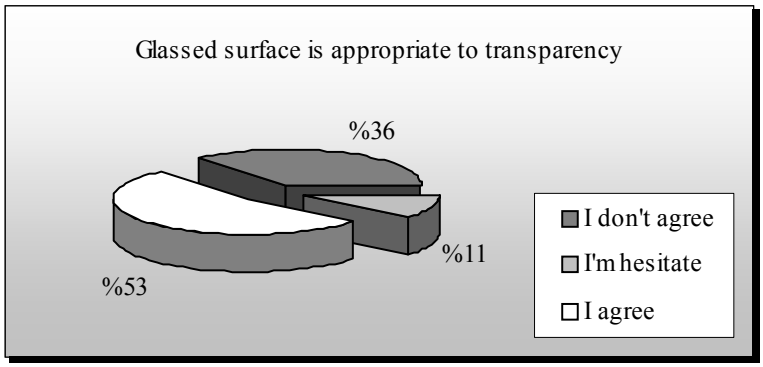
With the alternative of "I don't agree" that has a 10 % (= 10%) and "I'm hesitated", that has a 9 % (= 9 %), it has been understood that the architect's don't have any idea about alternative materials providing the physical transparency. (Graphic 12)

Graphic 12: Is physical meaning of glass the main determinant in perceiving building identity?



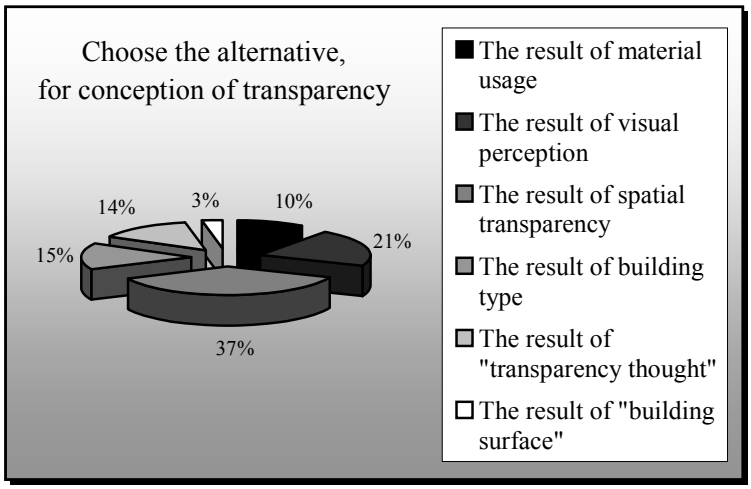
But the answer “I agree” that has a 53 percent (= 53 %) and “I don’t agree” that has a 36 percent (= 36 %), in truth, they not sure what it is, but it’s somewhat in between glassed surface or not given by the architects, to “glass surfaces are appropriate for transparency”. According to the average of the answers that have been given by architects, it has been understood that they agree with the question “Glass surface is appropriate to transparency”. The proposal about transparency is supported by a large majority of the selected group (Graphic 13).

Graphic 13: Appropriateness of glassed façade to transparency



Essentially, the answer to the question “Choose the alternative”, has got multiplicity of alternatives. For this reason, the percentage of alternatives has shown equal value. They are approximately equal. The answer of “The result visual perception and spatial transparency” supplies 58 percent (= 58 %). According to the average of the answers that have been given by architects, it has been understood that the problem concerning the transparency concept is the concern of all perceptual and spatial transparency. (Graphic 14)

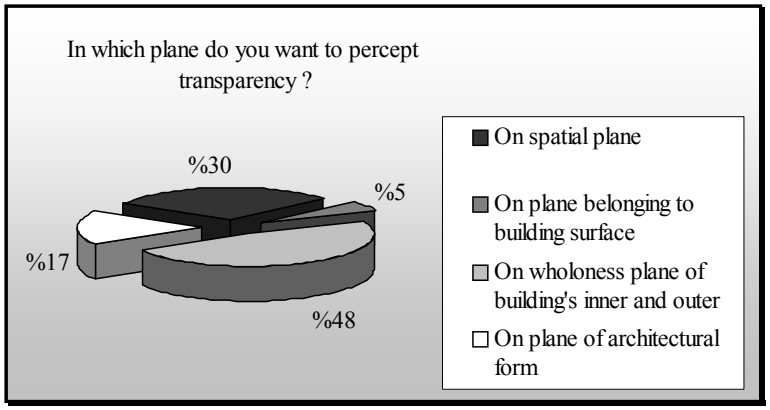
Graphic 14: Alternatives for conception of transparency



The criteria concerning the perceptual transparency

At the same time, the question of "In which plane do you want to percept transparency?" is directed to determine the architect's thought concerning perceptual transparency. According to the average of the answers that have been given by architects, "on spatial plane" supplies 30 percent (=30 %) and "on wholeness plane of building's inner and outer parts" supplies 48 percent (= 48 %) and "on plane belonging to building surface" supplies 5 percent (= 5 %) of what it needs (Graphic 15).

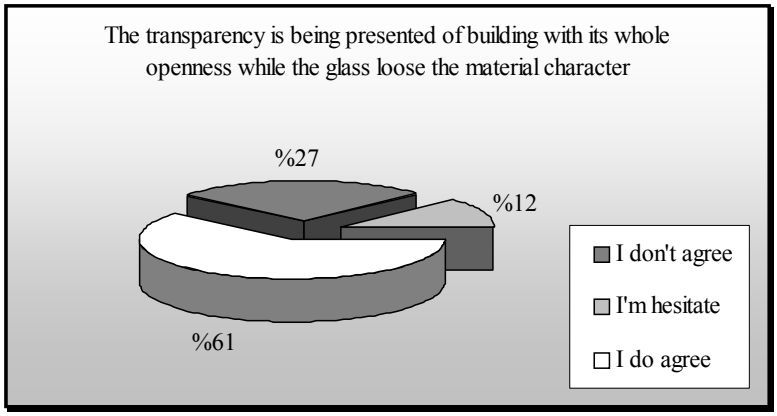
Graphic 15: The perception of transparency



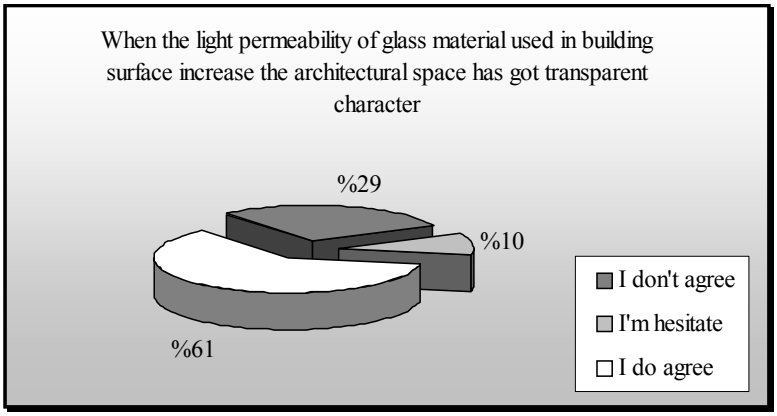
The criteria concerning the spatial transparency

The nineteenth question "The transparency is being presented by the building's whole openness while the glass lose the material character" and the question "When the light permeability of glass material used in building surface increase, the architectural space has got transparent character" are directed to determine the new concept's position in architecture and to determine the role of glass in spatial transparency (Graphic 16-17).

Graphic 16: The evaluation of dematerialise character of transparency concept



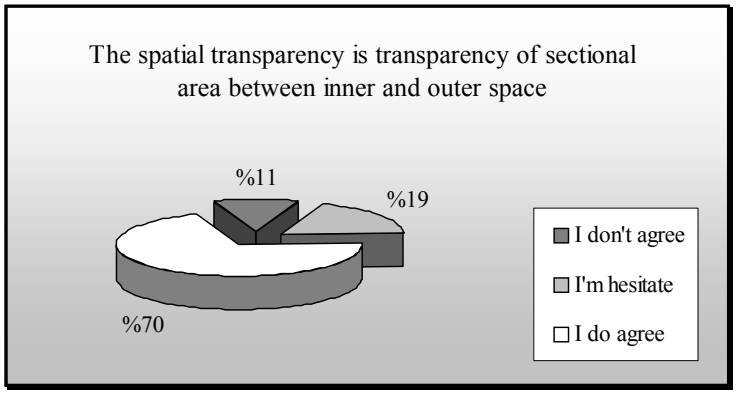
Graphic 17: The new concept's position in architecture



The answer given to nineteenth question by the architects, 'I agree' that has a 61 per cent (=61%) and the answer given to twentieth question 'I agree' that has a 61 per cent (=61%) have approved of conceptual transparency.

The answer given by the architects, to question of 'the spatial transparency is transparency of sectional area between inner and outer space' 'I agree' that has a 70 per cent (=70%) has approved of beyond physical transparency (Graphic 18).

Graphic 18: An evaluation of spatial transparency



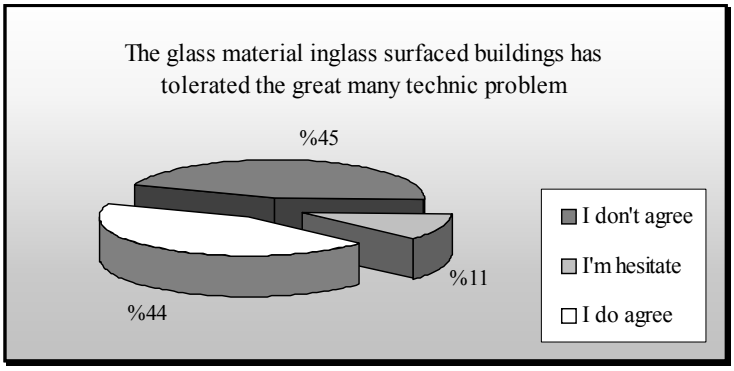
The criteria concerning transparency of system

The question "Which system that is used for surface is effective in gaining transparent character?" is directed to determine the contribution to transparency of building system. The answer given by the architects, 'siliconed glass surfaced system' supplies 54 percent (=54%) of what it needs. According to the average of the answers that have been given by architects, it has been understood that the silicone system is more aesthetical than other systems. It is thought that the structural system of building is secondary to building's transparency. Having aesthetical character is sufficient criterion from which we draw according to the conclusion of the questionnaire study (Graphic 2).

The answer given to the question "The glass material in glass surfaced buildings has tolerated the great many technique problem, do you agree, or not "I don't agree" supplies 45 per cent (=45%) and "I agree" supplies 44 per cent (=44%) of what it needs. For this

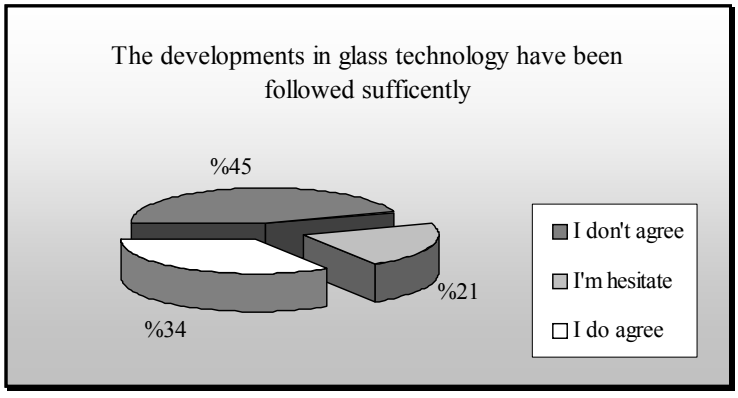
reason, the percentage of alternatives has shown equality among them. They are approximately equal. According to the average of the answers that have been given by architects, it has been understood that the architects don't want to give any idea about this subject (Graphic 19)

Graphic 19: The sufficiency of glass material for technique problems



The question "The development in glass technology can be followed sufficiently" was asked. According to the average of the answers "I don't agree" that have been given by architects, supplies 45 per cent (=45%) of what it needs (Graphic 20).

Graphic 20: The sufficiency of development in glass technology



As related with proceeding question, according to the average of the answers that have been given by the architects, it is understood that the glass technology cannot have been applied sufficiently. It is thought that the glass-surfaced buildings cannot remove the technical problems.

The question "The glass material in glass surface building has tolerated the great many technical problems, do you agree or not?" is liker question. But, the question of "if not, why" is open-ended questions.

The answers to the twelfth question that is open-ended "If you don't agree, why".

- Economical possibilities
- Not being possible in Turkey
- Not researching the glass technology sufficiently as an applicator architect
- The employer's demand
- Having a high prime investment cost
- Developments reaching to our country very late and during this term new improvements coming into being
- The lack of technology
- The choice of glass usage is directly related with the choice of glass colour; however, the glass should be designed according to the building
- High costs
- The choices are less and not economical
- There are any detailed materials
- There is both lack of material and expert about details
- I always think the lack of this subject in the forms
- Not being able to produce the constructive material and the technology about glass in Turkey
- Insufficiency in Turkish economic conditions
- Not following the glass technology in the West
- Not having a developed engineering technology

- The applications' not being at the European level
- Having problems in the applications because of the details
- Not having façade integrity
- Both the production and the supplement of production are insufficient and the quality is either.

The answer to the sixth question "If you are not agree, please explain how transparency can be obtained?" are given below. This question is an open-ended question.

- I'm against to provide the transparency by glazed façade
- It is connected with the building formation
- I think transparency can be provided by design completeness and material
- Transparency with glass mustn't be an unique target but must be evaluated as an extra advantage for the elements which determines the façade quality
- It can be provided by architectural design concept studies inner outer integrity all other technical details and elements
- With a well designed façade in accordance with the whole project
- To provide the reflection of the spaces in architectural design and perception of them correctly doesn't merely need glazed façade
- With light, façade, cavity, colour, texture and material

According to open-ended answers, being interesting is that they against to transparency only providing by glazed façade. In this meaning, they demanded that all the concepts should be made autonomous. They stand together in their determination to defend completeness transparency concerning light, façade, colour, texture and material. They defend their views with the idea of conceptual transparency having perceptional meaning.

5.4. The Performance Criteria of Selected Office Buildings

The Performance that Affects the Transparent Architecture Design	The Results According to the Questionnaire Study
1. MATERIAL CRITERION	According to the result of the questionnaire study, in buildings, glass is used in order to obtain transparency.
2. SELECTION CRITERION	According to the result of the questionnaire study, the preference reason of the transparency is the cause of "prestige". Especially it is thought that the employers are dominant factor in transparent architectural practices.
3. TECHNOLOGICAL CRITERION	According to the result of the questionnaire study, the glass and transparent architecture technology are not enough in architectural applications. But also it is thought that silicone-glazing systems can be obtained the aesthetic dimension of transparency within the possibilities of technology.
4. SURFACE SYSTEM CRITERION	According to the result of the questionnaire study, glassed façade is necessary for transparency, but, at the same time, this sort of transparency provides only a physical transparency.
5. ARCHITECTURAL DESIGN CRITERION	According to the result of the questionnaire study, the success of transparency is certainly the success of architectural design. The success of technology and system is the second factor. The material's support is the last factor in the success of the transparency.
6. PERCEPTUAL CRITERION	According to the result of the questionnaire study, the concept of transparency must contain the perception that judges the spatial relations between objects. Spatial integrity and perception of visual stimuli are the main principles.

