INTERIOR DESIGN: A HISTORICAL AND THEORETICAL SURVEY & A PROPOSAL FOR A RESTAURANT - BAR INTERIOR

A THESIS SUBMITTED TO
THE GRADUATE SCHOOL OF NATURAL AND APPLIED SCIENCES
OF
THE MIDDLE EAST TECHNICAL UNIVERSITY

BY

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IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF ARCHITECTURE
IN
THE DEPARTMENT OF ARCHITECTURE

JUNE 1996

Approval of the Graduate School of Natural Applied Sciences.

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I certify that this thesis satisfies all the requirements as a thesis for the degree of Master of Architecture.

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This is to certify that we have read this thesis and that in our opinion it is fully adequate, in scope and quality, as a thesis for the degree of Master of Architecture.

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ABSTRACT

INTERIOR DESIGN: A HISTORICAL AND THEORETICAL SURVEY & A PROPOSAL FOR A RESTAURANT - BAR INTERIOR

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June, 1996, 335 pages

The aim of this study is to make a detailed theoretical analysis in the field of interior design and to develop a proposal for a public interior arguing that style is one of the most affective factors in the design of an interior. The theoretical part includes a historical survey analysis. The proposed interior is the Rooftop Restaurant - Bar of Çankaya Hotel Convention & Shopping Center in Ankara which is under construction.

In the second chapter an introductory information about the field of interior design consisting of aesthetic and technical properties is given. The third chapter contains a historical and theoretical survey of stylistic influences in architectural interiors through ages starting from ancient civilizations to the present. The fourth chapter includes an analysis of the selected site, Çankaya Hotel Convention & Shopping Center, a brief explanation of the features affecting the design of a restaurant and the proposal for the interior of the restaurant - bar. The main design concept, stylistic prefences, design principles and features are also explained in the fourth chapter. With the proposed interior at the end of the thesis it is aimed to argue

that in the design of an interior the most affective point is style and every well designed interior belongs to a style or a mixture of styles. The last chapter of the study includes a general evaluation of the thesis and the conlusions arrived at.

Keywords: Interior design, Style, Historical Survey, Concept, Design Principle.

ÖZ

İÇ MİMARLIK: TARİHSEL VE TEORİK BİR ARAŞTIRMA & BİR RESTORAN - BAR İÇ TASARIM ÖNERİSİ

TOMA, Natali
Yüksek Lisans, Mimarlık Bölümü
Tez Yöneticisi: Öğr. Gör. İlhan Kural

Haziran 1996, 335 pages

Bu çalışma iç mimarlık alanında detaylı bir teorik araştırma yapmayı ve iç mekan tasarımında stil faktörünün önemini tartışan sosyal nitelikli bir iç mekan proje önerisi geliştirmeyi amaçlamaktadır. Teorik kısım tarihsel bir araştırma içermektedir. İç mekan proje önerisi için Ankara'da inşaat halinde bulunan Çankaya Otel, Toplantı & Alışveriş Merkezinin Restoran - Barı seçilmiştir.

İkinci kısımda iç mimarlık konusunda, estetik ve teknik özellikleri içeren, konuya giriş nitelikli genel bir çalışma yapılmıştır. Üçüncü kısım mimari iç mekanlarda stilin etkilerini tartışan ve eski medeniyetlerden başlayıp günümüze kadar gelen tarihsel ve teorik bir araştırma içermektedir. Dördüncü kısım proje önerisi için seçilen alanın, Çankaya Otel, Toplantı & Alışveriş Merkezinin, analizini, bir restoran tasarımını etkileyen faktörlerin kısa bir açıklamasını ve restoran - bar iç mekan önerisini kapsar. Temel tasarım ilkesi, öncelikli stil seçimleri, tasarım prensipleri ve özellikleri de dördüncü kısımda açıklanmaktadır. Tezin sonunda yer alan iç mekan önerisi ile bir iç mekan tasarımında en önemli faktörlerden birinin stil olduğu ve her iyi tasarlanmış iç

mekanın bir veya birkaç stilin etkilerini taşıdığı savı ortaya konmaktadır. Son kısım, tezin genel bir değerlendirmesi ile birlikte, sonucu içermektedir.

Anahtar Kelimeler: İç Mimarlık, Stil, Tarihsel Araştırma, Tasarım İlkesi, Tasarım Presipleri.

To My Family

ACKNOWLEDGEMENTS

In preparing this study I have been particularly helped and encouraged by criticisms made by my supervisor Inst. İlhan Kural and I am indebted to him for his valuable help, suggestions and patient guidance.

I offer sincere thanks to Prof. Dr. Metin Başal for his comments and suggestions in the field of landscape architecture and I am indebted to Part-time Inst. Cumhur Keskinok for his constructive criticisms. I also want to thank to Cemal Kayalar for his valuable help for the analysis of the selected site. Thanks go Gücügür Görkay and Fikret Çiftçi for their help on model photographs.

I would like to thank to members of my family, especialy to my mother, father and grandfather for their unsparing support and encouragement. I also want to express my lasting gratitude to my friend Benan Bilban for her valuable help and support.

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CHAPTER 1

INTRODUCTION

The design of interiors is a serious and expert field, with its own history and traditions and with a future of expanding possibilities. The interior designer must be as well trained, imaginative and skillful as his colleagues, the architect, the town planner, the sociologist and the landscape architect.

Interior design as an art and as a profession is intimately connected with architecture. In fact, it is a subdivision of architectural profession that has become so specialised as now to be regarded as a seperate field. Interior designers are not required to have the same complete education in structural techniques as architects, nor are they under the same legal licencing requirements as architects because their work does not deal with the aspects of building that affect structural strength and safety. Nevertheless, many architects elect to specialize in interior design and all good architects must have an understanding of what interior design is if they are really to make their buildings complete internally.

Interior design a specialized branch of architecture, is recognized as having great importance in the conception of the whole building. J. F. Oud defends the same idea by saying; "The problem of decoration becomes a phase defined by the enquiry into the language of architecture, a phase in the enrichment and completion of that language itself.". An interior designer and an architect together serve for the single objective of creation of the suitable environment to meet the psycological, physical, cultural, sociological, economical needs of man.

An architect might prefer to make connection to his architectural design by detailing cabinetry and designing fireplaces, the lighting, the furniture all within a

unified style and vocabullary. That' s what Frank Lloyd Wright did; he insisted upon designing everything for the interiors. The pioneers of the modern movement preached the interpenetration of space and the formal unity of interior and exterior. Many of the contemporary designs in interiors were created by architects to carry their ideas of exterior form to interior design. Many designers see the interior qualities of their buildings as part of an over-all design.

I claim that interior design is a matter of choice besides being a matter of culture. Some people favor a traditional period and style. Other people who desire to break from tradition find expression for their taste in a choice of contemporary designs, which also became another style in itself. Still another group, the eclectics, like a mixture of different styles. In decorating terms, eclecticism is the art of selecting the best from several sources; applied to interior design, it is an unhibited mixture of the styles of previous periods with the styles of today.

Style refers to the expression of a particular era. The influence of style has always been felt in all aspects of human thought and endeavor; the arts, the sciences, and literature have always developed among similar conceptional lines. Mentioning the mores of society brings up the subject of fashion, which is quite different from style. In my interpretation architecture and decoration are based on organic principles and not fashion. I believe in regional styles. Besides; the further back we go in history, the more objective we can come in our evaluation and critical reaction. In spite of that architecture is also, in a way, a matter of style; I believe that style is the most important element in the design of interiors.

As one looks at the past and contemporary designs with a critical eye, accepting what is right for a particular style and what is not, personal tastes are developed. Our tastes are a result of how we see things aesthetically, the scope of our educational and cultural experiences. Taste needs improvement as Stepat-DeVan claims that "genuine good taste is discrimination and judgement based on knowledge of art principles that follow good design".

In summary the knowledge of history is essential for the designer. A conscious understanding of stylistic developments can be an important tool for the designer. But it must be strived to keep history and present apart, as clearly as creativity and imagination. I believe that, a detailed historical survey on the theme of styles which is a complete subject in itself might be useful as a study on interior architecture.

In this study, after completing my survey on styles I will propose a design for an interior. In that proposal I will try to show that in the design of an interior the most important factor is style and every well designed interior belongs to a style or a mixture of styles.

As a result my master thesis is mainly composed of three parts; A section on the general designing principles of interiors which is a kind of introductory to the subject of interior design, a historical & theoretical survey, and a proposal for an interior.

The aim of the second chapter is to give an introductory information about the subject of interior design. The second chapter which is composed of two phases contains both aesthetic and technical properties of interior design. The first phase is about the design principles of interior space which are also valuable in architectural sense of design like concept, form, scale, unity, etc. This part also incudes stylistic influences on the interior environment. The second phase includes technical and practical knowledge about the elements used while planning an interior, such as furniture, covering material, artificial lighting, etc.

In the third chapter it is intended to make a historical & theoretical survey through ages of what the approaches to the subject of interior design were, how interior space is experienced within the whole architectural complex, the beginings of the perception of space according to the needs, habits of living and moods.

The periods are surveyed in a chronological order starting from ancient civilizations to the present. These periods include Ancient Egypt, Ancient Near East, Ancient Agean, Middle Ages, Roman, Renaissance, Baroque, Rococo and Neo-Classicism in the XVIII th century, Romanticism, Revivals and the XIX th century and finally the XX th century. This detailed study of architectural space history will be

analyzed according to some sub-titles such as architectural space conception, principles of design, form, color, pattern & texture, lighting, material & techniques, furniture, sculpture, painting & objects d'art.

The XX th Century Debacle which is the last section of the third chapter differs from its precedors which were history. How far this can be history is doubtful considering that it is the time where I came in and it is difficult to form a balanced judgement about one's own time. The section in which it is given a general explanation about the architectural space conception of the century is placed at the begining of that part. Then the survey continues under subtitiles of differing styles, isms, and attitudes each of which are studied under their own subtitles. The surveyed periods of XX th century include Eclecticism, Art Deco, Sweedish Modern, De Stijl, Functionalism, Bauhaus & Purism etc. Finally, the XX th Century Debacle ends up with a section which gives detailed information about the furniture design from World War II to the present.

The intention in the fourth chapter of the thesis is to design a public interior, nesting private spaces such as part of an urban hotel. The reason for choosing the hotel as a subject with its wide-scope is that it contains interrelated and independent public and private spaces having distinct characters in it. Moreover the public spaces of an urban hotel would have have social character because it would also serve for the inhabitants of the city. As a result the Rooftop Restaurant - Bar of Çankaya Hotel Convention and Shopping Center in Ankara which is under costruction has been chosen. The reasons leading to the selection of the site are explained in the first section of the chapter.

The fourth chapter continues with an analysis of Çankaya Hotel Convention & Shopping Center after which the general features affecting the design of a restaurant interior such as scope of design, interrelationships, expression in design, style, lighting & color etc. are examined. The chapter ends up with the concept, design principles and design features such as style, ceiling design & ventilation system, lighting design, etc. of the proposed interior.

In conclusion, all the points in the preceding chapters constitute the framework of the thesis which is concluded by a proposal for a restaurant - bar interior. At the end of all the theoretical research, with the aim of proving my point, the thesis ends up with a concrete solution.

CHAPTER 2

PRINCIPLES OF INTERIOR DESIGN

2. 1. General:

How did interior designers get to be interior designers in any period of history? In an article in the periodical called Interior Design, Micheal McCoy (1988) insists that the classical choice in interior design education has always been seen as the choice between educating a student in the skills of professional practice or developing his or her poetic vision as a designer. He concludes that clearly both sides have to be developed. At the same article Arnold Friedmann (1988) defines interior design as a profession and not as a form of art or as business. The same trouble of bringing together both the artistic (creative) and technical aspects is also valid for architectural education.

As a result, this chapter which is composed of two main parts contains both aesthetic and technical properties of interior design. The first part is about the design principles of interior space which are also valuable in architectural sense of design like concept, form, scale, unity, etc. This part also includes stylistic influences on the interior environment. The second part includes technical and practical knowledge about the elements used while planning an interior such as furniture, covering material, artificial lighting, etc.

2. 2. Principle Vocabulary Of Interior Design:

To design is to create an arrangement of parts that gives order and expression to an idea. Louis Kahn has suggested that the idea is the skeleton and the process of

development, design. In this process basic principles are applied in order to develop a system of "coordinated elements" suitable to the purpose or need. As a result design starts with an idea which reflects the desired effect.

"The first phase of any design process is the recognition of a problematic condition and the decision to find a solution to it. Design is above all a willful act a purposeful endeavor. Designers inevitably prefigure solutions to problems they are confronted with. The depth and range of their design vocabulary will affect both their perception of a problem and the shape of its solution." (Ching, 1979, p. 10).

There can be no interior without space. Space, in terms of interior design, can be defined as the area to be organized within enclosing forms. For best results the architect and the interior designer work together from the begining of the planning process. The design for the space should be based on an underlying concept, a central idea developed into a scheme according to which color and all the other elements are combined with the necessary furnishings to create an integrated whole.

The terms that are vocabulary of the designer does not offer a simple semantic interpretation of words. The concepts that are described by such words as "form" or "scale" have a very specific meaning to the designer, and must be clearly understood in relation to the total design process.

2. 2. 1. Form:

"Form is the arrangement of lines or planes so that they represent something, from a simple geometric shape, such as triangle, to an object of utility, such as desk or chair. Each view of an object may give a different impression of the lines or planes that form it." (Alexander, 1972, p. 47).

When we place a two dimensional shape on a piece of paper, it will articulate and influence the white space around it. Similarly, any three dimensional form will articulate the volume of space surrounding it and generate a field of influence or territory which it claims as its own.

"A successful design for any interior space requires forms that are not individually well designed, but that complement each other and are appropriate to the space and its function. Our perception is conditioned to recognize forms grouped in familiar patterns (Gestalts), and even the trained designer's first impression of an interior space is the total configuration rather then individual objects and surfaces within the space." (Friedmann et. al., 1976, p.43).

But in my opinion, since the sum of many isolated parts forms that total impression, it is essential that the individual forms relate to each other in order to create a cohesive and organised form as a whole.

The form of an object is its definite shape for a definite purpose. The statement, made by the American architect Louis Sullivan, "form follows function" should be recalled here. Form, even in an abstract or sculptural sense, is guided by underlying principles of design. But it is of great importance to keep in mind that an interior space is not an abstract object at all; rather it is a space created for a specific purpose. It is something created for the sake of a particular end and cause. On the other hand I agree with the opinion of Frank Lloyd Wright (1970) who claims that Sullivan's statement does not work and corrects it as "form and function are one".

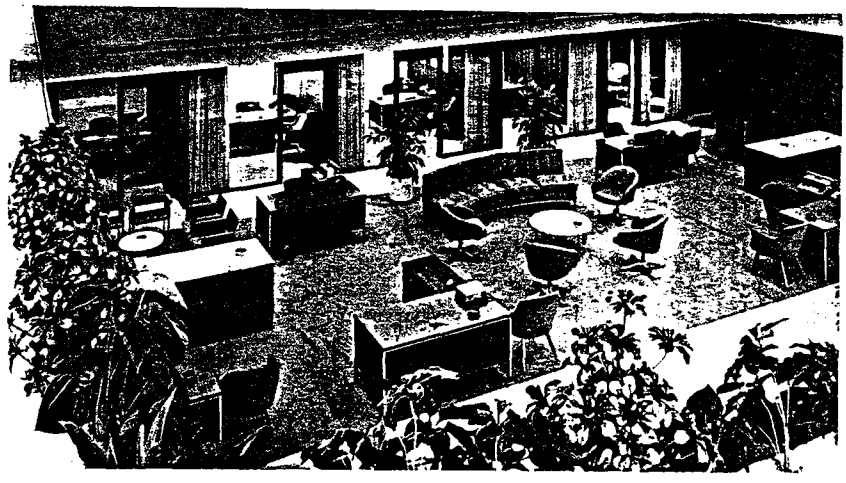


Fig. 2.1 An office interior.

"A question relating to form that is almost as basic as the question of function, is the pertinance of form to the material used." (Friedmann et. al., 1976, p.41).

A form can give an impression of heaviness or lightness depending on the material (and particularly the texture) from which it is made. For example the sofa at the (Fig. 2.1) at rug edge create a visual line in this office interior which, according to Savarasse (1989), gives a similar affect to the "Blue Velvet" sofa that was exhibited in the New York furniture fair. The change in the material used brings together the formal changes from the visual and tactile point of view. The difference is clear when the furniture shown in (Fig. 2.2) are compared to the previous example.

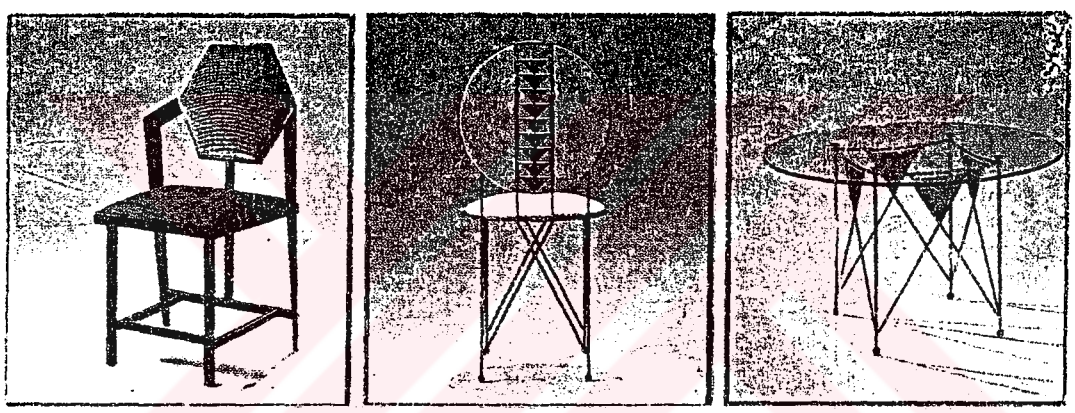


Fig. 2.2 Midway 1 chair. Midway 2 chair. Midway 3 table.

"In the literature of aesthetic philosophy there is probably no clear definition of form and beauty shared by all philosophers. There are, however, recurring criteria in referances to beauty, and some of these are universal in their application to sculpture, architecture, and interior architecture. The terms *order, organization, clarity, truth, and expressiveness* as used by aestheticians do not always mean precisely the same thing, but will define a form as a successful entity. It follows that a good form is not necessarily the most direct or simple one, although simplicity is indeed a frequent device for successful design." (Friedmann et. al., 1976, p. 43 - 44).

Form in architecture is not limited only by man's imagination. Technologically we can create just about any form. Interior form is usually limited by the architectural envelope, except in those buildings in which the architect works together with the interior designer from the begining. The important conclusion to be reached here is that criteria for judging form vary little from a single small object to a large building complex.

2. 2. 2. Scale & proportion:

Scale refers to size of objects in relation to each other and to the human body. Scale is usually concerned with objects. In the discussion of form it is concluded that good form has almost universal meaning in all aspects of our visual environments. However when scale is considered, there is a decided difference between architecture and interior design.

"Scale or appropriate scale implies the relationship of one object to other objects: be they buildings to buildings, or buildings to landscape. However no interior ever exists in isolation: its scale relationship to the building which encloses the space and its scale relationship to other interiors is allways present." (Friedmann et. al., 1976, p. 47).

The most important factor in discussing the scale of our environment is the human body. The quality and athmosphere of an interior is most strongly determined by its scale relationship to man. Our reaction to scale of a small house is quite different from our reaction to a large high rise building. A different situation is true in interiors familiar to inhabitants of large cities. The enormous length of underground passages, their narrow widths, and extremely low ceilings create physical discomfort. If it is understood the significiance of scale in all environment, to design the interiors in scale with the building in which they exist, and above all, to relate them to the scale of man, becomes a simple rule to adhere to.

"Proportion, closely related to scale, is the relationship of masses and areas of things quantitatively. Proportioning systems go beyond the functional and technical determinants of architectural form and space to provide an aesthetic rationale for their

dimensions. They can visually unify the multiplicity of elements in an architectural design by having all its parts belong to the same family of proportions. They can provide a sense of order in, and heighten the continuity of, a sequence of spaces. They can establish relationships between the exterior and interior elements of a building." (Ching, 1979, p.298).

Alexander (1972) insists that the notion of devising a system for design and communicating its means is common to all periods in history. According to him, the principles involved and their value to the designer remains the same. The golden section of the Greeks, consistently used as a rule for good proportion, postulates that two lines or areas are visually most effective together if the smaller is to the larger as the larger is to the whole. Le Corbusier's "Modular" concept (Fig. 2.3) sought to link this proportion with the avarage size of the human body and of its principle elements.

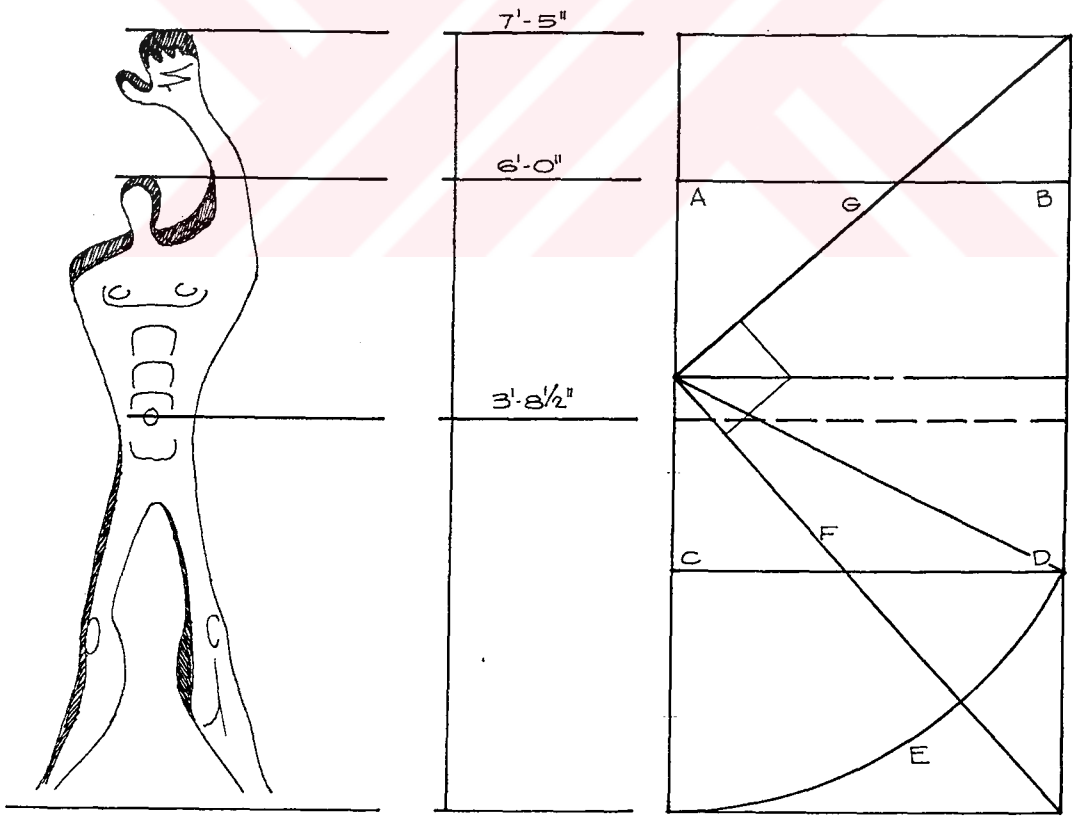


Fig. 2.3 Le Corbusier's modular concept .

Fig. 2.4 A contemporary foyer entrance.

"Extreme interest in a room can be achieved by the blending of large - scale and small - scale objects in a manner that satisfies the law of proportion. There can be a rythm and balance in this sort of planning. An interior in perfect proportion and scale is like a well coordinated ballet. In fact, the understanding and propper use of scale and proportion is the hallmark of perfection." (Pahlmann, 1968, p. 47).

2. 2. 3. Pattern & texture

Design, in the decorative sense is an artistic invention. Pattern, in the same sense, is an arrangement of designs and something that the eye follows. Alexaner (1972) defines pattern as a usually orderly arrangement of two or three dimensional ornaments. Motives may be natural, conventionalized, or abstract. Properly used

pattern is scaled to the design of the space, and its strength or quantity should not compete with the center of interest of the space.

Wallpaper, curtains, floor coverings, upholstery fabrics and some accessories are patterned. Ceilings and floors sometimes have patterns, and door frames and doors can have patterns painted on panels or moldings.

When choosing a pattern or a combination of patterns, it is necessary to think about the designs that form the patterns, the way the material is produced and the colors involved. Care must be shown in choosing all pictures and accessories in a room that employs striking patterns. The contemporary foyer entrance shown in (Fig. 2.4) has emphatic elements of pattern in the modern French tapestry, used as wall hanging, and the abstract painting. The simplicity of the background materials highlight the striking pattern of the ornamentation. The ancient carved wood figure is the center of interest of the space and illuminated by ceiling pinspot.

"Texture is the character of surface that is known primarily through touch and also has visual quality. Texture can be visually light or heavy, warm or cool, dense, open, regular, or irregular." (Alexander, 1972, p. 53).

Everything has texture but texture is a matter of degree or scale. While even the smoothest surface has texture, sometimes it has so little that one could only notice it under a magnifying glass. An equally important fact about textures is the reflection or absorbtion of light. Very smooth materials reflect light to the point of turning images while deep and heavy textures, especially if they happen to be dark colors, absorb light and distort it. Texture affects the appearance of color. Two materials of different textures dyed an identical color, will seem of different colors. The rough material absorbs the light , and its unevenness creates shadows that make it appear darker then the smooth. Another important consideration of texture is the sense of touch. Fabrics which appear quite similar from a few feet away may radically differ because of the sense of touch.

"Understanding the basic attributes of texture brings us to a closer understanding of our own reactions to varying textures. It is possible to gain diversity,

variety, and drama in an interior of one hue through the use of cotrasting textures. On the other hand an environment of too many and powerfull textures would be equally disturbing with an environment without variation. It is therefore the designer's chalenge to create textural effects that are well balanced in scale, and appropriate." (Day, 1968).

Mies van der Rohe's principle "less is more" can be an extremely useful principle to keep in mind in connection with textures in interiors. In my interpretation, the successful use of patern and texture in interiors is above all in the careful combination of differing patterns and textures for whatever uses and character the designer wishes to achieve.

2. 2. 4. Balance & Harmony

"Balance is the relation of parts that creates a sense of repose and of completion in a room. Balance may be axial, with parts organized on either side of an actual or implied axis, or radial, with parts organized around an actual or implied central point. Both kinds can be symmetrical or asymmetrical." (Alexander, 1972, p. 48).

Symmetrical balance gives a feeling of stability and permenance and is simple. Where casualness is desired, assymetrical design is usually more effective. It permits more personal expression and variety, and can create more exciting and dramatic effects. With it one large object can be balanced by a group of smaller ones, or a small, bright or dark object by a larger, soft or light colored one. Assymetrical balance allows for more freedom but demands more skill in its handling; it can be beautifully subtle when successful.

"Alexander Julian shop in Dallas designed by architects Elias Moser and William Goodwin maintains a sophisticated balance between order and chaos (Fig. 2.5, 2.6). It is a commentary on the fine line between order and chaos that functions no less smoothly for all its formal bravura. It is an overshifting focus between a whole of dissimilar pure forces." (Viladas, 1985).

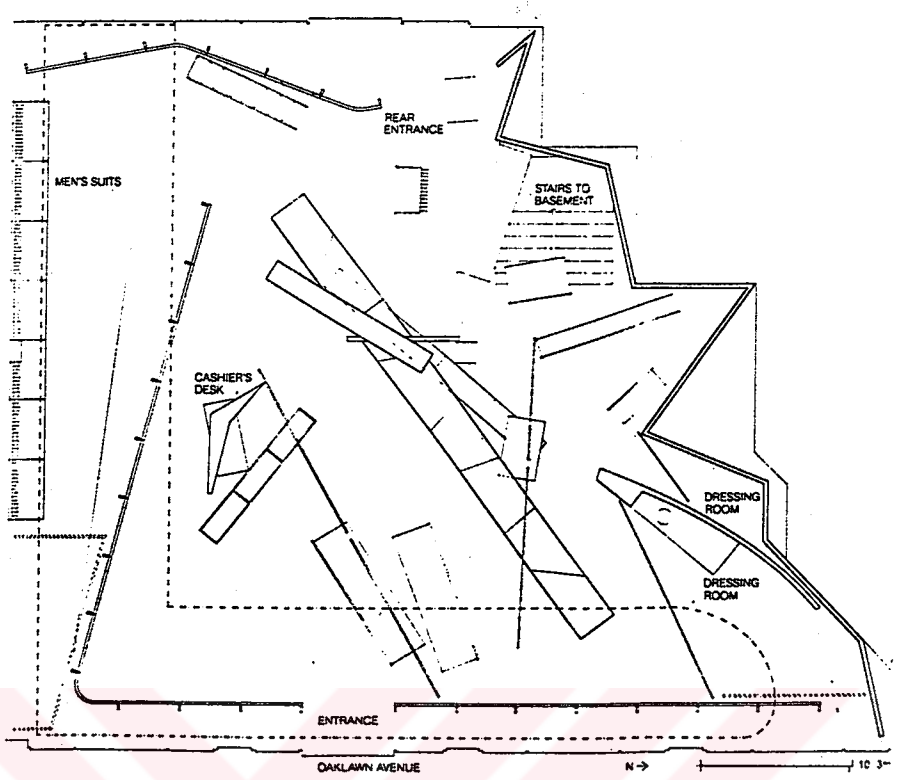


Fig. 2.5 A clothing store's plan , designed by PYT Inc.

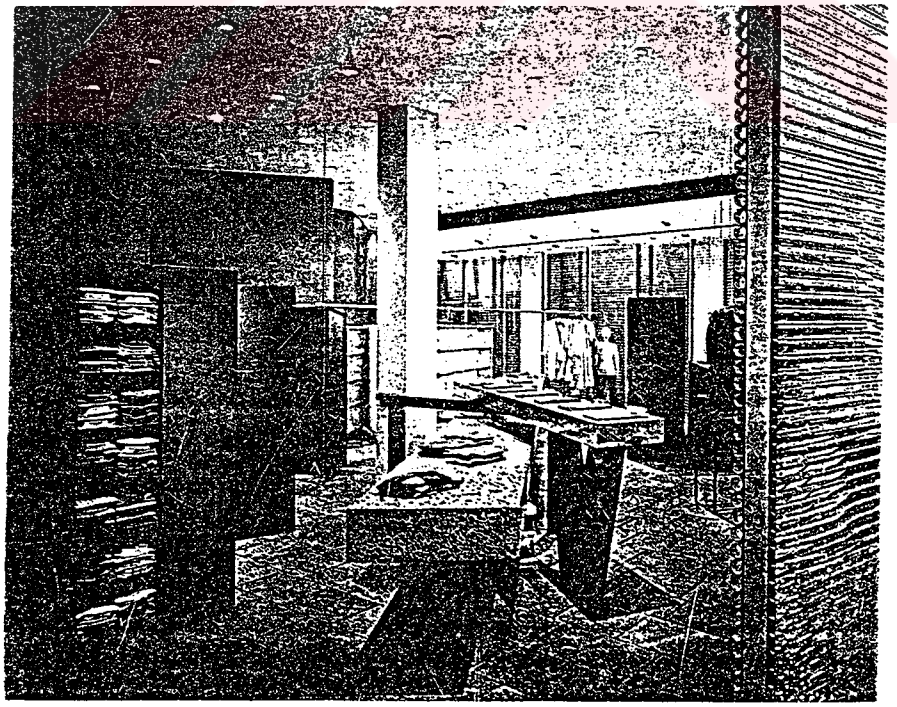


Fig. 2.6 A clothing store designed by PYT Inc.

Order without diversity can result in monotony or boredom; diversity without order can produce chaos. The ordering principles allow the diverse foms and spaces of a building to co - exist perceptually and conceptually within an ordered and unified whole.

2. 2. 5. Color & Light

Color is a quality of light reflected from an object to the human eye. It causes the different color cones of the retina to react, thus making visible color phenomena in the objects.

"When light falls upon an object, some of it is absorbed. That which is not absorbed is reflected, and the apparent color of an object depends upon the wave length of the light that it reflects. Certain useful generalities can be made about the optical and emotional effects of color. A main distinction is the one between colors that give a sense of warmth and those that give a sense of coolness.The warm hues shown are red, red - orange, orange, and yellow; the cool hues are green, green - blue, blue - violet, and violet. Warm colors seem produce in most people impulsiveness and a sense of excitement. Blood pressure and pulse in persons viewing warm colors tend to be higher than in those viewing cool colors, and attention goes outward. Cool hues seem to recede, and people generally react to them in a passive way. Green and blue offer the greatest sense of tranquility, and yellow, a sense of cheerfulness." (Alexander, 1972, p. 48).

Because of the optical illusion the apparent size and shape of areas can be varied according to the colors used. As a result scale and proportion should also be consulted when colors are chosen. If a room is big, dark walls will tend to make the size of the room contract. When the eye comes against a dark or strong shade, it pulls up short. Convesely light or pale shades on the wall can give a small room a feeling of space and airiness. Ceilings can be painted the same color as walls, but the height can be added to the ceiling by painting it a lighter color.

In the choice of color, a great deal depends on the use of the room. If rooms are illuminated by artificial light this enters into the color scheme. It should always be

tried out large swatches of color in a room when planning a scheme, both in day time and under artificial light.

"Light is an environmental factor that affects every human being. The color of any part of an interior or of an object in it can be understood only in terms of the kind of light that illuminates it. Without light there is no color." (Alexander, 1972, p. 86).

Moreover color can be one of the devices for achieving rhythmic effects through repitition or progression of hue, value, or intensity. In a similar manner emphasis and contrast can be produced by the use of color as unity.

"There are two things about lighting that everybody should know: (1) there ought to be plenty of light; (2) there ought to be a workable control of it. For office work or drafting strong and steady light is desirable. On the other hand, a space flooded with uniform light might be a good work environment, but is not necessarily a pleasant interior." (Pahlmann, 1968, p. 67).

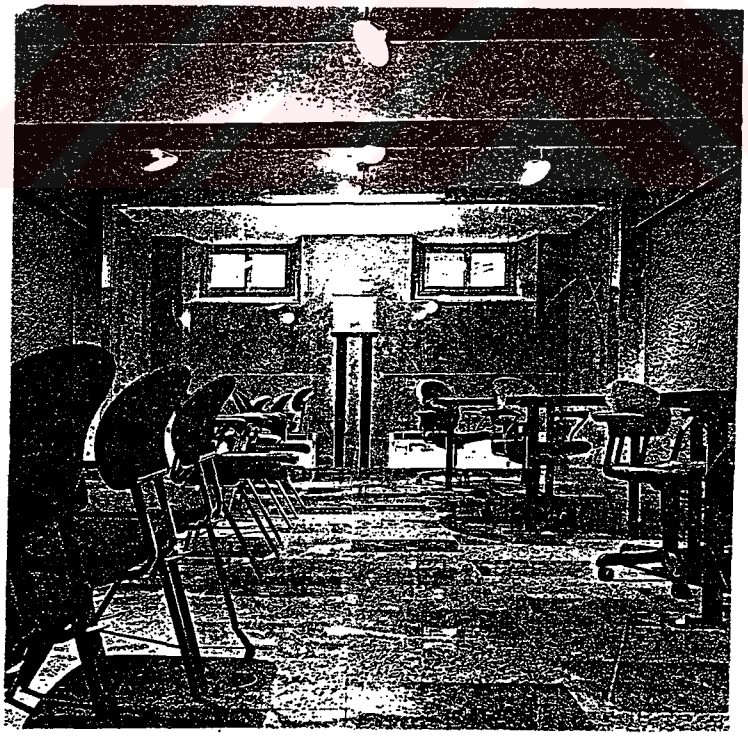


Fig. 2.7 Marcarte showroom, designed by King-Miranda Associatti.

One of the essential basic controls of light is the elimination of glare. Unlike the shape and form of a building interior, the quality of light inside a building is not a static component, and the designer must provide flexibility to meet changing needs and conditions.

"An example of such is the Marcatre showroom in Rome where an exciting impression is created by the designers. The two front windows of the facade are pulled back and between two, four columns are illuminated by a light box (Fig. 2.7)." (Viladas, P., 1985).

One of the considerations one must keep in mind in dealing with light and color is the character or the athmosphere of a space. Although much has been written about the psycology of color, and some serious experiments have been done on the effect of color and light on the inhabitants of interiors, no firm facts and guidelines are available to the designer as yet.

If there is a conclusion which can be drawn, it is that all phases and facets of design are important in relation to each other. No book of rules or dictionary on design should ever substitute for creativity. The successful integration of all aspects of design is precisely the function of the good designer.

2. 2. 6. Style:

Decoration is influenced by fashion and fashion sets in when the public imagination is captured by the taste of flair of a designer. Style refers to the expression of a particular era or culture such as the Gothic style, or a period of time such as the Victorian era.

"The influence of style has always been felt in all aspects of human thought and endeavor; the arts, the sciences, and literature have always developed among similar conceptional lines. In the broadest possible sense one might sum up the recent history of civilized man in a classification of three major eras. First was the age of idealism, typified by Greek classical thought and phillosophy. Second is the era starting with the early Renaissance which is classified as the age of realism. The third major era is

the present one, which might be called as the age of symbolism." (Friedmann et. al., 1976, p. 69).

"The kind of person who feels happy in the reproduction of the past may be suited by a period piece such as Blumenfeld's apartment in San Francisco (Fig. 2.8). In combining Neoclassical and Art Deco elements, the architect was able to give a sense of age to the apartment, which is located in a new building." (Drohojowska, H.,1988, pp.114)

Fig. 2.8 Nob Hill residence designed by Val Arnold.

Mentioning the mores of society brigs up the subject of fashion, which is quite different from style. In my interpretation architecture and interior design are based on

organic principles and not fashion. I believe in regional styles. Besides the further back we go in history, the more objective we can come in our evaluation and critical reaction.

In summary the knowledge of history is essential for the designer. A concious understanding of stylistic developments can be an important tool for the designer. But it must be strived to keep history and present apart, as clearly as creativity and imagination. A detailed historical survey of interior design on the theme of styles which is a complete subject in itself will be studied in the next chapter.

2. 3. Elements Of Interior Design:

The planning process has essentially four steps:

i. formuation of the program requirements, which is a clear statement of the problem or problems;

ii. a schematic, graphic representation of the requirements without regard for dimensions, but indicating proposed space relationships and traffic from space to space considered both functionally and aesthetically;

iii. the design development phase

iv. the final presentation

In this process basic principles are applied in order to develop a system of "coordinated elements" suitable to the purpose or need. Those elements are examined in detail in that part of the chapter.

2. 3. 1. Furniture

The central role of furniture in interior design is obvious. The architect and the designer tend to have a strong interest in furniture selection and design because they understand that furniture mediates between the building and the individual.

Changes in design concepts and the many new kinds of furniture have brought about a great variety of new manifacturing techniques. In general these techniques are associated specifically with the materials used: wood, rattan, metal, plastic, and the

various cushioning materials or coverings - fabric, leather, or plastic. Although no one material is best for all furniture the most commonly used is wood.

"Wood has greater range of pattern and color than almost any other material. There are as many ways to arrange and match veneer as there are ways to cut it. Someone in the industry recently estimated that, combining the various species and cuts of wood over 80 million different options exist for the treatment of wood." (Fisher, 1985).

"Each kind of furniture wood - solid plywood and veneered has its own suitability: solid wood for structural parts and areas that are to be carved, plywood for its great strength relative to weight, and veneers where matching of grains is desired. Thonet, the first furniture designer to employ systems of mass production developed systems of bending many layers of veneer (Fig. 2.9) and all contemporary furniture of bentwood or plywood has been developped from these early manifacturing techniques." (Whiton, 1974, p. 401).

Fig. 2.9 Gebrüder Thonet, Vienna cafe chair,1876. Armchair,1870. Bent beechwood.

Plastics have been in use for some time for upholstery coverings, in table tops, and as cushioning material. They are also combined with wood for greater strength and wearibility. Both Charles Eames and Eero Saarinen explored the use of glass - fiber reinforced plastics. The resulting chairs of both designers have become widely known and almost seem to symbolize the concept of futurism in architecture (Fig. 2.10). Glass reinforced plastic is an ideal furniture material because of its strength, but molding it requires expensive tools. Other ways of using plastics in furniture that do not require costly tooling include heat - foaming of flat sheets of acrylic and heat sealing of thin plastic membranes (Fig. 2.11).

Metal is used in furniture of all kinds. Techniques for shaping tubing, metal rods, and wire, and agents for bonding metal to wood, glass and plastics have made possible new and exciting pieces of furniture.

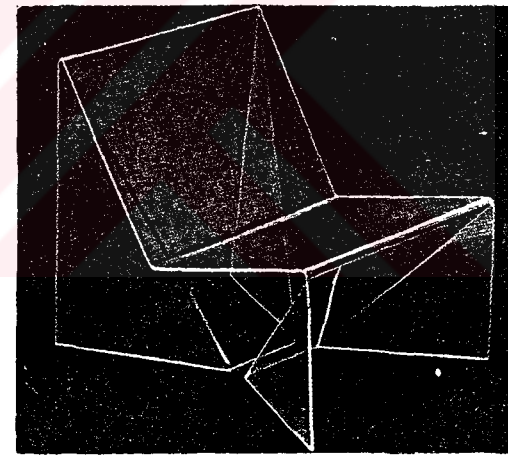


Fig.2.10 Armchair designed by Charles Eames. Fig.2.11 Chair designed by Neal Smal

It is easy to agree that all furniture should be functional, confortable, durable, and of appropriate character and scale for a particular situation, but each situation turn out to have subtle differences that make the selection of the best object for it a complex matter. Comfort, for example, turns out to be a complicated criterion being a variable thing in different situations. Durability is also a desirable characteristic, but

means something different in an executive office or an avarage home. Character and scale are other criterions of such. Finally it is necessary for a designer to have a sense of appropriateness concerning materials and finishes.

"Comfort, scale, character, and the sense of materials and finishes are the subtle values that determine how a piece of furniture will fit into a particular situation. The ability to judge such relationships on the basis of mental visualization is one of the special skills that every designer needs to cultivate." (Friedmann et. al., 1976, p. 217-8).

2. 3. 2. Materials - textiles, floor coverings, wall coverings:

The interior designer must be familiar with the intrinsic practical values of materials, and at the same time have the sesitivity, taste, and aesthetic judgement to select the most appropriate material for the job. The purpose of this part is in a way an extension of the previous studies on form, texture, scale. These are the design criteria that must be applied for the selection of materials for the success of the total interior. The factors of suitability of materials in terms of wearibility and maintenance also bears close watching. Another general consideration should be the suitability of materials in terms of the use of a space and its intended athmosphere or mood.

"Most interior designers analyze the function of a space, decide together with the client the character most appropriate, and keep this image in mind when they set out to plan and design the interior. Even with a fairly clear aim towards color and material, the designer cannot simply describe and specify a particular floor covering, wall sufacing, or fabric. For every material needed, a number of alternate materials are studied and collected." (Friedmann et. al., 1976, p. 235).

Textiles:

Textiles are the most versatile and effective medium for introducing texture, color, and pattern into any type of interior. Understanding how to choose and specify a textile is essential. In a very general way there are three major aspects to textiles that

determine their appearance and suitability for a particular interior use. The designer is concerned with the *fiber* content, the *weave*, and the *pattern*.

"Whether or not a textile is durable, or easy to maitain, depends on the type of fiber used. Fibers can be classified as natural and manmade (synthetic). The key natural fibers are cotton, wool, linen, and silk. Silk, long considered the finest fiber, has historically been a kind of "gold standard" for fabrics. It is practicle in many different weaves and textures for curtains, upholstery, and wall coverings. However it does not stand well to direct sunlight and requires more care than most other fabrics." (Alexander, 1972, p. 148 - 9).

"An equally important fiber, wool comes from the fleece of sheep. Hair from other animals are treated as a textile wool. Wool fibers are springy, resilient, soft, kinky, and extremely durable. This fiber makes a beatiful textile for casements and for upholstery. Both cotton and linen are made from vegetable fibers. They are both durable and pliable. They are used more for curtain material." (Whiton, 1974, p. 526 - 7).

Manmade fibers today bound under a large variety of trade names and new synthetics are continuously being developped. In their generic families these synthetic fibers fall into the follwing categories: Glass fibers (fiberglass) fabrics are easy to care for, fireproof, and inexpensive. The fibers take dye well, and numerous glass textiles are printed with bright, colorful patterns. In spite of the fact that many weaves and patterns are made in it to resemble cotton, linens, or silk, the touch or "hand" of fiberglass fabrics is quite different from other materials, and is somewhat unpleasant.

Acetate is made in both sheer and heavy fabrics and hangs very well, but is difficult to dye. Acrylic is something like wool in appearance and feel and modified acrylics are called modacrylics. Nylon is a strong fiber with heard - wearing qualities. *Polyester* fiber is used widely in home furnishings industry and it can be used blended with cotton, wool, rayon, and nylon. Rayon which is originally intended as a substitute for other materials now stands on its own as a beautiful and useful fabric.

"Weaving is an ancient art. Basically weaves can be classified into three general types: plain weaves, which include plane and basket weaves; floating weaves, which include twill and satin weaves; and pile weaves, which include both cut and uncut weaves. The pattern of the textiles, especially in twentieth - century terms, is frequently the indigenous pattern created by the weave of the fabric." (Friedmann, 1976, p. 224).

It is not possible to state an easy rule for the selection and specification of fabrics, and the foregoing discussion of textiles can best provide criteria based on function of fabrics. The designer who selects fabric based on aesthetic consideration alone does only half a job. Each job requires different treatment, depending on both aesthetic considerations and practicle ones (reflecting the use which the space was intended).The sesitivity must be suplemented with a considerable knowledge of the availability of the products on the market.

Floor Coverings:

In best approaches to interior design, the specification of flooring is considered in the planning and therefore is not limited to the cosmetic surfacing of existing structural floors. With sufficient knowledge even an existing building can be redesigned for the instalation of floors ranging from slate or marble to terazzo or quarry tile.

Flooring is generally of three kinds: natural materials (hard flooring) such as wood, brick, tile, stone, or concrete; resilient flooring mainly vinyl, asbestos, asphalt, and other tile or sheet goods; and carpet. Besides the obvious advantage of being softer to walk on and providing a feeling of luxury, carpet minimizes or eliminates noise problems with its acoustical properties. On the other hand the effect of enlarging a small room can be obtained by using no carpet but keeping it well-waxed and shining.

"The most expensive rugs are the handknotted "oriental" rugs originating from the Middle East. Among the most popular materials used for the manifacture of carpeting are the acrylics, nylons, polyesters, and a number of other synthetics the

quality of which compared to wool would be poor. The looped carpets are quite popular since they are strong and easily maintained." (Friedmann et. al., 1976, p. 227 - 9).

Linoleum which is one of several types of resilient floor coverings is easy to maintaine and fairly durable. Solid vinyl tile is pressed, polished tile that is used frequently in residential, institutional, and commercial installations. Cork is the only natural material in this group of resilient floor coverings. Asphalt tile is the most widely used resilient flooring simply because it is least expensive.

"In spite of all the innovations in flooring materials, wood floor which is a kind of hard flooring (natural materials) is still in the majority. There are many new woods and many ways of laying them like parquet floors that are laid in mastic. Marble as another kind in that group, is durable and does not stain or spot easily." (Pahlmann, 1968, p. 78).

The selection and specification of flooring materials is one of the aspects of interior design requiring a fair amount of technical knowledge and practicle experience.

Wall Coverings:

Many buildings today, even some rather elegant structures, use concrete in its natural texture showing the formwork left by wooden forms as a conscious expression of the material an example of which is our faculty building. Twentieth century designers are very much aware of the honesty of materials and are concerned in expressing these materials.

The material most readily associated with wall coverings for interiors is of course wallpaper. There are a number of wallpapers which serve a specific purpose and which have some intrinsic qualities of their own. These are the textured papers often made from natural materials such as Oriental grasscloth and shiki silk papers. They also have acoustical properties and warmth through their indigenous textures. Plastic coated or vinyl wallpapers are useful wall coverings in kitchens and

bathrooms. They are washable and they stand up better than painted sufaces to steam and hot water or to grease from cooking. Vinyl - coated fabrics are highly appropriate for use in building corridors, in all high traffic areas, in hospitals (they are completely washable), and in hotels. There is practically no limit to the materials that might be used for wall coverings; leather, metallic materials, or any number of plastic laminates have all been used for certain special purpose interiors.

Paint is the least expensive and easiest to apply material for use on walls, and can be mixed to match other surfaces. Paints are of three kinds - flat, semigloss, and gloss. Flat paints usually will not be washable, but gloss, semigloss, and dull enamels have a hard enough surface to withstand modern cleaning products. Gloss paint reflects the most light.

An understanding of each individual material is important but it is not sufficient for an interior designer. What is important to the designer is the combination of all the many parts and components into a cohesive whole.

If a rule must be given, maybe one should remember the famous quotation from Mies van der Rohe, used earlier in the chapter: "Less is more". Too often a job can be ruined by too many materials, too many textures, and too many colors, even if all the materials used are in some way cohesive. One of the hardest achievements is to know where to use restraint and where to stop.

2. 3. 3. Lighting:

"There are three major aspects to lighting: function, aesthetics, and health. In spite of the adaptibility of human eye to varying conditions, illuminating engineers have determined the optimum conditions for a variety of tasks. General office work, for example, should be 100 footcandles on the task; reading, 60 footcandles; and general level in passage areas such as escalators and stairs should be 20 footcandles. The footcandle level express the quantity of light, but the designer must be equally concerned with the quality of light." (Friedmann, 1976, p. 237 - 9).

"As a kind of light of basic systems direct light produces glare if the units are not properly spaced or shielded. Indirect light is secondary light reflected from another suface. The diffuse quality of indirect light minimizes shadows and reflected glare. It is softer, less dramatic than direct light, and can be used for general illumination. Direct - indirect or general diffuse light uses both direct and indirect light distributed evenly in all directions. In semi - direct arrangements, 60 - 90 percent of the light is directed down to the work surface, with a small amount directed upward." (Alexander, 1972, p. 90 - 92).

One of the most important attributes of light is its effect on color. In interiors, we use two basic types of lighting: Incandescent (or tungsten) light is somewhat redder than daylight, but all the colors of the spectrum are present. Fluorescent light has an uneven spectrum so that colors appear somewhat distorted.

Whether the mixture of incandescents and fluorescents, of direct and indirect depends upon the effect the designer wishes to achieve. The aspect of lighting design that is primarily up to the interior designer and architect is the character of the space that he intends. Lighting can be just adequate and functional; it can also be exciting, sparkling, and dramatic. A further consideration is the use of color - and its reflective value - on walls and surfaces. Moreover the proper design of lighting involves not just consideration of the space and its objects, consideration of the human occupants. The psychological need for variety is also evident in lighting.

"The term portable lamps refer to all movable lighting devices such as desk lamps, reading lamps, and table lamps, and includes also wall lamps or wall brackets. Since they are used for many seing tasks the quantity of their light should be controlled through variable switching. It should be located so that it is shielded from the observer's eyes while directly illuminating the seeing task." (Whiton, 1974, p. 496).

All interiors are used approximately half the time with dependence on artificial lighting. Lighting, apart from its functional and physciological aspects, is largely responsible for the particular mood in an interior. The design of interior is anything but a matter of mood and it is a subject of prime importance in any manmade space.

Both architecture and interior design are not independent processes in themselves. They are so closely related that they become as a continuity of each other.

The aim of that chapter of the thesis is to give a brief explanation on the interior design process from the viewpoints of aesthetic and technical properties and form a base source for the subject of interior design.

In my interpretation, any kind of design process, whether for the architect, industrial designer or interior designer, includes the same principles. Next, as those basic principles, which tried to be pointed out in that part of the thesis, are evaluated specifically on the subject of interior design the need for the detailed knowledge comes out.

By taking the knowledge given here as a base it is aimed to make a more detailed study on interior design which will form the last section of my master study; A proposal for an interior. Under the light of principles pointed out, a study on a specialized branch of interior (such as a public space) architecture would add much on that base.

CHAPTER 3

HISTORICAL SURVEY

3. 1. General:

Throughout the thesis it is insisted upon the importance of stylistic influences in the design of interiors. It is claimed that, as it was mentioned before, in the design of an interior the most affective point is style and every well designed interior belongs to a style or a mixture of styles. When it is looked at the past with a critical eye it is possible to understand what is right for a particular style and what is not. As a result the knowledge of history and a concious understanding of stylistic developments is essential for the designer so that it would be possible to make a successful design in the light of that knowledge.

After giving a brief information on the subject of interior design in the second chapter which was a kind of introduction to subject of interior design, in this chapter it is intended to make a historical & theoratical survey of styles through ages. The survey is made in a chronological order starting from ancient civilizations to the present. Each period will be analyzed under subtitles such as architectural space conception, principles of design, form, color etc.

3. 2. Ancient Egypt:

3. 2. 1. Principles of design:

Egypt has a simple and regular arrangement of geographical structure. Egyptian man was aware of the natural structure of his country and he employed planning and architecture to complete and articulate the natural structure.

Order and consistency indicate the basic aim of Egyptian architecture. Axiality is a distinguishing phenomenon in it. Although it implies a direction, Egyptian axiality, however is always enclosed; it symbolizes external state of affairs. Orthogonal and axial organization were used to create a constant externally valid environment.

The Egyptians never showed great interest in the elaboration of enclosed interior space. There was an obvious tendency toward the creation of larger interior spaces, but the time of the freestanding supporting column has not yet arrived.

"Egyptian decoration never threatens the integrity of the general form and usually it enhances the crystalline quality of the plastic elements, but it may also give the individual building a certain particular flavour." (Norberg-Schulz, 1980, p. 7).

The outstanding feature of the religion of the Egyptians was their strong belief in continuation of life after death. This belief is the symbolization of eternal order. Tombs and mortuary temples were the primary buildings of ancient Egypt. The way they organised space was a realistic but highly imaginative interpretation in spatial terms of the basic existential facts of their world. Egyptian man was eternally on his way and forever immobile. This point is represented by the great megalithic monuments which symbolize a whole society in an analoque situation.

"More then two thousand years have elapsed since the end of Egyptian culture, but it can still be moved by its fundamental themes: the themes of place of belonging and path of life, of being and time." (Norberg-Schulz, 1980, p. 20).

Egyptian Architecture's formal language is primarily based on plastic relationships. The way they handled interior structure expresses the idea that Egyptian man was always on his way. His space became a stage for eternal wondering.

"It is certainly true that Egyptian architecture does not pocess embracing interior spaces, but this does not mean that the Egyptian suffered from spatiofobia. The basic wish for enclosure stems from the experience of a need for an inside but the Egyptians did not dwell in the space thereby created." (Giedeon, 1962, p. 352).

Representing an object by drawing its outline is almost a natural guesture (outline). The origin of the procedure lies in Aurignacian art. The representation of an object by its outline has persisted through all periods inluding the present. Symbolizing that idea, the sunken reliefs are developed to perfection by Egyptian art.

"The common characteristic of primeval and Egyptian reliefs is that both were sunk into the stone... A part of the rock surface remains untouched, so that animals appear to live within the rock itself... In Egypt the sunken relief changes without relinguishing its basic principle. Rock walls are replaced by plane surfaces, but these polished walls are treated in the same manner as the rough structure of the rock." (Giedeon, 1962, p. 382).

3. 2. 2. Form:

The fundamental invention of Egyptian art was the discovery of the possibilities of expression inherent in plane surfaces. This is valid for the whole of art: architecture, painting and sculpture. Through the use of this abstract element (plane surface) with the utmost restraint, the highest form of expression was achieved. The pyramids of the Fourth Dynasty and the oblisks and pylons of the New Kingdom present the discovery of the surface. Sculpture also came under the rule of the plane surface. Its three dimensionality was reduced to utmost. The surface and projection onto the surface is also a feature of Egyptian painting.

"The buildings of ancient Egypt were most impressive constructions in the history of architecture. They had megalithic masses and precise forms. The pyramid was regarded as the typical manifestation of Egyptian Architecture. Its balanced form, appearing as a synthesis of vertical and horizontal forces and its incomparably massive and solid contruction seem to embody a constant eternal order." (Michalowski, p. 31).

3. 2. 3. Color:

The glowing freshness exhibited by the colors of both primeval times and of Egypt comes from the use of the same imperishable materials: earth colors, giving

yellow, brown and redish hues. The ocher, symbolizing blood, was used with its redish pigment. Black was obtained from carbon. With the discovery of copper and its oxidation new hues came into the color scale. The intense blue and malachite green was exercised.

"The blue which looks so luminous in pictures and the intensity of which has never been attained consisted of a crystalline compound of silica, copper and calsium." (Lucas, 1948, p. 392). "These imperishable, radiant colors and the avoidance of shadows expressed fully the optimistic nature of the Egyptians." (Giedeon, 1962, p. 166).

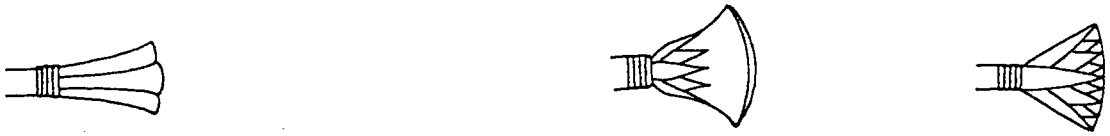
In the simplest mud brick houses of ancient Egypt decoration developed no further than the functional minimum of the white-washed or color-washed finish still common in many mediteranean villages.

"For the well-ordered houses of the wealthier, planned as suites of rooms round open courts, painted panels decorated the walls, composed of the motives we recognise as typically Egyptian - the rosette, palmette, papyrus, lotus bud and flower. Coiled spirals and chequer patterns enclosed the panels and in spite of general stylization a skill in the use of color and an appreciation of line bring to life the fragments which remain." (Denby, 1963, p. 19).

3. 2. 4. Pattern & texture:

Palm, papirus, and lotus flowers were used as furniture ornament. As a general rule the terminals which appear on chairs, stools and beds derive from the open papyrus flower or from the lotus flower. The use of palm as a furniture element, however was less popular (Fig. 3.1). Ebony cobras decorated with tiny silver rings placed on foot-board and the head of the lion above foreleg. The motives of the bound plants symbolizing the upper and lower Egypt were used extensively on the chairs and thrones.

Another form of stool, very popular in this period, has crossed supports terminating in carved and ivory-inlaid duch-heads, their bills grasping cras-bars which rest on the floor. Hierogliphs and inscriptions were used as furniture ornaments.



Palm Papyrus Lotus

Fig. 3.1 Furniture ornaments in Ancient Egypt.

"The repetitive pattern of symbols such as ankh, was, djed and neb, unlike the acanthus leaf or honeysuckle flower in Greece, which were purely ornamental, had great magical significcance for the Egyptians, and the chief purpose of these hierogliphs was to ensure the well being of the departed in his afterlife." (Baker, 1965, p. 93).

3. 2. 5. Material & techniques:

The materials used by craftsman are mud, stone, wood and metal. The range of furniture and utensils found in tombs indicates considerable luxury, elegance and sophistication among the rulling classes. Numerous small and convenient household objects were made of metals or pottery.

"The fine pleated white linen robes which were usually worn show that textiles were of high quality and undoubtedly fabrics were used to some extend in furnishings. Wood was inlaid with ivory and semi-precious stones and ornamented with gold and silver for the richer pieces of furniture, but the craftsmen also knew how to sham with imitation wood staining and painted granite efects." (Denby, 1963, p. 19).

Egyptians had a high degree of technical ability which seems to have outshown their originality and inventiveness. Certain continuent elements of primeval continue to live on . The continuity comes to light when one probes into methods of representation. But the process changed to meet a new requirement: polished stone surface instead of the rough rock face. The reason why Egyptian man was bound to stone is their desire for external duration. The stone vases of the Predynastic period

and of the First Dynasty remain unsurpassed to this day for the beauty and variety of their form. They used the hardest of stones: syenite, diorite, basalt.

"A longing for an eternal material was always present in the inner feelings of the Egyptians, and the use of stone went back into their prehistory, the Predynastic period. Stone vassels - jars, bowls, vases of the hardest rock, such as basalt, porphyrite and diorite - have been found in prehistoric graves and had already reached their highest perfection in the First Dynasty." (Giedeon, 1962, p. 264).

Sheated metal was used for covering the bottom of the legs. Ivory and wood were used extensively as materials of supports for furnitures. Legs made of wood were more common.

3. 2. 6. Furniture & furnishings:

The Egyptians had many contributions to the civilization in furniture design and contruction techniques. There was a considerable variety and richness in articulation and detailing.

The early beginings of furniture in Egypt are much more ancient than was previously suspected. The survival of this early furniture is due to the climate and Egyptian's firm belief in continuation of life after death. Bull's leg and lion's leg having a religious significance were used as support for furnitures. Except for beds, no wooden furniture has survived complete from the early periods.

Stone was used extensively for table making in the Early Dynastic Period. The pedestal offering tables with a top rounded at one end supported three round legs were made up of stone.

The furnishings in a fine Egyptian home were represented in extraordinary paintings, there were also brilliant wall hangings, vassels of various sorts. The panelled palace facades represented on First Dynasty royal stelae indicate that the king's residence was an imposing structure even at that early age and it no doubt contained more and finer furniture than the home of a private person. Stools were used not only in the home, but also in the work shop.

"Plant motifs were also used because of the wish to give every aspect of life an absolute eternal form." (Norberg-Schulz, 1980, p. 9).

During the New Kingdom, Egypt had reached the highest of her power and prosperity. The Egyptian kings increased contacts with Agean Islands and spread the Egyptian influence throughout the ancient world.

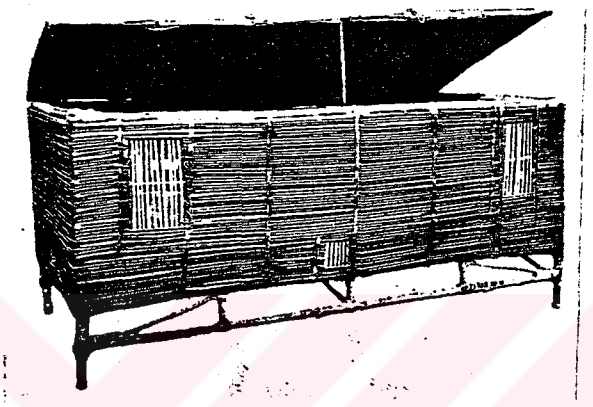


Fig. 3.2 Wig box made of papirus and reed. 18th Dynasty.

Fig. 3.3 Shrine -shaped storage chests with painting simulating inlay. 18th Dynasty.

"The real and papyrus chests are the ancestors of reed furniture of today (Fig. 3.2, 3.3). The general construction of the chest and the wrapping of joints between the stretchers and the legs of the chest anticipate the methods used in the making of reed and cane furniture at the present time. The little openings in the sides resemble the barred windows of a house and give the chest an architectural look - a popular

device of Egyptian cabinet-makers, who often designed chests with sides resembling the facades of houses." (Baker, 1965, p. 69).

3. 2. 7. Lighting:

Hot climate with its brilliant sunshine contributed to simplicity in design; for as sufficiant light reached the interior of temples through doors and roof slits, there was no real need for windows, and thus unbroken massive walls not only protected the interior form the fierce heat of the sun, but also provided an uninterrupted surface for hyeroglyphics or pictorial representations of religious ritual, historic and daily events.

3. 2. 8. Sculpture, painting & objects d'art:

In Egypt, certain contituent elements of primeval art continue to live on. The continuity comes to light when one goes into the methods of representation refering to the stress upon outline and hollowing-out of reliefs.

The sunken relief operates as a light-character. It first appeared in the half-dark chambers of the Old Kingdom. By the Middle Kingdom the sunken relief with its sharp edges was allready fully developed. The full development of Egyptian sunken relief came about in the great building undertakings of the New Kingdom. The sunken relief was never abondened in Egyptian architecture not even in the Late Period and Roman times.

"In Western European Art one would expect such a budding, sprinkle period to grow toward the sculptutal and Baroque. Nothing of the sort occured in Egypt. The new Kingdom flat reliefs became, if anything, even more delicate and gracefull." (Giedeon, 1962, p. 159).

The sunken relief has been used in the twentieth century by Le Corbusier in his Unites d'Habitation at Marseilles and Nantes. On their outer walls he has hollowed out reliefs which live within their concrete surfaces.

"Of the different kinds of relief - sunken, low, and high - only the delicate low relief and the sunken relief respect the plane surface. This is especially true of the

sunken relief which, as in prehistory, always lies dormant within stone. When, after a long development, sunken reliefs covered the gigantic surfaces of Egyptian temple walls, their interconnection with the stone achieved a complete unity with architecture." (Giedeon, 1962, p. 159).

3. 3. Ancient Near East:

3. 3. 1. Principles of design:

The Ancient Near East (as the term is used here) includes Asia Minor (Western Asia), Syria, Palestine, and Persia, as well as Mesopotamian plane. These had individual rulers who were frequently in fight with each other unlike the Egyptians who were united under the rule of a single king starting from the First Dynasty. Yet, there is a considerable continuity in the development of Mesopotamian design over a long period of time. Mesopotamian design history starts with Old Babylonian period, and finally ends up with the Assyrian, Neo-Babylonian and Persian period.

The early history of civilization in the Near East begins at about the same time as that of Egypt, possibly even earlier. But unlike the Early Dynastic period in Egypt, what remains from Early Dynastic Mesopotamian furniture is limited to a few fragments of ornamentation. Furniture used to be placed in the tombs of important persons. In Egypt tombs used to be constructed by masonry, however in Mesopotamia mud brick which is a less permenant material is used. Another reason for why no furniture survived from the ancient Mesopotamia is the difference in climate and natural environment where heavy annual rains brought about dampness that caused the disintegration of the contents of materials.

"...Fortunately, however, our knowledge of ancient furniture in this area is not dependent on the few fragments that have survived. Even though actual examples of furniture are lacking, we have a vast number of representations of furniture in Mesopotamian seals and sculptures." (Baker, 1965, p. 159).

Giedeon (1962) believes that Mesopotamia is the birth place of architecture.

"In early Mesopotamian temple buildings, a curious phenomenon can be observed that it stands in contrast to the later development of both the archaic high civilizations. This is the care taken in shaping the interior space of the shrine. It is as if we stood at the origin of the space development which set in some millenniums later with the Pantheon in Rome, and which still continues today: the molding of interior space." (Giedeon, 1962, p. 176).

How did this early trend toward forming a temple by hollowing out its interior space and giving access to the ordinary people arise? Why was it interrupted and cut short? With the rise of the first empires the priest king came between the man and god bringing about the diminishing access to the deity. As a result the shaping of the interior space had become meaningless and an architecture developing from the formation of interior space dwindled away.

"From the ground plan of Sumerian temples it is quite clear that in this early period the faithfull had direct access to the altar and to the entire interior. The earliest temple contained an offering table or altar. It was only much later, after the anthromorphic gods were installed, that an image of god was placed at the farthest end. The architectural model for the earliest temple was the newly developed blocklike dwelling house..." (Giedeon, 1962, p. 177).

In Mesopotamia buildings of all types arranged around large and small courts, the rooms were narrow and thick walled, carrying brick barrel vaults and sometimes domes. The roofs were usually flat outside.

"The zigurats associated with the chief temples, which rose tower-like in diminishing terraces to a crowning upper temple or shrine, had their angles towards the cardinal points, unlike Egyptian pyramids whose sides were so placed. Mesopotamian buildings were designed for both interior and exterior effect, contrasting with the Egyptian temples which, apart from the frontal pylons were wholly plain outside." (Fletcher, 1961, p. 85).

Columns are rare, because of the desire to stone, in earlier Mesopotamian architecture. The Persians, on the contrary, used columns extensively, wide spaced

and comperatively slender as they had only to support the timber and clay roofs, instead of ponderous stone beams and slabs as in Egypt.

The origins of monumental architecture are rooted in abstraction. This can explain the organization and division of interior space. Both the articulation of the temple walls and the surface decoration of pottery vessels testify to this, as can be observed from any random fragment.

"Pottery was not a model for architecture, nor was architecture a model for pottery. The basis and background for both embraced a common conception: abstraction and symbolism." (Giedeon, 1962, p. 201).

The first appearance of the man-made temple is synonymous with the appearance of monumentality in architecture. The age-old yearning to establish contact with invisible forces was, for the firs time, given an architectural form.

3. 3. 2. Form:

In Mesopotamia, the end product of an immeasurably long development was the rectangular house with rectangular ground plan and upright, rectangular walls. Upright walls, meeting each other at right angles became the standard elelments of a house. The precise parallelpiped form of brick arose from the demands of abstraction, rationalized under the spell of the vertical. Vertical walls composed of rectangular bricks formed large plane sufaces.

The form of ziggurat - a tower composed of a series of stepped terraces with a temple on its summit - held good throughout Mesopotamian history.

"The actual form of the ziggurat was rather different in its early stages in the prehistoric period from its classic development around 2000 B.C., though its series of superimposed, receding steps remained constant... When the ziggurat achieved its classic form, all this vanished. Supplies needed for the temple community were then housed elsewhere." (Giedeon, 1962, p. 220-1).

3. 3. 3. Color:

"The Assyrians used as their chief form of mural decoration stone dado-slabs with relief carving which shows an extraordinary refinement of treatment... Pavement slabs with patternsderived from carpets, comprise bands of rosettes, palmettes and lotus buds, demonstrating the influence of Egypt, just as do similar patterns found in Greek art. The Assyrians were also skilled craftsmen in bronze. Flanking the entrances to palaces were guardian, sculptured monsters, partly built into the walls. The invention in Egypt of polychrome glazing was turned to account by the Assyrians in the 11th century B.C. in the form of enamelled bricks, blue, white, yellow and green, used as a form of mural art." (Fletcher, 1961, p. 86-7).