7. SPATIAL CRITERION (INTERSECTION TRANSPARENCY)	According to the result of the questionnaire study, the conception of transparency is the transparency of sectional area formed between inner and outer space. This kind of transparency is the result of materials' dematerialise attitude.
AN EVALUATION OF TRANSPARENCY CONCEPT OF OFFICE BUILDING IN TURKEY ACCORDING TO PARTICIPANTS WHO ATTEND TO THE SURVEY	The office buildings in Turkey are not transparent because of not presenting the sectional area between inner and outer space as a perceptual and conceptual expression. The approach of pyramidal mass is valid form for arriving transparency. An approach of autonomous form and space doesn't international standard. Whereas, every office building necessitates starting planning all over again and being style formulaicness. Intersection transparency has not carried out because of lack of intersection areas' expression. Structural system at a moderate expression hasn't got sufficient visual and structural complexity. Visual and structural complexity of building helps the forming of intersection areas. The office buildings in Turkey have used same concepts and they are very fixed concepts. The lack of flexible concepts in spatial meaning has caused the superficial transparency These concepts that cannot be transformed into space have reached an impasse. For this, to build with conceptual modelling that can be transformed into space will be helping in expressing of intersection transparency.

CHAPTER 6

CONCLUSION

The hypothesis, as stated at the Introduction of this study is that, first it can be possible to define those buildings called as transparent in an objective manner, as could well be subjectively, and they can be designed by means of conceptual modelling. Second, it is possible to compare the sufficiency on transparency with that of the traditional modelling and contemporary ones. And, third, it is possible to deploy relevant approaches based on conceptual and perceptual modelling results (The Evaluation Stage) to design.

The study was to form a methodological guideline to accomplish all the statements said above. This study was to properly excel with the finer proceedings and to cover all approaches in the steps of transparent architectural planning studies. It is believed that, pursuing further studies in this direction, today, there might be more simplistic and easier ways having been invented to accomplish the evaluation process of transparency.

This thesis began with a theoretical discourse, a problem definition; modelled it to validate. That is, it has been a deductive approach. It proposed a conceptual modelling approach, not only descriptive but rather a normative one.

It is observed from the literature that such a definition problem is still consideredless, thus, can safely be worked on in this study here. Because; the term “transparency” is a subject to the discussion of architectural settings. The conception of transparency in architecture has been discussed for years whether it is a trend or an end - product of the idea or is a functional endeavour in this field.

The perception of transparency in architecture has hardly been changed from a personal issue to academic issue. Most researches on architectural criticism about the transparency have not been written by architects, but usually by people who have different backgrounds in education. For this reason, some of the very fundamental conceptions of architecture, in these researches have been usually lost under the confusing terms and methods taken from other disciplines.

“Transparency” is not questionable even if it has traditional meaning. The conception of transparency has got an actual historical value, both Gothic meaning and modern meaning. In addition to its past meaning, it has popular one.

From the beginning of the 20th century, to create the new architectural consciousness, many attempts played an important role on bringing it conceptual meanings for its current dimensions. Generally, the term “transparency” has been related with the idea of spatial expansion. The characteristic of structural system primarily has affected the spatial organisation. So, the transparent buildings on architecture have been mainly concentrated on development of structural system. At first the buildings were built as closed circle of space but then were freed from the structure. As a result of structural development of buildings, the inner spaces have turned to outer space.

The term “transparency” was related with the idea of spatial expansion. The characteristic of structural system primarily affected the spatial organisation so, the transparent buildings on architecture were mainly concentrated on development of structural system.

At first, the buildings were built as closed circle of space but then were freed from the structure. As a result of structural development of buildings, the inner spaces turned to outer space. The conceptual approach is raised basically from the simple logical assertion that there exists the mutual relation between the inequity in the existing situation and the conceptual criteria in the ideal state. The idea is inspired from traditional meaning, but not copied.There are few equal criteria among modern architectural index, which is well known. The model here, inspired from the index, did not follow. Its special methodology, but offered a new conceptual criteria of Raoul Eshelman that is equal to 1990s’ new modernist trend.

After 1980, in existing situation of transparency in Turkey, architectural space is in condition of an object, which is closed by mere architecture. Even if it is natural to see inside and outside in every space which the object is present and within the view of eye transparent buildings in Turkey which have to integrate the inner and outer spaces are deprived of this kind of ability.

The reason of the unsuccessfulness of transparent architecture in Turkey lies in the whole exclusion of the space and not being able to relate the space and some concepts, which come from foreign language.

The concept that cannot be transformed into spatial images cannot state them in neither dimensional nor formal and in structural level.

And, as a result they cause break off existential statement from architectural space. For example, when the concept of dematerialisation couldn't be related with the spatial statement becomes an unreachable concept that in today's Turkey glazed façade is the same situation.

When the façade, closed with glass surfaces can't describe the transparency in the spatial context, this is a sign of spatial break off. This stages the urban break of the in-out concept both from inside and outside. The common characteristics of glazed façade buildings that possess are to have a determined difference related to the other buildings. The duty of the architect is to express the difference of these buildings from the ordinary buildings in its local region as possible as he can.

Actually, when the interpretation of privacy concept relating to space gives it a privacy space meaning, the interpretation of 'dematerialise' that consists the intersection spaces remove it from being a concept. At the same time, this will expose the deserved meaning.

Actually in this context, conceptual transparency itself will be an invisible criticism and the criticism concept itself will be transparent in another saying. Whereas, the criticism, in Turkey, made about transparency was on about building visualise.

The transparent building must be subjected to conceptual criticism reduced spatial statement. The judgement or the criticism about the building whether it is transparent or not is the result of the common attitude of all the feelings of the observer related to architecture.

The building, which makes the feel the existence of concepts, deserves critics either positive or negative. For this reason, necessity of construction based on conceptual and perceptual of the concept of transparency appears by itself. The people who heard the words such as 'openness' and 'continuity' even know the exact meaning of them; can take the glass buildings as transparent. However, when it is looked to the consideration of the above concepts in Turkey, it is seen that the meaning of the words do not coincide with the English meanings and they are hollow concepts.

Because of this, the necessity of transparency concepts' setting on a conceptual and a perceptual base spontaneously becomes clear. The criticism on this field or the building identity is mentioned with these concepts. For example, for Raoul Eshelman's modernist trend idea after 1990, frequently even always dematerialisation is used

instead of transparency concept and on the contrary transparency is used instead of dematerialisation concept. Namely, both of the concepts can be used instead of each other.

Because, in present samples transparency concept is in position that loses material property on the spatial measure.

Whereas in Turkey, when transparent architectural practices considered, because of the thesis content being the office buildings, there is not a concept that can be used instead of 'transparency' concept.

Even the concepts as openness, continuity, fluidity frequently take place in the criticism and building identity because of their not belonging to space and intersection space, in and out can not be expressed sufficiently.

An architecture discourse, which cannot identity inside and outside, above all the transparency discourse is wholly inadequate. Therefore, the office buildings in Turkey symbolises the buildings only. The applications are only about surface applications and they never contain spatiality. Today' applications are still the continuation of the glazed façade applications of 70's. It is the reality that if the facades don't belong to their own spaces, they won't belong to the urban space.

Whereas, the concept of transparency is the result of an entirely perception. The harmonious union of form, structure and material removes the building from being "other" and gives an urban transparency possibility above spatial transparency.

In this context the glazed office buildings in Turkey after 1980's don't have a transparent character.

6.1. The Classification of Selected Office Buildings From the Point of Perceptual Transparency Analyse

In this section, the selected office buildings are classified according to the after 1980s' design approaches. These buildings classified as below:

1. Searching for prismatic mass

   İş Bank Tower

   Maslak Plaza

   SabancıCenter Towers

   Maya Meridien Office Building

   Emlak Credit Bank and Petroleum Office Service Building

Akmerkez

Deren Office Building Hurriyet Gunesli Plaza

Berin Reşat Aksoy Plaza

2. Transparent Impression of Framing System

   Buttim Textile and Trade Center

   Doğan Media Center

   Atakule Galleria

   Denizbank Head Department Building

3. "Corner Tower" Concept

   Vakifbank Aegean Headquarters

   YKB Operation Center

4. Monumental Transparency

   Ser Plaza

5. Partial Motions on Building Surface

   Arkas Office Building

   Head Office for the Central Bank of Turkey

   Çimentaş Social Service Building

   Administration Building of Alfa Elevation Industry

The evaluation of the selected office building will be done according to the classification and questionnaire study.

6.2. The Evaluation of Selected Office Buildings as to Perceptual Transparency

Aegean World Trade Center, İş Bank Tower, Sabancı Center Towers, Emlak Credit Bank and Petroleum Office Service Building, Akmerkez, Deren Office Building, Hürriyet Güneşli Plaza and Berin Reşat Aksoy Plaza have modular glazed system to have an attractive surrounding. The image of pompous building is created by way of glass surface. For this reason, they exhibit the prestige of the firm with a building. It is observed that aesthetic anxiety has preferred instead of building flexibility and static. These buildings have fallen into a state of neglect from the point of spatial transparency. They have not enough transparent expression for spatially porous.

At the same time, durability, sincerity, unity have been regarded as an important design criteria to show coherence between building parts and building site. But, they have not enough transparent expression for perspectival depth.

Many application details with the colours and textures of various building materials are constructed to obtain transparency, which do not collide with together. They have strong variations in colour and texture. For this reason, they have not enough transparent expression for dematerialise character.

The prismatic mass-plan of these office buildings has simple diagrams but they have not enough remain the massiveness of building in the third dimension. They have not enough to provide daylight for inner space of office buildings. These buildings are designed to create flexible spaces and volumes. But they have not enough complete architectural space's flexibility with building surface, form and texture. For this reason, the flexibility of inner spaces is the only design criteria to show flexibility. Therefore, they have not enough transparent expression for openness and continuity. Only the format of the flexible planning of inner space comes out of the inhabiting many people as possible as close to the daylight in office buildings.

Transparent impression in Buttim Textile and Trade Center, Doğan Media Center, Atakule Galleria, Denizbank Head Department Building is been provided with framing system. The rational solution instead of spatial orders of inner-outer space is been preferred. The aim is to give new vision to prismatic mass of past. The searching for a different form to the general building appearance is the result of rationalist behaviour. In these buildings, rational behaviour is the result of ability of material and form as an indisputable manner. For this reason, the attempt to create glazed surface building is successful. But, successful performance of glass is not enough transparent expression for spatial transparency. As a perceptual and conceptual criterion, they are a complete failure.

Transparent impression in Vakıfbank Aegean Headquarters, YKB Operation Center is been provided with only corner concept". The general appearance of the building reflects the modern technology. It is generally agreed that corner tower determines the transparent surfaces of the building. It is agreed that these buildings are the other steps on transparency of pyramidal mass. But, the attempt to create "transparent corner tower" is not enough transparent expression for visual completeness. For this reason, , it is not enough the perception of visual stimuli and

spatially porous. They have beautiful and modern appearance, but have not transparent impression.

In Ser Plaza, “kinetism” is important design criteria to show monumental transparency. The continuity of building surface is not enough to try the spatial continuity. For this reason, conceptual relation among form, structure and perspectival depth are not enough for providing perceptual transparency.

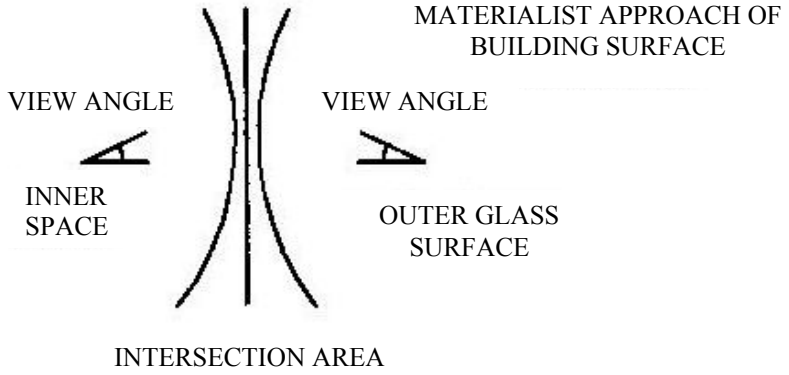
At the same time, partial motions on Arkas Office Building, Head Office for the Central Bank of Turkey, Çimentas Social Service Building and Administration Building of Alfa Elevation Industry are aimed to increase transparency impression of framing system. But, partial motions on building surface cause to visual disintegration. The transparency concept disintegrates owning to lack of “dematerialised texture”. Plural tension between reflection and massive character of building has great difficulty in understanding perception of building characteristic. For this reason, these buildings have not enough conceptual perception.

But, Technal Aksoy Office Building has perceptual illusion, so, it is easy to evaluate its success of transparency’s determination. The project has different perceptual experience by effect of illusion. Light and reflection creates different effects on material, structure, design and façade relations. For this reason, the building is successful in creating the dematerialisation to change building’s appearance. It has enough transparent impression for perceptual transparency.

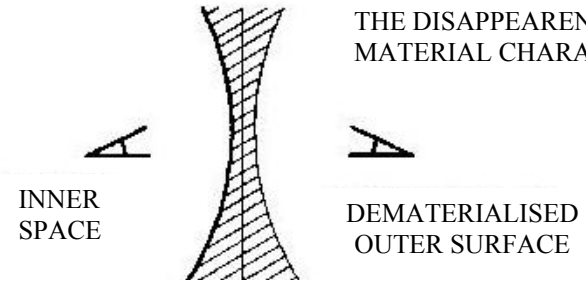
Graphic 6.1. Design Modelling of Perceptual Criteria of Office Buildings on Graphic Level