Colored ceramic tiles from Babylonian palaces simulate earlier tapestry wall hangings. A religious significiance is attached to the colors used at the entrances which are bright in colors intended to scare away devils or spirits from the dwelling.

There is an indication of the particular genious of the Persians for ceramic work in the blue, green and yellow of the colored brickwork. This later became one of the important influences in decoration and ornament from India to Western Europe.

3. 3. 4. Pattern & Texture:

"The walls of the early Mesopotamian temples, both inside and outside, were treated as a sequence of recessed panels. Their parallel vertical ridges gave the wall surface a pattern of light and shadow and that plasticity so beloved of the people of Mesopotamia both in the south and in the north." (Giedeon, 1962, p. 464).

In the friezes usually war-like action was portreyed. Stylized plant motives also played their part and stone paving slabs display the lotus bud and flower as well as rosettes and palmettes. Those stone dado-slabs used by Assyrians as the chief form of mural decoration, show an extraordinary refinement of treatment. The patterns of the pavement slabs are derived from the carpets.

3. 3. 5. Material & techniques:

The birth place of brick was Iran, but its real homeland was Mesopotamia, and the evolution of its standard form can be best traced there. Mesopotamians formed their rectangular bricks in wooden rectangular boxes into which clay was pressed then knocked out and left to dry in the sun. Mud brick was the basic building material, plentiful in supply, whereas stone and timber were scarce. Glazed bricks provided areas of impressive color both inside and out.

"Bitumen was a local mineral and was used not only as a bending material in place of mortar, but as a decorative finish forming a black skirting along many of the interior walls. Metal was skillfully worked in sculpture and relief and great bronze doors flanked by winged bulls or lions guarded important entrances." (Denby, 1963, p. 21).

The sun-dried brick walls were very thick, sometimes with a deep facing of baked bricks in bitumen jointing. This contrasts with the stone, massive walls of the Egyptians and the spare, fine-jointed ashlar constructions of the Greeks. They were also skilled craftsman in bronze.

3. 3. 6. Furniture & furnishings:

Although Egypt and Mesopotamia were geographically not far apart, there is no actual evidence of trade between them, and totally different cultures were developed. Certain details in their furniture indicates that some contact existed between the two areas in spite of that the differences between their two cultures are more marked than similarities. The art forms of Mesopotamia are very different from those of Egyptians, and in general are less well-known in the western world.

The rullers of Babylon had achieved gifts from the kings of Egypt consisting of chairs and beds of ebony ornamented. These are described in cuniform tablets found at El-Amarna in Egypt. Elaborate furniture of this sort was certainly known to the Assyrians, and it is assumed that the craftsman who were capable of building the great palaces of Mesopotamia were also able to built suitable furniture of their own.

"...What effect the Egyptian furniture may have had on the design of Assyrian furniture is not apparent; possibly it was considered as a 'foreign style' and had little or no stylistic influence. Probably the furniture taken as booty by the Assyrian kings or received as tribute from neighbouring nations had a more direct effect, and it seems appropriate first to take note of some written records in which furniture received as booty or tribute is mentioned." (Baker, 1965, p. 180).

The cylinder seals are important source of information regarding the various types of seating pieces in use. Made of stone, the seals were skillfully engraved with religious and mythological scenes. As used originally, the seals were rolled onto the soft clay tablets bearing the cuniform inscriptions the resulting pattern serving as a personal signature.

"Although some imagination is required to give substance to the rather impressionistic portrayals of furniture in the early cylinder seals, it is certain that the furniture makers of the time had already developed a variety of seating pieces. The method of construction of these pieces, however, can only be a matter of conjecture for the present, since there is no direct evidence. Where cane and reed materials were used, one might logically expect to find wrapped or lashed joints or a woven contruction, since the technique of basket-making was well-known. In case of wood furniture there is no reason to doubt that the mortise and tenon joint was known here as well as in Egypt, since the woodworking craft appears to have developped in the two areas at about the same time." (Baker, 1965, p. 166).

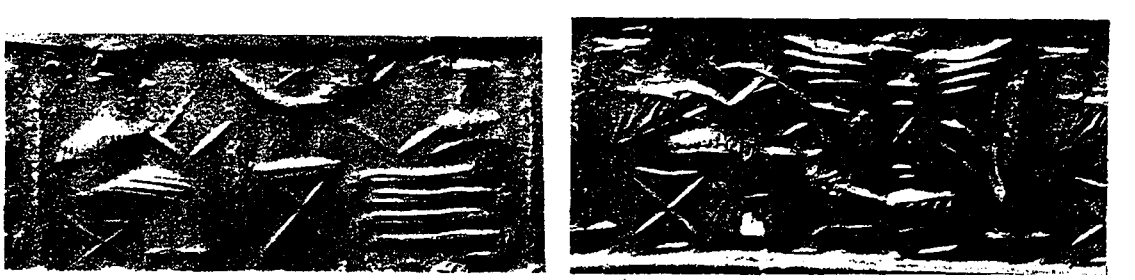


Fig. 3.4 Cylinder seal impressions showing a cross-leg stool.Old Akkadian Period.

Among the Akkadian seals are two which are of special ineterest as an indication that the cross leg stool was known at this early period (Fig, 3.4). The chair in the Akkadian seal (Fig. 3.5) is one of the earliest examples in which the curving back appears, used here in association with the lattice-type base. The two typical Mesopotamian details are the bull's leg and the sharp turn which terminates the chair back.

Fig. 3.5 Cylinder seal impressions showing a cross-leg stool.Old Akkadian Period.

"The seats with a grid pattern in their sides have a resemblance to a construction used in chairs called 'Kurai-jireed' in Iraq today. These chairs are constructed from the spiny part of the fronds of date palm trees. The smaller end sections of the spine are used for the vertical members and are inserted through holes in their heavier horizontal pieces. The latter come from the thicker part of the palm frond and are only partially dried so that they lighten up on the vertical pieces as they dry out and form a fairly rigid, durable construction. The seats of the chairs are made of woven rush." (Baker, 1965, p. 170)

Strong as was the influence of tradition in Mesopotamia, it didn't dominate furniture design to quite the same extent in Egypt, and as a result there is rather more variation in the details of the furniture depicted in the arts of the early periods in Mesopotamia than in Egyptian furniture (Fig. 3.6). Because the palace bas-reliefs present the most comprehensive picture of the late Assyrian period, there is a tendency to overemphasize the royal furniture. This is not furniture that would have been used by the common people in the mud huts. Such furniture was in fairly general use.

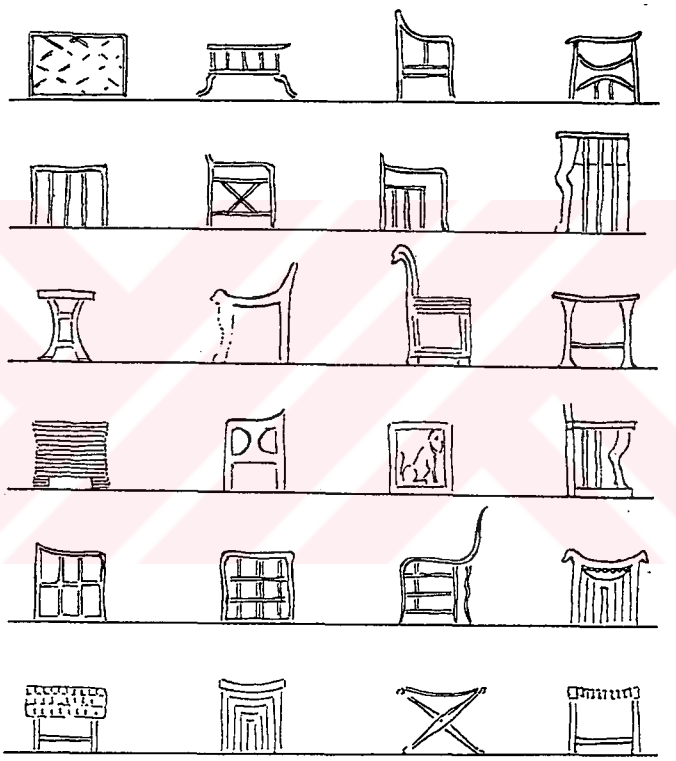


Fig. 3.6 Chronological development of the seating piece in Mesopotamia.

3. 3. 7. Sculpture, painting & objects d'art:

While in Egypt decoration chiefly took the form of painting on flat or slightly incised surfaces, in Western Asia the most successfull medium was a form of low relief carving. In the Assyrian period alabaster or limestone panels ornamented the

important palace buildings. The details of the figures was finely engraved on the surfaces in relief. In spite of the limitations of this technique there is no doubt about the dominance and vigour of the subjects.

3. 4. The Aegean:

3. 4. 1. Architectural space conception:

In the architectural realm space is experienced by means of observation. Through the relations of elements and the degree of their emphasis - straight or curving lines, planes, structures, massivity, proportions, forms of all kinds - simple physical observation can be transposed into another sphere. This transformation of physical fact into an emotional experience forms abstraction.

"The intengible phenomenon of space has always fascinated man - even disturbed him. Like the abstraction and the symbol, the origin of the concept of space lies embedded in Greek thought. Archytas, one of the Pythagorians, wrote on the nature of space, though his work is lost except for a few fragments. Plato's Timaeus, which contains his deepest mythopoeic thinking, deals with the construction of the universe and develops a cosmology." (Giedeon, 1964, p.494.).

A space conception finds its expression in the way man places three dimensional objects in relation to one another. Usually, as man is unconcious of it, the space conception of a period can give insight into man's attitude toward cosmos, toward nature, and toward eternity.

An architectural space conception has a far more general nature then painting or sculpture. The architecture of Egypt and Greece shares the same space conception while the sculpture of Egypt and Greece is fundamentally different.Various strongly contrasting periods have the same basic approach to architectonic space. Neither the Greeks nor the Egyptians ever developed interior space with the same intensity they expended into relating their architecture to the cosmos.

The first architectural space conception embraced both the archaic high civilizations and the Greek development. It was concerned with the emanating power

of volumes, their relations with one another, and their interaction. Sculptural objects - volumes - were placed limitless in space.This binds the Egyptian and Greek developments together.

"The Greek temple stands like a crystal in space. Even so, the little regard paid to its interior space links it with its Egyptian forebears. Riegl once observed that both lacked those simplest means of comminication between interior and exterior: windows." (Giedeon,1964, p.522-3.).

3. 4. 2. Principles of design:

Although not a geographical entity like the Nile Valley or Mesopotamia, the islands and coastal lands of the aegean area are joined together by the sea which formed a highway that served to bring about a common culture in the ancient world. In Egypt and the Near East, the history of furniture design can be traced from the earliest beginings for more than two thousand years. However the early records in the Aegean area are obscure and the line of development is sharply broken at the end of the Myceanean period.

"After the mysterious destruction of the Mycenean cities there comes a long gap in the history of art known as the 'dark ages', followed by the period designated by art historians as Archaic period in Greece. Although called 'archaic', this was a great creative period during which the new Greek forms of art and architecture emerged after the long dark period preceded. This was also the time when the motifs of furniture design borowed from Egypt and the Near East were begining to be replaced by classical types of Greek furniture." (Baker, 1965, p.235.).

There is no doubt that the old world empires of Egypt, Assyria, and Babylonia had a powerful influence on the early beginings of Greek art and contributed largely to its development. Egyptian influence is still discernable in the sixth century B.C. In furniture, the Egyptian legacies as animal legs and feet, stiff and conventional forms, and decorative treatment beneath the seats of chairs and stools are much in evidence.

"Gradually, in the course of the sixth century, guided by their natural sense of beauty they perfected and made their own all the various strands woven into the web of their art from earlier civilizations. In the fifth century B.C., which marks the acme of Greek creative genius, they achieved perfection in every branch of art." (Boger, 1966, p.9.).

Minoan art had its own individual characteristics and destined to have a direct effect on Mycenean art. In addition to Minoan characteristics the influence of Egypt and the Near East can be seen in the arts and furniture of Crete. It also seems quite likely that the techniques of woodworking that were highly developped in Egypt would have been known in Crete.

"Unlike Crete, where the palaces and towns were built without fortifications, the rurlers of Mycenean Greece built their palaces and within Cyclopean walls of powerful citadels, like Mycenae and Tyrins, where defence against the enemy was the first consideration." (Baker, 1965, p.246.).

Such an environment does not suggest a life of pleasure and luxury as at Knossos and Hagia Triada. However, in spite of this forbidding aspect, a wealth of gold and other treasure has been found in the tombs of Mycenae.

Even if there were resemblences between the furniture of Myceneans described in the tablets and that found in Egypt, we can not assume that the forms are the same. Because the Myceneans were more directly influenced by the culture of Minoans, and the ornamentation described is mostly Minoan - Mycenean in character.

"Following the abrubt ending of the Mycenean civilization and the burning of the palaces in the twelfth century B.C., the next five hundered years is an almost complete blank as far as the archeological record of furniture is concerned. This was the "Dark Age" of Greek history and art, and it is not until the late eighth century B.C. that furniture begins to be represented in works of art and we again pick up the thread of history of the ancient furniture of Greece." (Baker, 1965, p.254.).

In the Early Greek period, in spite of the resemblances in detail which was detected there is a striking difference between the furniture popular with the Assyrians and that of the Greeks. The small city states of Greece with their ideals of democracy provided a very different background from that of the rich oriental civilizations of Mesopotamia rulled by warlike kings.

The Early Greek period was a transitional period of great importance in the history of furniture. The record of the eigth century B.C. is extremely limited. However, by the late seventh and sixth century B.C., furniture of considerable sophistication of design appears. And by the begining of fifth century B.C., most of the basic forms of Greek furniture are established.

"In the whole history of architecture the place occupied by Greece is unique and unassailable and yet considered in relation to interior design or decoration there is scarcely an item which merits particular mention. Superficially this resulted from the democratic Athenian concentration on civic life which in its turn centered on religous observations and festivals.The underlying reason was intense feeling for symmetry, unity and a balanced simplicity, manifesting itself in a wholeness of architectural expression which left little for the hand of the decorator to add." (Denby, 1963, p.22.).

3. 4. 3. Form:

In Greecian art a new feeling for form, a new quality of dignity, sobriety, and simplicity came into existance.

"No piece of furniture is more characteristic of the Greek ideal of beauty - symmetry, rythm, and balance - than the klismos, a variety of light side chair which became the principle inspiration for the Directoire chair in the late eighteenth century." (Boger, 1966, p.9.).

Until the sixth century B.C. by the influence of Egypt, which was still easily discernable, conventional forms are much in evidence in Greece.

Fig. 3.7 Marble relief from Athens. About 510 B.C.

"The stools pictured in Early Greek paintings show a closer relationship to the traditional Egyptian and Near Eastern types than do the couches and tables. But in the stools also, as in the other pieces, a definitely Greek character emerges. For instance, in the turned-leg examples of sculptures in figure 3.7 the shape of legs is distinctly Greek, and other characteristic forms were developed later. A more obvious difference is apparent, however, in the stools with cross legs of which a great many pictured (fig. 3.8)." (Baker, 1965, p. 274-5.).

In spite of what exposure there may have been to the arts of the older and richer civilizations, 'the peoples of the seas' developed their own distinctive forms and decorations.

3. 4. 4. Color:

Minos' citadel at Knossos is one of the most intricate palace complexes ever built. From the extensive frescoes in the palace we can see man and women , represented usually in colors of red and yellow respectively. Downward tapering timber columns and some relief panels were also painted.

"In a room used for guests an 'architectural' scheme of decoration is visible with elementary painted pilasters and dado in yellow, blue and red. The frieze consists of a plain row of slightly dull - looking birds with lines of black, white and yellow forming the final conice effect." (Denby, 1963, p.22-3.).

Fig. 3.8 Vase painting stools. 515-510 B.C.

"In a room used for guests an 'architectural' scheme of decoration is visible with elementary painted pilasters and dado in yellow, blue and red. The frieze consists of a plain row of slightly dull - looking birds with lines of black, white and yellow forming the final conice effect." (Denby, 1963, p.22-3.).

3. 4. 5. Pattern & texture:

In the art of early Greek mythological characters and scenes of daily life replaced the 'geometric' ornamentation of an earlier period. In the painted decoration all the usual types of Greek furniture are clearly pictured.

"The running spiral was known in Egypt and is conspicuous on one of the Tutankhamun pieces; but this design was presumed to have been important into Egypt from Crete, and most of the other motifs described, such as the sea - shell, the

octopus (polypod), the helmet and the flame pattern, are distinctly Minoan or Mycenean." (Baker, 1965, p.249.).

On the other hand, there are other suggestions of Egypyian and Mesopotamian influence. The description of foot stools inlaid with ivory figures of men bring to mind the Tutankhamun footstools on the top of which are the carved or inlaid figures of captives. The gold birds, on the other hand, are more reminicent of the finials seen in Near Eastern furniture representations.

In the portico of the Erechtheum female figures were introduced as columns. To these the name 'caryadit' was given.

"The Egyptians and Assyrians, too, introduced captives as decorative supports in furniture; and, as we know, caryadits figure prominently in the classical types of furniture." (Boger, 1966, p.9.).

3. 4. 6. Materials & techniques:

"Buildings were constructed of rubble or cut stone work to dado height, the upper walls having a heavy, double frame of timber, the panels being infilled with sud - dried brick or stone rubble. The walls were coated with stucco outside, and either tinted, or, on the islands, painted with patterns inspired by the framed construction which lay behind. " (Fletcher, 1961, p.93.).

Being a plentiful material in Crete, gypsum also served to make hard, polished floors and roof - deckings carried on rounded logs. Masonry technique was well developed, and particularly on the mainland, ranged from a 'cyclopean' comprised of great boulder - like stones, used in fortifications. No mortar was ever employed, inspite that clay sometimes served for bedding in rubble or cyclopean work.

The techniques of woodworking that were highly developed in Egypt would have been known in Crete. Several actual examples of small low stands or tables made either of stone or clay have come from Minoan tombs. Although it is unlikely that much of the same forms were made in wood, it seems certain that small wooden

tables would have been part of the ordinary household furnishings, judging by the long time they have been used in Egypt (fig. 3.9).

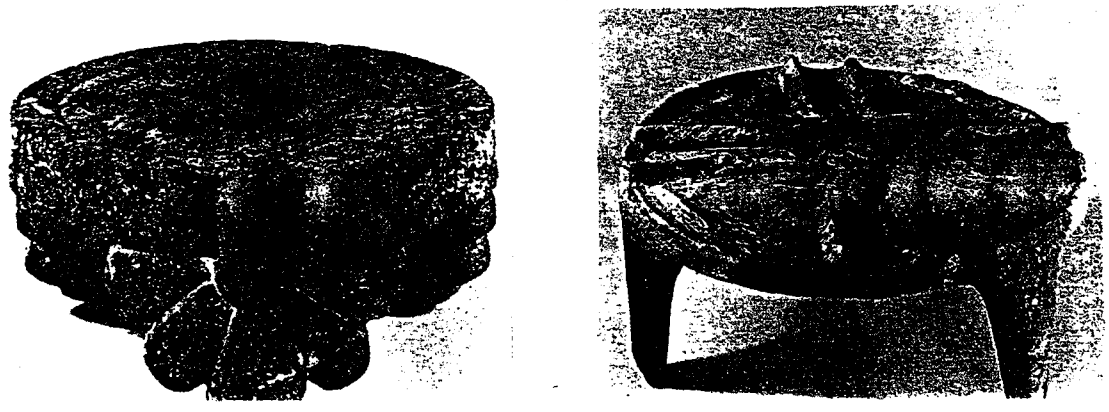


Fig. 3.9 Stone table from Knossos.Terracotta table from Knossos.About 1500 B.C.

Fig. 3.10 Gold sygnet ring from Tiryns. Fig. 3.11 Wooden box from Mycenae.

"Representations of what were undoubtedly wooden pieces appear on seals, but unfotunately such examples are extremely scarce. The best of these is seen in the impression of a large gold signet - ring from the 'Tiryns hoard', said to have been discovered in a bronze cauldron at Tiryns (fig. 3.10)." (Baker, 1965, p.252.).

In Mycenean furniture, reference should be made to the beatiful hexagonal gold - covered box. Finely fitted together, and beatifully engraved, this is quite likely an example of workmanship in wood and gold that is described in the records from the palace of Nestor (fig. 3.11). Athough Mycenean collection includes many objects of

gold, ivory, and bronze, as well as pottery, there is no direct suggestion of furniture except in a few miniature terracotta models and fragments of ornamentation.

One of the most intricate palace complexes ever built is Minos' citadel at Knossos. The structure of the palace was largely of stone, on many different levels and disposed irregularly round a series of internal courts. "Vitality is certainly a feature of the pictorial panels and friezes, with scenes of the acrobatic bull - fighting ceremonies, taking pride of the palace." (Denby, 1963, p. 22.).

3. 4. 7. Furniture & furnishings:

Trade between Crete, the Near East and Egypt existed from an early age. In general the cultural movement was from east to west until the time of the Greek ascendancy. This influence can be seen in the arts of Crete and Mycenea; and Egyptian and Mesopotamian details are also clearly apparent in the furniture of Archaic Greece. But in spite of that exposure Greeks developed their own distinctive forms and decorations. Unfortunately as in Mesopotamia, no wooden furniture survived from these periods in the Agean world. Climatic conditions on the islands and on the mainland of Greece are not conductive to the preservation of wood.

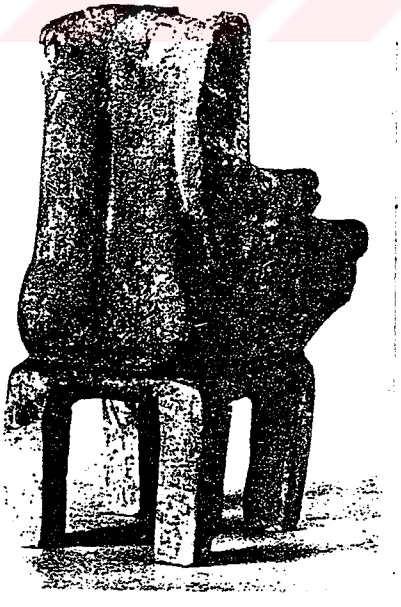


Fig. 3.12 Stone statue from Naxos. Fig. 3.13 Marble statue from Keros.

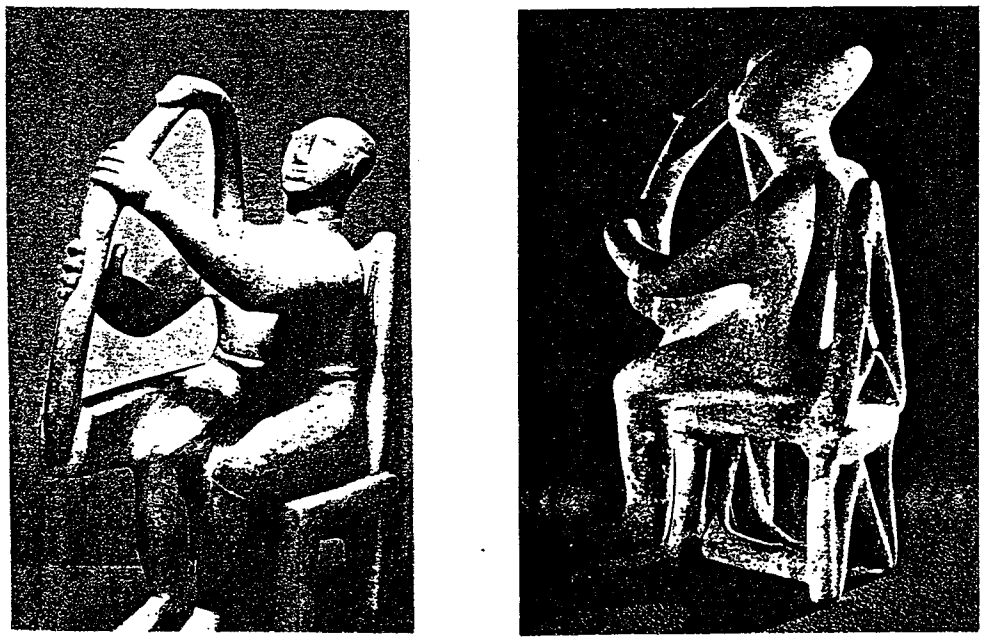


Fig. 3.14 Marble statues from Cyclades. About 2500 B.C.

Signs of a primitive culture appear in the islands and on the mainland of Greece early in the third millennium B.C., expressed in pottery, small idols or figurins, and other objects of clay and stone. By the middle part of this period a considerable degree of skill had been achieved and the sequence of development of styles in pottery can readily be traced. No comperable evidence exists, however, relating to the development of furniture, and what knowledge we have from this time is largely dependent on a few Cycladic statues of seated figures in which stools and chairs are presented (fig. 3.12, 3.13, 3.14).

By the early part of second millenium the Minoans in Crete had developed an advanced civilization and had become the great maritime power of the Agean. But nothing remains to tell of their furnishings. What evidence has been found of the furniture of the Minoans dates mostly from the Late Minoan period in the fifteenth century B.C., and comes principally from the 'Palace of Minos' at Knossos.

"In the palace of Minos the king's throne, made of stone, was left intact... The details of the throne are clearly apparent in the replica (fig. 3.15)... and in the

drawings which appeared in Evans' Palace of Minos (fig. 3.16)." (Baker, 1965, p.242.).

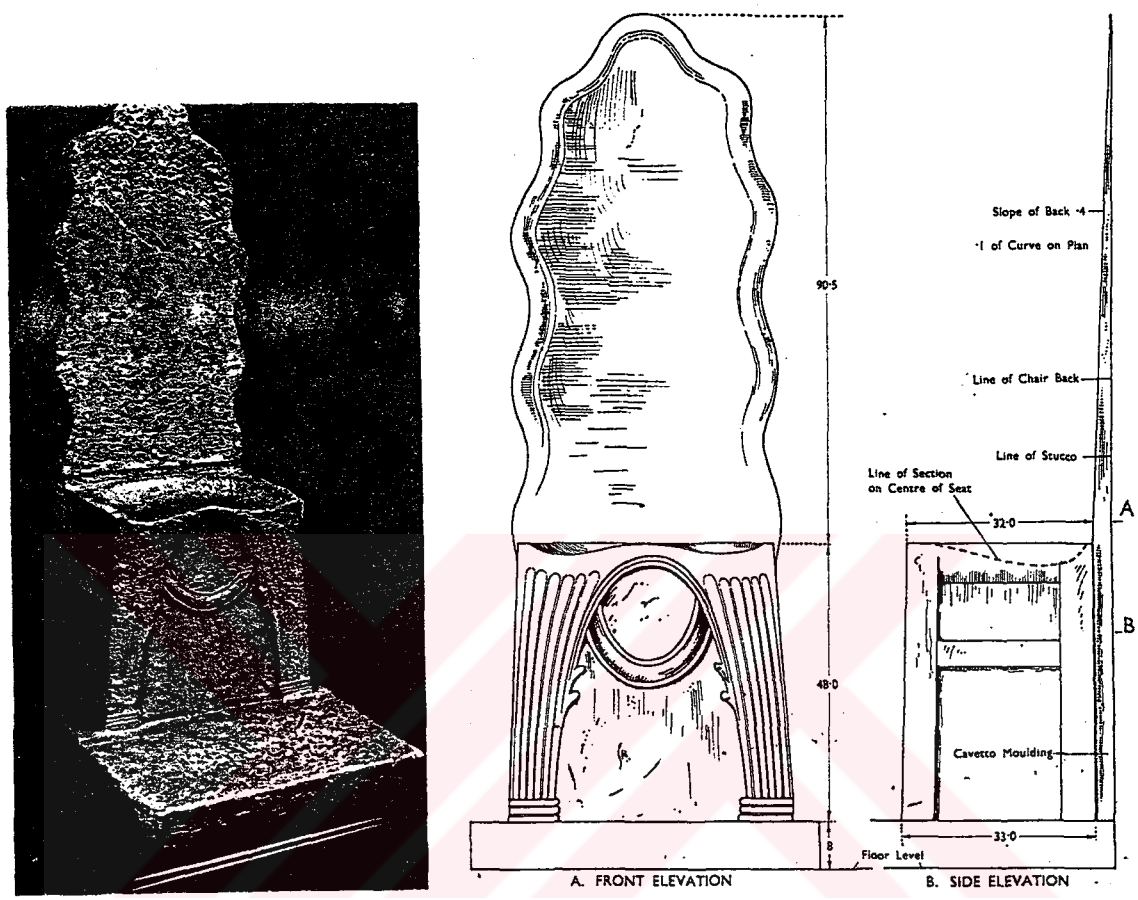


Fig. 3.15 Replica of throne from Knossos. Fig. 3.16 Drawing of throne.

Among the other finds from Knossos that relate to furniture are a number of terracotta sarcophagi, or burial chests, rather like household storage chests and often brightly decorated (fig. 3.17).

Greece with its ideals of democracy provided a very different background from the oriental civilizations of Mesopotamia, and the difference between the two cultures is apparent in the furniture that evolved. In the headless statue of a seated figure dating from the middle of the seventh century B.C. the front legs of the seat terminate in lion's paws which face forward in the traditional Egyptian manner. The

combination of the fore and hind legs of the animal, however, which is so characteristic of Egyptian design, is a feature rarely seen in Greek design although it occurs in what are known as 'hero reliefs' from Sparta and vicinity (fig. 3.18).

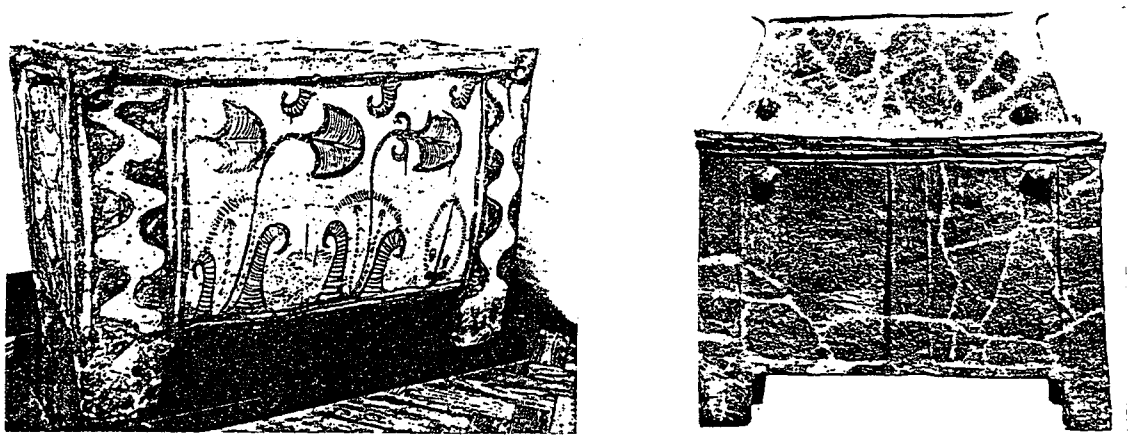


Fig. 3.17 Terracotta sarcophagus from Knossos.About 1400 B.C.

"From the viewpoint of furniture history, the Early Greek period was a transitional period of great importance. The record of the eighth century B.C. is extremely limited, and consists chiefly of a few terracotta statues in which primitive - looking chairs are represented and crude paintings on 'geometric vases'. By the late seventh and early sixth century B.C., however, furniture of considerable sophistication of design appears in the presentations in sculpture and painting; and by the begining of the fifth century B.C. most of the basic forms of Greek furniture are established." (Baker, 1965, p.255-6.).

"The couch in ancient Greece served a double purpose: it was not only a bed to sleep on, but also a coach on which to recline when dining. Possibly this was a custom imported from the Near East (fig. 3.19)." (Baker, 1965, p.267.).

The clismos which is a variety of light side chair possesses a timeless beauty; every line reveals a substle symmetry in which both order and freedom are harmoniously combined. The perfection of form and quiet beauty seen in the klismos is lost in later Greek art when the taste for tich decorative effects prevailed.

Fig. 3. 18 Limestone relief from Laconia. About 550 B.C.

Fig. 3.19 Vase painting, couches and tables

3. 4. 8. Sculpture painting & objects d'art:

Practically all our knowledge of the daily life of the ancient Greeks is derived from references in literature and more importantly, from innumerable scenes of Greek life found on vases and marble reliefs. Represantations of furniture painted on vases are remarkable for their refined proportions; the Greek rules of balance and symmetry are carefully observed.

Mythological characters and sceens of daily life replaced the geometric ornamentation of an earlier period, and in this painted decoration all the usual types of Greek furniture are clearly pictured. Because these paintings are strictly decorative art and the medium is more flexible, they give a much more informal and romantic view of furniture portrayed than do the sculptural representations.

3. 5. Roman:

3. 5. 1. Principles of design:

With the ending of the Early Greek period and the beginning of the Classical era we have come to the halfway point in interior design history. Twenty five hundred years have passed since furniture was first made in Mesopotamia and the Nile Valley, and another twenty five hundred years must elapse before we reach the present time. The Classical Era continued without a break in Greece and Roman world until the time of Constantine; and although interrupted for long intervals, its influence has continued until today.

"All branches of Greek art are continued in Roman art, because Rome, through her ascendancy, became its logical transmitter. The Romans, whose aim was to dazzle by material greatness and splendor, liked the later Greek art with its rich decorative effects. In the course of adoption they carried it to a much greater elaboration." (Boger, 1966, p.11).

On the other hand, although Roman art was a synthesis of that of Greece and of Etruria, it nevertheless developed its own particular idiom which was appropriate to its time and place.

"As an example, the Romans adopted the columnar and trabeated style of the Greeks, and developed also the arch and vault from the beginings made by Etruscans. This combined use of column, beam, and arch is the keynote of the Roman style in its earliest stages." (Fletcher, 1961, p.174).

Roman ornamental motifs, from whatever source they come originally, were full of meaning. These classical motifs have provided a foundation upon which European art has rested securely ever since.

"The Greco-Roman and Hellenistic periods again encouraged ease and comfort after the simpler material requirements of classical Greece... Many techniques and forms of decoration were brought to an advanced stage, being often of far more interest than the actual structural or extenal appearance of the houses." (Denby, 1963, p.23).

"Plans convey an impression of vastness and magnificence, and are characteristic of a powerful and energetic race. The Romans were pre-eminently great constructors, and by their concentration on practicle problems were able to erect public buildings of enormous size." (Fletcher, 1961, p.243).

Furthermore, the Romans never seem to have been satisfied till they had loaded their monumental buildings with every possible ornamental addition. Here the influence of material is apparent; for concrete demanded a disquise, and coarse limestone did not permit of delicate purity of line and thus called for extraneous ornament, so the Romans completed the magnificience of their monuments by a wealth of decoration.

Colonnades and the new system of arcades were both in use internally and externally. Doorways are both square and semicircular headed and became decorative features of importance.Spans achieved by Roman vaults were two to three times greater than those of English cathedrals.

"For the most part the Romans lived out of doors. Apart from the main rooms, houses were divided into small rooms *(cubiculi)* which were only sparsely furnished. Built in cupboards and wardrobes were customary." (Savage, 1966, p.36).