“DEMATERIALISATION” CONCEPT

EXISTING APPROACH



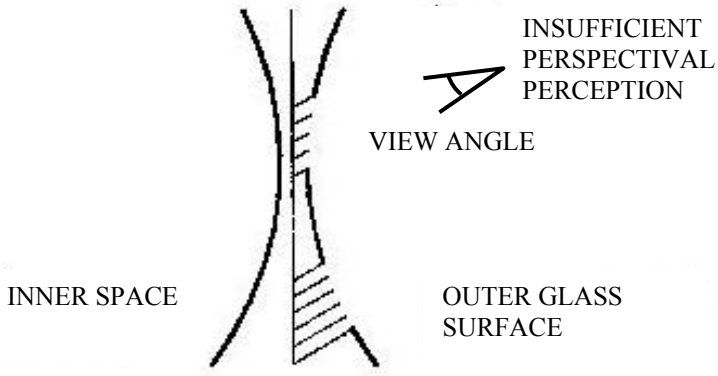
DESIRED PERCEPTUAL APPROACH



INTERSECTION

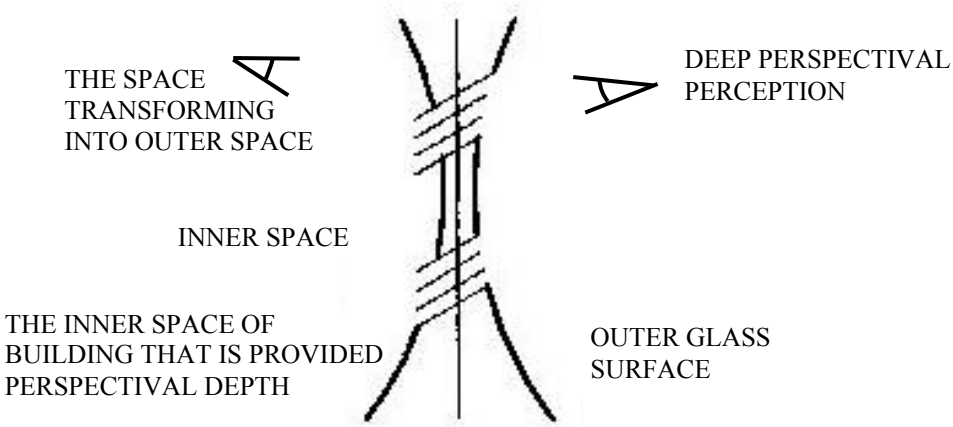
"**PERSPECTIVAL DEPTH" CONCEPT**

EXISTING APPROACH



PERSPECTIVAL DEPTH IS ESTABLISHED IN INTERSECTION AREA INSTEAD OF INNER SPACE OF BUILDING

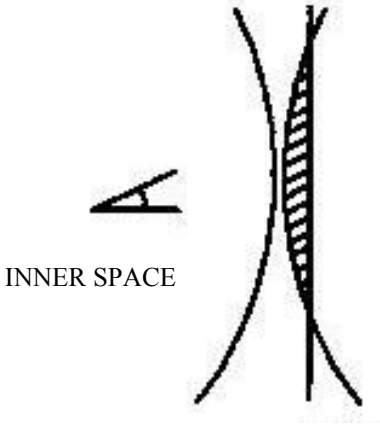
DESIRED PERCEPTUAL APPROACH



MEDIATOR INTERSECTION AREA FOR PERSPECTIVAL DEPTH INTERSECTION AREA IS IN MEDIATOR POSITION CREATING PERSPECTIVAL DEPTH THROUGH SPATIAL DEPTH

“SPATIALLY POROUS” CONCEPT

EXISTING APPROACH



SPATIAL POROUS
THAT IS ESTABLISHED
AS PARTIALLY

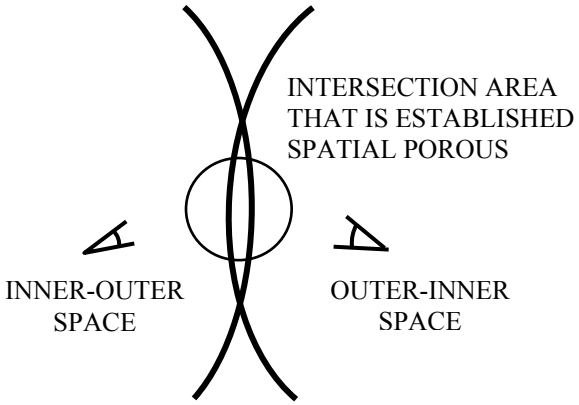
INNER SPACE

GLASS OUTER
SPACE

THE EXPRESSION OF
SPATIAL POROUS ONLY
IN INTERSECTION AREA

INTERSECTION AREA

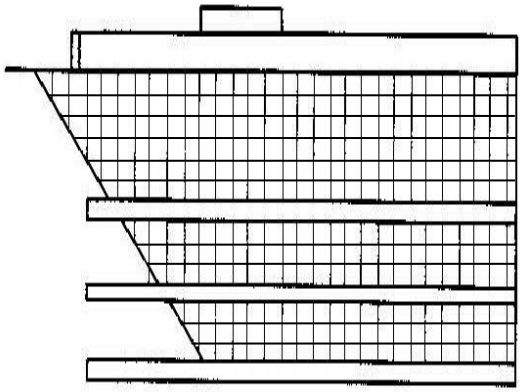
DESIRED APPROACH



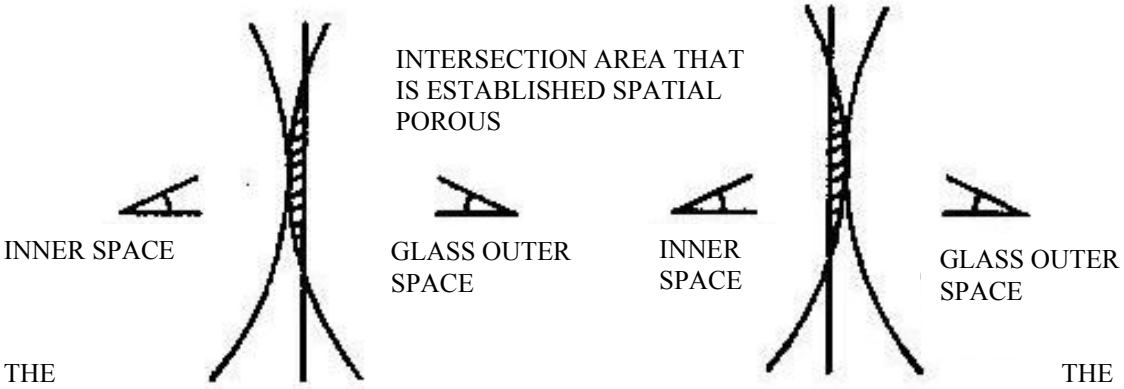
INTERSECTION AREA
THAT IS ESTABLISHED
SPATIAL POROUS

INNER-OUTER
SPACE

OUTER-INNER
SPACE



SPATIALLY POROUS



INTERSECTION AREA THAT
IS ESTABLISHED SPATIAL
POROUS

INNER SPACE

GLASS OUTER
SPACE

INNER
SPACE

GLASS OUTER
SPACE

THE
TRANSFORMATION
OF OUTER SPACE
INTO INNER SPACE

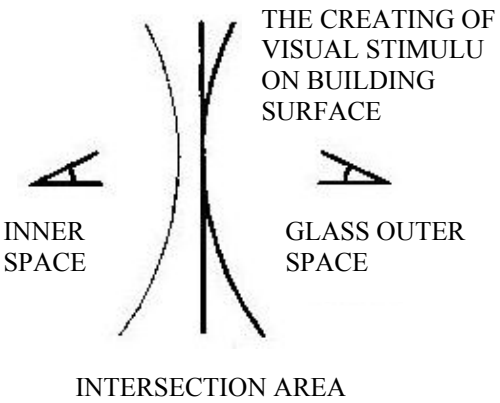
INTERSECTION
AREA

INTERSECTION
AREA

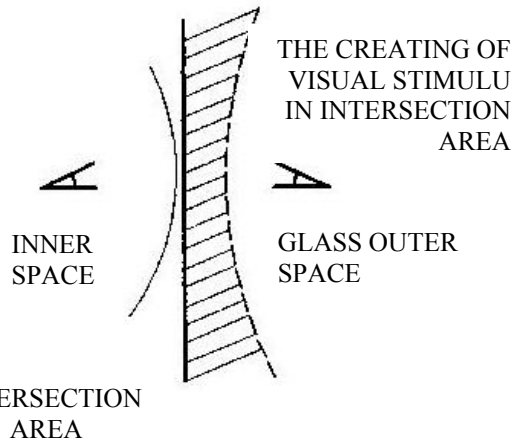
THE
TRANSFORMATION
OF OUTER SPACE
INTO INNER SPACE

“PERCEPTION OF VISUAL STIMULU” CONCEPT

EXISTING APPROACH

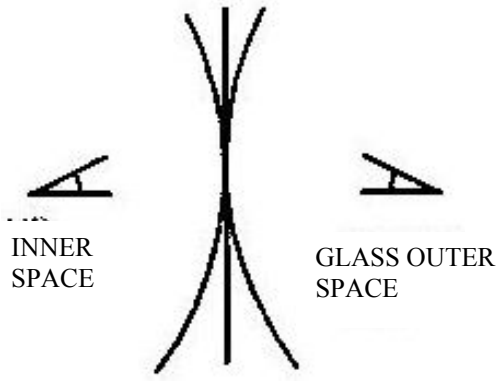


DESIRED PERCEPTUAL APPROACH

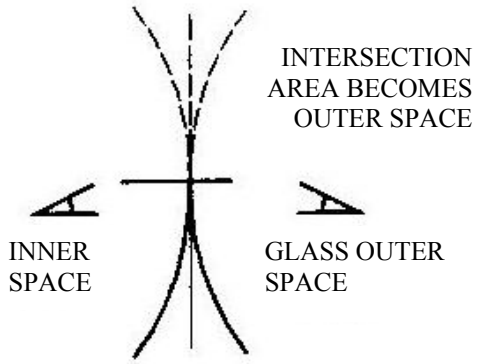


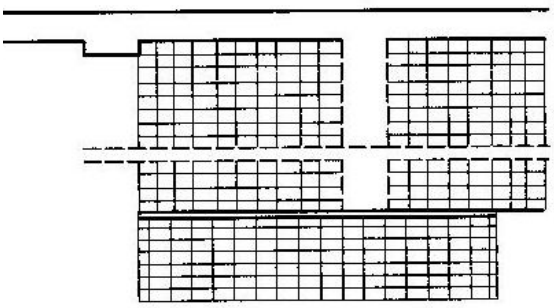
“VISUAL COMPLEXITY” CONCEPT

EXISTING APPROACH



DESIRED PERCEPTUAL APPROACH

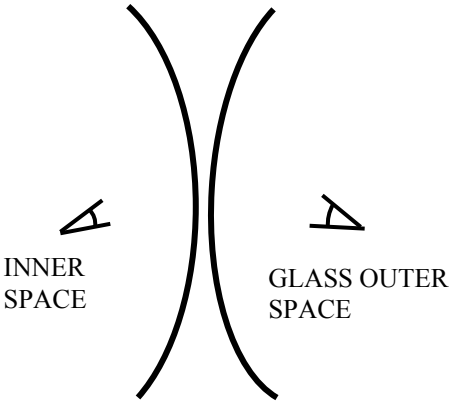




VERTICAL SECTION

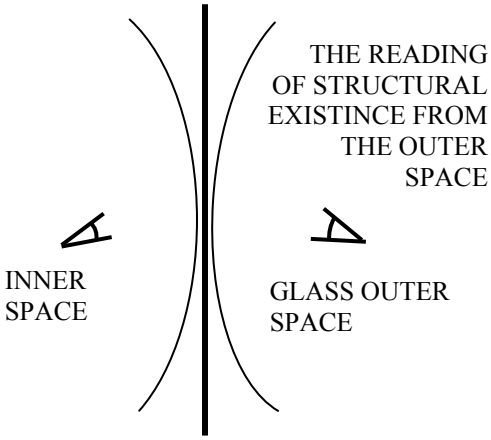
CONCEPTUAL RELATION BETWEEN FORM AND STRUCTURE

EXISTING APPROACH



THA ABSENCE OF INTERSECTION AREA THAT WILL ESTABLISH RELATION BETWEEN OUTER-INNER SPACE AND STRUCTURE

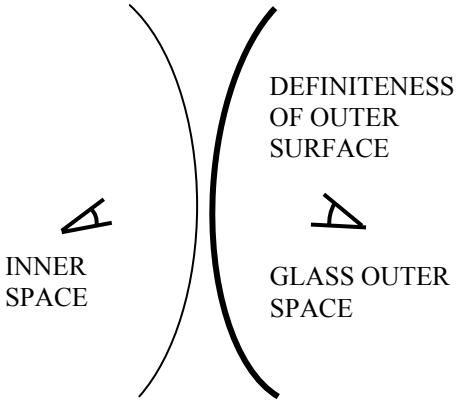
DESIRED PERCEPTUAL APPROACH



STRUCTURAL EXISTINCE BETWEEN INNER AND OUTER SPACE

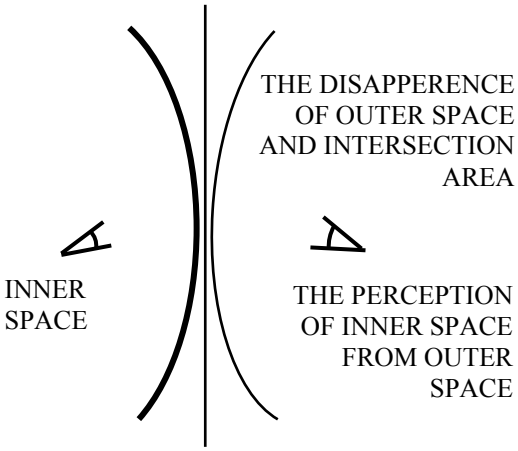
PERCEPTION OF BUILDING CHARACTERISTIC

EXISTING APPROACH



THE INTERSECTION AREA THAT DOES NOT GIVE REFERENCE TO BUILDING PERCEPTION

DESIRED PERCEPTUAL APPROACH



THE CONTRIBUTION TO BUILDING DISAPPEARING OF OUTER AND INTERSECTION AREA

Table A1. Transparent building characteristics of *Aegean World Trade Center* (Building 204, 1998, p.115)

AEGEAN WORLD TRADE CENTER

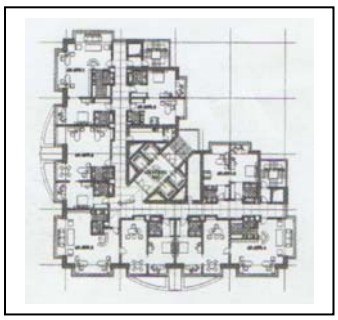
SYSTEM CHARACTERISTICS	**STUDY: 01**
1. GENERAL CHARACTERISTICS	**2. DESIGNER'S STARTING POINT**
Building: Aegean World Trade Center, İzmir **Architectural design:** Ertem Ertunga **Building surface:** Glazed facade	• To be in a harmonious way together surrounded buildings • To profit from public era and open spaces in an advantageous way. • To create a pompous building.
3. THE CHARACTERISTIC OF BUILDING SURFACE	**4. PLAN**
• To generate an attractive surrounding thanks to an effect of glass surface. • To provide the **FLEXIBILITY** of building floors without column. • To make increase their tower effect by glass surface, eaves of the building and entrance.	  The plan of the office floors
5. CROSS SECTION / EXTERNAL VIEW	
	

Table A1.1 The transparent building analysis table of *Aegean World Trade Center*

MATERIAL CRITERION	
Glass material	Sufficient

SELECTION CRITERION OF GLASS	
Image-Prestige	Sufficient
An aesthetic anxiety	Partially sufficient
Being contemporary and new building	Sufficient
Transparent character	Insufficient

SURFACE SYSTEM CRITERION	
Glass technology	Insufficient
Integrity as a structural system technology	Insufficient

CONCEPTUAL TRANSPARENCY CRITERION	
Spatial continuity	Insufficient
Visual completeness	Partially sufficient
Inner-outer integrity	Insufficient
Openness	Insufficient
Fluidity	Insufficient

PERCEPTUAL TRANSPARENCY CRITERION	
Dematerialization	Insufficient
Perspectival depth	Insufficient
Conceptual relation between form and structure	Insufficient
Perception of building characteristic	Insufficient
Perception of visual stimuli	Insufficient
Visual complexity	Insufficient
Spatially porous	Insufficient

EVALUATION	**NOT TRANSPARENT**

CONCEPT THAT CAN NOT MAKE SPATIAL	**FLEXIBILITY**

Table A2. Transparent building characteristics of *İş Bank Tower*, İstanbul (http//www.geocities.com/b_artar/boyut/referans.html.)

İŞ BANK TOWER

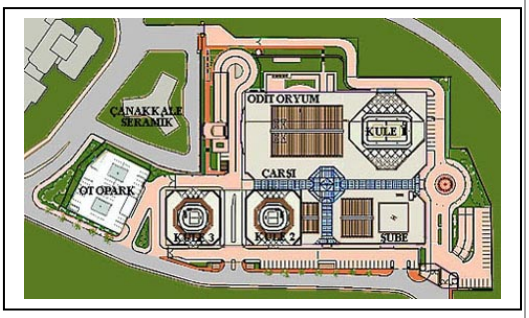
SYSTEM CHARACTERISTICS	STUDY: 02
1. GENERAL CHARACTERISTICS	**2. DESIGNER'S STARTING POINT**
Building: İş Bank Tower **Architectural design:** Doğan Tekeli-Sami Sisa **Building surface:** Glazed façade	• To design the most modern and highest building of Turkey. • To create enormous interest in Turkey building quality as is due. To generate twin tower on building land and to generate balanced **IMAGE** by function and structure.
3. THE CHARACTERISTIC OF BUILDING SURFACE	**4. PLAN**
• Total closed area is 224 thousand square meters. • The highest tower is 50 storied. • 50-storied tower is the highest and the most modern building of Turkey. • Whole of the building is glass surface.	
5. CROSS SECTION / EXTERNAL VIEW	
	
	

Table A2.1 The transparent building analysis table of *İş Bank Tower*

MATERIAL CRITERION	
Glass material	Sufficient

SELECTION CRITERION OF GLASS	
Image-Prestige	Sufficient
An aesthetic anxiety	Sufficient
Being contemporary and new building	Sufficient
Transparent character	Insufficient

SURFACE SYSTEM CRITERION	
Glass technology	Partially sufficient
Integrity as a structural system technology	Insufficient

CONCEPTUAL TRANSPARENCY CRITERION	
Spatial continuity	Insufficient
Visual completeness	Insufficient
Inner-outer integrity	Insufficient
Openness	Insufficient
Fluidity	Insufficient

PERCEPTUAL TRANSPARENCY CRITERION	
Dematerialization	Insufficient
Perspectival depth	Insufficient
Conceptual relation between form and structure	Insufficient
Perception of building characteristic	Insufficient
Perception of visual stimuli	Insufficient
Visual complexity	Insufficient
Spatially porous	Insufficient

EVALUATION	**NOT TRANSPARENT**

CONCEPT THAT CAN NOT MAKE SPATIAL	**IMAGE**

Table A3. Transparent building characteristics of *Emlak Credit Bank and Petroleum Office Service Building* (Architecture 311, p.36)

EMLAK CREDIT BANK AND PETROLEUM OFFICE SERVICE BUILDING

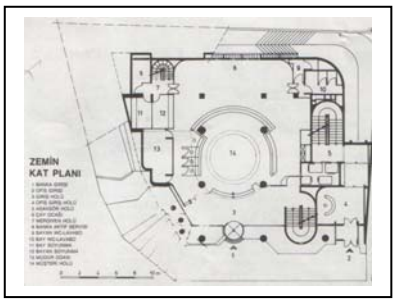
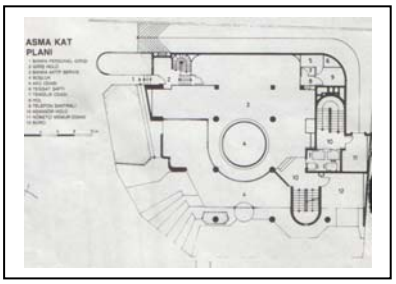
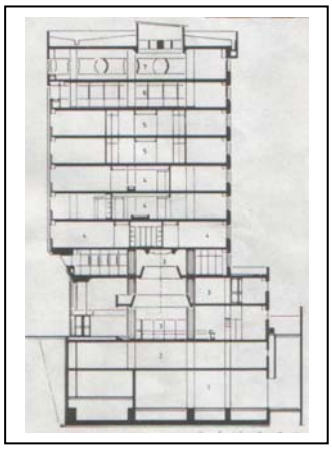
SYSTEM CHARACTERISTICS	**STUDY: 03**
1. GENERAL CHARACTERISTICS	**2. DESIGNER'S STARTING POINT**
Building: Emlak Credit Bank and Petroleum Office Service Building **Architectural design:** Sezar Aygen-Oktay Veral **Building surface:** Glazed façade-Reflective glass	• Meaning and permanence in every element, line and material. • To reflect dimension, measure, proportion, respect and confidence.
3. THE CHARACTERISTIC OF BUILDING SURFACE	**4. PLAN**
• To protect building from heat and light effect by reflective glass. • To obtain **VISUALISE** from the building's mirrored blue sky.	  Floor plans of the building
5. CROSS SECTION / EXTERNAL VIEW	
	

Table A3.1 The transparent building analysis table of *Emlak Credit Bank and Petroleum Office Service Building*

MATERIAL CRITERION	
Glass material	Partially sufficient

SELECTION CRITERION OF GLASS	
Image-Prestige	Partially sufficient
An aesthetic anxiety	Partially sufficient
Being contemporary and new building	Sufficient
Transparent character	Insufficient

SURFACE SYSTEM CRITERION	
Glass technology	Insufficient
Integrity as a structural system technology	Insufficient

CONCEPTUAL TRANSPARENCY CRITERION	
Spatial continuity	Insufficient
Visual completeness	Insufficient
Inner-outer integrity	Insufficient
Openness	Insufficient
Fluidity	Insufficient

PERCEPTUAL TRANSPARENCY CRITERION	
Dematerialization	Insufficient
Perspectival depth	Insufficient
Conceptual relation between form and structure	Insufficient
Perception of building characteristic	Insufficient
Perception of visual stimuli	Insufficient
Visual complexity	Insufficient
Spatially porous	Insufficient

EVALUATION	**NOT TRANSPARENT**

CONCEPT THAT CAN NOT MAKE SPATIAL	**VISUALISE**

Table A4. Transparent building characteristics of *Sabancı Center Towers* (Archiscope 1, p.116)

SABANCI CENTER TOWERS

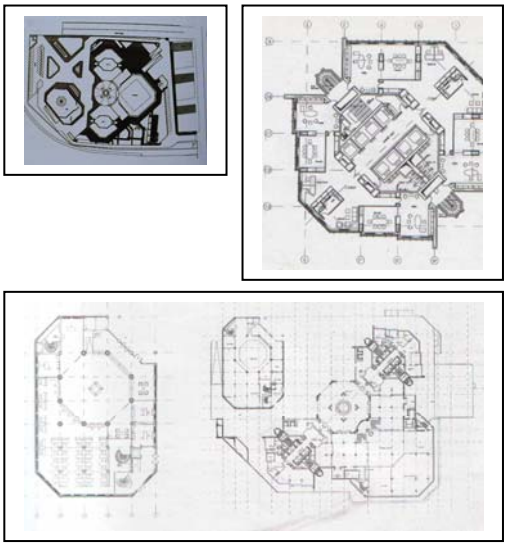
SYSTEM CHARACTERISTICS	STUDY: 04
1. GENERAL CHARACTERISTICS	**2. DESIGNER'S STARTING POINT**
Building: Sabancı Center Towers **Architectural design:** Haluk Tümay-Ayhan Böke **Building surface:** Glazed façade and granite coating	• Function • Aesthetic • Evaluation of space • Security • **FLEXIBILITY** • To exhibit the prestige of the firm with a building
3. THE CHARACTERISTIC OF BUILDING SURFACE	**4. PLAN**
• It's observed that aesthetic neglected the flexibility and static • In the estimation of aesthetic-static and flexibility the gravity remained in the aesthetic element and this possessed the building a symbolic appearance.	 Floor plans of the building
5. CROSS SECTION / EXTERNAL VIEW	
	

Table A4.1 The transparent building analysis table of *Sabancı Center Towers*

MATERIAL CRITERION	
Glass material	Sufficient

SELECTION CRITERION OF GLASS	
Image-Prestige	Sufficient
An aesthetic anxiety	Sufficient
Being contemporary and new building	Sufficient
Transparent character	Insufficient

SURFACE SYSTEM CRITERION	
Glass technology	Partially sufficient
Integrity as a structural system technology	Insufficient

CONCEPTUAL TRANSPARENCY CRITERION	
Spatial continuity	Insufficient
Visual completeness	Partially sufficient
Inner-outer integrity	Insufficient
Openness	Insufficient
Fluidity	Insufficient

PERCEPTUAL TRANSPARENCY CRITERION	
Dematerialization	Insufficient
Perspectival depth	Insufficient
Conceptual relation between form and structure	Insufficient
Perception of building characteristic	Insufficient
Perception of visual stimuli	Insufficient
Visual complexity	Insufficient
Spatially porous	Insufficient

EVALUATION	**NOT TRANSPARENT**

CONCEPT THAT CAN NOT MAKE SPATIAL	**FLEXIBILITY**

Table A5. Transparent building characteristics of *Buttim Textile and Trade Center* (Archiscope 1, p.136)

BUTTIM TEXTILE AND TRADE CENTER, BURSA

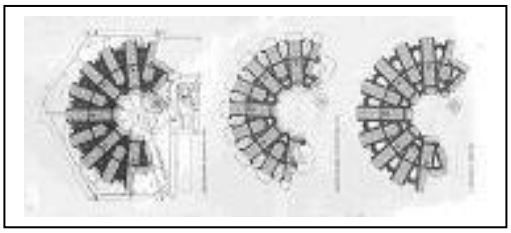
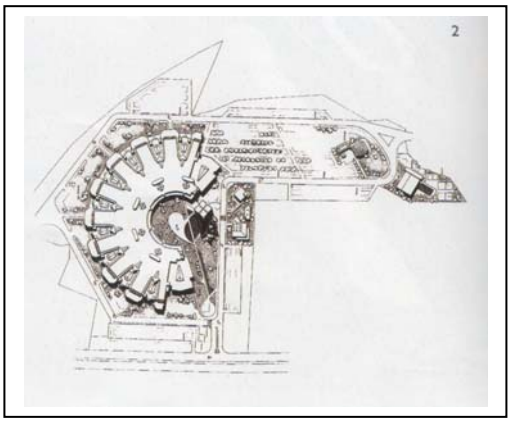
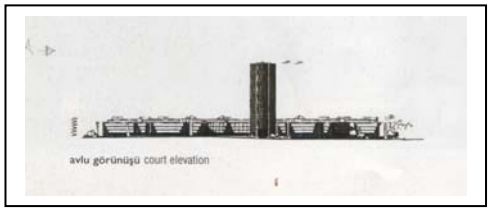
SYSTEM CHARACTERISTICS	STUDY: 05
1. GENERAL CHARACTERISTICS	**2. DESIGNER'S STARTING POINT**
Building: Buttim Textile and Trade Center, Bursa **Architectural design:** Yücel- Ünal Sertkaya **Building surface:** Glazed facade	• The union of the companies, the bond of forces created by the ever developing textile net and easy maintain of the trade traffic is beneath the subjects with priority.
3. THE CHARACTERISTIC OF BUILDING SURFACE	**4. PLAN**
• The low block has a semicircular form with an inner court to ensure the workshop places to have the same value and to establish an easy traffic flow. • At Bursa which has some of the most **IMPRESSIVE** examples of Ottoman architecture. The luminous inner court setting has been chosen and the courts have been covered by glass.	 
5. CROSS SECTION / EXTERNAL VIEW	
	

Table A5.1 The transparent building analysis table of *Buttim Textile and Trade Center*

MATERIAL CRITERION	
Glass material	Sufficient

SELECTION CRITERION OF GLASS	
Image-Prestige	Sufficient
An aesthetic anxiety	Insufficient
Being contemporary and new building	Sufficient
Transparent character	Insufficient

SURFACE SYSTEM CRITERION	
Glass technology	Insufficient
Integrity as a structural system technology	Insufficient

CONCEPTUAL TRANSPARENCY CRITERION	
Spatial continuity	Insufficient
Visual completeness	Partially sufficient
Inner-outer integrity	Insufficient
Openness	Insufficient
Fluidity	Insufficient

PERCEPTUAL TRANSPARENCY CRITERION	
Dematerialization	Insufficient
Perspectival depth	Insufficient
Conceptual relation between form and structure	Insufficient
Perception of building characteristic	Insufficient
Perception of visual stimuli	Insufficient
Visual complexity	Insufficient
Spatially porous	Insufficient

EVALUATION	**NOT TRANSPARENT**

CONCEPT THAT CAN NOT MAKE SPATIAL	**IMPRESSION**

Table A6. Transparent building characteristics of *Doğan Media Center* (Design 49, p.49)

DOĞAN MEDIA CENTER

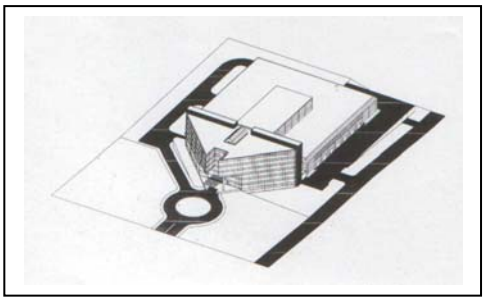
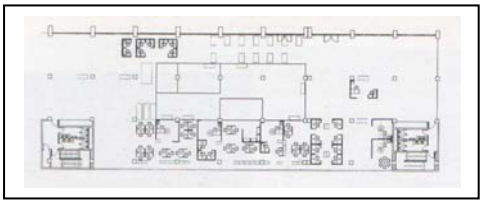
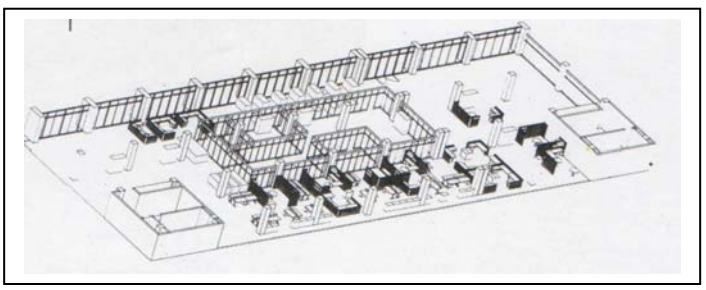
SYSTEM CHARACTERISTICS	STUDY: 06
1. GENERAL CHARACTERISTICS	**2. DESIGNER'S STARTING POINT**
Building: Doğan Media Center **Architectural design:** Hayati Tabanlıoğlu Murat Tabanlıoğlu Metin Murat Tabanlıoğlu **Building surface:** Glazed façade	• To provide an interesting **VISUAL COMPLETENESS** in the inner and outer space of building.
3. THE CHARACTERISTIC OF BUILDING SURFACE	**4. PLAN**
• The building's transparency was designed to provide daylight to the inner space of building from the various angles. • It has a symbolic architectural form related with building concept.	  
5. CROSS SECTION/EXTERNAL VIEW	
	

Table A6.1 The transparent building analysis table of *Doğan Media Center*

MATERIAL CRITERION	
Glass material	Sufficient

SELECTION CRITERION OF GLASS	
Image-Prestige	Sufficient
An aesthetic anxiety	Sufficient
Being contemporary and new building	Sufficient
Transparent character	Insufficient

SURFACE SYSTEM CRITERION	
Glass technology	Insufficient
Integrity as a structural system technology	Insufficient