The general plan of the Roman house is most recently seen in Pompeii. The entrance being by way of a passage with a porter's lodge. This gave directly into an open courtyard, the *atrium* , where general business was conducted, and which was usually provided with a central fountain. Opening from the *atrium* was the *tablinum*. Passing through the *tablinum* one reached the *peristylium*, an unroofed courtyard surrounded by the columns, as the name suggests with sometimes a basin or fountain in the centre and perhaps a small garden (Fig. 3.20). Opening from the blazing protected private section of the house were a sitting room and various bedrooms. Somewhere to the side of the *tablinum* was the *triclinium*, the dining room which was provided with dining couches on three sides of the table and service being from the fourth side. The larger houses possessed a room specially set apart for the display of paintings called *pinacoteca*.

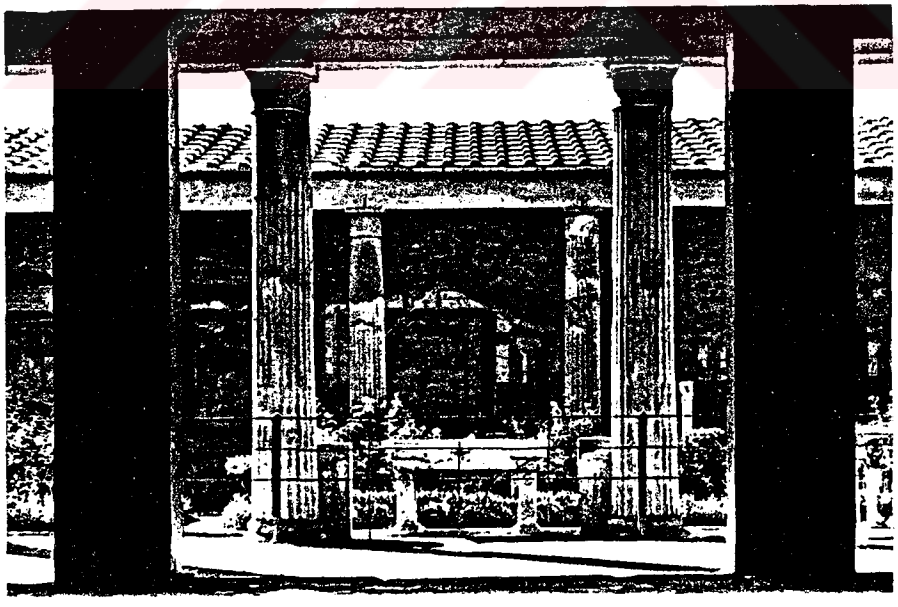


Fig. 3.20 A peristyle of the House of the Vetii at Pompeii.

Villas of this kind were the prerogative of the rich. Most people had to live in a part of an apartment house of perhaps six or seven stories built of wood.

3. 5. 2. Color:

Painted ceilings have always been fashionable since the days of Imperial Rome. Wall decoration was extensive and in the richer houses of Rome, rare marbels lined the walls in panels of various colours and were used for columns. By the first century AD black and colored marbles were being freely imported from a variety of sources.

"*Giallo antico, cipollino, pavonazetto,* and *breccia* added their colors to the commoner black, grey an white. Painted landscapes seen through imitation open windows and colonnades give illusory effects and even at this early stage 'romantic ruins' found their way into the paintings in the House of Livia, Rome." (Denby, 1963, p.23).

"Mosaics have a greater degree of permanency than paintings. They were built up from small fragments (*tesserae*) of marble and similar stones, white or colored, or of small pieces of colored glass often backed with gold foil to increase the brilliance effect. Representations of fragments of food, marine animals, and aquatic birds were popular." (Savage, 1966, p.40).

In Pompeii marble was simulated in paint. Paint was applied in various forms as tempera, oil and encaustic. The latter provided particularly vivid and lasting colors. Plaster or stucco was occasionally moulded but most frequently painted in a dress of architectural features. In Roman interiors, purple, scarlet, dark green and yellow are the main colors.

3. 5. 3. Pattern & texture:

Roman walls both of stone and concrete are of special character. Walls of 'opus quadrum' which are rectangular blocks of stone with or without mortar joints but frequently secured with dowels or cramps, still continued to be in use. In the best work the stones were very regular, 4*2*2 Roman feet in dimensions. Sometimes such walls were solid throughout and sometimes used as a facing to the concrete core.

"Roman concrete walls presented a succession of face effects. Good mortar of lime and sand first began to be used extensively in the third century B.C. , and when its virtues had been realized, stones became quite small, and on the wall faces appeared in a loose pattern roughly resembling the polygonal work from which the techniques derived. This pattern is known as 'opus incertum' (Fig. 3.21). Gradually it became more regular, until by the time of Augustus it had assumed the net-like effect of 'opus reticulatum' (Fig. 3.21), with fine joints running diagonally, so that each stone unit was precisely square, though set lozenge fashion." (Fletcher, 1961, p.175).

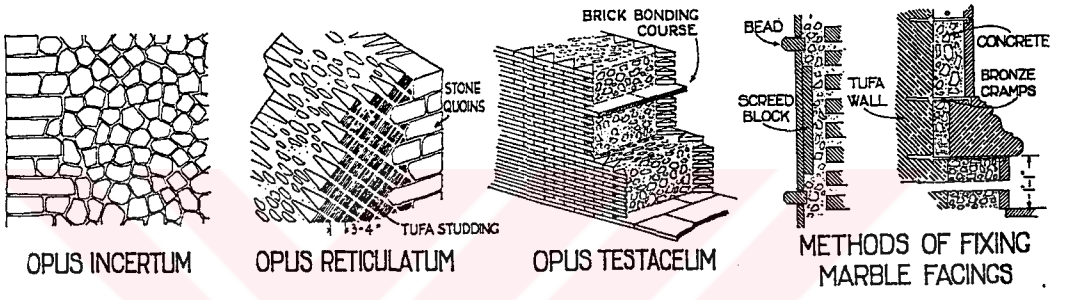


Fig. 3.21 Construction of walls and arches.

Reticulate work in its turn was superceded by brick facing, or 'opus testaceum' (Fig. 3.21).Wall cores then sometimes were of broken brick too, but generally, stone fragments still continued to be used. Only in the second half of the first century A.D. were triangular bricks specially made for facing the walls. A variant kind of facing appeared for a while at the time of Hadrian, in which panels of reticulate work were enframed in horizontal and vertical strips of brickwork. A final type, 'opus mixtum', an alternation of courses of brickwork and small squared stone blocks, began to be used towards the end of the empire period. These several kinds of facing to concrete walls were not used everywhere. In many Roman provinces a coursed-rubble facing of square units was usual.

"Concrete vaults often were lightened by recesses or coffers' on the underside, but concrete does not lend itself to carved enrichment, like stonework, and walls and

vaults normally recieved a decorative sheathing of plaster, stucco, marble or mosaic. Various plasters of lime and sand were used outside, and plaster or stucco within. The latter was of marble dust and lime, and frequently was modelled into shallow, geometrical patterns, the panels thus created being ornamented with low-relief figures and foliage, and painted in attractive colors." (Fletcher, 1961, p.179).

Marble was arranged in geometrical patterns of different varieties (opus sectile) throughout the walls, and were used in this manner too for floors.Colored marbles were too expensive for universal use and on walls, the pattern was frequently simulated in paint instead.

Marble mosaics were employed to some extend for walls and vaults, but above all for floors, as an alternative to 'opus sectile', in an infinite variety of geometrical and pictorial patterns. Another type of paving was 'opus spicatum', made of small bricks set in herring-bone pattern. Glass mosaics were not suitable for floors, but made a brilliant decoration for vaults. They were also excellent for garden ornaments, pavillons, fountains, semi-subterranean porticos and grottoes.

In the Roman house, the paving pattern very often defined the triclinium (the dining area) with a central realistic mosaic panel enclosed in geometric border. "These mosaics had developed considerably from the coarser marble or pebble patterns in earlier Greek work at Delos and became one of the main characteristicsof Roman houses. They were usually of small squarish ceramic tiles and the scenes were shown in naturalistic colors." (Denby, 1963, p.23).

3. 5. 4. Material & techniques:

The Romans continued and developed the Etruscan method of using large blocks of stone without mortar during the Republic, but their practical mind eventually hit upon greater economy of materials by the use of concrete.Roman walls both of stone and concrete are described in detail in the section of pattern & texture.

Concrete was a manifactured material thus throughout the Roman dominions it gave unifomity and similarity to the buildings, whose character was thus largely

independent of local conditions. The Roman architecture was largely depended upon the capacity to span over enormous spaces. It was above all concrete which allowed the Romans to build vaults of a magnitude never equalled till the introduction of steel for buildings in the nineteenth century.

It has been said that Augustus found Rome of brick and left it of marble. Imported marble was, at first, a luxury in Rome. The practice of facing brick walls with polished marble slabs was introduced into Rome as late of the consulship of Julius Caesar.

"Marble was rarely used solidly throughout a wall; and only the white was so employed, never the colored... Marble, porphyry, jasper or granite veneers were laid against a stucco backing and secured to the walls by iron or bronze cramps (Fig. 3.21)." (Fletcher, 1961, p.179).

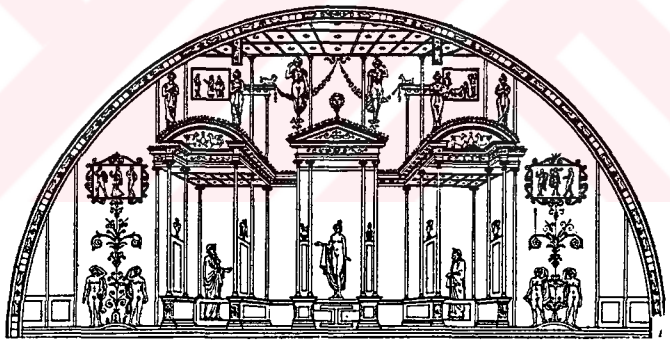


Fig. 3.22 Fresco: Thermae of Titus: Rome.

"In the marble wall-facings and floors good effects were produced, as the Romans were connoiseurs in the use of marble... A fine marble cement was frequently used as a covering to walls and stone columns, to form a ground on which paintings could be executed. The modeled plasterwork and frescoes on the walls and vaults of the Roman Thermae largely influenced the mural decorations of the Renaissance period (Fig. 3.22)." (Fletcher, 1961, p.247).

The Romans employed all kinds of exotic stones for interior decoration. Alabaster, a form of gypsum occasionally used in Egypt for structural purposes, was rarely so employed in Rome. Large single crystals of selenite (a kind of gypsum) were highly valued. Mica, once called Muscovy glass, is another possibility. Specular stones were often used in place of window-glass. The pilaster was also used decoratively on walls. Vaults and floors were often covered with mosaic.

Silver played a large part in the decoration of the Roman interior (Fig. 3.23). Banqueting couches were being mounted in silver and baths used in private houses were sometimes of silver.

Fig. 3.23 A silver skypos from the Boscoreale Treasure.Before 79 AD.

"Although silver saucepans existed, the metal never supplanted bronze for most purposes, especially for domestic ones... Bronze doors, or doors covered with bronze plates, were an early feature of important Roman buildings... Perhaps the greatest weight of metal, however, went into the making of household decoration-furniture and such accessories as lamps... Mirrors, especially hand-mirrors, were usally of silver or bronze of a special alloy. They were highly polished, and the backs often had handsomely engraved designs." (Savage, 1966, p.36).

The Romans were skilled glassworkers. Most surviving glass vessels are of humble domestic variety made in tactories in vast quantities. Many varieties of colored glass were also made one of which simulated obsidian. In the fist century A.D. glass threatened to oust silver and gold from the tables of the rich. Undoubtedly glass was also used to glaze windows suggesting that some way of making flat plates had been devised although these were thick and expensive.

The art of tapestry originated in Egypt. The walls of the wealthier Roman citizens were hung with tapestries, columns were draped, and carpets covered both floors and couches. The latter came from Mesopotamia and also perhaps from the traditional rug- making areas of Anatolia. Silk was imported from China until silkworms are brought to the west during the reign of Justinian.

"Hardstones were an important feature of Roman interior decoration. These minerals, often extremely colourful, have been prized from early times for jewelery, small figures, vases, bowls, cups, and as inlay for furniture... Hardstones are much too difficult to shape with normal sculptor's tools: they were carved by lapidaries with rotating tools in conjunction with Naxos emery and quartz sand, and diamond chippings mounted in the form of chisels." (Savage, 1966, p.48-9).

3. 5. 5. Furniture & furnishings:

"Although movable furniture of wood seems to be scarce, this impression may be partly due to the fact that nothing has survived in a complete state, although well preserved Egyptian furniture which is much older still exists. Much Roman furniture was made partly or even wholly of bronze, and tables and benches of marble are fairly common survivals." (Savage, 1966, p.40).

"There are still in existance numerous pieces of bronze furniture, such as tripods, candelabra, and couches provided with fulcra or headrests used for dining and reclining.Latin writers deplore the Roman desire for luxury and their expensive and extravagant tastes, as seen in their lavish use of veneering, plating with gold, silver, or bronze, and inlay work. Exotic woods, tortoise shell, glass, ivory, gold,

silver, and bronze were freely employed in inlay work, making their furniture richly colorful." (Boger, 1966, p.11)

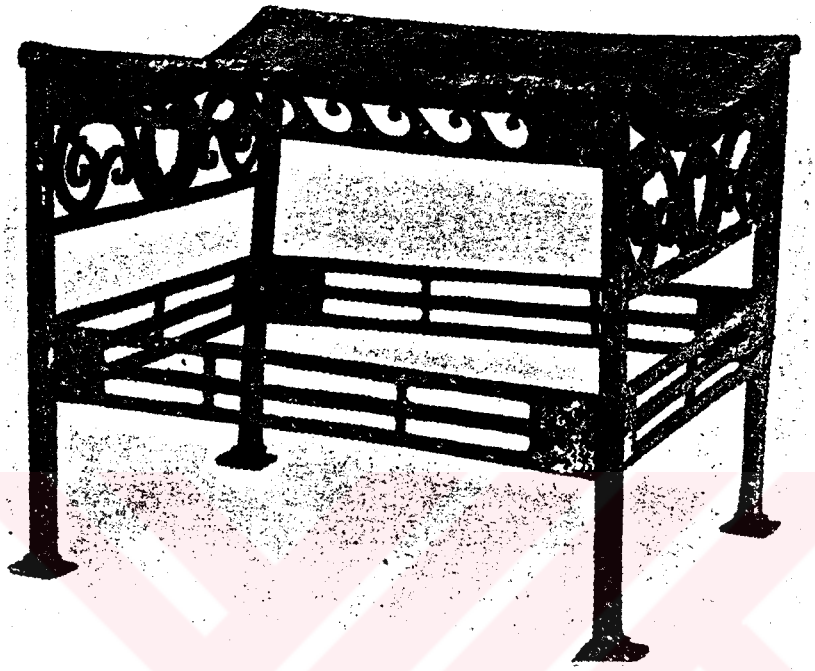


Fig. 3.24 A Roman bronze stool.1st century AD.

It seems that wooden furniture was decorated with great skill and much prized. *Buffets (abaci)*, part of furniture of the *triclinium*, were used to display silver. Tables were as lavishly decorated as the owner could afford and were made of rare woods mounted with ivory, bronze and silver. Beds and couches were especially numerous in the Roman house. Dining couches were especially richly decorated. They were mounted with silver and gilded bronze which were popular among the wealthy. Chairs were comperatively simple in design, and stools were common, a bronze version is shown in (Fig. 3.24).

The most noteworthy Roman seat is the *sella curulis* (Fig. 3.25), having curved legs of x-form, used by the 'curule', or the high magistrates and also by the emperor. The Romans made their most valuable contribution to furniture design in the category

of tables. The table with a massive oblong top of wood and marble trestle-end supports (Fig. 3.26) became the prototype for the Italian reflectory table during the Renaissance. Another kind of table is the table of tripod form (fig. 3.27). Especially favored as supports for the tripods with circular tops were either the lion monopodium or legs adapted from those of a quadruped.

Fig. 3.25 Bronze sella curulis, Roman. Fig. 3.26 Table of Saint Gregory, Roman.

"Another interesting group are the many varieties of candelabra, the stands on which ancient lamps were placed. Finally, but by no means the last of relies from Roman antiquity, are the bronze mirrors, familiar articles to the people living in ancient times." (Boger, 1966, p.15).

3. 5. 6. Sculpture painting & objects d'art:

The Romans recognized the pre-eminence of the Greeks in sculpture or painting. As a result the Greek artists were employed and Greek sculpture was much

prized and copied. The Acantus scroll, boldly carved with continuous stem and spirals, is especially characteristic of Roman ornament and friezes (Fig. 3.28, 3.29).

Fig. 3.27 Bronze tripod in Greek style.

"The characteristic of Roman art lies in forcefulness. The Romans were rulers by nature, and Roman art was the outward expression of the national love of power." (Fletcher, 1961, p.247-8).

Most ornament in classical times possessed a symbolic meaning. The acanthus leaf is ubiquitous. In its In its Greek and Byzantine forms it was usually treated fomally and with a certain stiffness. But Roman and Renaissance decorators handled the *motif* much more freely. It forms the decoration of the Corinthian capital.

"The *palmette* is a stylized version of palm leaf. *Rosettes* are stylized flowers with equallyspaced petals first used as a repetitive border by the Assyrians, and later by Gothic and Renaissance decorators. The Romans treated *rosettes* fairly naturally. The *egg-and-dart* and *egg- and tongue* are, as the names suggest, egg-like forms

alternating with dart or tongue-shaped ornament. The lion is popular at all periods, and the animal's head with a ring in its mouth has always been employed as a decorative handle." (Savage,1966, p.51-2).

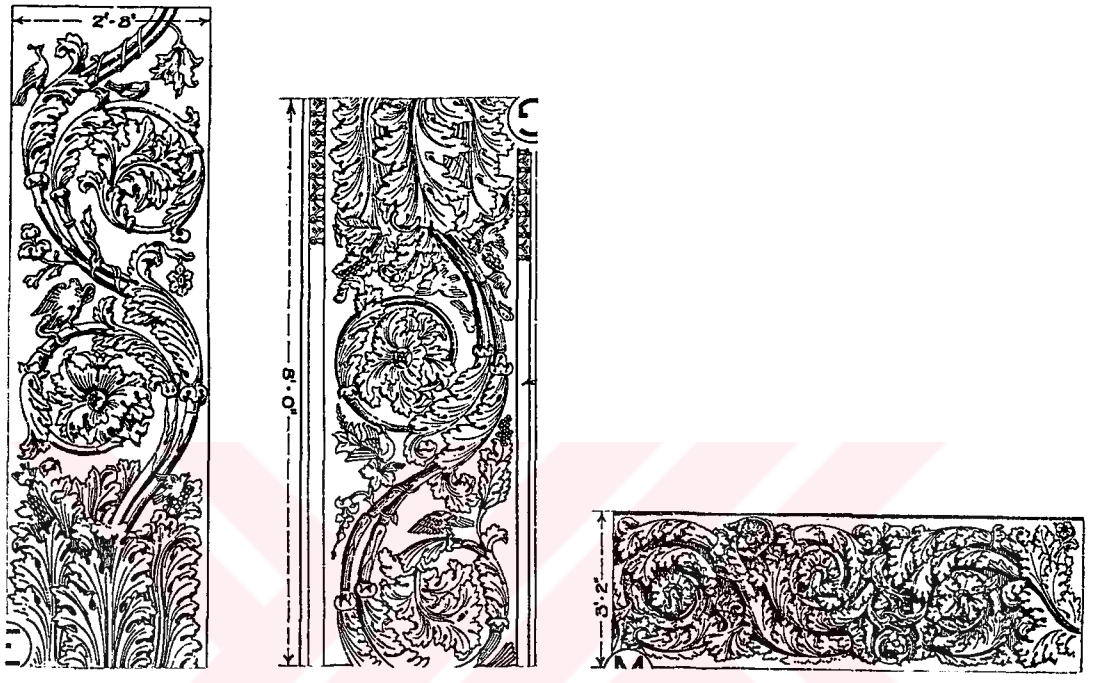


Fig. 3.28 Pilaster, Villa Medici: Rome. Fig. 3.29Acanthus frieze, Forum of Trajan.

Pompeian decoration developed the use of arabesque as an ornamental devicefor filling panels of many different shapes. In addition, angelic looking human figures, gryphons, ox-skulls and other similar motifs were treated in a way quite divorced from any preceding Greek forms of ornament. These forms were superficial and frivolous rather then satisfying.

"The abundance of statues brought from Greece led to the formation of wall niches for their reception. These were either semicircular or rectangular, and were occasionally flanked by columns supporting a pediment, to form a frame for the statue, or were fronted by a screen of columns, as in the Pantheon." (Fletcher,1961, p.179).

The paintings of this period are often surrounded by such architectural details as pilasters. Perspective was employed to give apparent depth to representations of buildings and landscapes.

3. 6. The Middle Ages: Romanesque & Gothic:

3. 6. 1. Principles of design:

The term 'Gothic' was used in the seventeenth century as a term of reproach for this style, which had departed from those classic lines. This term is now , by common consent, given to the medieval architecture of the twelfth to the early sixteenth century in Europe.

"The middle ages began in frightful political and spiritual disorder. The pax Romana was succeeded by the unstable 'barbaric' states, which were in perpetual conflict with one another, besides having their existence threatened by later invasions and attempts at reconquest, and the Christian religion was exposed to similar vicissitudes: heresies, a reversion to paganism, the spread of Islam." (Busch, et al. 1965, p.XI).

In western Europe, the comfort and refinement had been maintained as a background to life. Roman provinces like Britain began to crumble away as armies and administration were withdrawn to support the failing of the centre of the Roman empire. Security vanished in the face of invasions from Asia and the north. Towns fell into decay and the open pattern of life with villas and farms in a peaceful and orderly country setting contracted. The social structure changed with the result that the decorative arts declined and many traditions were lost.

"A new formalized art grew from the last remains of the Roman style, fostered by autocratic rulers and employed chiefly in the service of Christian church, which had spread rapidly in Italy and the eastern Mediterranean. This art embodied Roman techniques of mosaic and painting but reacted from the flowing naturalism of late classical styles towards a hieratic stiffness in the presentation of human and natural forms." (Denby, 1963, p.25).

"The middle Ages are not a wilderness of stone. The human element is everywhere present, not only in representation, not only in collective forces which impel and sustain the artist, but also in the manifestation of his own creative genius. He does not carry the model of his church in his hand as donors do; he is not set up beside his work like some of great hero; but he lives visibly within it, multiplied and magnified in his own creation." (Focillon, v.1, 1963, p.10)

In the 100 years between the thirteenth and fourteenth centuries there was a change in the entire civilized life of Western Europe, animated chiefly by a desire for a freer, more intellectual development. During this period medieval art achieved the acme of perfection. Classical traditions were forgotten everywhere except in Italy.

Gothic art, so long thought of as mysterious and chaotic, was in fact based on an orderly and crystal-clear thought and on practical ingenuity, which were regional charecteristics.

Plans were largely the fortuitous result of the various necessary parts arranged for convinience rather than for symmetry. Church interiors were planned in oblong bays covered with rib and panel vaulting (Fig.3.30) or with timber roofs.

Fig. 3.30 Canterbury Cathedral: choir (1174-85) looking E.

"It is probable that no complete plan ever existed for most Gothic buildings, although the principle parts were carefully set out and the stresses calculated with the primitive means available.The gradual paring of inessential parts of the structure undoubtedly proceeded by trial and error, even though most of the risks were foreseen. Every classical building on the other hand, was the product of a coherent plan made before the foundations were laid, and it conformed to certain principles of design which were generally accepted among architects." (Savage, 1966, p.59).

The principal effect of Gothic style on the interior is to be found on the disappearance of all but the main load-bearing walls which were replaced by arcades. This, in conjunction with elaborately vaulted roofs, opened up large vistas. It also became possible to make much larger and more frequent openings in exterior walls. This, in turn, simulated the art of stained glass. Although glass could only be made in small pieces, large windows were assembled with the aid of lead strips and glazing bars of wood which were set in frames of stone tracery. These replaced the older mosaics.

"Gothic structure, based on arch, rib, and pier, tends to dispense with wall, but sculpture remains monumental, establishing its harmony with architecture by different means. The miniatures of the thirteenth century are framed in architecture. Furniture, too, is monumental, and forms devised to equilibrate ponderous stonework are reproduced in ornamental wood carving. Even on this reduced scale they were evocative of their original grandeur, recalling, amid the delicacy of the minuteest craftsmanship, the enormous masses for which they were primarily conceived." (Focillon, v.2, 1963, p.4).

Medieval architecture and the arts which derive from it constitute a common language of Western Christianity, a language spoken with various accents, but expressing a single body of knowledge, a single intellectual order. Medieval art universal in appeal, was also encyclopaedic in content. Since all things are in God, it took all things as its theme. It showed man as a whole, from his basic impulses to his ecstasies and visions.

Houses of ordinary people were usually little more than shelters, timber framed and covered with wattle and daub. On the other hand the large house or castle was a stronghold where the small community lived, often eating and sleeping in a single large hall.

"Religious devotion, which was the mainspring of the Gothic world, led artists and craftsmen, and in particular the stone masons, to lavish their talents on churches rather than on secular buildings, which could in consequence usually be more accurately described as adequate than convenient and pleasing, although the number of rooms provided and the amount of privacy in living quarters steadily increased." (Denby, 1963, p.27).

A tradition of skilled carpentry was strong in the seafaring countries of northern Europe.The same skills used in framing vessels to stand the fierce stresses of seagoing were applied in designing open timber roofs which dominated the most impressive medieval halls. These great roofs provided the focus of interior design in England over along period and with their repetitive trusses and rafters form a satisfying structural pattern with intrinsic scale and dignity.

In France as in England, the Gothic style meant above all the cathedrals and churches. But wealth and rivalry between the nobilty encouraged a greater degree of attention to comfort in the chateaux.

"In the middle ages, however, sculpture and painting were not yet subjected to the 'greater' art of architecture; in some cases ornamental techniques of polychromatic masonry and incrusted forms were actually imposed on the architecture itself. In reality the techniques of painting and sculpture, or more generally of figurative and decorative art, developed quite independently of architecture. It was the Christian-Classical art that provided the models for mosaics, wall-paintings, book-illustration and the goldsmith's manuscript initials, became permeated by the ornamental style of of the Germanic peoples and of the descendants of the other peoples they had driven into the west. The re-awakening of the old Celtic world of form produced the Irish masterpieces." (Busch, et al. 1965, p.XIII).

3. 6. 2. Form:

A new formalized art grew from the last remains of the Roman style, in the service of Christian church, which had spread rapidly in Italy and the eastern Mediterranean. This art embodied Roman techniques of mosaic and painting but differed in the flowing naturalism of late classical styles in the presentation of human and natural forms. This art was based on regional characteristics.

"Synchronism of Romanesque and Gothic art is vital to the proper understanding of their interrelationship and of the Romanesque significance of the Gothic beginings. In other words in this region where it developed with such speed and such unshakable audacity of conception, one of the fundamental advantages which the new style possessed lay in the fact that it was not called upon to overthrow an established classic form which already gave unified expression to the regional spirit." (Focillon, v.2, 1963, p.4).

Gothic architecture made considerable use of the pointed arch, so much so that it is sometimes called the 'pointed Christian style'. In classical architecture the major thrusts imposed on columns, beams and walls act vertically downwards. However the thrust imposed by Gothic masonry are nearly oblique and balanced one against the other in a most complicated fashion.

The conception of the rib as a support retains its significiance in the Gothic system itself. "To say that the Gothic system was a dialectic is to acknowledge implicitly that it was based on the development of forms, for architecture is dialectical by virtue of the progressive harmony and calculated interaction of parts. This dialectic did not inhabit the regions of pure thought. It advanced, and extruded itself into history, by experimentation." (Focillon, v.2, 1963, p.10).

3. 6. 3. Color:

"In England decoration during the Gothic period was less elaborate. Much furniture was made of oak, and this, and the panelled interiors of surviving houses of the period, are apt to give an impression of sombreness which is unjustified. Not only

was furniture originally painted but hangings and tapestries of bright colors provided an effective contrast to the dark wood. Interior panelling sometimes still shows traces of paint,and rugs and carpets imported from Anatolia were used to cover tables and beds." (Savage, 1966, p.70).

While making a research about the coloring attitudes of the Middle Ages, mention must be made on the series of mosaics at Ravenna, richly satisfying in any context but shining out even more wonderfully against the darkness and confusion which we see as the general background of the fifth and sixth centuries. These mosaics, made up in small pieces of opaque glass, were applied with extraordinary skill and sensitivity in color and composition. Gradations of milky greens, blues and rich orange- reds are everywhere blended with gold, vibrating with life in every shift of life.

In France, the ceilings provided the focus for decoration, not by the nature of their form as in English open roofs but as suitable surfaces for elaboration and colouring. "Horizontal main beams were crossed by secondary beams and over these were the floor joists, visible in rectangular panels. Arises of the beams were moulded, with applied color and gilding, painted arabesque or fruit and flower motifs on beam soffits and sometimes larger pictorial subjects in the panels." (Denby, 1963, p.28).

Stained glass is the colored glory of Gothic style and was largely the raison d' etre of the immense traceried windows which framed the glowing pictures from the Bible and church history.

"External colour schemes were usually the result of the combination of the materials used, as in Florence and Siena Cathedrals." (Fletcher,1961, p.664).

3. 6. 4. Pattern & texture:

The principal Gothic ornamental theme is floral and the treatment conventional. The qualities of Gothic decorative art - its preoccupation with the making of striking patterns - is perhaps nowhere better seen than in the design of heraldic devices of the period.

"The Gothic designer of ornament had a predilection for abstracting certain features from his model and emphisizing them in a stylized manner as a bold pattern." (Savage, 1966, p.72).

The pronounced geometric character of much Gothic ornament is largely due to compass-work on which the style is based. The cross is a medieval motif rarely used in secular ornament in Renaessance times. Gothic crosses, however, are never simple; they are a geometric development of the plain cross. The rosette is a frequent ornament of Gothic times but, unlike the Roman rosette, it has stylized leaves exactly arranged.

"The ornament employed in decoration of furniture, with exception of a few scenes from romances, deeds of arms, jousts, and even Scriptural incidents, was borrowed entirely from Gothic architecture and duplicated in wood the work of the masons. Foliage was much favored and the plants, selected from native plant life, included maple leaves, pasley, curled cabbage and cress leaves, and above, all, vine leaves with bunches of grapes... However, by far the favorite decoration for paneled furniture is the linen-fold motif which lent itself to an infinite number of variations from the simple to the complex." (Boger, 1966, p.21-3).

In the fourteenth and fifteenth centuries the workrooms in Paris and later in Flanders produced tapestry, much of which was of closely-packed floral design and known by the name of verdures.

"There were also many hangings of painted canvas both for walls and for bed covers or curtains. The designs for these, frequently embellished with animals, coats of arms, hunting scenes and landscapes played a most important part in the appearance of quite modest interiors as well as those of the great houses." (Denby, 1963, p.29-30).

3. 6. 5. Material & techniques:

In the ages following the barbarian invasions, stone-construction is in decline and the arts of ornament are predominant. But stone is the essential material of the

great period of the Middle Ages. Even hidden under polychrome paint, the stone is felt as both structure and decorative form.

In the first years of the twelfth century, there appeared in France a new structural member which proceeded, by a sequence of strictly logical steps, to call into existance the various accessories and techniques which it required in order to generate its own architecture and style-the vault rib. In order to fully understand the Gothic art of the twelfth century, its vitally experimental character must be born in mind.

"One must say that the twelfth century was the great age of the Gothic experiments, just as the eleventh have been that of the Romanesque experiments, and like the latter, it eventually produced a clearly defined style, which remained Romanesque in its masses and, to some extend, in its equilibrium, but which was Gothic in structure. The first half of the thirteenth century carried still further the systematic application of the first principles and, having finally abandoned the Romanesque type of great church with tribunes, it went onto develop the consequences of the vault rib to their ultimate conclusion; the Rayonnant (Radiating) style defined upon the earlier solutions; while at the end of the Middle Ages their meaning was forgotten and their functions misapplied by the masters of the Flamboyant style." (Focillon, 1963, p.3).

Walls are often constructed of rubble masonry not laid in horizontal courses, or of brick and rough flint in patterns. In accordance with Medieval usage materials were in small pieces, even when of small stones or ashlar, fitted together to meet the requirements of a style in which church walls were practically replaced by glass windows and projecting buttresses.

Until the middle of the fourteenth century only carpenters were available to make wood furniture. About that time, however, a new system of construction was developped on the continent which necessitated the use of mortise, tenon, and dowel pins or pegs and was the work of the joiner.

"No doubt the most important event in the construction of joined furniture was the invention of paneled framing... in place of the full walls the uniform thickness was

substituted a system of frames made of uprights and horizontal pieces of thick wood joined with mortise and tenon. The inner of the frame were given deep grooves in which were fitted a panel that could be quite thin, since it was simply a containing shell and in no manner contributed to the strength. In its slightly loose setting it could expand and contract and thus prevent the danger of splitting, warping, or shrinkage. A chest joined in this way was lighter and stronger and thus more portable; it used less material and so was more economical. In a word, this type of construction, the stout enframement of thin walls, transformed furniture, and the art of joinery was born." (Boger, 1966, p.18-9).

Only useful wares were made of pottery, but the fashion for tiles as wall and floor decoration was particularly prevalent in Spain. "By the middle of fourteenth century a new substance later to affect profoundly the course of the decorative arts in Europe first made its appearance. This, Chinese porcellaneus ware, was represented at the time by a small piece brought back from the Far East by Marco Polo and preserved in Venice, and by a vase mounted in silver with the arms of Louis the Great of Hungary (1342-1382) which was formerly in the Beckford collection and now survives without the mounts." (Savage,1966, p.70-1).

Plastered ceilings came in during the early sixteenth century and provided a completely new field for decorative art, in the first instance owing much to influence from the Netherlands. Glass in windows was now in use in most of the wealthier houses and occasionally was steined and painted.

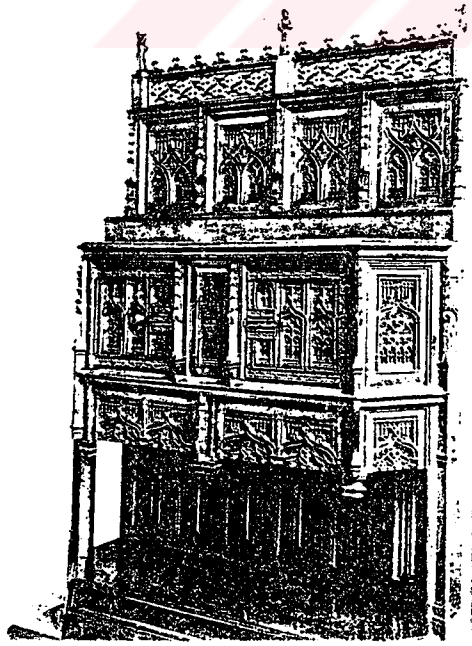
3. 6. 6. Furniture & furnishings:

Gothic, the style of the age of chivalry and trobadours, began to evolve from the Romanesque around the middle of the twelfth century in the Ile- de-France, an old province in northern France with Paris as its capital. Except in Italy, it reigned unchallenged throughout the fifteenth century in all European countries. Its influence is clearly seen in furniture, which, like all the arts of this period, was made subordinate to architecture, the major art form of the Middle Ages.

"In medieval times, when the great nobles changed houses they took all their valuable possessions with them. The furniture was so constructed that it could rapidly be taken apart for transport; it was made to be transportable or mobile..." (Boger, 1966, p.18).

Gothic furniture is solid, massive, and severe in character. As a rule, the forms are rectilinear, with emphasis on the vertical, except in Italy where horizontal effects are more characteristic.

"Contemporary sources suggest that interiors were much more luxuriously furnished on the Continent than in England, although furniture itself was relatively uncommon. The custom of using dining couches had disappeared with the Romans, and plain benches and stools were customary... Marble tops were occasionally employed in the fourteenth century, but tables of precious metal had been unfashionable since the days of Charlemagne who is reputed to have had one of gold and two of silver, although these may have been plated on a bronze or wooden foundation." (Savage, 1966, p.62)



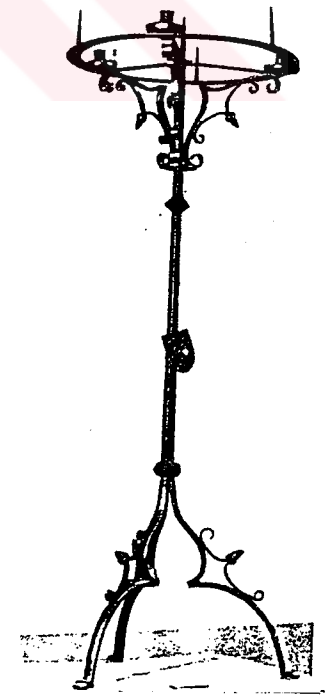


Fig. 3.31 The Gothic style in furniture decoration. Fig. 3.32 Chasse of St Valerie.

The use of curved lines is limited to the folding chair of x-shape, resembling the Roman curule chair of Dagobert which appeared again in the fourteenth century.

At this time the furniture-makers of Paris (Fig.3.31) were especially noted for the quality of their carved chests and coffers. The buffet was a kind of sideboard, sometimes called a credence, which developed from a table near the altar. It was used both for serving and as a stand for displaying silver vessels. Richly carved bedsteads were a legacy from Roman times. Medieval bedsteads were often of great width. A sixteenth century example, the well-known Great Bed of Ware, is reputed to have held four couples in comfort.

Carving was the favorite method of decorating the surface of Gothic furniture north of the Alps. The medieval taste for brightly painted woodwork touched with gilding found a natural outlet in the decoration of furniture. The large number of rare examples or carved chests painted in vivid primary colors contrasted with elaborate iron work give some idea of the brilliance of a medieval domestic interior. There can be no doubt, however, that most of the furniture was simply made of plain heavy wood intended to be covered at all times with either a coat of plain bright-colored paint or fabrics.

"From the Middle Ages to the time of Industrial Revolution the development in furniture has been from simple to complex, from scarcity to plenty, and from crudely made to skillfully wrought... Tables and forms, benches, settles, a chair for the master, chests, a cupboard of some nature as a food cupboard, perhaps a buffet or dresser for the display of valuable plate and other treasures comprise the furniture in the hall, the chief living room in the house used primarily for dining and entertaining. Colorful fabrics are draped over the furniture and cushions are placed on the seats to provide a little comfort and some feeling of luxury. The furnishings of other roomsare equally meager and consist of a bed, chest, prie-dieu, and perhaps a table, cupboard, or press and bench... As in ancient Roman times, the wardrobe or garderobe for the reception of clothes and other possessions is a small room adjoining the master's apartment." (Boger, 1966, p.23).

The chair in medieval times was regarded as a symbol of authority and its use was restricted to the master of the house and distinguished guests. It is generally accepted that the typical medieval chair was evolved from a chest by the addition of a panelled back and sides. This massive seat of box-like form was richly carved. For convenience in traveling, seats of x-shaped framework, a lighter type of chair fitted with straps of leather and fabric for seat and back, were the best solution - they folded and if necessary were quickly taken apart.

Another early chair is the so-valled turned chair, having the entire structure turned, the seat being triangular.

Tapestry was an essential part of medieval interior decoration. Tapestry-weaving appears to have been revived on a fairly large scale in the twelfth century. They have always been associated with royalty and royal occasions. Hanging tapestries were often used as partitions to divide the large rooms which were then the rule, and pileless European carpets of tapestry-weave with figured decoration perhaps existed in the fourteenth century for the purpose of coloring the floor.

Lighting appliances were of bronze or wrought iron, those for suspension being adapted for the consumption of oil. Standing candlesticks (Fig. 3.32), often of great size, were known as prickets from the large spike on which the candle was impaled.

3. 6. 7. Sculpture, painting & objects d'art:

Italian secular Gothic interiors concentrated on wall painting for their decoration, regarding it as desirable to fill with narrative scenes all the flat surfaces available. Quite often the backgrounds were gilded, in reminiscence of the earlier mosaic techniques. The fine civic buildings of the fourteenth century contrast with their northern counterparts in the extensive use of painted decoration rather then ornamented structural members.

"Much goldsmith's work, and that of the bronzesmith too, was decorated with champleve enamel, which is colored glass paste inserted into cells scooped in the metal and subsequently fused. Enamelling became a popular form of decoration for

small works of art in the precious metals particularly, but in the Middle Ages it was principally employed for such large work as the decoration of bronze tombs, and for reliquaries, chasses, and altar vessels." (Savage, 1966, p.68).

The table of the court and of rich noblemen were furnished with a great variety of vessels made from silver, gold, pewter, and bronze, the latter often gilded. The most striking was the nef, a center-piece in the form of a ship which in some versions held the host's knife, fork and napkin, as well as salt and spices imported from the East (Fig. 3.33).

Table glass of good quality was rare, mostly imported from Venice or directly from Syria at great cost. its place was largely supplied by rock-crystal vessels carved with lapidary techniques.

Fig. 3.33 A silver nef. Late Gothic Style.1503.

3. 7. Renaissance:

3. 7. 1. Principles of design:

As the Gothic terminates the middle ages, so the Renaissance marks the begining of the modern era. The Italians were the first of the modern people to discover the outside world, to see it and feel it as something beatiful.

"To this discovery they added a still great achievement, the discovery of and development of man as an individual. Ever since the fourteenth century the civilization of Greece and Rome exerted a powerful hold on Italian life as the basis, pirpose, and ideal of existence... Essentially the fifteenth century, generally referred to as the Early Renaissance was an intellectual age of preparation and experimentation." (Boger, 1966, p. 28-9)

The Renaissance movement, which began in Italy (Florence) early in the fifteenth century, created a break in the continuous evolution of European architecture which, springing from Roman and proceeding through Early Christian and Romanesque, had during the Middle Ages, developed into Gothic in each country on national lines. Italy, which was still rich in her ancient Roman monuments, was naturally the pioneer in the Renaissance movement, especially as the Gothic style had never taken firm root in a country which had always clung to her old traditions.

"Although the Middle Ages in Italy were already touched by what is known as the Renaissance spirit, the Italian Renaissance spirit, the Italian Renaissance was in its beginings an essentially medieval phenomenon. (Focillon, 1963, p. 191).

Renaissance 'romanticism' long retained, to the glory of Italian art, what one might call an exclusively tonal character, capable of giving the style a certain tinge and accent, but not of diverting it into imitative formulae. It is true that it was not merely nostalgic, but enthusiastic also, and that, in a more general view, it exceeded the limits of humanism, during the first half of the fifteenth century.

"Since the Renaissance was not a natural outcome of structural method, and largely a decorative system derived from an ancient source, it was open to personal

interpretations which when made by accomplished masters, might be taken up by pupils and followers and institute school of design." (Fletcher, 1961, p. 656).

Pevsner (1961), moreover, mentions that the major characteristic of Renaissance is that great architects were not usually architects by training. And henceforth great artists were honoured and admitted into positions outside their craft simply because they were great artists.

"The skilful deceit, attractive to the eye and delightful yet disconcerting to our sense of space, was not simply the early and capricious phase of an immature experiment: Italian art consistently retained its loyalty to, and its superior capacity for it, as, for instance, in architectural illusionism and theatrical decoration, and even in large scale frescoesand the paintings of the masters." (Focillon, 1963, p. 195).

The whole period from the 16th to the 19th century is called that of rebirth, *rinascita* or Renaissance, by the scholars. Early writers by using this term meant the rebirth of art and letters in quite a general sense. But in the 19th century the emphasis was laid on the imitation of Roman forms and motifs. In re-examining the works of the Renaissance today, one must, however, ask oneself whether the new attitude toward Antiquity is really their essential innovation.

"Early Renaissance scholarship had prepared the ground and rediscovery of the writings of the Roman Vitruvius led to a mathematical definition of the classical orders and a rationalizing of proportion. In contrast with the methods of the Middle Ages, much building now came to follow an intellectual system conceived in terms of strict relationship of the parts to the whole." (Denby, 1963, p. 39).

If we explain the Early Renaissance as merely the culmination of medieval trends of thought and the later or High Renaissance merely as a foretaste of the Baroque then it has virtually ceased to have any positive validity of its own. To some extent every age is a transition, just as is every human life; but like each life, it also possesses a character of its own.

"Renaissance virtually called itself by that name, formulating the concept that it had given rebirth to something, had witnessed a renewal of some activities and was destined to be a restored golden age... It wanted to remain traditional, but it chose the tradition of antiquity rather than Christianity... Renaissance looked back to a mythical period of the past - a generalized classical age no more specificallyof one date than is the scene of Raphael's *School of Athens* - and aspired to be not merely like that but in fact better: by synthesizing antique and modern knowledge there would come the most truthful philosophy, the best literature, the finest works of art. " (Levey, 1970, p. 14-5).

The Renaissance no more discovered nature than it discovered antiquity, but it made something new of its interest in Nature (bringing it close to Christianity). Against the structure of the Gothic world, the Renaissance takes immediate form. According to Alberti's theoretical writings, the very essence of beauty, which he defines as 'the harmony and concord of all parts achieved in such a manner that nothing could be added or taken away or altered except for the worse'. A new concept of perfection has motivated the the architect.

"Alberti actually distinguished between two types of aesthetic quality in a building: beauty and ornament. 'Beauty' consists in the 'harmony of all parts,' and is the result of of 'proportion and connection'; in other words, of the geometrization... Ornament is something added and means an 'improvement to beauty'. Wall articulation, such as rustication and Classical detail, belonged to the category of ornament." (Norberg-Schulz, 1975, p. 252).

Culture was the primary basis of Renaissance authority-a humanist culture based on the belief in man's moral and intellectual powers. In this sense it signified a rebirth of Greek antiquity, but the new concept of homogeneous space, however, is concretized that synthesis of Christianity and Platonism which forms its true core.

"In Gothic architecture the sensation of growth is predominant everywhere. The height of piers is not ruled by the width of bays, nor the depth of a capital, or rather a cap, by the height of a pier. The addition of chaples or even aisles to parish churches

is much less likely to spoil the whole than in a Renaissance building." (Pevsner, 1961, p. 314).

In Renaissance buildings plans were arranged with special regard to symmetry, produced by similarity of parts on either side of central axial lines. Church interiors were planned in square bays covered with barrel or cross vaults and with a central dome.

"The development from the Early to the High Renaissance, from delicacy to greatness, and from a subtle planning of surfaces to a bold high relief in the modelling of walls encouraged an intensified study of the remains of imperial Rome. Only now was their drama fully understood. Only now did humanists and artists endeavour to visualize and perhaps recreate the Rome of the ruins as a whole." (Pevsner, 1961, p. 336).

In The high Renaissance, culminating in Rome early in the sixteenth century, perfection was achieved in every branch of art, the first three decades being the most celebrated period of Italian art and one of the great periods of all times. Because of her ardent pursuit of antique culture, strengthened by her ever-increasing wealth, Rome became the mecca for great artists-Bramante, Raphael, Michelangelo, and other men of genius were invited to her court.

If balance and harmony are the chief characteristics of the High Renaissance, Mannerism is its very reverse; for it is an unbalanced, discordant art. The High Renaissance is full, Mannerism is meagre. Mannerist types are slim, elegant, and of a stiff and highly self-conscious deportment. Self-consciousness to this extend was a new experience to the West. The Middle Ages, and the Renaissance too, had been much more naive.

"The spontaneity and vitality, the intellectual zest and aesthetic inventiveness which made the Early and High Renaissance such a brilliant and creative period were dimmed in the Late Renaissance. The hold Spain was to retain on Italy and the renewed strength of papacy, with its broader implications of themoral and anti-classical impact of the Counter Reformation, had a telling effect. However, if these

blemishes of a baroque character, which became increasingly evident as the sixteenth century progressed, mar the gilded picture, they by no means destroy it. Only Venice remained free from the influence of Spain and the papacy; she still retained the wordly brilliance of the High Renaissance." (Boger, 1966, p. 31-2).

The Renaissance in Italy was colorful, extravagant, and spectacular. The palaces were literally storehouses of paintings, tapestries, statues, and vases of porphyry, oriental alabaster, and other rare materials,antique arms and armor, manuscripts, rare medals, enamels, ivories, and sumptuous walnut furniture. Draperies and cushions of cut silk velvets of cut silk velvets, carved and gilded chandeliers, candelebra and candlesticks, pedestals and wall brackets for the reception of bronze and marble sculptures, mirrors, bronze andirons, services of silver and gold plate, fine linens, exquisite Venetian point laces, delicate Venetian glass vessels, Della Robbia plaques, lustered majolica, and brilliant oriental carpets contributed to the splendor of the furnishings. In a word, as the introuvable John Evelyn wrote in his diary in 1644 after visiting the palace of Prince Doria in Genoa. "The house is most magnificiently built without, no less gloriously furnished within."

"The spread of Renaissance ideas in France - as in all other countries outside Italy - was an entirely different process. The new style was a foreign style and came initially as a fashion rather than a compulsive upsurge of ideas. Gothicism had become so deeply rooted that change was slow and was at first confined to decorative detail applied on buildings still fundemantally Gothic in concept." (Denby, 1963, p. 44).

Renaissance decoration in England was heralded by the design for the tomb of Henry VII by the Florentine Torrigiano in 1516 and well known as a turing point in history. Henceforth a style of decoration borrowed from Italy became fashionable, but for nearly a century this style was used to embelish traditional forms of building rather than as a revolutionary approach to the basic problems of design.

"The Renaissance in the Netherlands took a slightly different path to that followed elsewhere. Here the Protestant schism was even more marked than in Germany, and the defeat of Spain combined with the opening of the Far East to Dutch vessels to create a numerous middle class consisting principally of wealthy

merchants. Artists and craftsmen were strongly organized in Guilds, and they found a ready market for paintings (produced in vast quantities and sold in the market-place in open-air booths) which depicted Dutch middle-class life." (Savage, 1966, p. 108-9).

The Renaissance also came slowly to Spain. As late as the sixteenth century Moorish craftsmen remained in the service of Spanish masters. However artists from France, the Netherlands and Germany were then making their way south to the Iberian peninsula with noticable effect. Spanish passion for elaborate ornament made them especially susceptibleto the more exotic varieties of Italian Baroque, which occurs in Spain in exaggerated forms.

3. 7. 2. Form:

To understand the space conception of Renaissance architecture, it is useful to start with a basic aim it has in common with Gothic architecture: The concretization of the cosmic order. Like his medieval predecessors Renaissance man believed in an ordered universe and in divine perfection. However his interpretation was quite different. The visual logic of Gothic architecture is of a functional kind, and the single members can only be understood as parts of a working totality. In the Renaissance we find a different kind of logic" the logic of absolute and eternal geometrical order. Perfection of form replaced the functional meaning. According to Alberti the most perfect, and hence most divine form is circle. Centralization is therefore implicit in the concept of geometrical order. The concept also implies that every part of a building should appear as a clear, easily recognizable and rather independent form. As a result Renaissance space becomes homogeneous, and the buildings of the period static, self-sufficient compositions. In this way the work of architecture became a symbol of the cosmic order.

Homegeneous space is a fundamentally new environmental image, which, for the first time in the history of architecture, allowed for formal integration of the different environmental levels.

"Space was treated as a kind of substance which is structured by means of geometry and described visually by means of perspective. The concept of

homogeneous space, however, did not prevent meaningful spatial differentiation... different builings were given different character, according to the private, public or sacred nature to the task. This was achieved by the use of more or less 'perfect' forms, and by means of meaningful wall articulation. Without ceasing to be part of a homogeneous space, a building may, for instance, be characterized as more or less enclosed. Alberti was fully aware of the need for meaningful differentiation, and sought to represent a hierarchy of building tasks through a hierarchy of forms. He maintained that the most 'perfect' forms should be reserved for the church, and that public buildings in general should be executed in the strictest conformity with his formal principles, recommending deviations from these rules for private houses." (Norberg-Schulz, 1975, p. 251-2).

With its idealistic forms the existential image of Renaissance was Platonic as well as Christian. It was, in fact, the synthesis of the two.

"The Early Renaissance had rediscovered Antiquity and enjoyed a mixture of detail copying and a naive licence in the recontruction of more than details. The High Renaissance was in its use of Roman forms hardly more accurate, but the antique spirit was for a brief moment truly revived in the gravity of mature Bramante and Raphael." (Pevsner, 1961, p.347-8).

Renaissance articulation has two basic aims: geometrization and anthropomorphization. The first aim was satisfied by an exclusive use of elementary geometrical forms and simple mathematical ratios. The second was by a reintroduction of the Classical orders. Brunelleschi's church interiors are articulated by a regular repitition of classical members making the spatial geometry visible. Alberti also applied the rythmic articulation.

"Fireplaces, doors and windows gained increasing importance as decorative features and were dressed in adaptations of classic architectural forms. The so-called 'tabernacle' treatment of openings and recesses, with a moulded triangular or curved pediment above, flanked by pilasters at each side, derived from antique Roman forces and came into common use. It was repeated in painted decoration, woodwork and plasterwork until it became one of the most familiar aspects of Renaissance design,

whose ultimate projeny may be seen in the neo-Georgian doorcases of the twentieth century." (Denby, 1963, p. 40).

3. 7. 3. Scale & Proportion:

Attempts to construct a theory of ideal proportion in which the relationship of parts to each other, and to the whole, could be expressed mathematically had sterted in Greece as an intellectual exercise. The rules of Vitruvius were exceedingly obscure, but as interpreted by Palladio they were widely adopted by architects working in the revived classical style. Theories of harmony and geometric proportion were applied to the human figure by Durer and others, and the whole subject was debated afresh during the classical revival of the eighteenth century. Although the basis for such theories was largely irrational, it is an observed fact that the finest classical architecture is that in which the architect has taken them into account.

In Renaissance times, the cosmos is imagined in terms of numbers, and architecture was regarded as a mathematical science which ought to make the cosmic order visible.

"In antiquity proportions were related to the human body, and the Renaissance artists thus found a key to the harmony which is intrinsic to all creation. Their works were experienced as simultaneously cosmic and human, very much at odds with medieval verticalism." (Norberg-Schulz, 1975, p. 226).

The rediscovery of the beauty of the human , and the discovery of linear perspective had come with Renaissance.

"In the Renaissance building... the walls appear active, enlivened by the decorative elements which in their sizes and arrangement follow laws of human reasoning. It is ultimately this humanizing that makes a Renaissance building what it is. Arcades are airier and more open then they had been. The graceful columns have the beauty of animate beings. They keep to a human scale too, and as they lead from part to part, even when a building is very large, one is never overwhelmed by its sheer size." (Pevsner, 1961, p. 315).

3. 7. 4. Color:

The pre-eminent feature of the Italian Renaissance interior is its painting. Fresco painting gives the colored mural decoration of the style in which windows were subordinate, and it was handed down from the Roman period and attained the height of elaboration on the walls and ceilings of Baroque interiors.

"Frescoing that is the painting of body water-color direct on new, damp plaster, was the most common technique and produced remarkable durability of color and outline. Size, which is a limiting factor in oil painting on canvas, in fresco presents no problem." (Denby, 1963, p. 43).

Glazed terra cotta plaques in polychrome, chiefly made by della Robbias, were also used for ornamenting walls and ceilings and in rosette form constitute the whole lining of the shallow dome in Brunellesci's Pazzi Chapel.

Rich and colorful surface decoration-painting, gilding, pastiglia, intarsia, certosina, pietra dura, and carving-distinguishes the furniture of this epoch.

"Originally the invention of Andreas Cassius of Leiden about 1680, this new pigment varied in shade between rose-pink and ruby-red. The coloring material was gold istead of copper which had hitherto been the source of red pigment for glass and pottery decoration. Called at the time the 'purple of Cassius', this slightly bluish red acieved such widespread popularity that it may be said to have become a minor fashion. Not only was it a favourite with enamellers, glass-makers, faience painters, and porcelain-makers of the eighteenth century, but it reached China shortly before 1700, there giving rise to the popular category of painted porcelain and enamel known as the 'famille rose'. The Chinese called it 'the foreign color', but employed it nevertheless on wares for home consumption as well as export." (Savage, 1966, p.106).

3. 7. 5. Pattern &Texture:

Many of the floors were patterned with inlays of marble in contrasting colors, usally pink, white and grey. Glazed or unglazed terra cotta tiles provided an

alternative flooring, as in the state of apartments of Palazzo Vecchio, Florence (Fig. 3.34), and sometimes repeated in their layout the main lines of the ceiling design.

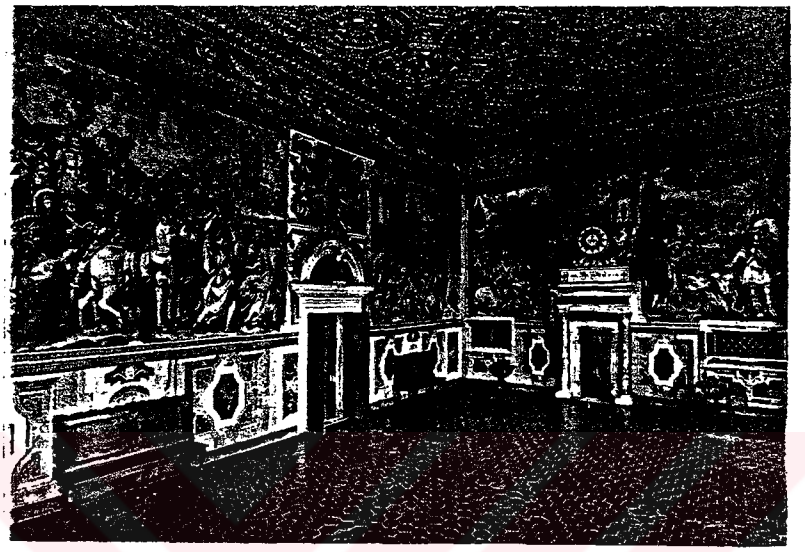


Fig. 3.34 Palzzo Vecchio, Florence-Audience Chamber.(1481)

"Another beautiful form of inlaid decoration is certosina, which reveals Islamic influence in its intricate arrangement of geometrical and convetionalized patterns worked in minute pieces of ivory. Extent examples of cassoni, cabinets, and X-form chairs decorated with certosina (Fig. 3.35) suggest how splendid were the furnishings of the Quattrocento made in Italy when exotic influences were blended with native Italian art." (Boger,1966, p. 40).

Carving was by far the favorite decorative medium for eniching the suface of furniture in the sixteenth century, and it was always the work of accomplished craftsmen. No piece of furniture exhibits the carver's skill more advantageously than the cassone, especially the marriage cassone (fig. 3.36), on which not only carvers but also celebrated painters, such as Botticelli, Signorelli, and others of equal renown, lavished their skill.

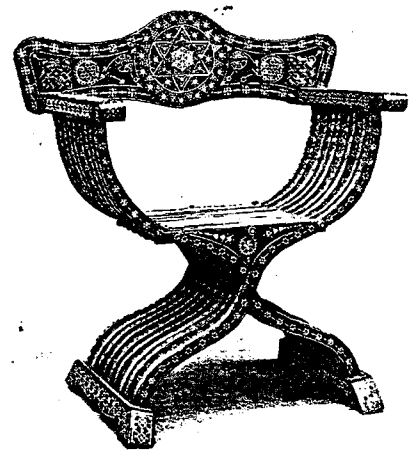


Fig. 3.35 Walnut savonarola decorated with certosina. Lombardian,c.1500.

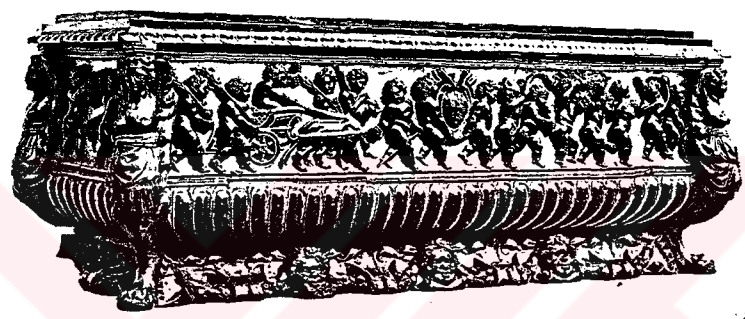


Fig. 3.36 Walnut armorial mariage cassone.Venetian, second half of 16th century.

"By religious convention living beings rarely form part of Islamic art (Persian heretics expected), but stylized foliage and angular and curved strapwork are common especially in tilework, some of which was the work of Byzantine Greeks." (Savage, 1966, p. 90).

3. 7. 6. Materials & techniques:

The Renaissance in Italy saw the development of Venetian glass- making. Although elsewhere in Europe glass-making had been no more than utilitarian since Roman times, even in the Rhineland which was a notable early center of art, the workers of Venice remained in touch with those of Alexandria where the old traditions survived, and as early as the twelfth century Venetians were making glass

apparently of unusually good quality, although none that is earlier than the fifteenth century seems to have survived.

"Glass in the tall and regularly-spaced windows was still a rarity and although small 'bull's eye' panes were sometimes used, windows were usually filled with woven material, oiled or waxed to give better transculance." (Denby, 1963, p.41).

Late in the fifteenth century Venetian glassworkers were making blue glass decorated with enamel painting, and patterns engraved with a diamond followed as soon as clear glass of sufficiently good quality could be produced. This was termed cristallo or crystal, an allusion to a fancied resemblance to rock-crystal which sometimes leads to confusion in the transcription of old records (Fig. 3.37).

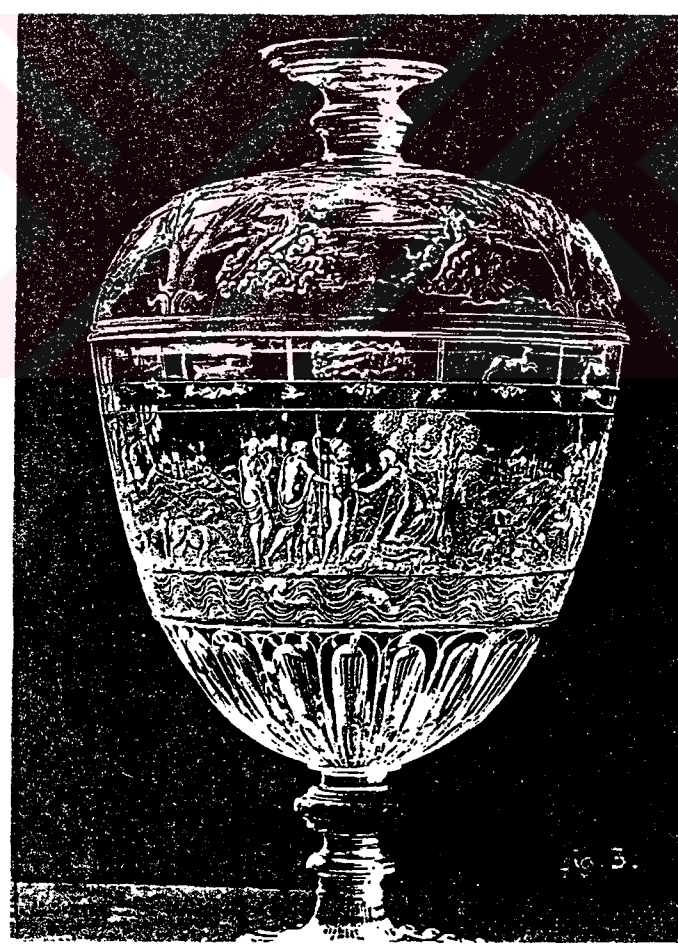


Fig. 3.37 Doppelpokal with gold mounts. Italian, c.1575.

Since glass made white and opaque with tin oxide was the basis of the maiolica glaze, it is hardly surprising that glass vessels similarly treated were extensively manifactured, not only in imitation of the rare specimens of Chinese porcelain which were just begining to reach Europe in appreciable numbers, but much more commonly in the form of clear glass with opaque white threads embedded in it to form complicated lacework patterns, known as vitro di trima or latticino.

"Venetian glassworkers became adept at manipulating the soft metal with pincers and similar tools, drawing it out into fantastic convolutions and producing the type of decorative glass for which Venice is perhaps most famous. At the time their most prized production was mirror glass (Fig. 3.38)." (Savage, 1966, p. 93).

Stained glass of excellent workmanship was produced in South Germany from the sixteenth century onwards. Enamelling on glass, a revived Roman technique practiced by the Venetians in the fifteenth century, was also developed. A characteristic example of such is Reichsadlerhumpen (Fig. 3.39).

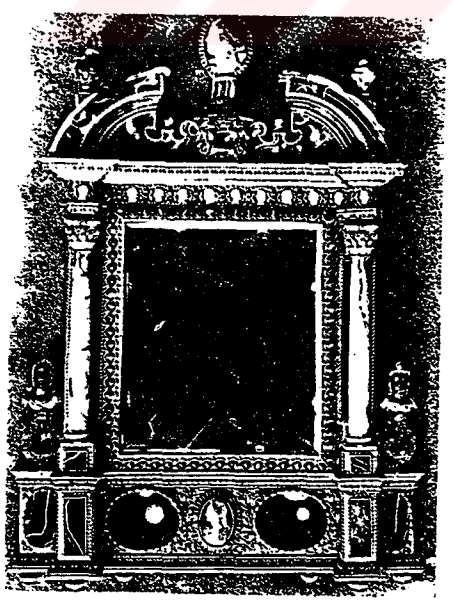


Fig. 3.38 The mirror given to Marie de Medicis.Fig. 3.39 Reichsadlerhumpen.1659.

"More antique motifs appeared in decorative friezes and panels, where an extensive repertory of garlands and trophies, shields, masks, cornucopias, arabesques and medallions was used in conjunction with caryadit and other figures. These provided a vocabullary of ornament ready to hand, for execution in a great variety of techniques such as wood- carving, stucco modelling or painting." (Denby, 1963, p. 40).

Much use was made of inlay in various materials-the precious metals, pewter, coloured marbles, ivory, and, a little later, ebony. Mosaics, in imitation of Florentine work, made from small tessare of various colored stones, enjoyed a short period of popularity towards the end of the sixteenth century, and marquetry in colored woods was fashionable throughout the period. French inlays at this time are principally geometric in character, little use been made in the Italian fashion for pictorial subjects. Carving, much of it gilded, was extremely popular, but mounting in bronze was practised only to a limited extent.

"Carving is generally carefully executed and has a character in harmony with Classic ideals and precedent, whether in cornices, concoles, capitals, friezes, pilaster shafts, or pediments." (Fletcher, 1961, p. 664).

Lathe-turning as a means of shaping supports for chairs, tables, and beds became popular at the end of the century.

Imported marble was extensively utilized in the best Dutch interiors to which many of the painters of Pieter de Hoogh testify, and painters were skilled in the simulation of marble for many purposes, some of them unconventional.

3. 7. 7. Furniture & furnishings:

"Furniture throughout the period was large and heavy although the wood carving which covered much of it was geberally of good quality. Plain, heavy chests of drawers and cupboards, pedestal or refectory-type were the main pieces. Beds, of course, were in use but had fairly simple turned posts and canopies. Long chests or cassone provided the main objects of decorative treatment, being carved, painted,

gilded and embossed or even panelled with velvet according to fancy." (Denby, 1963, p. 43).

Silver furniture usally covered with silver plates beaten over wooden formers, was made for special purposes. The celebrated painters decorated such objects as the chest (cassone), the surface being first prepared with a layer of gesso. A Florentine example appears in (Fig. 3.40).

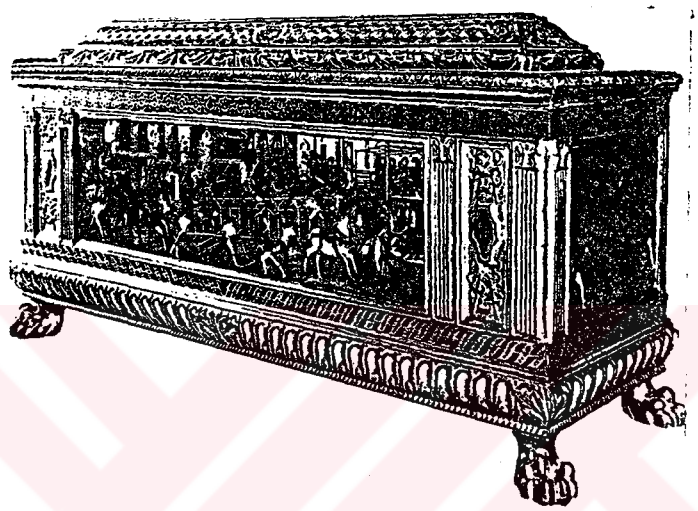


Fig. 3.40 A cassone painted and gilded from Florence. 15th century.

Italian Renaissance furniture's original setting was the large and lofty rooms of Iyalian palaces, the walls hung with gilded and embossed leather or with tapestries and other textiles. Furniture was large and imposing, its design based on contemporary architectural practice, with pediment tops, carved columns, and arcades in the form of the Roman semicircular arch.

"Furniture made after the middle of the sixteenth century often exhibits an excess of not always harmoniously disposed ornament, with a progressively greater emphasis on fantastic figures - half-human and half-animal, such as the satyr, ar with foliate termination, derived from Roman wall painting." (Savage, 1966, p. 85).

The Roman chair of x-shape was a popular Renaissance form. However the chair began gradually to approach more nearly to the familiar seventeenth century types with high, straight back and open arms. Beds were provided with a canopy supported at each corner by posts, often of baluster form. Buffets elaborately carved, commonly displayed plates and dishes as well as ewers and basins of the colorful new maiolica, which became an essential feature of Italian Renaissance decoration soon to be copied in northern Europe.

"Very little South German furniture of the period has survived, but enough remains to say that it was largely inspired by that of Italy. The use of architectural forms derived from classical building is well shown in (Fig. 3.41) a cabinet from Ulm of about 1630, which has flatly carved strapwork and coloured marquetry in addition." (Savage, 1966, p. 102).