CONCEPTUAL TRANSPARENCY CRITERION	
Spatial continuity	Insufficient
Visual completeness	Insufficient
Inner-outer integrity	Insufficient
Openness	Insufficient
Fluidity	Insufficient

PERCEPTUAL TRANSPARENCY CRITERION	
Dematerialization	Insufficient
Perspectival depth	Partially sufficient
Conceptual relation between form and structure	Insufficient
Perception of building characteristic	Partially sufficient
Perception of visual stimuli	Insufficient
Visual complexity	Insufficient
Spatially porous	Insufficient

EVALUATION	**NOT TRANSPARENT**

CONCEPT THAT CAN NOT MAKE SPATIAL	**VISUAL COMPLETENESS**

Table A7. Transparent building characteristics of *Vakıfbank Aegean Headquarters*, (http://www.arolat.com/works/office_buildings_vakifbank_aegean.html)

VAKIFBANK AEGEAN HEADQUARTERS, ISTANBUL

SYSTEM CHARACTERISTICS	STUDY: 07
1. GENERAL CHARACTERISTICS	**2. DESIGNER'S STARTING POINT**
Building: Vakıfbank Aegean Headquarters, İstanbul **Architectural design:** Emre Arolat **Building surface:** Glazed surface	• To express the functional dissimilarity, with restaurant and exhibition hall located at this level.
3. THE CHARACTERISTIC OF BUILDING SURFACE	**4. PLAN**
• The design emphasizes the "corner" concept and treats it rather exclusively- **EXCLUSIVITY** • Most important of all, the building with it's general appearance, it reflects the modern technology.	
5. CROSS SECTION / EXTERNAL VIEW	

Table A7.1 The transparent building analysis table of *Vakıf bank Aegean Headquarters*

MATERIAL CRITERION	
Glass material	Sufficient

SELECTION CRITERION OF GLASS	
Image-Prestige	Partially sufficient
An aesthetic anxiety	Insufficient
Being contemporary and new building	Partially sufficient
Transparent character	Insufficient

SURFACE SYSTEM CRITERION	
Glass technology	Insufficient
Integrity as a structural system technology	Insufficient

CONCEPTUAL TRANSPARENCY CRITERION	
Spatial continuity	Insufficient
Visual completeness	Insufficient
Inner-outer integrity	Insufficient
Openness	Insufficient
Fluidity	Insufficient

PERCEPTUAL TRANSPARENCY CRITERION	
Dematerialization	Insufficient
Perspectival depth	Insufficient
Conceptual relation between form and structure	Insufficient
Perception of building characteristic	Insufficient
Perception of visual stimuli	Insufficient
Visual complexity	Insufficient
Spatially porous	Insufficient

EVALUATION	**NOT TRANSPARENT**

CONCEPT THAT CAN NOT MAKE SPATIAL	**EXCLUSIVITY**

Table A8. The transparent building analysis table of *Ak merkez*, Etiler-Ulus (Building 158, 1995, p.71)

AKMERKEZ, İSTANBUL

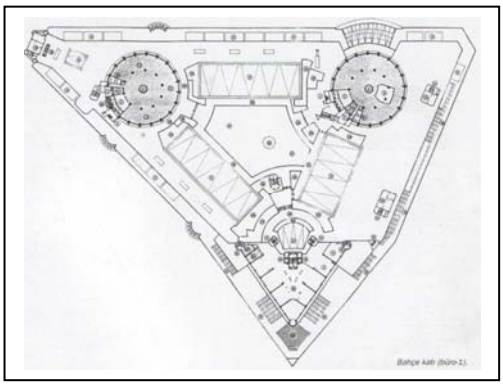
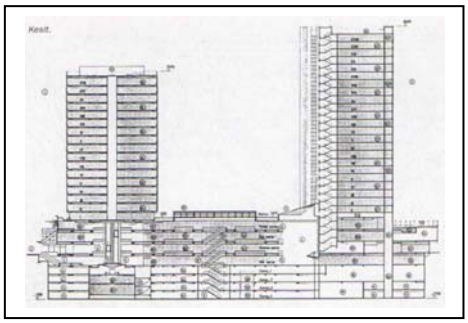
SYSTEM CHARACTERISTICS	STUDY: 08
1. GENERAL CHARACTERISTICS	**2. DESIGNER'S STARTING POINT**
Building: Akmerkez, Etiler-Ulus **Architectural design:**Fatin Uran **Building surface:** Glazed façade	• To establish an attractive environment from inner and outer. **ATTRACTIVITY**
3. THE CHARACTERISTIC OF BUILDING SURFACE	**4. PLAN**
• It has organisation of modular glass surface. • An interrupted glass surface has been stressed with massive endness.	
5. CROSS SECTION/ EXTERNAL VIEW	
	

Table A8.1 The transparent building analysis table of *Akmerkez Building*

MATERIAL CRITERION	
Glass material	Sufficient

SELECTION CRITERION OF GLASS	
Image-Prestige	Sufficient
An aesthetic anxiety	Sufficient
Being contemporary and new building	Sufficient
Transparent character	Insufficient

SURFACE SYSTEM CRITERION	
Glass technology	Insufficient
Integrity as a structural system technology	Insufficient

CONCEPTUAL TRANSPARENCY CRITERION	
Spatial continuity	Insufficient
Visual completeness	Partially sufficient
Inner-outer integrity	Insufficient
Openness	Insufficient
Fluidity	Insufficient

PERCEPTUAL TRANSPARENCY CRITERION	
Dematerialization	Insufficient
Perspectival depth	Insufficient
Conceptual relation between form and structure	Insufficient
Perception of building characteristic	Insufficient
Perception of visual stimuli	Insufficient
Visual complexity	Insufficient
Spatially porous	Insufficient

EVALUATION	**NOT TRANSPARENT**

CONCEPT THAT CAN NOT MAKE SPATIAL	**ATTRACTIVITY**

Table A9. Transparent building characteristics of *Atakule Galleria* (Architecture/268, p.51).

ATAKULE GALLERIA

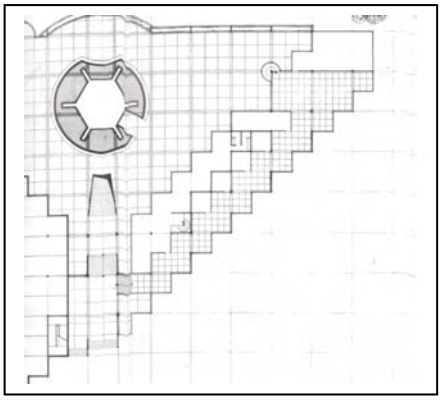
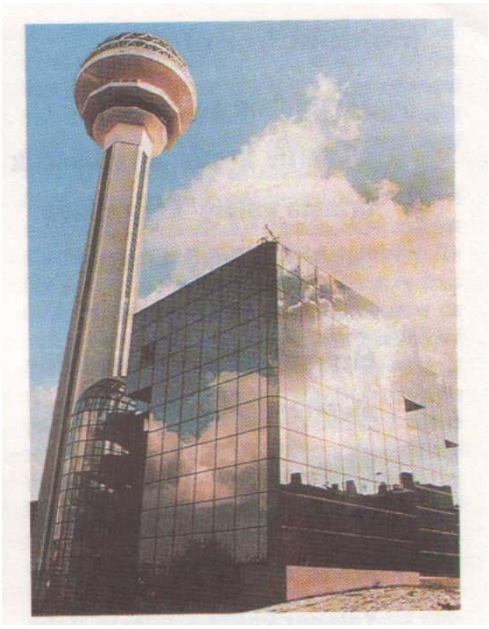
SYSTEM CHARACTERISTICS	STUDY: 09
1. GENERAL CHARACTERISTICS	**2. DESIGNER'S STARTING POINT**
Building: Atakule Galleria **Architectural design:** A. Ragıp Buluç **Building surface:** Glazed façade	• To generate contemporary way of living. • To protect honesty from habitual and coincidence, to offer consumer and to identify it. **HONESTY** • To reflect the fifth dimension in architecture that is to reflect architect's feelings.
3. THE CHARACTERISTIC OF BUILDING SURFACE	**4. PLAN**
• To keep alive the architectural cultures within pot as a symbiosis. • To tame technology on surface adding to humanitarian dimension to the building.	
5. CROSS SECTION / EXTERNAL VIEW	
 	

Table A9.1 The transparent building analysis table of *Atakule* Galleria

MATERIAL CRITERION	
Glass material	Sufficient

SELECTION CRITERION OF GLASS	
Image-Prestige	Sufficient
An aesthetic anxiety	Partially sufficient
Being contemporary and new building	Sufficient
Transparent character	Insufficient

SURFACE SYSTEM CRITERION	
Glass technology	Insufficient
Integrity as a structural system technology	Insufficient

CONCEPTUAL TRANSPARENCY CRITERION	
Spatial continuity	Insufficient
Visual completeness	Partially sufficient
Inner-outer integrity	Insufficient
Openness	Insufficient
Fluidity	Insufficient

PERCEPTUAL TRANSPARENCY CRITERION	
Dematerialization	Insufficient
Perspectival depth	Insufficient
Conceptual relation between form and structure	Insufficient
Perception of building characteristic	Insufficient
Perception of visual stimuli	Insufficient
Visual complexity	Insufficient
Spatially porous	Insufficient

EVALUATION	**NOT TRANSPARENT**

CONCEPT THAT CAN NOT MAKE SPATIAL	**HONESTY**

Table A10. Transparent building characteristics of *Arkas Office Building* (Aegean Architecture 47, p.45).

ARKAS OFFICE BUILDING

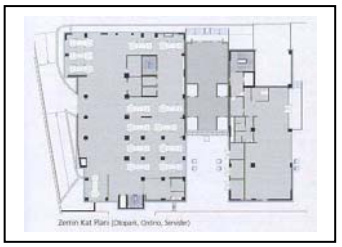
SYSTEM CHARACTERISTICS	STUDY: 10
1. GENERAL CHARACTERISTICS	**2. DESIGNER'S STARTING POINT**
Building: Arkas Office Building **Architectural design:** Ahmet Yağcıoğlu, Mehmet Yağcıoğlu, Uğur Doğanca, Metin Baran **Building surface:** Glazed façade	• To establish transparent steel tower and curved building surface as a result of an aesthetic stability • To evaluate optimum preference as a main criterion from the point of building functionality and cost. • To use simple architectural language in the way of appropriate to international identity that does not give reference to regionalism.
3. THE CHARACTERISTIC OF BUILDING SURFACE	**4. PLAN**
• The tower's transparency has established its plural tension between reflection and massive character of building. • The **CONTINUITY** of building surfaces has been occurred again and again with a repeat on transparency and surface • The metallic massive parapets have been preferred to gain strongness to the building in general.	  The floor plans of the building
5. CROSS-SECTION / EXTERNAL VIEW	
	

Table A10.1 The transparent building analysis table of *Arkas Office Building*

MATERIAL CRITERION	
Glass material	Partially sufficient

SELECTION CRITERION OF GLASS	
Image-Prestige	Partially sufficient
An aesthetic anxiety	Partially sufficient
Being contemporary and new building	Sufficient
Transparent character	Insufficient

SURFACE SYSTEM CRITERION	
Glass technology	Insufficient
Integrity as a structural system technology	Insufficient

CONCEPTUAL TRANSPARENCY CRITERION	
Spatial continuity	Insufficient
Visual completeness	Sufficient
Inner-outer integrity	Insufficient
Openness	Insufficient
Fluidity	Insufficient

PERCEPTUAL TRANSPARENCY CRITERION	
Dematerialization	Insufficient
Perspectival depth	Insufficient
Conceptual relation between form and structure	Insufficient
Perception of building characteristic	Insufficient
Perception of visual stimuli	Insufficient
Visual complexity	Insufficient
Spatially porous	Insufficient

EVALUATION	**NOT TRANSPARENT**

CONCEPT THAT CAN NOT MAKE SPATIAL	**CONTINUITY**

Table A11. Transparent building characteristics of *Technal Aksoy Office Building* (Design 77, p.63)

TECHNAL AKSOY OFFICE BUILDING

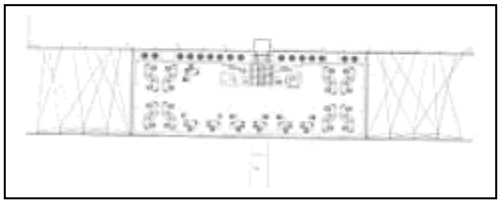
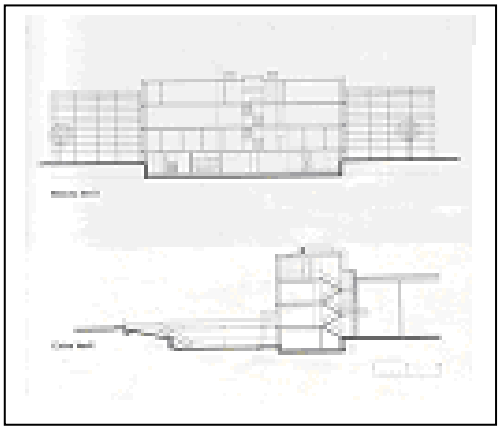
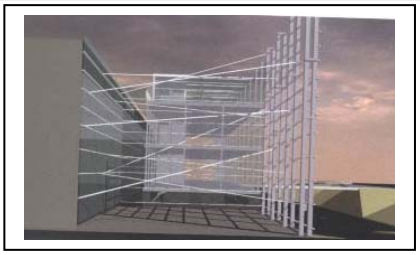
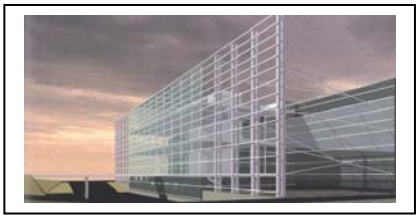
SYSTEM CHARACTERISTICS	STUDY: 11
1. GENERAL CHARACTERISTICS	**2. DESIGNER'S STARTING POINT**
Building: Aksoy Technic **Architectural design:** Gökhan Avcıoğlu **Building surface:** Glazed façade	• To create a new possibilities and images for material, structure, design and façade relations • To design surface system that can be demontaged and changed in working areas.
3. THE CHARACTERISTIC OF BUILDING SURFACE	**4. PLAN / CROSS-SECTION**
• To project is a different perception experience by the effect of illusion of a prefabricate production surface and administration building put in front of it. **PERCEPTIONAL ILLUSION** • The horizontal lined composition chosen as one of economical surface systems for both facades creates a rise on perspective by becoming narrow. • According to weather conditions and light the glass and bonding element's forming different perceptions on facades, the slipping appearance's reflections and refractions creates different effects.	 
5. EXTERNAL VIEW	
	 

Table A11.1 The transparent building analysis table of *Technal Aksoy Office Building*

MATERIAL CRITERION	
Glass material	Sufficient

SELECTION CRITERION OF GLASS	
Image-Prestige	Sufficient
An aesthetic anxiety	Sufficient
Being contemporary and new building	Sufficient
Transparent character	Sufficient

SURFACE SYSTEM CRITERION	
Glass technology	Sufficient
Integrity as a structural system technology	Sufficient

CONCEPTUAL TRANSPARENCY CRITERION	
Spatial continuity	Sufficient
Visual completeness	Sufficient
Inner-outer integrity	Sufficient
Openness	Sufficient
Fluidity	Sufficient