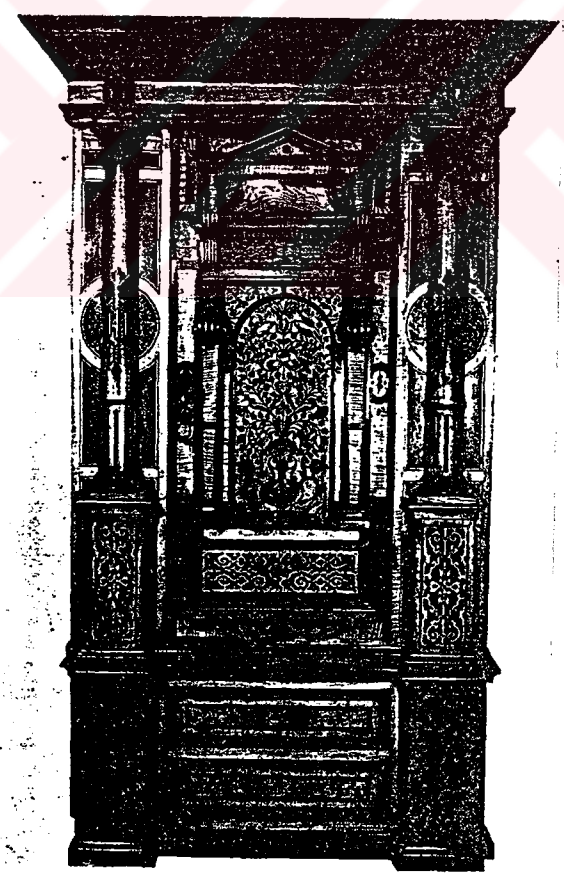


Fig. 3.41 Large cabinet of architectural form. South German.c.1630.

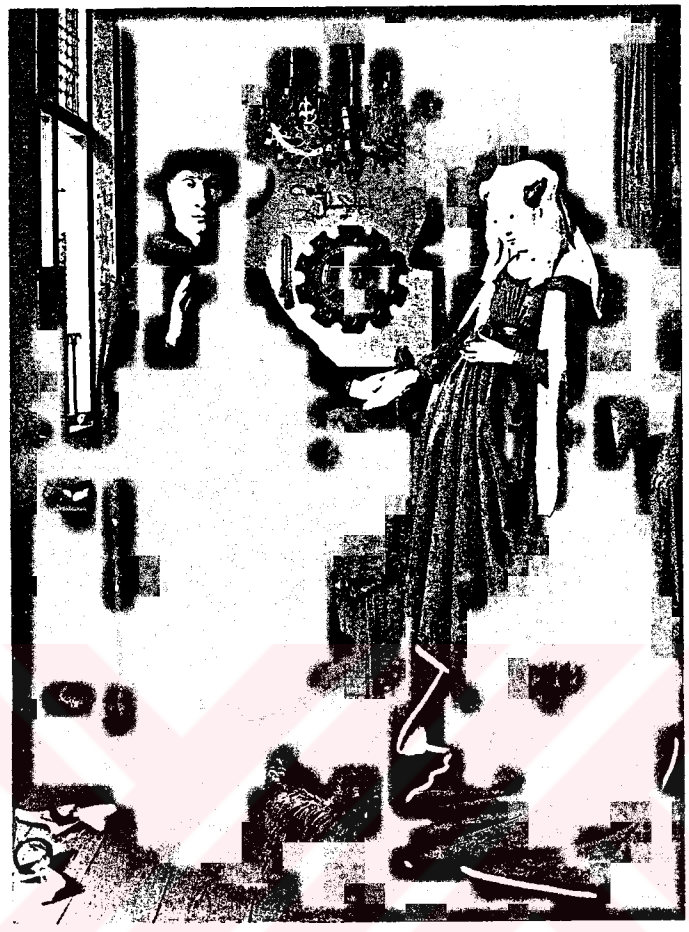


Fig. 3.42 The marriage of Giovanni Arnolfini and Giovanni Cenami. Jan van Eyck.

3. 7. 8. Sculpture, painting & objects d'art:

In Renaissance times, the artist as an individual became important and was often versatile in more than one field of design. There was a restricted use of ornament in the early times. Ornament generally was founded on classical mythology and pagan subjects.

"The orders dictated interior as well as exterior compositions and in such an early interior as Brunelleschi's Santo Spirito, Florence (1435) the Corinthian capitals from which the nave arcading springs, together with the restrained coffering of the

flat timber ceiling, originally provided the main touches of decoration in an interior where otherwise the simplicity of plain walls defined by straightforward moulding was left to speak for itself." (Denby, 1963, p. 39).

The middle Renaissance style, current in the sixteenth century in South Germany, gave place to Baroque which especially appaeled to the German love of fantasy in ornament.

The pre-eminent feature of the Italian Renaissance interior is its painting. The cortile walls in the Castello del Maresco, Savigliano, were painted in perspective by the brothers Arbaudi to represent a series of niches between the windows and, above, a vaulted archaded gallery with balustrading and lifelike figures of musicians in each bay.

"Trompe l'oeil is the technique of representation which is so close to actuality as to deceive the eye into taking the apparent for the real. Landscape and architectural themes were often combined in Roman painting to give an impression of looking through an open window, and the same technique was employed to decorate Baroque interiors, the illusion often being heightened by added details in painted stucco." (Savage, 1963, p. 94).

The mariage of Giovanni by Jan van Eyck (Fig. 3.42) where ordinary man, and woman, are completely held in a cube of their environment: a geometrical theorem which has passed out of science into art through van Eyck's technique. It is as if a mirror were held up to nature; and by a happy chance one of the van Eyck paintings mentioned by Fazio did contain a marvellous rendering of a mirror which reflected what one might see in an actual mirror.

"Van Eyck's is the most illusionistic device of all because it is achieved entirely in paint: And the medium of oil paint covered by a vernish is itself part of the magical technical skill which Italy admired: it was a 'secret' comparable to the secret process of making glass mirrors - much more esteemed then merely metal ones because as Vincent of Beauvais had recorded in the thirteenth century 'because of its transperancy ,glass best transmits rays'." (Levey, 1970, p. 31).

Fig. 3.43 St George Donatello.

In the seventeenth century rustic landscapes were in demand and were produced in great variety. The oriental trade began to exert a marked influence on Dutch decoration after the middle of the seventeenth century, especially in the painting of tin-enamelled pottery, the making of which had been introduced by Italian workmen in the early years of the sixteenth century.

"Dutch painting also provided subjects for the potter, who produced an extraordinary variety of wares. Larger paintings were copied in panels built up from a number of tiles. These tile panels were copied in panels built up from a number of tiles. These tile panels were especially popular for ducal kitchens." (Savage, 1966, p. 111-2).

Donatello's marble St George (Fig. 3.43) held its proud aesthetic position throughout the Renaissance, as warmly admired in the sixteenth as in the fifteenth century. The sculptor himself was the sole figure who could suitably be paragoned with Michelangelo. Michelangelo had put nature into marble, giving inanimate blocks life, sense and movement.

Ausburg was particularly noted for the manifacture of superbly decorated clocks in gilt bronze and brass. Automata, figures which moved in various ways on the hour, were popular (Fig. 3.44). Many of the cases were of gilt-bronze, and inlaying with silver was not infrequent. Moreover, the finest of the stoneware vessels are among the important examples of German Renaissance art.

"It is this dialogue of humanity that is carried on with such increasing eloquence by the Renaissance artist; and fresh examination of experience in general is perhaps the characteristic of all Renaissance activity." (Levey, 1970, p.34).

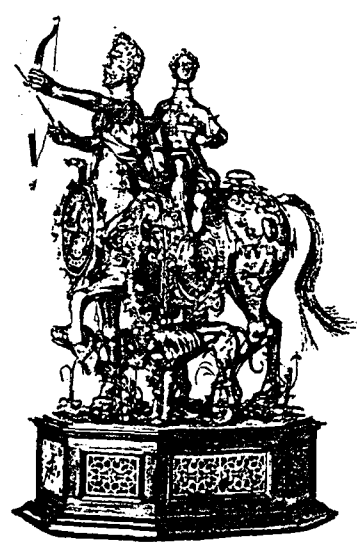


Fig. 3.44 Fine silver gilt clock on an ebony base.Augsburg.Early 17th century.

3. 8. Baroque, Rococo & Neo-Classicism In The XVIIIth Century:

3. 8. 1. Architectural space conception:

Mannerism is originally a noun connected with 'mannered'.

"...Some forty years ago it changed its meaning and became the term for a specific historic style in art, the post-Renaissance style of the sixteenth century, particularly in Italy. The same process had taken place about forty years earlier with regard to Baroque. Baroque had originally signified odd, especially of odd shape. It was therefore adopted to describe an architectural style which to the classicist appeared to revel in odd, extravagant shapes, that is the style of Italy during the seventeenth century." (Pevsner, 1943, p. 238).

In Baroque architecture the importance of space as an element of construction which was suggested by Mannerism is fully realized. In contrast to a construction of plastic members, the Baroque building is made up of interacting spatial elements which are modelled according to outer and inner forces. About the way by which Baroque space is understood, Argan says: "The great innovation was the idea that space does not surround architecture but is created by it." (Argan, G. C., L'Europa delle Capitali 1600-1700(Geneva, 1964), p. 106).

The word baroque, from the Italian barocco, a misshapen pearl, was given to this style by later critics because it violated the principles of pure classicism. Then, chiefly in the eighties of the last century and chiefly in Germany, it lost its derogatory flavour and became a neutral term to designate the works of art of that century in general.

"German Late Gothic was fonder of spatial complexity than the Late Gothic of any other country, so the exploitation of space became now the central problem of German Late Baroque, a problem occasionally solved with the knock-out technique of the Transparente, but more often by purer, strictly architectural means." (Pevsner, 1943, p. 259).

Baroque architecture is essentially a reflection of the great systems of the seventeenth and eighteenth centuries, especially the Roman Catholic Church and the political system of the centralized French state. The purpose of Baroque art was simultaneously to symbolize the strict organization of the system and its persuasive power, and Baroque architecture therefore appears as the singular synthesis of dynamism and systematization.

"Baroque architecture is an architecture of inclusion. It does not exclude any aspect of the total architectural experience, but aims at a great synthesis. Both the systematic organization of Renaissance space and Mannerist dynamism are integrated. The transcendent quality of the Middle Ages and the antromorphic presence of antiquity are absorbed. The only property shunned is conflict, for a true synthesis does not allow for doubt." (Norberg-Schulz, 1980, p. 315).

The basic properties of Baroque space are dominant centre, infinite extention, and plastic power. As Baroque architecture is synthetic, it is characterized by simultaneous formal differentiation and integration. Baroque compositions are rich and complex, but they also possess a grand, comprehensive design.

Baroque inclusion may also be understood as a synthesis of opposites: space and mass, movement and rest, enclosure and extention, proximity and distance, power and gentleness, dignity and delicacy, illusion and reality, opera di mano and opera di natura. It is also seen that phenomenization allowed for a differentiation of character according to the building task, and how it opened the way for architectural historicism.

"Although Baroque architecture concretized the systems of the period, it also represents an important contribution to the growth of general architectural experience, that is, to the universe of possible meanings." (Norberg-Schulz, 1980, p. 316).

Finally the environmental character could be differentiated within an all-inclusive homogeneous space, a concept which prefigures modern pluralism.

"Francesco Borromini deliberately introduced space as the constituent element of architecture. His spaces are complex totalities given a priori as indivisible figures. This character is stressed with all the means at his disposal, above all by the continuity of the bounding walls." (Norberg-Schulz, 1980, p. 292).

The space is intended as a unit, which may be articulated but not decomposed. Franchesco Mansart introduced the idea of spatial interpenetration in the church of the Visitation in Paris (1632) where oval chaples on the main axes are interpenetrated by the circular main space so as to break up their forms.

Baroque architecture started in Rome as an expression of the new self-assurance achieved by the Church through the Counter Reformation movement. The concept of dynamic system was soon adopted in France. The Counter Reformation and political aspects were unified by the Austrian Baroque, which mainly due to genius of Fischer von Erlach and Hidebrandt. In other works of the latter we also feel the nostalgic intimacy of the French Regence and Rococo. The Rococo is a style of transition which is rooted in the Baroque, but also assimilates the new empiricism and sentiment of the eighteenth century Enlightenment. In German Late Baroque architecture all the previous experiences are brought together to form a last great synthesis, above all in the comprehensive works of Balthasar Neumann. Whereas the Renaissance mainly was an Italian phenomenon, the Baroque became an international style based on the problem of existance.

3. 8. 2. Principles of design:

"It may seem strange to talk about a "common general attitude" in connection with an age characterized by diversity and a certain freedom of choice. The Baroque world may be called "pluralistic" in so far as it offered man a choice between different alternatives, be they religious, philosophical, economic or political. But all the alternatives had in common the aim of arriving at a complete and secure system based on a priori axioms or dogmas." (Norberg-Schulz, 1980, p. 319).

In the long run the esprit de systeme could not satisfy man's need for a secure existential basis. The new empiricism which resulted formed the basis for a new concept of existance, fundamentally different from the Baroque esprit de systeme.

Baroque concludes a period in the history of Western culture which is usually called "the age of humanism". During the period people were still predominantly Christian in Europe, but they now wanted to integrate faith with the understanding of nature and human character inherited from antiquity. During the Renaissance only the divine aspects of man and nature were considered. Divine perfection was found in the human body, and in the rest of nature as well.

"Renaissance architecture is characterized by spatial geometrization by means of Classical antropomorphic orders. Mannerism represents doubt in this simple solution by exclusion. The dark side of man and nature was again experienced as a threatening reality. Rather than an expression of divine beauty, man felt his own body as a prison of the soul, and as a result he became subject to fear and alienation. Mannerist architecture is therefore characterized by conflict between the natural ordine rustico and the anthromorphic members." (Norberg-Schulz, 1980, p. 320).

During the Baroque age, finally, the totality of neutral and human aspects were considered. Body and soul were now understood as parts of inclusive, dynamic whole, and the experience of meaning was often connected with a state of ecstasy.

The art of the period concentrates on vivid images of situations, real or surreal, rather than on absolute form. "The charm of fables awakens the mind." Descartes said. Baroque architecture is therefore characterized by active participation of the antropomorphic members in a dynamic spatial system. Participation, however, implied that man became more conscious of his own existance, and in the long run what should have made the system secure, therefore, led to its disintegration.

"Although Baroque buildings are characterized by plastic vitality and spatial richness, close study always reveals an underlying systematic organization. The two seemingly contradictory aspects of the Baroque phenomenon, systematization and dynamism, form a meaningful totality..." (Norberg Schulz, 1980, p. 287).

The religious, scientific, economic and political centers of the seventeenth century were focuses of radiating forces, which seen from the centre itself, had no spatial limits; they had an open and dynamic character. Departing from a fixed point they could be infinitely extended. In this infinite world movement and force are of primary importance. The resulting system was absolute but open and dynamic and was basic to the Baroque age.

The Baroque world may also be characterized as a great theatre where everybody was assigned his role. However, participation pre-supposes imagination, a faculty educated by means of art, so art was of central importance in the Baroque age.

Rome is fountainhead of Baroque art and is referred to as baroque city. Italian Baroque, essentially a continuation of late sixteenth century Italian art, reached its culmination about the middle of the seventeenth century when, and paricularly in France, a strong classical counter- movement arose that resisted the exaggerations of the Baroque without surrendering its high artistic values. To gain some understanding of Baroque it is necessary to keep in mind the Counter Reformation, which brought about the predominance of a religion whose chief preoccupation was to overwhelm and dazzle.

"We have seen the Baroque style first heralded in the massive forms and the gigantic excelsior of the dome of Michelangelo's St Peter's. We have seen that these efforts of Michelangelo towards the baroque remained exceptional and that he himself in other works of architecture gave way to the pressure of Mannerism. It was only after Mannerism had completed its course that a new generation at the beginning of the seventeenth century, especially in Rome, tired of the forced austerity of the late sixteenth, rediscovered Michelangelo as the father of the Baroque." (Pevsner, 1943, p. 238).

The interiors of churches, in the Counter Refomation, were transformed into dynamic displays of decoration full of ecstasy and rapturous splendor. Baroque art aims at effect. For example, to create an effect of excitement, restlessness, and movement, which are typical Baroque features, Bernini, the representative par excellence of the Jesuit style and thoroughly familiar with all the resources of his art,

treated the draperies on his stone sculptures in a writhing, whirling manner rather than in soft, classical folds.

"In Baroque art the phenomenization initiated during the sixteenth century was further developed. Architects of this time were exceptionally sensitive to the effects of texture, colour and light, as well as water and other natural elements, and were capable of giving their spaces any desired character. At the same time, then, it is possible to find such different variations on the Baroque "theatre" as the persuasive, "miraculous" church interiors of the brothers Asam and the light, gay and sensuous Rococo salons of Francois de Cuvilies." (Norberg-Schulz, 1980, p. 302).

Fig. 3.45 Filippo Juvara: Palazzo Madama, Turin.

Fig. 3.46 Filippo Juvara: Palazzo Madama, Turin. Grand staircase

There is also the deliberate pluralism of expression developed by the great Italian architect Filippo Juvarra. In his work every building has got its appropriate character: The exterior of Palazzo Madama in Turin (1718) (Fig. 3.45) is defined in terms of representative monumentality, whereas in the interior (Fig. 3.46) the forms become plasticly alive to accompany the festive movement of the splendid stairs.

In Baroque buildings, the external work, the fountains, facades and colonnades are more immediate in effect, but the interior design is no less important or inventive, developing a full range of devices of illusion.

"The Scala Regia, the main entrance to the Vatican Palace, was designed with great ingenuity to convert a difficult, irregular area into an impressive entrance. From the short entrance corridor a flight of steps terminates visually on a strongly-lit equestrian statue of Constantine. This focal point serves to distract attention from the right-angled change of direction which occurs, leading to the left up the main stair. This is in two flights, barrel-vaulted and diminishing in both width and height as the stairs ascend, employing forced perspective to give a greater impression of distance. The Ionic colonnades which support the coffered vaulting also play their part, with light and shade falling effectively on the freestanding columns to emphasize the depth of the composition. Sculptural angels and cartouches fly over the arches, adding movement." (Denby, 1963, p. 52).

In the late Baroque in Italy (18^{th} century) the embullient sculptural forms had retreated by this time and the articulation of wall surfaces was no longer carried out in high relief.

"The Roman Church kindled the Baroque spirit, and the style spread into other European coutries, Catholic countries being the chief fields for Baroque art. In France it was so homogeneously developed under Louis XIV that toward the end of the seventeenth century, when French art became pre-eminent in Europe, Italy, along with other European countries, found herself accepting the French interpretation of her own Baroque style. However, her native influence still continued to contribute characteristically to the prevailing style." (Boger, 1966, p. 43).

The popes and cardinals of the seventeenth century were enthusiastic patrons, eager to commemorate their names by magnificient churches, palaces, and tombs. However, a general decline in the religious fervour of the people can hardly be noticed before 1660 or even later. Not the intensity of religious feelings, only their nature, changed. Art and architecture prove that unmistakably. Maderna was the leading architect of his generation in Rome. His successors in fame were Gianlorenzo Bernini, Francesco Borromini, and Pietro da Cortona.

"For Bernini was the son of a sculptor and himself the greatest sculptor of the Baroque. He incidently also painted, and as for his reputation as an architect, it was so great that Louis XIV invited him to Paris to design plans for an enlargement of the Louvre Palace." (Pevsner, 1943, p. 242).

The sumptuous, Baroque Louis XIV style with its solemn and heroic classicism was the style of the king-a king who knew wonderfully well how to make his palace at Versailles a painted Olympus, a veritable theater in which he could play the part of god rather than king. Under gifted French artists, Baroque art was skillfully planned; they imbued it with an air of triumphant and stately elegance, of lofty and majestic grandeur. Three phases or periods can be distinguished in the Louis XIV style.

"The early phase under Cardinal Mazarin, 1642-61, was dominated by Italian influence. In the second phase, when Louis XIV, though only twenty-two years old at Mazarin's death, began his personal rule, the arts where under the aegis of Charles Le Brun, 1619-90, premier peintre du roi... These were the triumphal years of Louis XIV' s life, when he believed himself to be a god upon earth. In the final phase, after 1690, come decline and decay for the aging king. The Louis XIV style rapidly crumbled away in the closing years of the century as a new style, seen in the work of such ornamentists as Jean Berain, under the influence of the nascent rococo, began to evolve considerably before the death of the grand monarch in 1715." (Boger, 1966, p. 95).

The famous galerie des Glaces, one of the most remarkable features even of Versailles, which has intended as a meeting place for the entire Court. This gallery, copied on several occasions elsewhere, has seventeen arched windows on one side

and seventeen arched mirrors of Venetian plate on the other. The windows and the mirrors are framed with broze mouldings, the work of Caffieri, and they are seperated from each other by pillars of coloured marble.

"Another contribution of the age of Louis XIV was the development of the town house, the hotel, into a well-appointed relatively conveniently planned residence, generally set back from the street with the main block entered from the cour d'honneur. The reception and living rooms were no longer aligned to display along vistas through door after door, with access to each room only through the next. Bedrooms were frequently used as reception rooms, with attendant entryrooms, closets, and dressing rooms. More rooms opened of the vestibule or hole and the staircase, which was either of the square open wall type or had a lower central flight dividing to return with two upper flights parallel to the first." (Denby, 1963, p. 54).

The invitation of Bernini in 1665 by Louis XIV to prepare designs for the Louvre signalized, even though Bernini's plans were dropped in favour of Perrault's, the consciousness in Paris of the greater freedom of the new style.

"In France the Baroque style is not nearly so apparent outside as it is inside the palaces of the period, and it is significiant that the plans of Bernini for extentions to the Louvre were rejected in favour of those of Perrault." (Savage, 1966, p. 116).

In the seventeenth and eighteenth centuries inner organization became more differentiated and comfortable, especially with the introduction of the apartment double which made the rooms independent of each other and gave them privacy. The main addition of the eighteenth century was the great staircase, which received its most splendid treatment.

"The French court style owes much to the designs of a few gifted artists under the general supervision of Le Brun. They provided door and window mouldings, architraves, fireplaces, lighting appliances, furniture, and tapestries, and strongly influenced painting and sculpture." (Savage, 1966, p. 121).

Baroque influence in England was again restrained by the feeling for Classicism which followed the applied extravagances of Tudor Renaissance work. It is therefore exceptionally difficult to seperate any specifically Baroque movement from the general trend.

"To experience the thrills of extremes and excesses one must indeed go to Spain, or else to Portugal, or of course to Germany. To these countries the Baroque came late, but it was taken up with tremendous fervour. Italy has no examples of such orgiastic interpenetration of reality and fiction as can be seen in some few Spanish and many more South German churches of the early eighteenth century." (Pevsner, 1943, p. 255).

In St John Nepomuk church, in Munich, the Transparente is the co-operation of strictly architectural composition with the merely optical deceptions to achieve an intense sensation of surprise which may turn easily into religious fervour. But sensational it is all the same, sensational in the literal sense: no artists before Bernini, the Asams and Tome had aimed such violent effects.

"The reorganization after the Thirty Year's War of Bohemia, Moravia and South Germany as small states under the Holly Roman Empire with increasingly wealthy and powerful rulers and nobility produced a great number of churches and palaces in the later half of the seventeenth century. After a general pause in building during which the classic phase of the Renaissance was largely passed by, a characteristic Baroque style drew its inspiration partly from the heavy, early Renaissance of North Germany and the Low Coutries, partly from close contacts between Venice and Vienna and only indirectly at this early stage from Rome through the new Jesuit order." (Denby, 1963, p. 57).

Neumann's pilgrimage church of Vierzehnheiligen in Franconia, which is built from 1743 to 1772, testifies to its later date than that of St John Nepomuk. Asam's work is still Baroque in the seventeenth century sense, Neumann's belongs to that last phase of the Baroque which goes under the name Rococo.

"...Rococo is not a separate style. It is a part of the Baroque, as Decorated is part of the Gothic style. The difference between Baroque and Rococo is only one sublimation. The later phase is light, where the earlier was forceful; playful, where the earlier was passionate. But it is just as mouvemente, as vivacious, as voluptuous as the Baroque. One connects the term Rococo chiefly with France and the age of Casanova on the one hand, Voltaire on the other." (Pevsner, 1943, p. 267).

As in Baroque the new impulse for Rococo, which differs from the former in its lightness and its use of asymmetry and is marked by anomalous designs suggested by shell forms, rocks, and waves, came from Italy. Its origins can be traced to those examples of ornamental treatment expressed in the grottoes first developped in Italian gardens in the later part of the sixteenth century. The Rococo as perfected in France provided an appropriate monument to the special genius of the French artists who were skillfully able to adapt Italian novelties of a baroque character to the French conception of art. So the new style with an entirely different approach returned to its Italian birthplace to be received as something foreign or exotic by the Italians, who then developed it in a variety of ways.

"It has been well said that Rococo began when the scrolls stopped being symmetrical, and the true Rococo style is first to be met in the designs of Paris goldsmith and ornemaniste, Juste-Aurele Meissonier (1695-1750). In France Rococo is termed le style Rocaille, le style Boucher, and even le style Pompadour. Rocaille is, perhaps, the most accurate term for what is commonly called Rococo; the latter may have been invented in Italy in the eighteenth century to describe some of the more exaggerated aspects of late Baroque." (Savage, 1966, p. 124-5).

Many of the trends which had been firmly established in western Europe in the seventeenth century carried over into the following decades. Louis XIV, who died in 1715, had brought France into a leading position in the field of decorative art and by his organization of the Manufacture Royale created a unity of style which extended to all features of the fashionable interior.

"Regence decoration originating during the minority of Louis XV, was much lighter in touch and more delicate then preceding work. Less gilt was used, mouldings

became thinner and freer in line, but the greatest change of all, instanced in Jacques-Ange Gabriel's designs for the Petits Cabinets at Versailles, was in gloss of the new finish of varnish over distemper and its fresh colorings. These, instead of rich beds, blues and greens of the earlier interiors, were 'couleur d'eau, petit vert, jonquille, lilas, gris de perle, bleu de Prusse'." (Denby, 1963, p. 60).

Gilt chairs and sofas were upholstered in watered or striped silks and magnificient craftsmanship in marquetry and brasswork continued to be employed by the furniture makers. An example of such is the king's desk by Reisener together with a chest of drawers made for Louis' bedroom. Other important accessories of this period include the larger mirror panels which improved methods of manufacture had made possible and crystal chandeliers with large pear-shaped drops. Both of these made a considerable difference to the general feeling of interior by reflecting the light and distributing it throughout the room, concealing in this way the relatively small size of salons.

"Although the French Court style was taken up with enthusiasm in Germany during the closing decades of the seventeenth century, Rococo became even more popular, and it soon spread to almost the whole of continental Europe... Rococo spread north to Sweden and south to Italy assuming regional characteristics in the selection and disposition of ornament when objects were made locally and not imported." (Savage, 1966, p. 140).

In England no great revolution of taste marked the course of style, but the strongest single influence was exerted by the Palladian group of architects under the active patronage of Lord Burlington. In North America at this time many of the better town houses had well-proportioned elegant ineriors.

"The English nobility, it must be admitted, did; right into the Victorian age. But they had nothing of the unreflecting attitude of the Baroque. This change from a style binding for all and understood by all to a style for the educated only did not take place in Germany and Italy until 1760. In France and Britain it had come about earlier. But than neither France nor Britain (nor the north of Germany, Holland, Denmark, and

Scandinavia) had ever accepted the Baroque with all its implications." (Pevsner, 1943, p. 286).

Having followed the development of Baroque in Germany and Austria well into the eighteenth century we find that suddenly, with the importation of French Rococo forms of decoration, a sympathy is struck between the two.

"A new range of expression and achievement results, communicating itself in this part of Europe as a direct and unselfconscious form of art. This Rococo style is primarily an interior style, applied to churches or to secular buildings with equal gaiety, and is confined quite closely within the date limits 1730 to 1770." (Denby, 1963, p. 70).

Bruchsal with its perfect unity of space and decoration was the high-water mark of the Baroque style. It was also its end. For only a few years after it had been completed and Neumann had died, Winckelmann published his first books, initiating the Classical Revival in Germany. Between Neumann's world and that of Goethe there is no link. The man of the new world no longer thought in terms of churches and palaces. No church designed anywhere after 1760 is amongst the historically leading examples of architecture. Napoleon built no palaces.

"Rococo, the period of indulgence in caprice and fancy, was rapidly approaching its end owing to a newly awakened enthusiasm for classical remains stimulated by excavations commenced in 1738 at Herculaneum and Pompeii. It is important to remember, however, that this classical revival was countenanced also by reverence for antiquity which was dormant but not dead during the rococo. So once again Italy became the scene of archeological activities, and as in the Renaissance, Rome was the center of this research and abounded with scholars from every country in Europe. The entire period received lively support from literature and the theory of art of such men as Goethe, Lessing, and Winckelmann." (Boger, 1966, p. 46).

A more pronounced taste for the antique and its closer imitation became evident in the later eighteenth century, resulting in the Directoire style that logically evolved into the Empire style, the second phase of classisicm. In comparison with the Louis

XVI and Empire styles, the Directoire is not an independent and finished style in itself, but is, in essence, the ending of one and the herald of the other. Sanctioned by fashion, artists and cabinetmakers turned to direct classical sources for their inspiration. They began to reproduce exact forms where examples existed, and for those pieces unknown to the ancients, the great majority, to formulate designs consonant in character. The general conception of the Directoire style is aptly expressed in chairs, settees, and tripods chiefly inspired by the remains of ancient Greece.

3. 8. 3. Form:

In transition between High Renaissance and Baroque, the Mannerists took hold of the accepted orders and attenuated or reversed their structural significiance. Pilasters often became tapered towards the base, their capitals smaller than themselves. The thrust of weight was left apparently unsupported in this way, creating a sense of nervous energy barely held in control.

With the tentative efforts of Carlo Madderna and later the vigour of Bernini, architecture was released from these tensions into a new freedom of form. Interior volumes were exploited for their qualities of movement and were garnished with abundance of curved and broken pediments, twisted columns and statuary of an exagurated realism. The effect was to draw the unlooker into the drama of the building and to dismiss contemplative qualities from design.

"In general, phenomenization led towards a dissolution of the archetypal characters of the Classical tradition, and also prepared the way for motifs and forms from other styles in particular the Gothic" (Norberg Schulz, 1980, p. 302).

Baroque space is joyful but never vulgar; vigorous, boisterous perhaps, but never crude. It is of an inexhaustible creative power, with ever new combinations and variations of Italian Baroque forms placed against each other and pilled above each other. The forward and back motion never stops. Borromini appears massive against this swiftness of movement through space. As in every original style, in the German Rococo the same formal intentions seems to model space and volume. The three

dimensional curve is the leitmotif of the period. It pervades buildings from their main theme of composition down to the smallest ornamental details.

"..why did architects and artists so fervently strive to deceive and create such intense illusion of reality? What reality was the Church concerned with? Surely that of the Divine Presence. It is the zeal of an age in which Roman Catholic dogmas, mysteries, and miracles were no longer, as they been in the Middle Ages, accepted as truth by all. There were heretics, and there were sceptics. To restore the first of the fold, to convince the others, religious architecture had both to inflame and mesmerize." (Pevsner, 1943, p. 271).

Still, there is no denying fact that we, observers or believers, never feel quite sure where in a church the spiritual ends and the wordly begins. The ecstatic elan of the architectural forms at large is irresistable, but it is not necessarily a religious elan.

Eighteenth-century Rococo designs suggested an asymmetrical nature. French love of formality was reasserting itself at home in spite of the flights of Rococo exuberance which French architects abroad continued to create for German or Bavarian dukes and princes.

"The restraint of neo-Classicism entered into decorative work before the death of Louis XV in 1771 although elegance and lightness were still retained and the intimate scale with which the king had been well pleased still continued to characterize interiors and decoration in the reign of his successor." (Denby, 1963, p. 61-2).

3. 8. 4. Material & techniques:

A distinctive feature of Versailles style is the blending of exotic materials with the superb craftsmanship. The old French marbles quarries of the Lanquedoc, closed since Roman times, were reopened, and rare and exotic marbles were imported from Italy and the lands of Mediterranean. Martin Lister well describes the rich tapestries embroidered with gold and silver thread, the velvet beds of gold and silver tissue, cabinets inlaid with tortoiseshell, silver and brass, and rock-crystal candelabra, which

were in the house of every man of substance, remarking that many ruined themselves by laying out large sums on works of art.

"...decorative creed could leave in the no room in the minds of patrons and artists of the Baroque to be squeamish about honesty in the use of materials. As long as the effect was attained, what could it matter whether you attained it with marble or with stucco, with gold or with tin, with a real bridge or a sham bridge such as we find sometimes in English parks? Optical illusion is in fact amongst the most characteristic devices of Baroque architecture." (Pevsner, 1943, p. 250-1).

Louis XIV fomulated a general standard for the decorative arts throughout France, although at the same time created a seperation between designers and craftsmen, resulting in greater sophistication and elaboration of design but less true understanding of the nature of the materials used. French plate glass is an advanced product for the time.

"The most important expression of Rococo in the eighteenth century is, perhaps, to be found in porcelain which, beginning with the founding of the Royal Saxon factory at Meissen under the patronage of Augustus the Strong, became wildly fashionable throughout Europe." (Savage, 1966, p. 127).

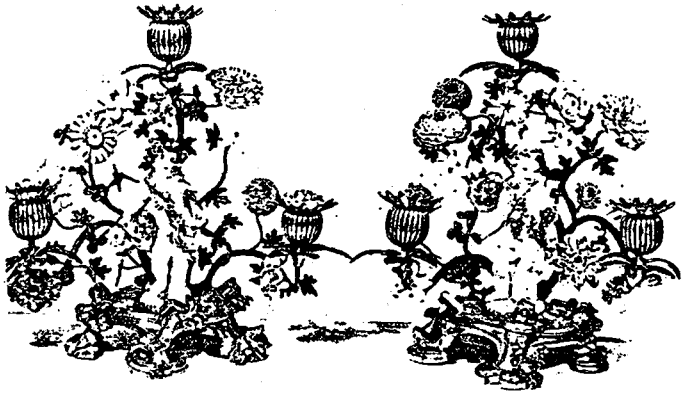


Fig. 3.47 Two small Meissen figures mounted in gilt-bronze with leaves.c.1755

It is probable that one of the influences in the direction of asymmetry was the popularity of porcelain imported from Japan. Shortly before 1750 a porcelain factory destined to be almost equally influential with Meissen was founded at Vincennes and removed to Sevres about ten years later. The porcelain body of Sevres was distinctly less tractable than that of Meissen, and the Rococo C-scrolls and ornamental flourishes which could be carried out in porcelain in Saxony were replaced by gilt-bronze mounts similarly modelled in France (Fig. 3.47).

"The French court style is the result of a skillful synthesis of many materials to form a coherent whole. Andre-Charles Boulle, one of the foremost cabinetmakers of the seventeenth century, covered his furniture with marquetry of such exotic materials as tortoiseshell and ebony in combination with silver and brass, the metal often engraved with designs in the manner of Berain (Fig. 3.48)." (Savage, 1966, p. 129).

Fig. 3.48 A low cabinet or armoire.

Throughout the seventeenth and eighteenth centuries metalwork played an essential part in the formation of the court style. Bronze (usually gilded), gold and

silver were the more preferred, but wrought iron was popular for stair and balcony railings (Fig. 3.49), such as those designed by the architect and Rococo ornemaniste Gilles-Marie Oppenord.

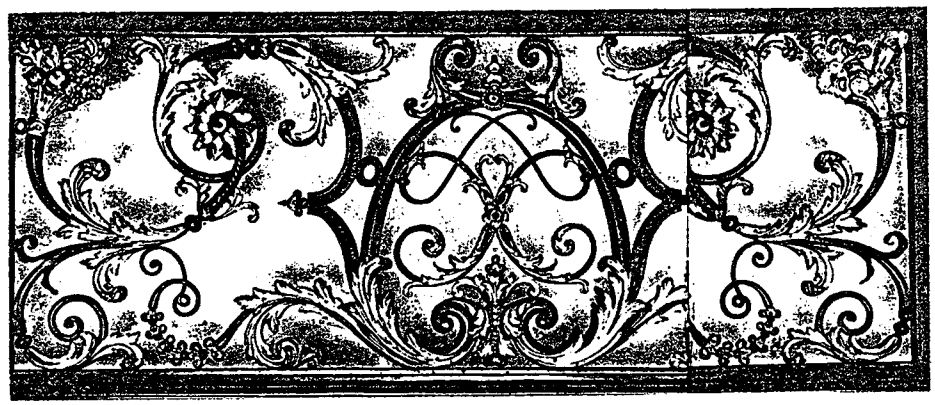


Fig. 3.49 Part of wrought-iron balustrate. Palais Mazarin. 1735.

3. 8. 5. Furniture:

Furniture of the seventeenth century made in Italy until the period of Louis XIV was tempered by French influence displays many of the features found in the late sixteenth century. The ornament of a heavily plastic quality, comprises all the classical Renaissance forms, but is marked by exaggerated movement and dramatic planning and contrast.

"The Venetians made the finest Baroque furniture, rich with riotous ornament-half figures of a caryatid nature terminating in foliated scrolls, putti, shells, cartouches, and highly dynamic and decorative scrolls (Fig. 3.50) sometimes ending in volutes and often so extended that they are scarcely recognizable. In spite of all its violations, Venetian Baroque furniture is not without charm. When the exuberance of Baroque ornament is restrained, as is evident in the Louis XIV style and also in some later Italian and Venetian Baroque moderated by French taste, it possesses a stately and sweeping rhythm that is entirely pleasing." (Boger, 1966, p. 43-4).

Fig. 3.50 Carved gilt console table.Venetian Baroque.18th century.

In the decorative arts, the preceding period of Louis XIV witnessed the introduction into France of foreign luxury furniture, resulting in a more elegant mode of living and the retreat of French taste before this onslaught of foreign influence from the Low Countries, Germany, and Spain.

"Andre Charles Boulle, one of the greatest furniture makers and one of the few in France who was also a craftsman, developed the inlaying of furniture with tortoiseshell and brass and was working in the second half of the sixteenth century in a manner which leaned far more to the Baroque than to the classical genre." (Denby, 1963, p. 54).

The work of Boulle opens with a blaze of glory the period of marquetry in French furniture, where the technique was to reign triumphant and supreme until the end of Ancien Regime. Boulle's great work, which reflects the mature taste of Louis XIV, adopted the ideal and style of Le Brun. His furniture, severe in its black, reddish-brown, and golden harmony, possessed the monumental and noble qualities that made it worthy to play a leading role in Le Brun's conception of grandour.

Boulle work has always been and still regarded as the supreme expression of louis XIV style. Cabinets, armories, bureaux plats, coffres de mariage (Fig. 3.51)

mounted on stands, and from which the serre-bijoux with a drop-front panel was derived, commodes, pendulum clocks, pedestals, and mirrors were favorite subjects for boulle marquetry. In his most characteristic work the surfaces are decorated only with tortoise shell, metal, and ebony-a style of marquetry bearing his name (Fig. 3.51).

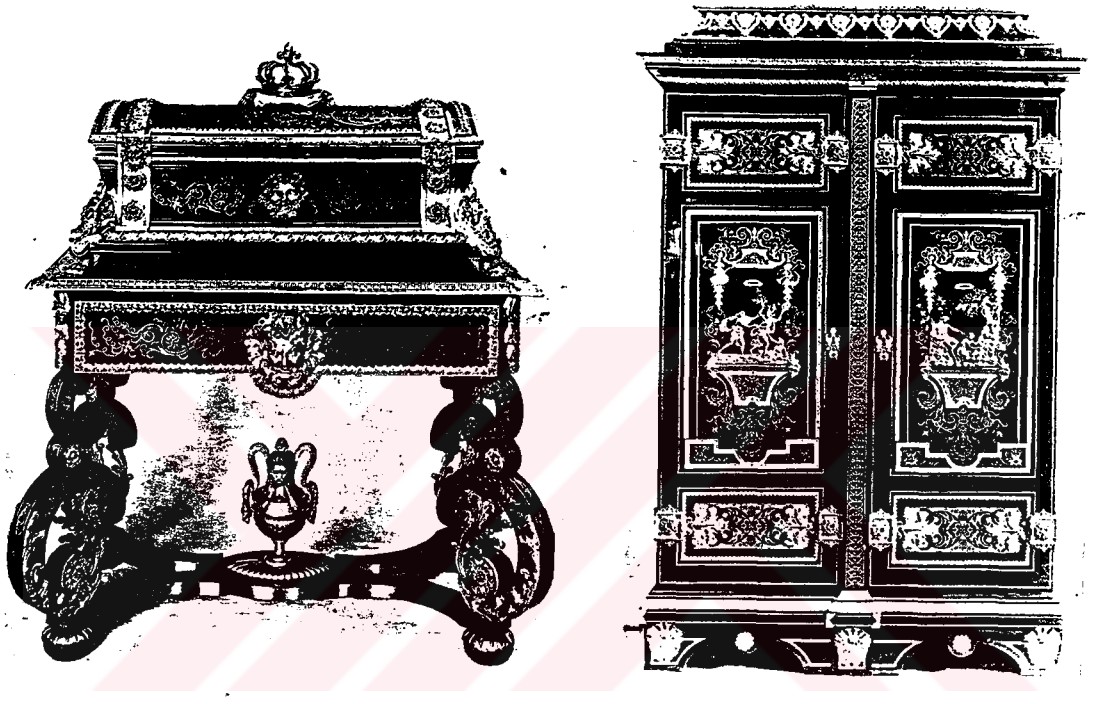


Fig. 3.51 Marriage coffer and Armoire attributed to Andre Charles Boulle,17th c.

He harmoniously combined this marquetry with chased and gilded bronze mounts, which emphasized the essential architectural structure of the severe, rectilinear forms and contributed to the solidity by serving either as a reinforcement or a protection.

"Like Boulle marquetry, other practices employed in furniture making-gilding, marquetry of various colored woods (en bois de rapport), veneering, and upholstery-which until about 1650 were relatively rare, became quite usual in the second half of the seventeenth century. In a period that preferred richness, real or apparent, above

everything else, it is only to be expected that carved and gilt wood furniture should play an important role in court furnishings. Of course Louis XIV would have preferred to have his furniture made of solid gold; but failing that, he accepted the next best: furniture made of silver, which after his vainglorious wars was melted down in an attempt to avert national bankruptcy." (Boger, 1966, p. 100-1).

The spirit of the French Baroque, with its boastful and triumphant air, was captured with remarkable success in the Louis XIV furniture blazing with magnificiance. Perhaps the most striking as well as most usual feature of this epoch is greatness. No piece of furniture embodies the characteristic of the style and of the period itself more than the stately upholstered armchair (Fig. 3.52) with its air of imposing strength and immobility.

Equally characteristic of the Louis XIV period are the monumental beds having four tall posts (lit a colonnes), their wood frames covered with fabric and their several sets of hangings that served as a guarantee against drafts.

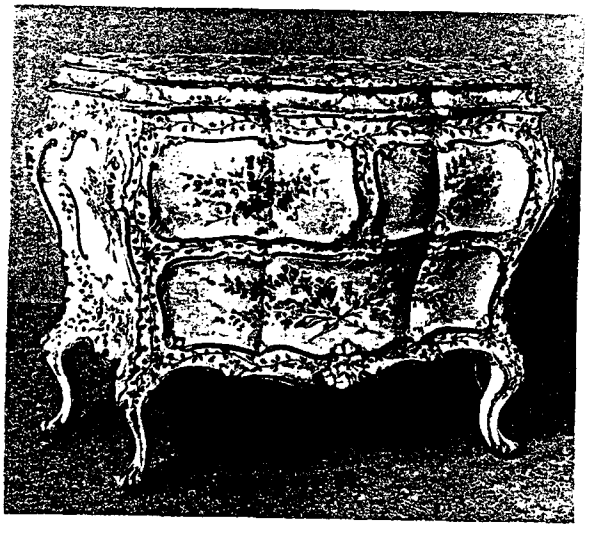


Fig.3.52 Armchair of carved and gilt wood.Fig.3.53 Carved and painted commode.

Equally characteristic of the Louis XIV period are the monumental beds having four tall posts (lit a colonnes), their wood frames covered with fabric and their several sets of hangings that served as a guarantee against drafts.

The specialization of tables according to their use, for writing, gaming, toilet, and tea evolved under Louis XIV. Elaborate toilet sets made of silver were in high fashion; they comprised a mirror supported by a hinged strut, boxes for powder, rouge, and patches, scent bottles, covered unguent jars, brushes, combs, and other beauty requistes, not to mention caskets for jewels, candlesticks, ewers, and rose water-basins that were very often a part of these sets.

Of all the new furniture introduced at this time, the commode, or chest of drawers was destined to have the most brilliant career.

"Our first thought in considering Italian Rococo furniture is Venice, which produced not only the most original creations but also the most excuisite ones-charming for the fantasy and vivacity of their decoration, expressed in colorful, artistic delicacy and in delightful sculptural detail. Bearing in mind the Venetian love of color, which is the salient point in all her arts, it is easy to understand that their so-called lacquered furniture of the eighteenth century, reveling in its original and capricious interpretation of Rococo, would be most acceptable to Venetian taste." (Boger, 1966, p. 44).

The surface was prepared with several layers of gesso, dried and rubbed down; then it was painted with tempera colors and protected with a layer of varnish to simulate oriental lacquer. Of all the painted Venetian furniture, the commodes are especially choise and delicious. Some are decorated with chinoiseries that painters such as Tiepolo loved to use in their large schemes of decoration comprising Chinese figures, bamboo and pagodas, surrounded by gay Rococo frames (Fig. 3.53).

"During the regency of the Duc d'Orleans, which began in 1715, the angularities of seventeenth century strapwork gave way to a predilection for graceful curves, first perceptible perhaps in the gilt-bronze furniture mounts of Charles

Cressent, one of the principal cabinetmakers of the period who cast his own mounts." (Savage, 1966, p. 124).

During the Regence the surfaces and outlines of furniture were curved. To some extent influenced by Madame de Pompadour, mistress of Louis Quinze, the large Salon de Reception began to give place to small salons and the boudoir, and furniture of this reign is generally smaller in scale than that of the preceding period.

Especially in southern France, furniture throughout the seventeenth century echoes the styles of Louis XIII rather than those of le roi soleil. It is massive, architectural in form, with a good deal of floral and foliate carving. The most important feature of the provincial interior was the armoire, a large cupboard made of oak or walnut, and from the end of the eighteenth century, of mahogany. The buffet is at its most handsome in the eighteenth century, and some versions resemble the old English dresser. Commodes, one of the more impressive features of the Court style, became something closer to the English chest of drawers in the provinces. Tables of polished wood were plainer, and also lacked the bronze mounts and rich inlays.

"...overwhelming enthusiasm for antique art afforded a new and powerful impetus that transformed the character of furniture-symmetry was re-established, cornices and other architectural details were again prominent, sinuous Rococo curves yielded to severe and simple classical lines, tapered and fluted supports, of baluster shape and accasionally rectengular, supplanted cabriole legs. This transformation, however, was not quickly effected, and the introduction of classical motifs, expressed in the lighter form of the eighteenth century, preceded any major structural change. Undoubtedly Italy's finest contribution to early classicism is her so-called Louis XVI style, which displayed a wide range of varying expressions according to local receptiveness, the purist expression being found at Piedmont, especially at Turin. Although lacking the pedantic perfection of the French Louis XVI, the Italian Louis XVI, through its artful blending of Pompeian, Etruscan, and Roman antique ornament with Raphaelesque arabesques and the antique fantasies of Piranesi, posseses a spontaneity, a singular freshness that recall the traditions of the Quattrocento." (Boger, 1966, p. 47-8).

The general conception of the Directoire style is aptly expressed in chairs, settees, and tripods chiefly inspired by the remains of ancient Greece. Chairs and stools of simple design, depending for decoration on their gracefully curving X-form supports, borrowed from antique Roman seats of curule form, frequently painted in the fashionable white and gold color scheme, effectively display the creative charm embodied in the Italian empire.

3. 8. 6. Sculpture, painting & objects d'art:

To understand the Baroque it is essential to see it in such a perspective that we are too much used to looking at decoration as something which may or may not be added to architecture. In fact all architecture is both structure and decoration, decoration for which the architect himself, or the sculptor, the painter, the glass-painter may be responsible. But the relation of decoration to structure varies in different ages and with different nations.

In the Gothic style of the cathedrals all decoration served the mason's work. The ornamental sculpture, late in the thirteenth and early in the fourteenth century, seemed to overgrow sculpture. Then, again somewhat later, figure sculpture and painting freed themselves from supremacy of architecture altogether. A monument like Verrocchio's Colleoni in Venice, standing free in a square without any architectural support, would have been inadmissible in the Middle Ages. The Renaissance accepted the independence of the fine arts, but was able to hold them together within a building, because of the principle of relatively independent parts that governed all Renaissance composition. Now, however, in the Baroque that principle had been abondened. Again as in Gothic architecture, parts can not be isolated. But the Baroque, although believing in the unity of all art, could not restore the supremacy of structure. Architects of the seventeenth century had to accept the claims of the sculptor and painter, and in fact were sculptors and painters.

The result was still that 'Gesamtkuntswerk' (total art) which Wagner, in his operas, after it had been willfully destroyed at the end of the Baroque, endeavoured in vain to recover for the nineteenth century. In the works of Bernini and Borromini,

what binds architectural, ornamental, sculptural, and pictorial effects into indivisible unity is the decorative principle common to all.

"Angels, genii, and such-like figures, preferable in realistic coloring, are an essential part of Baroque settings. Not only do they serve to cover up structural joints and to hide contraptions 'behind the scenes' which make these illusions work, but they also act as intermediaries between the real space in which we move and the space created by the artist. The Baroque does not want to keep the border line visible between audience and stage. Such terms from the world of theatre - or should one rather say the world of opera, which was an Italian invention of the seventeenth century - come to mind with good reason. However, there is more than a mere theatrical trick in this flow from reality into illusion and from illusion into reality. Bernini's famous chaple of St Teresa in the church of S. Maria della Vittoria in Rome proves that." (Pevsner, 1943, p. 253).

Painting had already developped the sensious and luxuriant quality in the work of Caravagio, Guercino and pietro da Cortona. Cortona's work on the ceiling of the Gran Salone in Palazzo Barberini embodies the qualities of Italian Baroque in full flood. Unrestrained by architectural features or struggling round painted architecture with glimpses of distance beyond. The subject is Apotheosis of Pope Urban VIII and its whole treatment expands the room far beyond its actual dimensions.

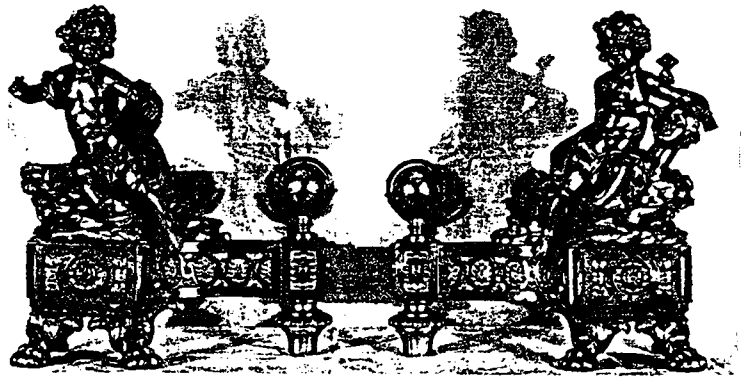


Fig. 3.54 Chenet (andiron or fire dog.) Philippe Caffieri.c.1760.

"Gian Lorenzo Bernini expressed his dynamic qualities of genious primarily in terms of sculpture. His figures, rockwork and carved draperies spread in profusion beyond the sphere of applied decoration to encounter on equal terms and fuse with their architectural setting. In sheer overpowering energy, the transformation which Bernini was effecting to the face of Rome in the seventeenth century has no equal." (Denby, 1963, p. 52).

Small sphinxes with the head and breasts of a woman which appear on tapestries in the manner of Berain were adapted to bronze form, especially to the shape of chenets (fire-dogs) (Fig. 3.54), and they appear later in porcelain.

Spatial extremism, the pulling of a whole room into one vast superfying ornament, is exceptional in Spain. What Spain and Portugal excelled in was this same extremism expressing itself in the piling ornament onto the surfaces. It is in fact in Mexico that the Spanish architects celebrated the wildest of all orgies of over-decoration.

"The transparante stands on a higher aesthetic level no doubt than the incrustations of the Churigueresque, though morally, especially to the Ruskinian morality of Victorian England, they may both be equally objectionable. Southern Germany in the eighteenth century was almost as fond of ornament for ornament's sake as Spain." (Pevsner, 1943, p. 259).

Hitherto decoration had been symmetrical, one half of a design repeating that of the other. Symmetry in ornament has nearly always been the rule, but in the early years of the eighteenth century. Paul Decker, to save space and labour, drew only one half of a symmetrical cartouche, placing immediately beside it the opposite half of another design. Both sides were intended to be symmetrical, each half needing its mirror-image to complete it. Jean Berain sometimes economized in this way with an asymmetrical effect when the two halves are regarded as one. It would be hazardous to conclude that designs treated in this way suggested the asymmetrical nature of eighteenth century Rococo, to be seen especially in the cartouches of Babel, but it is probable that they influenced Rococo designers in this particular direction.

"...a fashion for marquetry, executed in differently colored woods, which was either geometric or pictorial, the geometric ornament ranging from the five-pointed star to rosettes, checks and diamond shapes, which provide an effective contrast to curving outlines and symmetrical mounts. Pictures were executed in a variety of woods, naturally or artificially colored, with sometimes a little added engraving of detail. Mother-of-pearl was one of the more exotic materials used for inlays (Fig. 3.55), and lacquer panels from the orient and others of vernis Martin were made into cabinets throughout the eighteenth century." (Savage,1966, p.129-132).

Fig. 3.55 Table de millieu.France, c.1680

Furniture mounts are, perhaps, the most typical form of decoration made from gilded bronze, and during the reign of Louis Quatorze the repetory of suitablly modified classical ornament was extensive. It included lion maks (used by Boulle for handles); lion-paw feet to tables and cabinets; rams' heads; dolphins; swags and friezes of fruit nad flowers; scrolling acanthus leaves, usually protecting corners; rosettes; trophies, and masks.

The ornament of the later mounts is mainly floral, with flowers, stalks, and leaves gracefully and asymmetrically disposed. The acanthus leaf is a significiant

example of the latter tendency, the tip usually being twisted to one side where formerly it would have been symmetrical. Shells and aquatic ornament of all kind are much more frequent during the currency of the Rococo style, and the scallop shell of former times is frequently distorted.

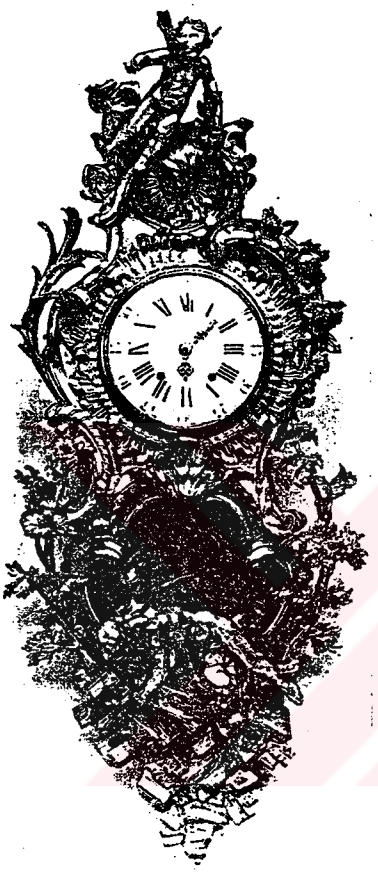


Fig.3.56 A cartel clock .Charles Cressent. Fig.3.57 A chandelier.Jacques Caffieri.

"Porcelain flowers (Fig. 3.47), with stalks and leaves of bronze, were among the first products of the factory at Vincennes, before the removal to Sevres, and they were made in great variety-roses, pinks, jonquils, lilies, tulips, and hyacinths... The finest specimens of Sevres porcelain were often mounted elaborately, and small vases were completed with groups of figures, or foliage and flowers of gilt-bronze. Vases of rare stones as jasper and porphyry were similarly mounted, and clock-movements were customarily encased in gilt-bronze (Fig. 3.54). The same metal was frequently

employed by itself, especially in the making of lighting fixtures (Fig. 3.57), chenets and similar decorative adjuncts to the fireplace, and for small sculpture of high quality." (Savage, 1966, p.135-6).

Tapestry played an important part in the formation of the court style, and a factory for tapestry weaving was established at Fontainebleau in 1539. However, it was not revived on a large scale until the eighteenth century, when the architect Robert de Cotte and Boucher together set themselves the task of creating a new fashion for tapestry as decoration at a time when Rococo mouldings of carved wood were the most popular kind of wall decoration. They achived a large measure of success, sometimes imitating painted wood panels and mouldings as a surround for a central pictorial subject. Carpets of tapestry weave made before nineteenth century have rarely survived.

"Brussels and La Savonnerie, as well as those of England in the eighteenth century, were inspired by Turkish carpets, the pile being similarly loosely knotted on a coarse textile foundation. Most early French carpets are large with patterns characteristic of their period; Oriental carpets were smaller and did not harmonize so well with current French fashions. For this reason they tended to be more popular in Italy, the Netherlands, and England." (Savage, 1966, p.140).

3. 9. XIXth Century Debacle - Romanticism, Victorianism, Arts And Crafts Movement & Art Nouveau Style:

3. 9. 1. Architectural space conception:

When discussing the architecture of the nineteenth century, the term 'open space' is repeatedly used in order to indicate the image of a limitless and continuous environment where man may act and freely move about - not for the sake of movement as such, but as an expression of a new freedom of choice, that is , the freedom to search and create one's own place.

"The new image, then, is the opposite to Baroque. Whereas Baroque space represented an integrated system, the open space of the nineteenth century expressed

a new ideal of human freedom. (This does not contradict the fact that open space was formally derived from the continuous and dynamic, but differentiated Baroque space.) Open space was concretized in various ways. In the large halls of iron and glass it appears as a 'total', transparent and luminous milieu, which has lost the traditional character of 'interior'. In the repetitive web of Chicago construction it is interpreted as an open growth, which gives the horizontal and vertical dimensions a new meaning. In Wright's houses it appears as a fluid medium which may be directed, dilated and contracted. In some works it is only a vague intution, in others an accomplished articulate fact." (Norberg-Schulz, 1975, p. 351).

3. 9. 2. Principles of design:

In western Europe at the begining of the nineteenth century neo-classicism continued as the generally favoured style for interiors, tempered by the influence of a literary romanticism which introduced associational as well as purely aesthetic standards of judgement. As a result of the new developments in archeology, details came to be copied more literally rather than being interpreted by designers and decorators. Greek motifs were added to the better-known Roman, Napoleon's campaigns in Egypt resulted in the importation, to France and England, of a strong Egyptian flavour for furniture and decoration.

"It is in truth the century of Historicism. After the system-building eighteenth century, the nineteenth appears to an amazing extent satisfied, say, a historical and comperative study of existing philosophies instead of the study of ethics, aesthetics, etc., themselves." (Pevsner, 1943, p. 377).

The progression of styles in the first half of the nineteenth century was the Roman derivations called French Empire and English Regency, followed by another Greek revival which left no very marked imprint at the time. These classically-based movements were succeeded in England by a romantic Gothic revival, related to the vogue for an 'Elizabethean' or 'Tudor' style called, at the time, 'Baronial-which under the influence of Walter Scott, was plentifully salted with Gothic elements. An Italian style, defined as 'picturesque with Palladian detail', was less popular than 'Gothic', but

it remained fashionable until mid-century. In England revived Gothic was the only conceivable style for church building from the 1830s onward.

"With only a few exceptions, the history of interior in the nineteenth century is centered on the English-speaking countries, from where the new ideas emerged which ultimately stimulated the growth of the modern movement. Before the heavy industrialization occured which transformed the established pattern of life and its man-made backgrounds many legacies of the eighteenth century still remained." (Denby, 1963, p. 75).

Although belonging in date to the nineteenth century, the Regency style represents the final development of that clearly English tradition of design which, in spite of its diversity, may be traced back to its sources in the work of Inigo Jones and Christopher Wren. Soane was a neo-classicist whose preoccupation with new space relationships appears. John Nash on the other hand was above all the architect of George IV both during and after Regency. Brighton Pavilion and Buckingham Palace owe a large part of their interior design to him. Brighton, in spite of its absurdities, is full of entertainment and delight, the last of many royal pleasure pavilions on which all the sources of the designer and craftsmen could be employed without reserve. In contrast, the state rooms of Buckingham palace are basically classic in treatment and their magnificience is more sober. The scale is not vast, but again the sense of a fully appropriate setting is achieved in spite of some coarsening of detail.

The Egyptian manner simulated by Napoleon's campaigns and the intermediate influence of French empire style, was another Regency manifestation. Thomas Hope, an amtour designer, published in 1804 his household furniture and decoration, showing a more severe approach than Nash or even Soane, with 'set piece' furniture arrangements and heavy Egyptian or Assyrian types of ornament, giving more than a hint of what was to follow. For buildings of more modest size the Greek revival was waging a losing battle with the Gothic, although it became very popular in America and persisted there with varying degrees of refinement in the pedimented timber houses of Georgia, Virginia, and elsewhere.

"Why is it that a hundred years had to pass before an original 'modern' style was really accepted? How can it be that the nineteenth century forgot about Soane and Gilly and remained smugly satisfied with the imitation of the past? Such a lack of self-confidence is the last thing one would expect from an epoch so independent in commerce, industry, and engineering. It is the things of the spirit in which the Victorian age lacked vigour and courage. Standards in architecture were the first to go; for a while a poet or a painter can forget about their age and be great in the solitude of their study and studio, an architect can not exist in opposition to society. Now those to whom visual sensibility was given saw so much beauty destroyed all around by the sudden immense and uncontrolled growth of cities and factories that they despaired of their century and turned to a more inspiring past." (Pevsner, 1943, p. 377).

The Rococo had reintroduced alien styles, the Romantic Movement had endowed them with sentimantal associations. The nineteenth century lost the Rococo's lightness of touch and the Romantic's emotional fervour. But it stuck to variety of style, because associational values were the only values in architecture accessible to the new ruling class. By 1830 we find a most alarming social and aesthetic situation in architecture. Architects believed that anything created by the pre-industrial centuries must of necessity be better than anything made to express the character of their own era.

"The empire style and its English version, Regency, were the last consistent and recognizable styles before the flood gates were opened to a wave of imitative styles, each more ostentatious than the last, with which industrialism engulfed the luxury arts in the nineteenth century. From about 1830 practically all artistic industries had been subjected to the machine, and by the 1840s the marriage between the Industrial Revolution and the religious revival had been consummated and Victorianism was born. The argumants most frequently offered for rejecting Victorian furniture and furnishings are a general lowering of standards entailed in mass-production methods and a stylistic confusion destined to last throughout the century. The decline was a result of the break up of the old order of society in the new age of industrialism. (Boger, 1966, p. 405).

Another outstanding feature of mid-Victorian design is the preference for broken outlines; straight lines were generally replaced by a medley of Regency scrolls, Louis XIV scrolls, and the Rococo curves-bulging and blurred at the same time. Even Gothic pieces were given a restless outline.

In the early years of the nineteenth century, the fancy-dress ball of architecture is in full swing: Classical, Gothic, Italianate, Old-English. By 1840 pattern-books for builders and clients include many more styles: Tudor, Frendh Renaissance, Venetian Renaissance and others. That does not, however, mean that at all moments during the nineteenth century all these styles were really used. Favourites changed with fashion. Certain styles became associationally branded. An account of architecture from 1820 to 1890 is bound to be one of the coming and going of period styles.

"This period of confusion culminated in the doctrine of eclecticism - the notion that all styles are equally good in their own way... By 1850 those ideas, as the inevitable product of their nature, had led to antagonism between the supporters of classicism and Gothicism, a struggle in which the letter were temporarily the victors... The popularity of Gothic at mid-century in England was partly due to its identification with Christianity. Ruskin, whose influential *Seven Lamps of Architecture* was published in 1849, detested classical art... Augustus Welby Pugin (1812-1852), who died insane, calling, it is said, for a 'Gothic pudding', conceived so tremendous a passion for Gothic, which he termed 'Christian architecture', that he became one of its most assiduous propagandists. Whatever the exterior style, however, the interior of houses of the period did not always conform to it." (Savage, 1966, p. 225).

Schools of design 'to marry art to industry' and a reform group including such prominent men as William Dyce, R.A., Richard Redgrave, A.R.A., and the architect Matthew Digby Wyatt date from the late 1830s. These man worked chiefly to improve the standards within the accepted order of things. Their approach offers a striking contrast to that of Pugin, who like Ruskin and Morris later, felt only a fear and contempt for machinery. To them, classical art and paganism were interchangeable.

"...A fundamentally unsound conception of architecture as a social service was first recognized by Pugin, who saw only one remedy: the return to the old faith of Rome. Then shortly after him preached that a building must be truthful first of all. And a little later he began to realize that to achieve this thought had to be given to social as well as aesthetic problems. The step from theory to practice was taken by William Morris (1834-96)... Morris was a violent machine-hater. He attributed to mechanization and subdivision of labour all the evils of the age. And from this point of view he was right. The solution he found was aesthetically sound, though socially not in the long run adequate. To build up a new style on design was sound; to try to build it up in opposition to technical potentialities of the century was just as much escapism as the classicist's disguising of a town hall as a Greek temple." (Pevsner, 1943, p. 389-91).

Around 1850 the Gothic revival underwent a change. It was marked by a preference for earlier medievalism, with Norman and Byzantine architecture furnishing the models, and by a growing interest in polychrome, resulting no doubt from the findings of research into polychrome architecture as well as Byzantine architecture. The literary prophets for this period were John Ruskin and Viollet-le-Duc.

Meanwhile, parallel to this search for fresh values and standards the general nineteenth-century eclectism continued. In England these may have been Florentine, French Renaissance, Tudor, Gothic or occasionally classical. To these styles was added in France, Italy and Austria a neo-Baroque style which consisted, as indeed had the majority of the nineteenth-century revivals, in a system of ornament applied over a symmetrically disposed building without any close organic relationship between one and the other.

"The new general situation created by the industrial and social revolutions produced produced a multitude of building tasks. The church and the palace lost their importance as leading tasks, and during the nineteenth century the monument, the museum, the dwelling, the theatre, the exhibition hall, the factory and the office building in turn took over their role. Each of these tasks, as well as their temporal

succession, indicates the rise of a new form of life based on new existential meanings. The monument represented a wish for a return to original archetypal forms, that is, the basic meaning concretized was the experience of eternity." (Norberg-Schulz, 1975, p. 328).

The nineteenth century is unique. Apart from the Gothic interregnum and an amusing flirtration with Oriental art, previous styles had evolved naturally and consistently from Greek and Roman sources until the close of the Empire period, but the Victorians inherited a world which had been widely explored, and an art which had been fairly well documented and, in its more important aspects, gathered together into collections, both public and private. Socially great changes were taking place. A bourgeoisie, growing in power, influence and wealth, was making money from the industrial revolution in ways which were inimical to the survival of art in its older forms, especially in the case of the decorative arts which suffered from the increasing use of machinery and the production-line.

Among those who in their work gave life to the teachings of John Ruskin was the architect Edward William Godwin (1833-86). Though Godwin started his career as a Gothic revival architect, he soon became cognizant of the aesthetic effect of Japanese art and was perhaps the strongest exponent in England of an influence stemming from that source. Throughout the 1860s and right up to the 1890s the interest in Japan was stimulated by many books, pamphlets, and magazine articles.

"Godwin as well as other contemporary designers saw in Japanese art, with its highly expressive line and color and its disdain of symmetry, a chance to break the bonds of historicism. They found in Japan a new unexplored world, an uncorrupted culture based on a different structure of thought. This revelation was to have far-reaching consequences. In short, Japan gave them the opportunity to discover what they were seeking; it was not the parent but the godparent of the Modern movement. Like Morris and the reformists who prided themselves on imitating nothing, they looked to Japan for lessons not models, for inspiration not imitation." (Boger, 1966, p. 421-2).

The comprehensive title Arts and Crafts, signifying the arts of decorative design and handicraft, came into general use when the Arts and Crafts Exhibition Society was founded in 1888 with men like Day, Crane, and Heywood Summer. The arts and Crafts movement, which in the words of Morris was 'to help the concious cultivation of art and to interest the public in it' encouraged a number of architects, such as W. R. Lethaby, Voysey, Ashbee, Gimson, and the Barnsleys, to design furniture; it even encoureged a most notable example in the furniture trade itself, Sir Ambrose Heal.

"Norman Shaw's influence on the architectural profession was immediate and very widespread. A generation of architects came from his studio to whom he left the freedom of following Morris's ideas, while following his own forms. They and some closer disciples of Morris founded the Arts and Crafts Movement. Once one knows what Morris taught, the name becomes self-explanatory. More and more original interpretations of architectural traditions were worked out by the members of this group, almost exclusively in designs for town and country houses." (Pevsner, 1943, p. 393).

Charles F. Annesley Voysey's designs for fabrics, wallpapers, furniture, and metalwork especially, so novel and so graceful, had an effect no less revolutionizing than Morris's.

Unfortunately for the growth of industrial design in England they welcomed the machine only half-heartedly; they acknowledged it only because they felt it was futile to rebel against the inevitable, while the real pioneers of the Modern movement are those who from the start stood for machine art. True to innate English conservatism, Morris and those who came after him refused any drastic break in tradition. Nevertheless, it is invariably recognized that the Modern movement was built on the results which Morris and the English school had achieved from 1860 to 1890s, when the initiative passed from England to America and the continent, and after a short period to Germany. The Werkbund, composed chiefly of young architects and craftsmen, was set up in Germany in 1907.