PERCEPTUAL TRANSPARENCY CRITERION	
Dematerialization	Sufficient
Perspectival depth	Sufficient
Conceptual relation between form and structure	Sufficient
Perception of building characteristic	Sufficient
Perception of visual stimuli	Sufficient
Visual complexity	Sufficient
Spatially porous	Sufficient

EVALUATION	**TRANSPARENT**

CONCEPT THAT CAN NOT MAKE SPATIAL	**PERCEPTIONAL ILLUSION**

Table A12. Transparent building characteristics of *Doğan Media Center* (Building 248, 2002, p.70)

DOĞAN MEDIA CENTER

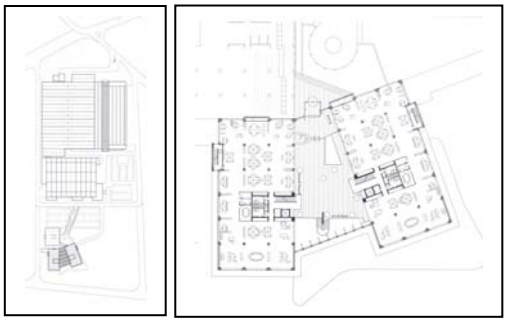
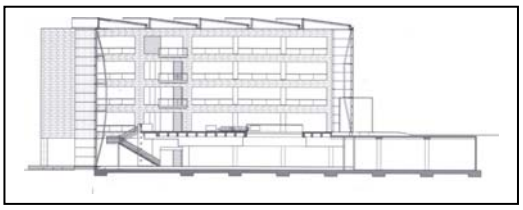
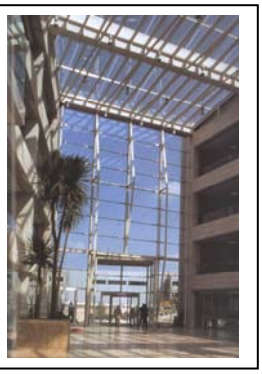
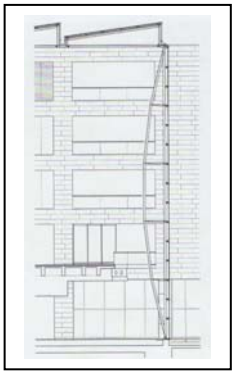
SYSTEM CHARACTERISTICS	STUDY: 13
1. GENERAL CHARACTERISTICS	**2. DESIGNER'S STARTING POINT**
Building: Doğan Media Center **Architectural design:** Murat Tabanlıoğlu, Melkan Gürsel Tabanlıoğlu **Building surface:** Stone+glass Construction	• The usage of glass is seen appropriate from the point of harmony with nature.
3. THE CHARACTERISTIC OF BUILDING SURFACE	**4. PLAN**
• The building is tried to provide **PERSPECTIVAL DEPTH** with being angled of building form, but it is not enough. • Some concepts such as contrast have tried to provide transparency.	
5. CROSS SECTION / EXTERNAL VIEW	
    	

Table A12.1 The transparent building analysis table of *Doğan Media Center*

MATERIAL CRITERION	
Glass material	Sufficient

SELECTION CRITERION OF GLASS	
Image-Prestige	Sufficient
An aesthetic anxiety	Partially sufficient
Being contemporary and new building	Sufficient
Transparent character	Insufficient

SURFACE SYSTEM CRITERION	
Glass technology	Partially sufficient
Integrity as a structural system technology	Insufficient

CONCEPTUAL TRANSPARENCY CRITERION	
Spatial continuity	Insufficient
Visual completeness	Insufficient
Inner-outer integrity	Insufficient
Openness	Insufficient
Fluidity	Insufficient

PERCEPTUAL TRANSPARENCY CRITERION	
Dematerialization	Insufficient
Perspectival depth	Insufficient
Conceptual relation between form and structure	Insufficient
Perception of building characteristic	Insufficient
Perception of visual stimuli	Insufficient
Visual complexity	Insufficient
Spatially porous	Insufficient

EVALUATION	**NOT TRANSPARENT**

CONCEPT THAT CAN NOT MAKE SPATIAL	**PERSPECTIVAL DEPTH**

Table A13. Transparent building characteristics of *Maslak Plaza*
(Building 252, 2002, p.81)

MASLAK PLAZA

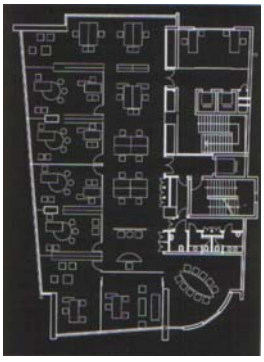
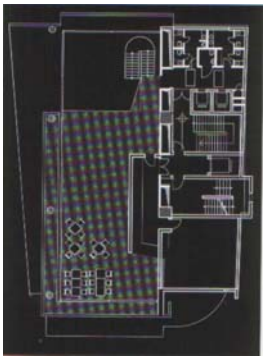
SYSTEM CHARACTERISTICS	**STUDY: 13**
1. GENERAL CHARACTERISTICS	**2. DESIGNER'S STARTING POINT**
Building: Maslak Plaza **Architectural design:** Cem İlhan Tülin Hadi Sevinç Hadi **Building surface:** Glazed façade	• DURABILITY • SINCERITY • UNITY • COHERENCE
3. THE CHARACTERISTIC OF BUILDING SURFACE	**4. PLAN**
• Microclimatic factors have been regarded as an important design criteria • The sloping site, open and partially open terraces have been created. • To receive direct sun and command views, and have passive sun deflecting elements.	 Typical floor plan  Roof floor plan
5. CROSS SECTION / EXTERNAL VIEW	
 	

Table A13.1 The transparent building analysis table of *Maslak Plaza*

MATERIAL CRITERION	
Glass material	Sufficient

SELECTION CRITERION OF GLASS	
Image-Prestige	Sufficient
An aesthetic anxiety	Sufficient
Being contemporary and new building	Sufficient
Transparent character	Insufficient

SURFACE SYSTEM CRITERION	
Glass technology	Partially sufficient
Integrity as a structural system technology	Insufficient

CONCEPTUAL TRANSPARENCY CRITERION	
Spatial continuity	Insufficient
Visual completeness	Partially sufficient
Inner-outer integrity	Insufficient
Openness	Insufficient
Fluidity	Insufficient

PERCEPTUAL TRANSPARENCY CRITERION	
Dematerialization	Insufficient
Perspectival depth	Insufficient
Conceptual relation between form and structure	Insufficient
Perception of building characteristic	Insufficient
Perception of visual stimuli	Insufficient
Visual complexity	Insufficient
Spatially porous	Insufficient

EVALUATION	**NOT TRANSPARENT**

CONCEPT THAT CAN NOT MAKE SPATIAL	• **DURABILITY** • **SINCERITY UNITY** • **COHERENCE**

Table A14. Transparent building characteristics of *Maya Meridien Office Building,* (Architecture 301, 2001, p.17)

MAYA MERIDIEN OFFICE BUILDING

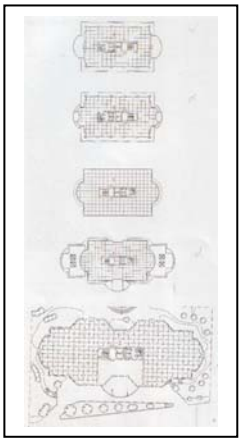
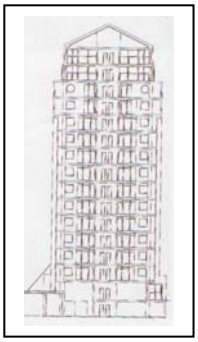
SYSTEM CHARACTERISTICS	STUDY: 14
1. GENERAL CHARACTERISTICS	**2. DESIGNER'S STARTING POINT**
Building: Maya Meridien Office Building 1993, İstanbul **Architectural design:** Şaziment Arolat, Neşet Arolat, Emre Arolat, Arolat Architecture **Building surface:** Glazed façade	• Being contemporaray, functional; and having a **POSITIVE CONTRIBUTION** to the enviroment are the main criteria of design. • The design of the tall body aims the optimum use of daylight, easy division and functionality of offices, For the reason, the near shape of the site and rectangular plan scheme is obtained. • The site is a narrow triangle and it's sharp corner looks to a traffic junction. An effective narrow facade is created by using the advantage of this settlement.
3. THE CHARACTERISTIC OF BUILDING SURFACE	**4. PLAN**
• The design logic and the language of the building has been 'hybridized' at various points during the construction period, according to architects. • Many application details with the colors and textures of various building materials are constructed which the architects mainly do not agree. • Main exterior finishing materials are; stucco, glass and brick tiles.	
5. CROSSSECTION / EXTERNAL VIEW	
  	

Table A14.1 The transparent building analysis table of *Maya Meridien Office Building*

MATERIAL CRITERION	
Glass material	Sufficient

SELECTION CRITERION OF GLASS	
Image-Prestige	Sufficient
An aesthetic anxiety	Sufficient
Being contemporary and new building	Sufficient
Transparent character	Insufficient

SURFACE SYSTEM CRITERION	
Glass technology	Insufficient
Integrity as a structural system technology	Insufficient

CONCEPTUAL TRANSPARENCY CRITERION	
Spatial continuity	Insufficient
Visual completeness	Partially sufficient
Inner-outer integrity	Insufficient
Openness	Insufficient
Fluidity	Insufficient

PERCEPTUAL TRANSPARENCY CRITERION	
Dematerialization	Insufficient
Perspectival depth	Insufficient
Conceptual relation between form and structure	Insufficient
Perception of building characteristic	Insufficient
Perception of visual stimuli	Insufficient
Visual complexity	Insufficient
Spatially porous	Insufficient

EVALUATION	**NOT TRANSPARENT**

CONCEPT THAT CAN NOT MAKE SPATIAL	**POSITIVE CONTRIBUTION**

Table A15. Transparent building characteristics of *Head Office For The Central Bank of Turkey* (http:www..arolat.com/works/office_buildings_central_bank.html)

HEAD OFFICE FOR THE CENTRAL BANK OF TURKEY

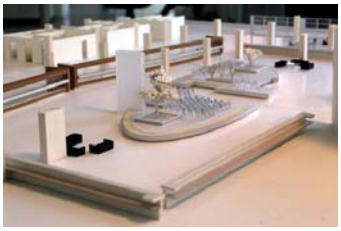
SYSTEM CHARACTERISTICS	STUDY: 15
1. GENERAL CHARACTERISTICS	**2. DESIGNER'S STARTING POINT**
Building: Head Office for the Central Bank of Turkey, 1998, İstanbul **Architectural design:** Şaziment Arolat Neşet Arolat, Emre Arolat, Arolat Architecture **Building surface:** Glassed façade	• To create a building that would reflect its stately function, make optimum use of advanced building technology and present a **FLAWLESS SPATIALITY** • The buildings on the site plan have been arranged along two main axes: the first axis being the Buyukdere Avenue itself, and the second axis being that formed by the building plots and future buildings on the opposite side of the road.
3. THE CHARACTERISTIC OF BUILDING SURFACE	**4. PLAN**
• In order to shield the west façades of the offices from the harmful effects of the west sun and the noise from the Buyukdere Avenue, a freestanding façade has been constructed in front of the building.	
5. CROSS SECTION / EXTERNAL VIEW	
 	
	

Table A15.1 The transparent building analysis table of *Head Office for The Central Bank of Turkey*

MATERIAL CRITERION	
Glass material	Sufficient

SELECTION CRITERION OF GLASS	
Image-Prestige	Sufficient
An aesthetic anxiety	Sufficient
Being contemporary and new building	Sufficient
Transparent character	Sufficient

SURFACE SYSTEM CRITERION	
Glass technology	Sufficient
Integrity as a structural system technology	Partially sufficient

CONCEPTUAL TRANSPARENCY CRITERION	
Spatial continuity	Partially sufficient
Visual completeness	Partially sufficient
Inner-outer integrity	Partially sufficient
Openness	Partially sufficient
Fluidity	Partially sufficient

PERCEPTUAL TRANSPARENCY CRITERION	
Dematerialization	Partially sufficient
Perspectival depth	Insufficient
Conceptual relation between form and structure	Partially sufficient
Perception of building characteristic	Partially sufficient
Perception of visual stimuli	Insufficient
Visual complexity	Partially sufficient
Spatially porous	Insufficient

EVALUATION	**NOT TRANSPARENT**

CONCEPT THAT CAN NOT MAKE SPATIAL	**FLAWLESS SPATİALİTY**

Table A16. Transparent building characteristics of *YKB Operation Center* (Archiscope1, p.100)

YKB OPERATION CENTER

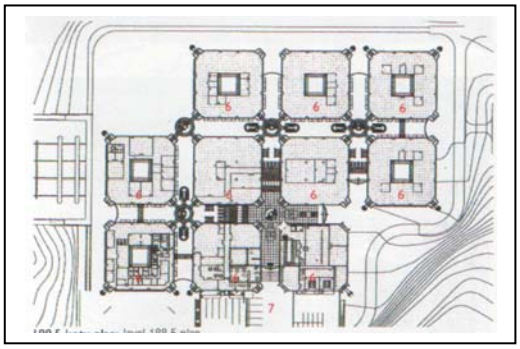
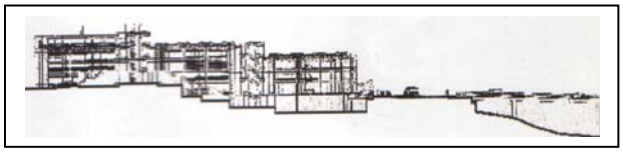
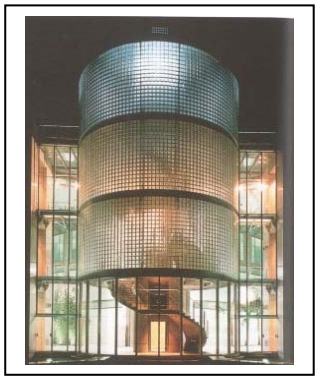
SYSTEM CHARACTERISTICS	STUDY: 16
1. GENERAL CHARACTERISTICS	**2. DESIGNER'S STARTING POINT**
Building: YKB Operation Center **Architectural design:** Noyan Sancar **Building surface:** Glazed façade	• Preference of a low rise, functional, humane, and economical building instead of the tall and monumental buildings
3. THE CHARACTERISTIC OF BUILDING SURFACE	**4. PLAN**
• The wall cladding system comprises fixed double glass units, which run all over the height of the facade, and sun screeners besides the glass facade panels. • The glass street shield walls and the roof plating structures are designed to behave as arches which would maintain the necessary **FLEXIBILITY** • The reactions which reflect from the Turkish architectural environment are mostly on the direction of its being a little more rigid by the plainer side, a little old fashioned and ordinary by its geometry.	
5. CROSS SECTION / EXTERNAL VIEW	
    	

Table A16.1 The transparent building analysis table of *YKB Operation Center*

MATERIAL CRITERION	
Glass material	Sufficient

SELECTION CRITERION OF GLASS	
Image-Prestige	Sufficient
An aesthetic anxiety	Sufficient
Being contemporary and new building	Sufficient
Transparent character	Insufficient

SURFACE SYSTEM CRITERION	
Glass technology	Sufficient
Integrity as a structural system technology	Partially sufficient

CONCEPTUAL TRANSPARENCY CRITERION	
Spatial continuity	Insufficient
Visual completeness	Partially sufficient
Inner-outer integrity	Insufficient
Openness	Insufficient
Fluidity	Insufficient

PERCEPTUAL TRANSPARENCY CRITERION	
Dematerialization	Insufficient
Perspectival depth	Sufficient
Conceptual relation between form and structure	Insufficient
Perception of building characteristic	Sufficient
Perception of visual stimuli	Insufficient
Visual complexity	Insufficient
Spatially porous	Insufficient

EVALUATION	**NOT TRANSPARENT**

CONCEPT THAT CAN NOT MAKE SPATIAL	**FLEXIBILITY**

Table.A17 Transparent building characteristics of *Ser Plaza*
(Architecture Yearbook, Architecture in Turkey 2000, p.98).)

SER PLAZA

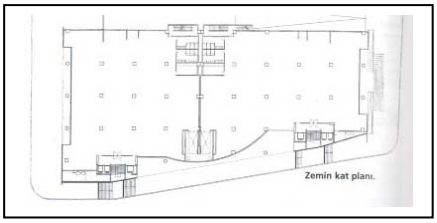
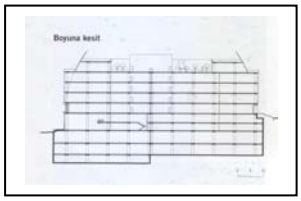
SYSTEM CHARACTERISTICS	STUDY: 17
1. GENERAL CHARACTERISTICS	**2. DESIGNER'S STARTING POINT**
Building: Ser Plaza **Architectural design:** Göktan Aktan Altuğ Tatsuya Yamamoto **Building surface:** Glazed façade	• Trying to supply the simplicity plainness on elements like colour, material, space and ratio. • Expressing the concepts that belong to photograph and graphic image in architectural design and the composite panel's being grift with glass mass is the result of this approach.
3. THE CHARACTERISTIC OF BUILDING SURFACE	**4. PLAN**
• The action in the compositions of glass cube and metal tonoz masses that seemed from the side façade as it is in the photographic images fixed. Therefore, a section of the action or a not unregistered memory is exhibited in an architectural dimension. This possesses a Kinetic feature to the characteristic in accordance with its nature static and completed qualified building. **KINETISM**	 
5.CROSS SECTION / EXTERNAL VIEW	
 	  

Table A17.1 The transparent building analysis table of *Ser Plaza*

MATERIAL CRITERION	
Glass material	Sufficient

SELECTION CRITERION OF GLASS	
Image-Prestige	Sufficient
An aesthetic anxiety	Sufficient
Being contemporary and new building	Sufficient
Transparent character	Insufficient

SURFACE SYSTEM CRITERION	
Glass technology	Partially sufficient
Integrity as a structural system technology	Insufficient

CONCEPTUAL TRANSPARENCY CRITERION	
Spatial continuity	Insufficient
Visual completeness	Partially sufficient
Inner-outer integrity	Insufficient
Openness	Insufficient
Fluidity	Insufficient

PERCEPTUAL TRANSPARENCY CRITERION	
Dematerialization	Insufficient
Perspectival depth	Insufficient
Conceptual relation between form and structure	Insufficient
Perception of building characteristic	Insufficient
Perception of visual stimuli	Insufficient
Visual complexity	Insufficient
Spatially porous	Insufficient

EVALUATION	**NOT TRANSPARENT**

CONCEPT THAT CAN NOT MAKE SPATIAL	**KINETISM**

Table A18 Transparent building characteristics of *Deren Office Building*
(Aegean Architecture 44, p. 31)

DEREN OFFICE BUILDING

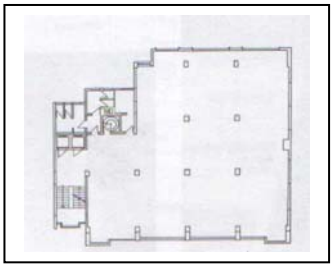
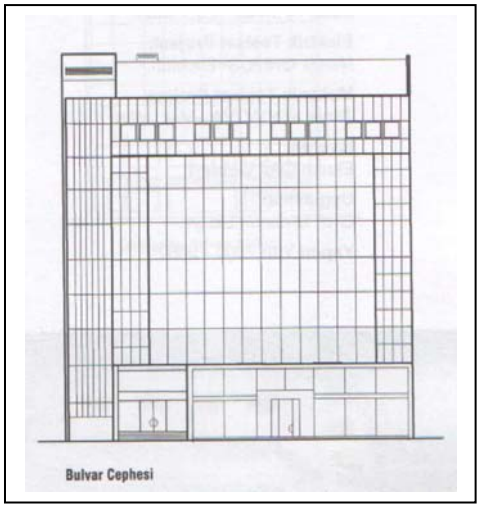
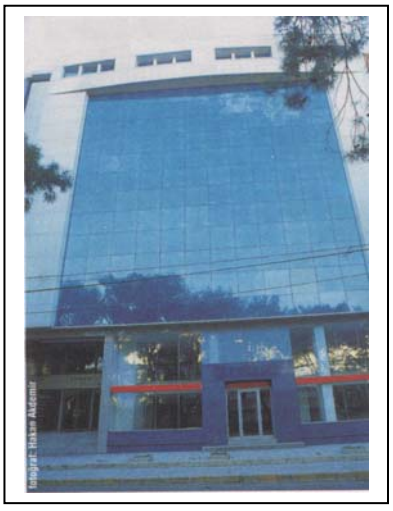
SYSTEM CHARACTERISTICS	STUDY: 18
1. GENERAL CHARACTERISTICS	**2. DESIGNER'S STARTING POINT**
Building: Deren Office Center **Architectural design:** Hasan Küçükkara Umur Somalı **Building surface:** Glazed façade	• The main principles on surface design has been determined as a design of simplicity and qualified building.
3. THE CHARACTERISTIC OF BUILDING SURFACE	**4. PLAN**
• To design the building together with granite aluminium composite plate veneer and glass surface. • To create an architectural aesthetic with having been framed of **TRANSPARENT SURFACES** and opaque elements. • To use the different building material together with some forms.	 Ground floor  Typical floor plan
5. CROSS SECTION / EXTERNAL VIEW	
	

Table A18.1 The transparent building analysis table of *Deren Office Building*

MATERIAL CRITERION	
Glass material	Partially sufficient

SELECTION CRITERION OF GLASS	
Image-Prestige	Partially sufficient
An aesthetic anxiety	Partially sufficient
Being contemporary and new building	Sufficient
Transparent character	Insufficient

SURFACE SYSTEM CRITERION	
Glass technology	Insufficient
Integrity as a structural system technology	Insufficient

CONCEPTUAL TRANSPARENCY CRITERION	
Spatial continuity	Insufficient
Visual completeness	Insufficient
Inner-outer integrity	Insufficient
Openness	Insufficient
Fluidity	Insufficient

PERCEPTUAL TRANSPARENCY CRITERION	
Dematerialization	Insufficient
Perspectival depth	Insufficient
Conceptual relation between form and structure	Insufficient
Perception of building characteristic	Insufficient
Perception of visual stimuli	Insufficient
Visual complexity	Insufficient
Spatially porous	Insufficient

EVALUATION	**NOT TRANSPARENT**

CONCEPT THAT CAN NOT MAKE SPATIAL	**TRANSPARENCY**

Table A19. Transparent building characteristics of *Berin–Reşat Aksoy Plaza* (Aegean Architecture 44, p.36)

BERİN–REŞAT AKSOY PLAZA

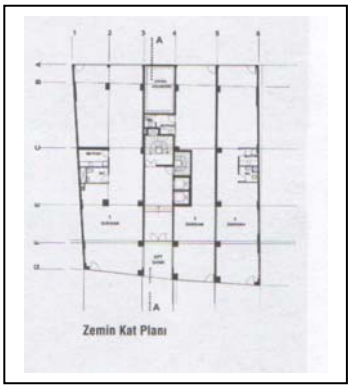
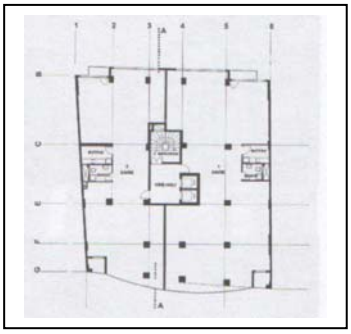
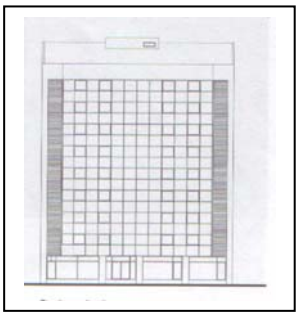
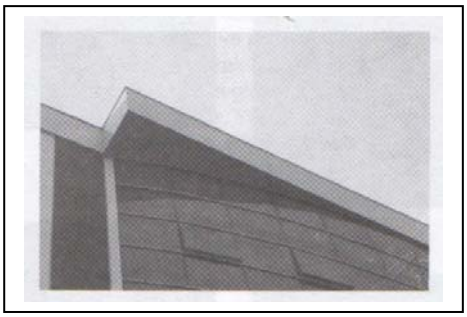
SYSTEM CHARACTERISTICS	STUDY: 19
1. GENERAL CHARACTERISTICS	**2. DESIGNER'S STARTING POINT**
Building: Berin–Reşat Aksoy Plaza **Architectural design:** Hasan Aygıt **Building surface:** Glazed façade	• To consider important surface design because of building land location. • To design transparent glass surfaces being net to provide for panoramic sea landscape.
3. THE CHARACTERISTIC OF BUILDING SURFACE	**4. PLAN**
• Coloured glass and window frame were selected to provide for colour **COMPLETENESS** with the sea. • The expression of glass surface was provided with massive build endness.	 
5. CROSS SECTION / EXTERNAL VIEW	
  	

Table A19.1 The transparent building analysis table of *Berin–Reşat Aksoy Plaza*

MATERIAL CRITERION	
Glass material	Sufficient

SELECTION CRITERION OF GLASS	
Image-Prestige	Sufficient
An aesthetic anxiety	Partially sufficient
Being contemporary and new building	Sufficient
Transparent character	Insufficient

SURFACE SYSTEM CRITERION	
Glass technology	Insufficient
Integrity as a structural system technology	Insufficient

CONCEPTUAL TRANSPARENCY CRITERION	
Spatial continuity	Insufficient
Visual completeness	Partially sufficient
Inner-outer integrity	Insufficient
Openness	Insufficient
Fluidity	Insufficient

PERCEPTUAL TRANSPARENCY CRITERION	
Dematerialization	Insufficient
Perspectival depth	Insufficient
Conceptual relation between form and structure	Insufficient
Perception of building characteristic	Insufficient
Perception of visual stimuli	Insufficient
Visual complexity	Insufficient
Spatially porous	Insufficient

EVALUATION	**NOT TRANSPARENT**

CONCEPT THAT CAN NOT MAKE SPATIAL	**COMPLETENESS**

Table A20. Transparent building characteristics of *Maya Office Building* (Architecture 301, 2001, p.17)

MAYA OFFICE BUILDING

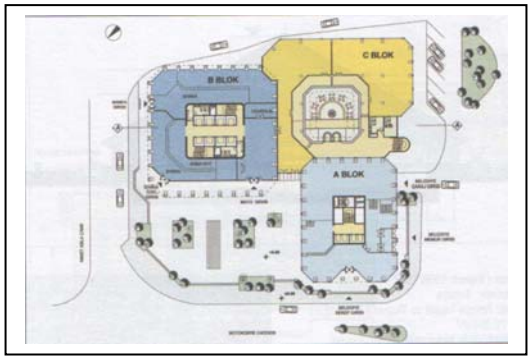
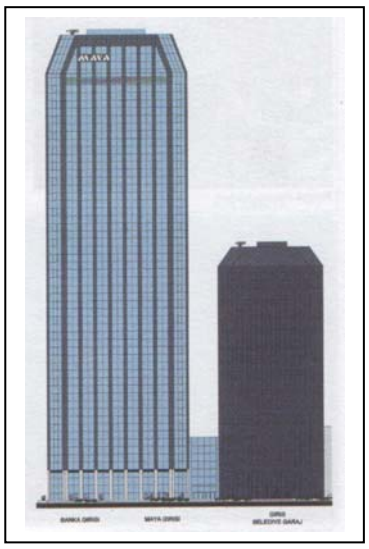
SYSTEM CHARACTERISTICS	STUDY: 20
1. GENERAL CHARACTERISTICS	**2. DESIGNER'S STARTING POINT**
Building: Maya Office Building **Architectural design:** Levent Aksüt Yaşar Marulyalı **Building surface:** Glazed façade	• To build the first tall building of the architectural company in 1989. • To design a prestige building using the contemporary technology.
3. THE CHARACTERISTIC OF BUILDING SURFACE	**4. PLAN**
• In principle, to obtain an **EFFECTIVE AESTHETIC** within rational thought.	
5. CROSS SECTION / EXTERNAL VIEW	
 View from Büyükdere Street	

Table A20.1 The transparent building analysis table of *Maya Office Building*

MATERIAL CRITERION	
Glass material	Sufficient

SELECTION CRITERION OF GLASS	
Image-Prestige	Sufficient
An aesthetic anxiety	Sufficient
Being contemporary and new building	Sufficient
Transparent character	Insufficient

SURFACE SYSTEM CRITERION	
Glass technology	Insufficient
Integrity as a structural system technology	Insufficient

CONCEPTUAL TRANSPARENCY CRITERION	
Spatial continuity	Insufficient
Visual completeness	Partially sufficient
Inner-outer integrity	Insufficient
Openness	Insufficient
Fluidity	Insufficient

PERCEPTUAL TRANSPARENCY CRITERION	
Dematerialization	Insufficient
Perspectival depth	Insufficient
Conceptual relation between form and structure	Insufficient
Perception of building characteristic	Insufficient
Perception of visual stimuli	Insufficient
Visual complexity	Insufficient
Spatially porous	Insufficient

EVALUATION	**NOT TRANSPARENT**

CONCEPT THAT CAN NOT MAKE SPATIAL	**EFFECTIVE AESTHETIC**

Table A21. Transparent building characteristics of *Denizbank Head Department* (Design 19, December 1991, p.48).

DENİZBANK HEAD DEPARTMENT BUILDING

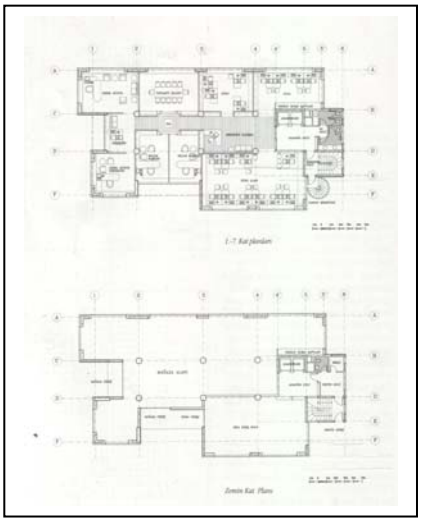
SYSTEM CHARACTERISTICS	STUDY: 21
1. GENERAL CHARACTERISTICS	**2. DESIGNER'S STARTING POINT**
Building: Denizbank Head Department Building **Architectural design:** Ahmet Etikan, Zeynep Etikan **Building surface:** Glazed façade	• To design a **PRESTIGE** building • To create a form that rubs the disadvantages of being closed between high buildings even to force it forth among them.
3. THE CHARACTERISTIC OF BUILDING SURFACE	**4. PLAN**
• The symbolic gestures on the outer facade are to solve the different usage needs.	
5. CROSS SECTION / EXTERNAL VIEW	
	

Table A21.1 The transparent building analysis table of *Denizbank Head Department*

MATERIAL CRITERION	
Glass material	Sufficient

SELECTION CRITERION OF GLASS	
Image-Prestige	Sufficient
An aesthetic anxiety	Sufficient
Being contemporary and new building	Sufficient
Transparent character	Insufficient

SURFACE SYSTEM CRITERION	
Glass technology	Partially sufficient
Integrity as a structural system technology	Insufficient

CONCEPTUAL TRANSPARENCY CRITERION	
Spatial continuity	Insufficient
Visual completeness	Partially sufficient
Inner-outer integrity	Insufficient
Openness	Insufficient
Fluidity	Insufficient

PERCEPTUAL TRANSPARENCY CRITERION	
Dematerialization	Insufficient
Perspectival depth	Insufficient
Conceptual relation between form and structure	Insufficient
Perception of building characteristic	Insufficient
Perception of visual stimuli	Insufficient
Visual complexity	Insufficient
Spatially porous	Insufficient

EVALUATION	**NOT TRANSPARENT**

CONCEPT THAT CAN NOT MAKE SPATIAL	**PRESTIGE**

Table A22. Transparent building characteristics of C*imentas Social Servise Building,* (Architecture Yearbook, Architecture in Turkey 2000, p.138).

ÇİMENTAŞ SOCIAL SERVISE BUILDING

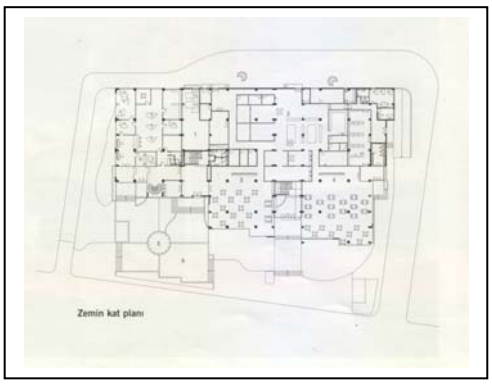
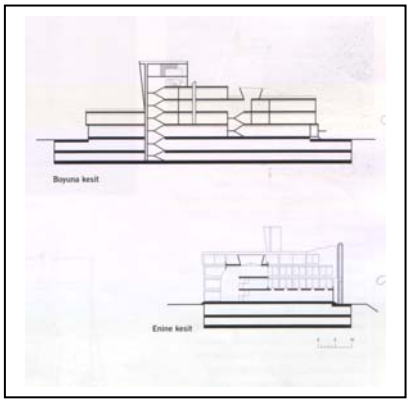
SYSTEM CHARACTERISTICS	STUDY: 22
1. GENERAL CHARACTERISTICS	**2. DESIGNER'S STARTING POINT**
Building: Çimentaş Social Servise Building, İzmir **Architectural design:** Erbil Coşkuner **Building surface:** Glazed facade	• The vertical elements used in the building have been the definition of the building with their colour and elliptic forms and determination of the design in general.
3. THE CHARACTERISTIC OF BUILDING SURFACE	**4. PLAN**
• Free forms could be arranged on the narrow and marine surfaces of masses because of the window's not allowing restriction. Interactions with and unforgotten forms, connections with new trends (colour etc) have been attempted and different expression forms outside of Modernism's restriction model. • **SURFACE PLASTIC** is demanded. There hasn't been felt anxiety like connecting relation directly between the functions and building skin. While colour was being considered important an accented functionality that decomposes different elements is subjected.	
5. CROSS SECTION / EXTERNAL VIEW	
	

Table A22.1 The transparent building analysis table of *Çimentaş Social Servise Building*

MATERIAL CRITERION	
Glass material	Partially sufficient

SELECTION CRITERION OF GLASS	
Image-Prestige	Partially sufficient
An aesthetic anxiety	Partially sufficient
Being contemporary and new building	Sufficient
Transparent character	Insufficient

SURFACE SYSTEM CRITERION	
Glass technology	Partially sufficient
Integrity as a structural system technology	Insufficient

CONCEPTUAL TRANSPARENCY CRITERION	
Spatial continuity	Insufficient
Visual completeness	Partially sufficient
Inner-outer integrity	Insufficient
Openness	Insufficient
Fluidity	Insufficient

PERCEPTUAL TRANSPARENCY CRITERION	
Dematerialization	Insufficient
Perspectival depth	Insufficient
Conceptual relation between form and structure	Insufficient
Perception of building characteristic	Insufficient
Perception of visual stimuli	Insufficient
Visual complexity	Insufficient
Spatially porous	Insufficient

EVALUATION	**NOT TRANSPARENT**

CONCEPT THAT CAN NOT MAKE SPATIAL	**SURFACE PLASTIC**

Table A23. Transparent building characteristics of *Hürriyet Güneşli Plaza* (1950's, Architecture Antology, p.61).

HÜRRİYET GÜNEŞLİ PLAZA

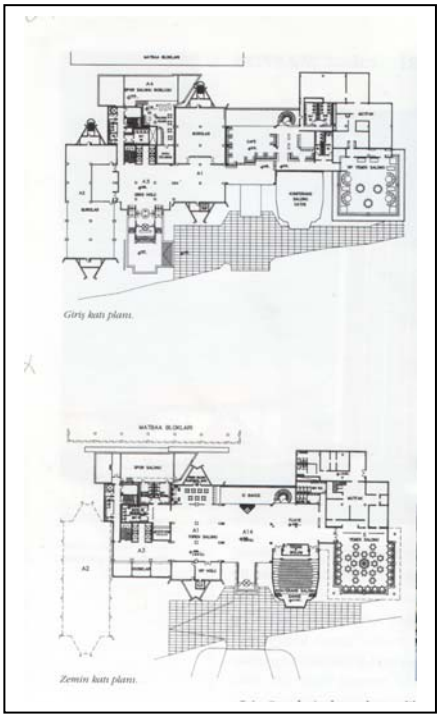
SYSTEM CHARACTERISTICS	STUDY: 23
1. GENERAL CHARACTERISTICS	**2. DESIGNER'S STARTING POINT**
Building: Hürriyet Güneşli Plaza **Architectural design:**Aydın Boysan **Building surface:** Glazed façade	To design **FLEXIBLE SPACES** and volumes is the starting point of the design.
3. THE CHARACTERISTIC OF BUILDING SURFACE	**4. PLAN**
• Modular glassed façade system has been used. • The format of the core comes out of the inhabiting many people as possible as close to the daylight in office spaces.	
5. CROSS SECTION / EXTERNAL VIEW	
	

Table A23.1 The transparent building analysis table of *Hürriyet Güneşli Plaza*

MATERIAL CRITERION	
Glass material	Sufficient

SELECTION CRITERION OF GLASS	
Image-Prestige	Sufficient
An aesthetic anxiety	Partially sufficient
Being contemporary and new building	Sufficient
Transparent character	Insufficient

SURFACE SYSTEM CRITERION	
Glass technology	Insufficient
Integrity as a structural system technology	Insufficient

CONCEPTUAL TRANSPARENCY CRITERION	
Spatial continuity	Insufficient
Visual completeness	Partially sufficient
Inner-outer integrity	Insufficient
Openness	Insufficient
Fluidity	Insufficient

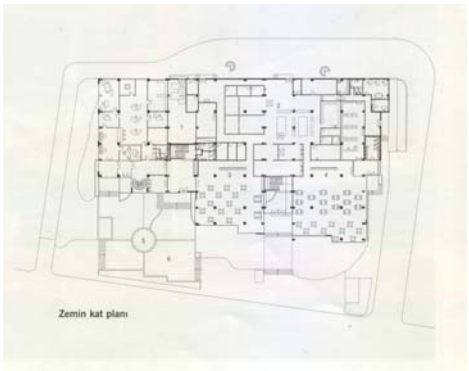
PERCEPTUAL TRANSPARENCY CRITERION	
Dematerialization	Insufficient
Perspectival depth	Insufficient
Conceptual relation between form and structure	Insufficient
Perception of building characteristic	Insufficient
Perception of visual stimuli	Insufficient
Visual complexity	Insufficient
Spatially porous	Insufficient

EVALUATION	**NOT TRANSPARENT**

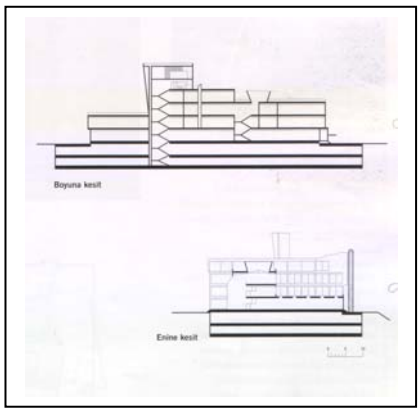
CONCEPT THAT CAN NOT MAKE SPATIAL	**FLEXIBLE SPACES**

Table A24. Transparent building characteristics of *Administration Building of Alfa Elevation Industry* (4. National Architectural Exhibition Prizes, 1994, p.118).

ADMINISTRATION BUILDING OF ALFA ELEVATION INDUSTRY

SYSTEM CHARACTERISTICS	STUDY: 24
1. GENERAL CHARACTERISTICS	**2. DESIGNER'S STARTING POINT**
Building: Administration Building of Alfa Elevation Industry **Architectural design:** **Building surface:** Glazed façade	• Due to programme requirements and site restrictions, the building has been situated on the front corner of the factory and this situation has affected the plan solutions.
3. THE CHARACTERISTIC OF BUILDING SURFACE	**4. PLAN**
• As the client's foremost requirements, the exhibition hall was been accentuated with **LARGE GLASS SURFACES** inclined inwards, and this effect has been enforced by the freestanding columns positioned at an opposing angle. The second floor is the management floor and is situated above other floors as a horizontal mass, emphasizing its importance.	

5. CROSS SECTION / EXTERNAL VIEW



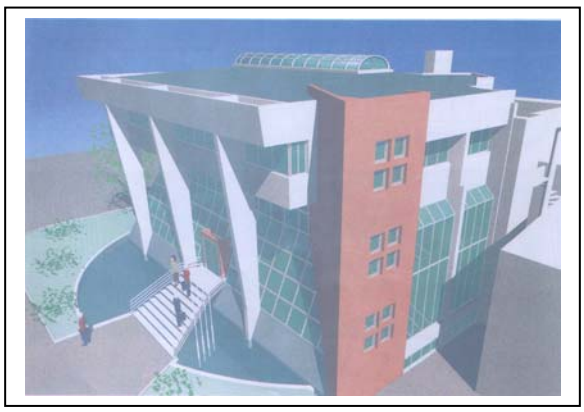


Table A24.1 The transparent building analysis table of *Administration Building of Alfa Elevation Industry*

MATERIAL CRITERION	
Glass material	Partially Sufficient

SELECTION CRITERION OF GLASS	
Image-Prestige	Sufficient
An aesthetic anxiety	Sufficient
Being contemporary and new building	Sufficient
Transparent character	Insufficient

SURFACE SYSTEM CRITERION	
Glass technology	Insufficient
Integrity as a structural system technology	Partially Sufficient

CONCEPTUAL TRANSPARENCY CRITERION	
Spatial continuity	Insufficient
Visual completeness	Insufficient
Inner-outer integrity	Insufficient
Openness	Insufficient
Fluidity	Insufficient

PERCEPTUAL TRANSPARENCY CRITERION	
Dematerialization	Insufficient
Perspectival depth	Insufficient
Conceptual relation between form and structure	Insufficient
Perception of building characteristic	Insufficient
Perception of visual stimuli	Insufficient
Visual complexity	Insufficient
Spatially porous	Insufficient

EVALUATION	**NOT TRANSPARENT**

CONCEPT THAT CAN NOT MAKE SPATIAL	**TRANSPARENCY**

Appendix B: 1. The Questionnaire Study

Circle the letter of the correct answer

Question 1: Glass surfaces are especially appropriate for the office buildings.

a) I don't agree
b) I'm hesitated
c) I agree

Question 2: The theme of transparency performs fluency in the last term office building.

a) I don't agree
b) I'm hesitated
c) I agree

Question 3: Which answer is the reason of glass preference in architecture?

a) An Aesthetical anxiety
b) Being of a contemporary material
c) Transparency

Question 4: The office buildings in Turkey are transparent

a) I don't agree
b) I'm hesitated
c) I agree

Question 5: Glassed surfaces are appropriate for transparency.

a) I don't agree
b) I'm hesitated
c) I agree

Question 6: If you do not agree, please explain, how is transparency can be obtained?

Question 7: Why do the employers prefer glass in buildings?

a) Economical
b) Prestige
c) An aesthetical anxiety

Question 8: Glass or glass-surfaced building has been preferred because of prestige.

a) I don't agree
b) I'm hesitated
c) I agree

Question 9: The transparency is managed to get by only glass material in physical Meaning.

a) I don't agree
b) I'm hesitated
c) I agree

Question 10: Glass is an important material for person in visualise of office building.

a) I don't agree
b) I'm hesitated
c) I agree

Question 11: The glass material in glass surface building has tolerated the great many technical problems.

a) I don't agree
b) I'm hesitated
c) I agree

Question 12: If you do not agree, why?

Question 13: The developments in glass technology can be followed sufficiently.

a) I don't agree
b) I'm hesitated
c) I agree

Question 14: Which system that is used for surface is effective in gaining transparent Character?

a) Glass + frame
b) Frame supporting+ glass surfaced system
c) Silicone glass surfaced system

Question 15: The success of architectural design is the success of transparency at the same time .

a) I don't agree
b) I'm hesitated
c) I agree

Question 16: The interrupted perception of building's inner and outer space as a whole is the success of architectural design in the name transparency concept.

a) I don't agree
b) I'm hesitated
c) I agree

Question 17: Chose the alternative for conception transparency.

a) The result of material usage
b) The result of visual perception
c) The result of spatial transparency
d) It is the result of building type
e) It is the result of transparency thought
f) It is the result of building surface

Question 18: In which plane do you want to percept transparency?

a) On the spatial plane
b) On the plane belonging to building surface
c) On the wholeness plane of the building's inner and outer
d) On the plane of an architectural form building's

Question 19: The transparency is being presented by the building's whole openness while the glass loses the material character.

a) I don't agree
b) I'm hesitated
c) I agree

Question 20: When the light permeability of glass material used in building surface increases, the architectural space gets transparent character.

a) I don't agree
b) I'm hesitated
c) I agree

Question 21: The spatial transparency is transparency of sectional area between inner and outer spaces.

a) I don't agree
b) I'm hesitated
c) I agree

Question 22: The office building must be transparent.

a) I don't agree
b) I'm hesitated
c) I agree

Question 23: Choose the effective origin in completeness transparency of building.

a) The glass technology
b) Supporting system technology
c) The processing in architectural concept
d) The processing in technical details.

Question 24: Which one is the cause of a glass material.?

a) Visualise
b) The light permeability
c) The visual permeability
d) The developments in glass technology