"Morris's design concepts in the area of crafts may seem, at first glimpse by a contemporary person, to be nothing but the same old Victorian clutter; but on the

second look, one sees a logical composition and a real understanding of of nature that was not apparent before. His work, in comparison with the work being done before his time, was certainly more simple. His ornamentation was prophetic of what the future in design held for new generations; yet it managed to cling to the traditions of the past." (Van Domenelen, 1965, p. 38).

Morris established a firm for designing, peopled with followers and students interested in promoting his philosophy. Walter Crane and C. R. Ashbee were both members of Morris's company, engaged in designing for the new ideology. Together with Edward Burne-Johnes, Dante Gabriel Rosetti, and Philip Webb, they organized the arts and crafts society, a straw in the wind of the 'Modern Movement'. Another member of the Morris circle was William de Morgan, an artist-potter who specialised in the use of lustre pigments, basing many of his designs on Italian maiolica and Near Eastern pottery.

"The man of the arts and crafts movement would have fully agreed with Tolstoy, who postulated in *What is Art?* (translated in 1899) that it is 'a means of union among men, joining them together in the same feelings, and indispensable for the life and progress towards well-being of individuals and of humanity'." (Selz, 1972, p. 7).

Richard Wagner combined a rather synthetic but nevertheless clearly pronounced belief in folk art with the actual creation of the *Gesamtkunstwerk*. Indeed the German composer's attempt at synesthesia of music and drama for the 'total theatre' encouraged architects, painters, designers, and craftsmen to make similar efforts toward unifying all the arts of living.

"The effect of these ideas on manifacturers was to inspire them to reproduce large quantities of eighteenth century furniture, and to add a few crudities to machine-made products of the kind thought to be inseperable from handmade work. But the 'art' furniture of the 'seventies and 'eighties began, in the last decade of the century, to give way to 'new art' - the style known as *l'art nouveau*, or in Germany, as the *Jugendstil*, so-called from the Munich art magazine, *Jugend*, founded in 1896 which, like the *Studio* in England, did much to popularize it." (Savage, 1966, p. 243).

S. Giedion claims in Space, Time and Architecture that Brussels, Belgium, was the center of contemporary art from 1880 to 1890, and rightly so, because during that decade the Belgian galleries, shops, exhibition halls, and display stores were showing the world some of the most avant-garde work of the time. And it was Belgium that Henri van de Velde took the lead in establishing the movement of Art Nouveau. The major contribution he made to his group was his interest in revitalizing the machine as a tool for the designer. He depended on industry, in exact opposition to Morris's concepts, and attempted to bring about an understanding between the artist and the manifacturer. There were many protagonists of the usefulness of the machine and the possibilities of less ornamentation and more honesty in materials. Pevsner lists two Austrians, Otto Wagner and Adolf Loos, two Americans, Louis Sullivan and Frank Lloyd Wright, and one Belgian, Henry van de Velde, in his Pioneers of Modern Design. He even adds Oscar Wilde as a praiser of beauty in the machine. While Morris went back into medieval times for his inspiration, Art Nouveau designers were antitraditional.

Though Art Nouveau extended itself into all realms of artistic activity, it belongs first and foremost to the decorative arts. Like the Arts and Crafts movement, it posessed the merit of reviving handicraft; it was the style of the individual designer, who, following in Morris' footsteps, relied on the work of men's hands and not on the machine.

"In the 1860s the Japanese influence touched all sorts of unlikely people: Rosetti in his designs for book-bindings, Burne-Jones in some surprisingly uncluttered decorations. But, as mentioned, it nearly always went hand in hand with a less noticed but in the long run equally telling influence, the Dutch. A combination of blue-and-white Japanese china and blue-and-white Dutch seems natural enough, but other obvious instances, like Leyland's Norman Shaw house with Whistler/Japanese decor or Murray Marks's Oxford Street shop with a Queen Anne-Dutch shop-front by Norman Shaw designed to display Marks's blue-and-white Japanese porcelain wares, seem to us decidedly odd..." (Taylor, 1966, p. 31).

The reason Japanese art and eighteenth-century Dutch architecture had such an appeal to the same people at the same time resides in the fact that they both have qualities characteristic of British, though not of Continental, art nouveau from the first, and therefore chimed very well with the prevailing mood: for the fussiness and over-elaboration of much art and architecture of the time they substituted simplicity, directness and clear, uncluttered lines, with areas of elaborate decoration set off by plain, flat surfaces. As a style Art Nouveau was part of a movement towards new simplicity in architecture, although in its interior manifestations it made much use of decorative craftsmanship.

"Most significant for Art Nouveau was the two-dimensional planar aspect of Japanese color wood block-itself an expression of a late cultural phase; its absence of central perspective in favor of broad, homogenous, receding planes; the division of the picture space into large, unified areas; the evocative quality of the line in establishing a linear rhythm; the expressive contour; the use of color for flat pattern effect instead of illusionistic modeling; the asymmetry of the composition and energetic diagonal movement of linear design, frequently originating in the corner of the picture; and the simplification of natural forms for the sake of the picture." (Selz, 1972, p. 14).

No doubt Art Nouveau's most important contribution to the art of interior decoration was to re-establish a sense of unity in interior design. To conceive of the room and its contents as a unified whole was perhaps the one characteristic found in each of the national interpretations of the new art. An anti-historical attitude was as much a marked feature of Art Nouveau as was its striving for unity. But Art Nouveau, which was acclaimed in Europe and America as new and revolutionary in its emphasis on the use of decorative form, line, and color and rich in symbolic meaning was never entirely free from the bondage of the historical past. The style shows certain traditional features - in particular Gothic, Rococo, and Baroque. Each in its way contributed to mold Art Nouveau; Gothic contributed theory, Rococo its application of asymmetry, and Baroque its plastic conception of form. Art Nouveau also found timely inspiration in the highly linear and colorful art of Japan and emancipation from the bondage of symmetry and Greek Orders.

"Art Nouveau claimed to be the new art of the new time. Yet its avowed break with tradition was never complete. In certain ways Art Nouveau actually belongs with the nineteenth-century historical styles. The century had earlier run the gamut from the Egyprian revival of the first Empire to the baroque revival of the second. Now at the end followed Art Nouveau which, in France at least, often merged with a rococo revival." (Selz, 1972, p. 12).

Classical influence in nineteenth-century America was much stronger than in England.

"The essential difference between Europe and America, however, must be sought in the conditions of the time. America was an expanding economy. The opening of the west, the native genius for large-scale production and organization, and the wealth of desirable raw materials, led to the creation of enormous fortunes almost overnight, and often with comperatively little effort. The millionaires needed ways in which to spend their money." (Savage, 1961, p. 249).

The repetition of the same abstract form of design, equally suited to all media, in which it was executed was quite unique, however simple the idea sounds once it has been stated. This style spread rapidly and within two or three years had influenced such diverse elements as the decoration of Louis Sullivan's early American skyscraper blocks, Tiffany glass and the work of Antonio Gaudi in Barcelona, but seldom equalled this first completely unified interior whre each element and line is an inseperable part of the whole.

"Charles Rennie Mackintosh in the decoration of Miss Cranton's Glasgow tea rooms in Buchanan Street (1897-98) and Sauchiehall Street (1904) matched Horta's ideas with his own individual blend of vertically exaggerated and stylized decorations, tall ladder-back chairs and metal- work like angular seawed. Mackintosh's work and its mixture of Art Nouveau and withdrawn austerity became a European influence from which the Austrian group of early twentieth-century artists and designers drew inspiration." (Denby, 1963, p. 83-4).

Historically Art Nouveau fulfilled the liberating function of an 'anti' movement. It discarded the old, outworn conventions and set the stage for the developments which followed with such extraordinary rapidity in the twentieth century.

"Art Nouveau was not destined to remain a strong and vigorous movement. It only served as a stepping stone to brighter and more permanent design philosophies. It did, however, present a traditional world with a cue to the future of designing in the arts. It helped bring about an awareness of the necessity of re-evaluating our position with the machine and industry. While one group of designers rejected the machine for its bastardization of material, the other group attempted to show how artists could utilize the machine as a tool of expression in the arts. With the Art Nouveau movement, the door was opened a crack; with a slight push, the world would enter into a real marriage of industry and art." (Van Domenelen, 1965, p. 46).

3. 9. 3. Form:

The new building tasks represented different attempts to find 'true' and 'original' values. However, they did not have the power in order to constitute new centers of meaning, and were absorbed by a new pluralism of tasks. Some architects such as Schinkel, showed a true understanding of the characters of historical styles, but in general they were no more than a mask covering the real structure of the edifice. During the great epochs of the past certain forms had always been reserved fir certain tasks. When, during the nineteenth century, the same forms were transferred to new types of buildings, a devaluation of the forms resulted. The truely creative works of this period are the great utilitarian structures of iron and glass where the baroque concept of open and dynamic space is given a new interpretation. Protests against historicism were expressed from time to time, and towards the end of the century the dissatisfaction became general.

"Art Nouveau was responsible for many unusual structures and home furnishings, and the forms of the period were completely new in relation to the traditional designs of the past. The new concept presented by Art Nouveau was completely surface oriented ideology. No structural change was introduced in the new idiom. Instead, the characteristics were of undulating lines and curvelinear shapes,

dancing across the objects. Buds and flowers were emphisized in large sizes, almost out of proportion, incorporating the whiplash and other distorted shapes of nature. All these were the identifying marks of the artists of Art Nouveau." (Van Domenelen, 1965, p. 39).

3. 9. 4. Material & techniques:

The Victorian age is distinguished by a strong pride in invention; the Victorians were delighted with their advance in scientific knowledge and technical skill. Thus machine-carved ornament had many admirers, who considered it an achievement for the human mind to invent machinery that could do the same work as the hand in less than 100th of the time - and do it more perfectly. One could be proud of the imitation of one material by another - wood painted in imitation of mahogany, ebony, or marble; panels painted in imitation of inlaid wood; glass imitating various kinds of marble, semi-precious stones, lapis lazuli, and malachite that were used for decorative purposes.

"There was a noticable delight in new materials, the reproduction of things familiar in one material in another newly developed or unusual material-beds made of iron or brass, for example... Tubular metal furniture was already in existance; tables and chairs of hollow wrought iron tubes were exhibited by Kitschelt of Vienna, who also exhibited a table cast in zinc. Though papier-mache was far from being a new material it was suddenly made available for furnishings on a large scale because of new patents. It was used not only for small pieces but even for chairs... A new technique though not a new material was seen in a table by Micheal Thonet of Vienna, the inventor of bentwood furniture, in which solid beechwood was bent under heat." (Boger, 1966, p. 408-9).

A. W. N. Pugin (1812-52) conceived it as the architect's moral duty to understand the principles of Gothic building and to apply these principles to the design of his buildings, however far removed their function may have been from the medieval models. The great exhibition of 1851 was a landmark in the encouragement of decorative excess, although its more important and long-term influnce arose from

Paxton's enterprising structure of iron and glass which housed the wildly over-ornamented products of the day.

"Chairs were upholstered in satin, and watered-silk hangings, sometimes striped, adorned the drawing room. Flock papers and the block-printed variety were fashionable. Gothic papers were designed by Pugin and Owen Jones, and James Huntington produced Rococo designs as late as the 1860s. The best pictorial papers were still French, usually printed in colour from wood-blocks." (Savage, 1966, p. 238).

Industrial revolution, while destroying an accepted order and an accepted standard of beauty, created opportunities for a new kind of beauty and order. It offered to the imaginative new materials and new manufacturing processes, and opened up a vista towards architectural planning on an undreamt-of scale.

As for new materials, iron, and after 1860 steel, made it possible to achieve spans wider than ever before, to build higher than ever before, and develop ground plans more flexible than ever before. Glass, in conjunction with iron and steel, enabled the engineer to make whole roofs and whole walls transparent. Reinforced concrete, introduced at the end of the century, combines the tensile strength of steel with the crushing strength of stone. Architects knew little of these things. They left them to engineers.

"New types of building which developed later in the century through advance in engineering techniques and the use of materials were chiefly of a commercial nature in which detailed interior treatment was disregarded. Warehouses, factories, office blocks and department stores, many of them in the United States, were the fields for new ideas of structure and external expression. So far as interiors were concerned, the domestic field remained a sphere of activity for the Arts and Crafts movement which Morris' initiative continued to spread." (Denby, 1963, p. 82).

Morris did not imitate. He recognized Historicism as the danger it was. What he did was to steep himself in the athmosphere and the aesthetic principles of the Middle Ages, and then create something new with a similar flavour and on similar principles.

This is why Morris fabrics and wallpapers will live long after all applied art of the generation before his will have lost its significiance.

"As part of the break with historicism and in contrast to the attitude of the Arts and Crafts movement, van de Velde defended the machine as an acceptable tool for the designer. He considered the engineer 'the creator of the new architecture', whose boldness was surpassed even the daring of the builders of cathedrals, and who now works in metal and glass instead of stone and wood. His Belgian contemporaries, Hankar and Horta, made widw use of iron in their buildings, and Horta displayed the structural qualities of iron in his Tassel House with ornamental emphasis... although the metal did not dictate his fluid, organic forms, iron was a fitting material for the architect's purpose. One of the essential aspects of the art Nouveau was the acceptance of technology and macine as a means towards creating a new style, without, however, elevating functionalism to an aesthetic principle." (Selz, 1972, p. 12).

Fig. 3.58 Favrile glass vase made by Louis Tiffany.1900.

America was not left behind in this movement of design. Although the people mainly responsible for Art Nouveau were in Europe, there were artists and architects

in the United States who were very active. One such designer was Louis Tiffany, who developed an irridescent glass that sparkled in beautiful colors. Tiffany named his new glass 'favrile': many of his pieces are extremely fragile and delicate, designed as flower forms with thin stems and wide, flaring tops (Fig. 3.58).

"Bentwood was introduced in the nineteenth century and took the furniture field by storm. The person primarily responsible for this revolution in wood was Micheal Thonet. In 1856, Thonet developed a process by which wood was steemed and could then be bent into softly curved pieces; this made it possible to eliminate joints and other complicated contours formerly necessary in furniture design. His furniture was considered almost a necessity in many parts of the world." (Fig. 2.9) (Van Domenelen, 1965, p. 44).

Fig. 3.59 The facade of Casa Battlo.Antoni Gaundi.1905-1907

The culmination of Art Nouveau architecture was the work of Antoni Gaudi. He was Spanish and worked independently of the rest of the rest of the movement, but he probably said the most in the movement's language. His work is like a heavily decorated wedding cake, which looks as though it should be eaten rather than lived in; yet is vastly interesting in the materials, textures, and forms utilized (Fig. 3.59). The buildings are encrusted with stones and mosaics - eclectic structures that are

almost surrealistic in feeling. His buildings show a real understanding of nature, and materials are used with imaginative creativity.

No previous century had shown so great a diversity of trends and styles as the nineteenth. Industrialization and literary romanticism together were responsible for much that was erratic in the course of design in everyday life. The few who saw this were outnumbered by the many who believed unreservedly in the glories of material progress. For the first time, but not for the last, new materials and manifacturing methods outstripped appreciation of their aesthetic possibilities and design was never properly assimilated as part of the new factory processes. Technologists and artists lived in worlds so widely separated that they never, in the Victorian age, re-discovered each other.

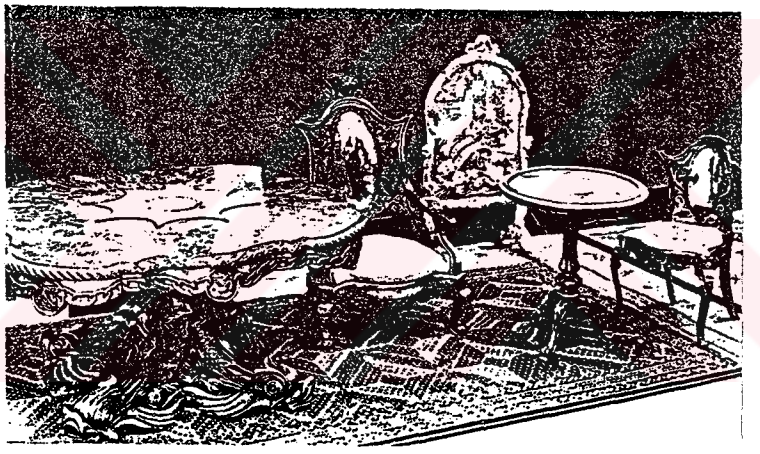


Fig. 3.60 A group of furniture from the Great exhibition of 1851.

3. 9. 5. Furniture:

From the end of the eighteenth century there was an increasing tendency to design objects for machine manifacture so that they could easily be assembled from separately made components, and the effect of these new production methods could be seen at the Great Exhibition of 1851, which exerted a profound influence on the later years of the century. Pieces illustrated in the cataloques of the Great Exhibition are not typical; they were excessively ornamented to attract attention (Fig. 3.60). A

comfort loving bourgeoisie certainly demanded well-padded furniture which was not necessarily pretentious, and some of it had much in common with the Biedermeier furniture of Germany. The German version was the negative virtues of plainness and solidity and it retained some of the elements of the old Empire style. Almost all European countries produced their own version of Biedermeier. The French version is known as the style of Charles X. The style in general called for light blonde and gold-toned woods, accented with black trim and gilt ornament. American Biedermeier was a continuation of the Empire-influnced style of Duncan Phyfe, thickened in proportions and frequently executed in light maple burl. A revived Rococo, loosely based on Louis Quinze styles, and as the 'Pompadour style', revived Rococo became one of the most notable features of furniture design at the Paris Universal Exhibition of 1855 (Fig. 3.61). Generally the French version is much more amusing and acceptable.

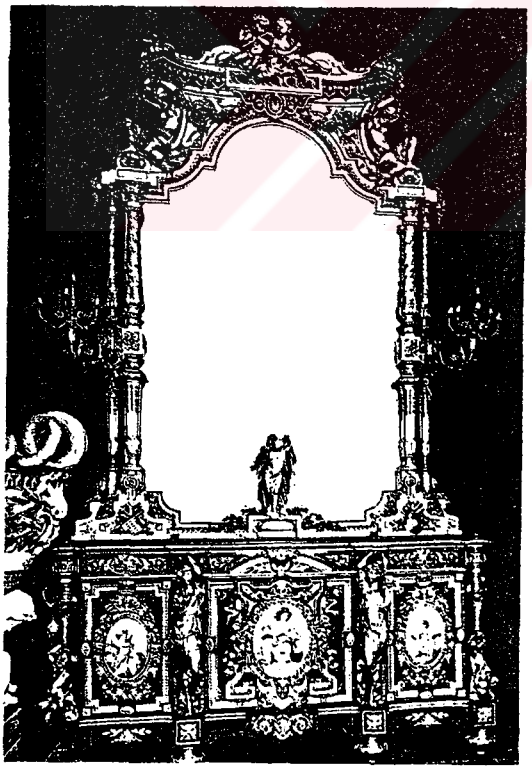


Fig. 3.61 Cabinet decorated with marquetry. Fig. 3.62 Papier mache furniture.

"Manifacture of papier mache furniture began on a large scale with the products of Jennens & Betteridge in the 1830s, and a room thus decorated is shown in (Fig. 3.62). The surface was painted, inlaid with mother-of-pearl and metal motifs, and dusted with silver, gold and brass powders. Unlike the earlier japanned imitations of lacquer, papier mache rarely shows signs of oriental influence until about 1825, when a minor revival of chinoiserie occured. Furniture in the style of Boulle was popular in France in 1830s (Fig. 3.63) at a time when such London makers as Louis Le Gaigneur of the Buhl Manufactory, situated just off the Edgware Road, also copied the typical brass and tortoiseshell marquetry. Furniture inspired by the Italian Renaissance was often provided with marble tops cut by steam driven machines. This Neo-Renaissance phase began in France with the designs of Michal Lienard, and the old Renaissance ornament occurs in a debased form, some of it familiar from the days of Francois I - caryadits, lions, swags, festoons, and cartouches. The 'Elizabethean' style, unknown to France, was popular in England from about 1835. At first limited to cupboards made from old oak panelling, the style soon flowered into reproductions of characteristic buffets carved under the influnce of the same horror racui that afflicted the Elizabetheans. Eventually decorators succeeded in introducing the custom of a differnt periods for each room. A contemporary advertisement for something termed 'art furniture' recomends Gothic, Elizabethean, or 'Old English' for the dining room, and Queen Anne, Chippendale, or Louis Seize for the drawing room. The library as a rule was dignified by pseudo-Elizabethean furniture. There were even a few minor essays into Japanese-Gothic as a furniture style under the aegis of Sir Charles Eastlake, whose intention was to provide sound design for machine manufacture." (Savage, 1966, p. 234-8).

French revivals were, on the whole, less vulgar than that of England, probably because they started with a tradition sufficiently well established to withstand the confusions of the new century long enough to achieve some sort of compromise. At first dominated by the Empire style, decoration during the reigns of Louis XVIII and Charles X began to show an eclecticism similar to that of England. Since the very rich no longer existed, new furniture made for the bourgeoisie was smaller, less pretentious and more comfortable.

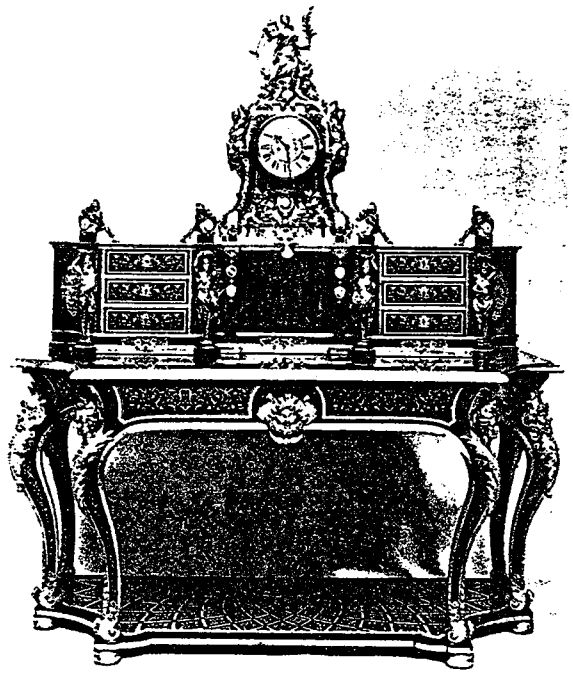


Fig. 3.63 A copy of a writing table made in England by John Webb.1855.

"In France the Directoire and Empire styles followed the upheavals of the Revolution. The strongly estalished cabinet-making tradition still existed and designers quickly made use of lions and Egyptian heads, sphinxes, animal legs and griffins in the brass inlays and mounts of the furniture. The furniture itself was more substantial than the immediately preceding styles and was often made of rosewood, which came into use about this time, or of dark mahogany. Ebonizing of lighter woods, or limited use of ebony itself, also provided a dramatic contrast to the brass inlays. With these darker colours were contrasted brighter and stronger furnishing colours, principally gold, green and the purlish reds." (Denby, 1963, p. 78).

The Second Empire (1852-1870), during which designers and ornemantists flourished, was a period when a definite Court style once more emerged. Second Empire furniture is well designed and soundly contructed, and rivals for quality the work of the earlier ones. Much use was made of rich fabrics of all kinds, and there was a minor vogue for copying eighteenth-century English styles, especially those of Chippendale. Like the music of Offenbach, the style of Second Empire are light,

forthy and charming, and were so successful that very little modification occured until after World War I.

The Victorians must have found it intoxicating to produce with the new tools the exuberant carving which, when done by hand on the costly models, was the hallmark of all furniture at this time. Because the Victorians loved novelty and gadgets, ingenious devices by which furniture was made to serve several purposes - from the functionally sound to the most futile - were impoved and their number increased. There was a wide range of intelligently designed furniture for invalids, such as beds convertible into armchairs; while numerous chairs were designed on the principle later to be introduced by Le Corbusier and Marcel Breuer for daily use in a less formal age.

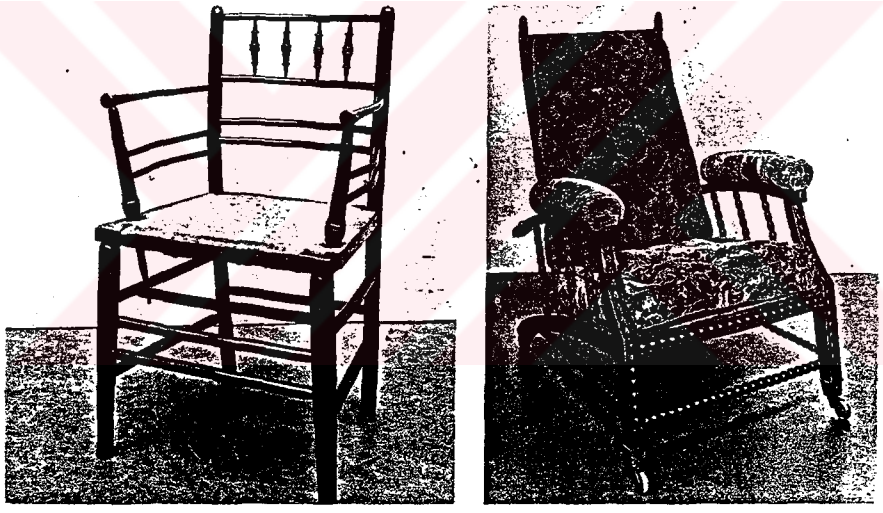


Fig. 3.64 Ebonized beech chair and Oak chair by Morris and Company.

"It was through William Morris, 1834-96, who completes the triad of the Gothic revival in England, that the basic principles formulated by Pugin and developed by Ruskin acquired a new actuality. With Morris as a bearer of Ruskin's art theories, the dominant ideal became the desire to produce beautiful things and a hatred of modern civilization. He shared Ruskin's profound love for the Middle Ages and its relation to art and the artist: the consideration of architecture as the mother or source of all arts; he looked to nature as the main source of inspiration; he opposed

every form of imitation; he demanded honesty of construction and genunineness of materials and his philosophy was founded entirely on the joy of the creative process. Though from Pugin to Morris the main principles in the development of theories for art manufacture remained the same, a very noticable change occured in furniture making and the decorative arts, stronger and more radical than in any other kind of art at this time. If we compare the large Gothic cabinet having wrought brass panels designed by Pugin for the medieval court at the Great Exhibition of 1851, or even the simple table with a pointed arch underbracing of about 1850, with furniture designed about 1860 by the architect Philip Webb, 1831-1915, it is easy to recognize an essential difference. In Webb's furniture, medievalism is reflected not in the ornamental details, but rather in the honest joinery and honest use of materials, in its simplicity and solidity. Freed from false values, it possessed the spirit of the Middle Ages according to Morris' standards, which were the basis of the Arts and Crafts movement." (Boger, 1966, p. 414).

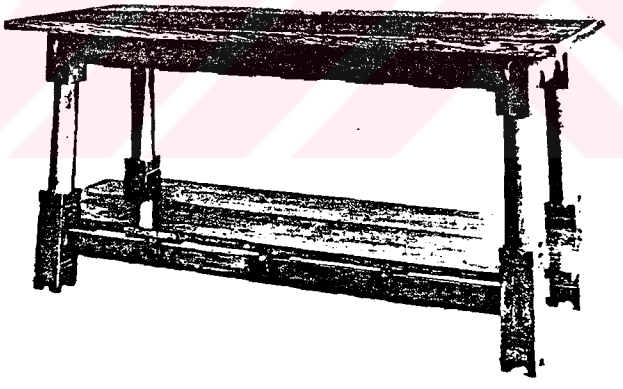


Fig. 3.65 Oak table designed by Philip Webb.c.1870

With the exception of a few very early pieces of furniture for his own use, it appears that Morris never designed furniture, and even those pieces are questioned by some. The firm produced the widely known rush-seated chairs (Fig. 3.64) adapted from models found on farms in sussex and an armchair with an adjustable back bar,

the so-called Morris chair (Fig. 3.64). Morris' taste in furniture as in most other matters tended to simplicity. The name of Philip Webb, who designed almost all the early furniture produced by the Morris firm, is associated with a particular type of austere and undecorated cottage or farmhouse furniture chiefly made of unpolished or ebonized oak (Fig. 3.65), possessing an air of medievalism in its massive rectengular forms and depending for beauty on the value of good craftsmanship. To Webb, furniture was first of all a common tradition of honest joinery. With respect to furniture, Godwin produced new forms which, with their light rectilinear structure combined with a carefully calculated balance of form, were conditioned by oriental precepts (Fig. 3.66).

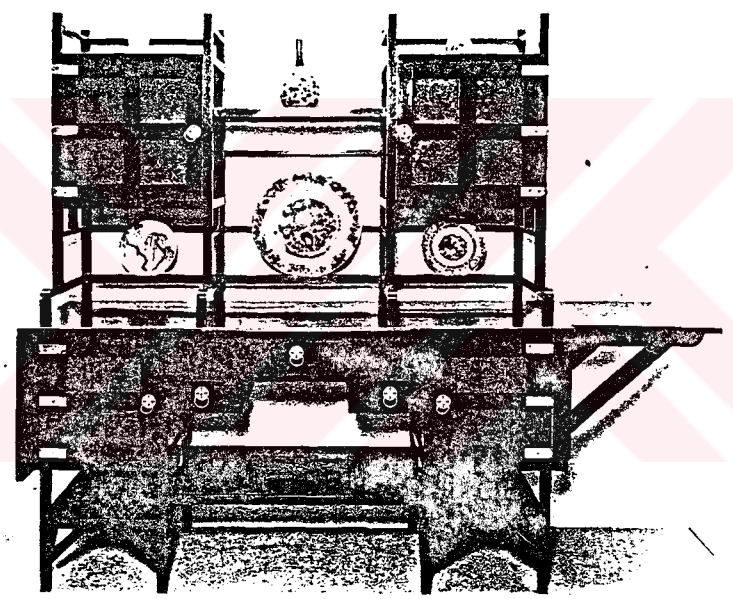


Fig.3.66 Sideboard of ebonized wood,designed by E.W.Godwin,made by W.Watt.

The attitude to the machine of the English school was certainly responsible for many beautiful things, especially in furniture, presented by the Arts and Crafts society from 1888 to 1914.

"Once again England became a leader in artistic cabinetwork. It must be confessed however, that this extremely simple and constructive style of furniture

which provided the impetus for the development on the continent just after the turn of the century, was scarcely known to the general public, who were entangled in the craze for antiques and reproductions and, to a lesser extent, in the extravagances of Art Nouveau propagated by the Paris exposition of 1900. In the work of Gimson, Heal, Voysey, this arts and Crafts style acquired an elegant and sober quality." (Boger, 1966, p. 429).

Charles Francis Annesley Voysey's furniture, like the interiors of the houses he designed, was light and airy and plain, revealing the importance of Japanese influence on his work (Fig. 3.67). Voysey realized that simplicity was not easy to achieve; he expressed this idea in an incomperable phrase, "Simplicity requires perfection in all details while elaboration is easy in comparison with it.".

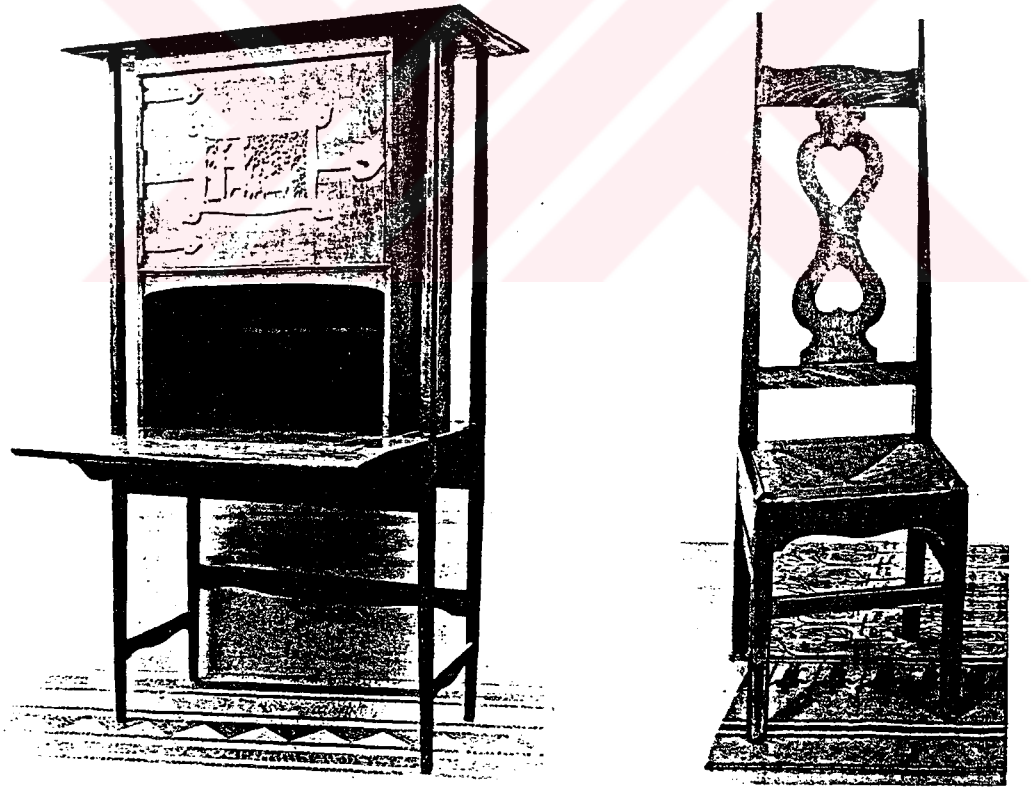


Fig. 3.67 Oak desk and chair designed by C.F.A. Voysey.1896.

"...Ricard Wagner... combined a rather synthetic but nevertheless claeyly pronounced belief in folk art with the actual creation of the Gesamkuntswerk. Indeed the German composer's attempt at synthesia of music and drama for the 'total theatre' encouredged the architects, painters, designers, and craftsmen to make similar efforts toward unifying all the arts of living... Henry Van de Velde and Hector Guimard followed William Morris by actually designing their wives costumes so that they would become an integral part of the environment. Horta abolished any clear distinctions among floor, wall, and ceiling by creating a fluid baroque space basec on plant ornament." (Selz, 1972, p. 8).

Fig. 3.68 Examples from Hector Guimard.

Much of Art Nouveau furniture has an aspect of novelty that makes it seem unrelated in the chain of furniture history. To free themselves from the past, the designers scattered accepted principles of design to the wind. In reality the attribute of most Art Nouveau designers toward nature as the main source of inspiration was a characteristic mid-Victorian idea, of which John Ruskin was the leading exponent. It was in Art Nouveau that the culmination of nature as an aethetic expressin reached its climax. Sensuous, undulating lines of growth twine and spread across the structure, taking complete possession of it. Chairs and tables seem as if they were molded in a taffy-like substance. Straight lines are erased wherever feasible, while natural

structural divisions are no longer definable, flowing into one another to maintain as continuous a linear movement as possible. Happily nature is less extravagant than many of Art Nouveau's interprations of it. On the other hand, Art Nouveau at its best, rich in linear rhythm, reveals a harmony of line which places it side by side with cabinetwork made in the eighteenth century.

The creator of the most characteristic fusion of baroque and Art Nouveau in France was Guimard, famous furniture designer of the period.

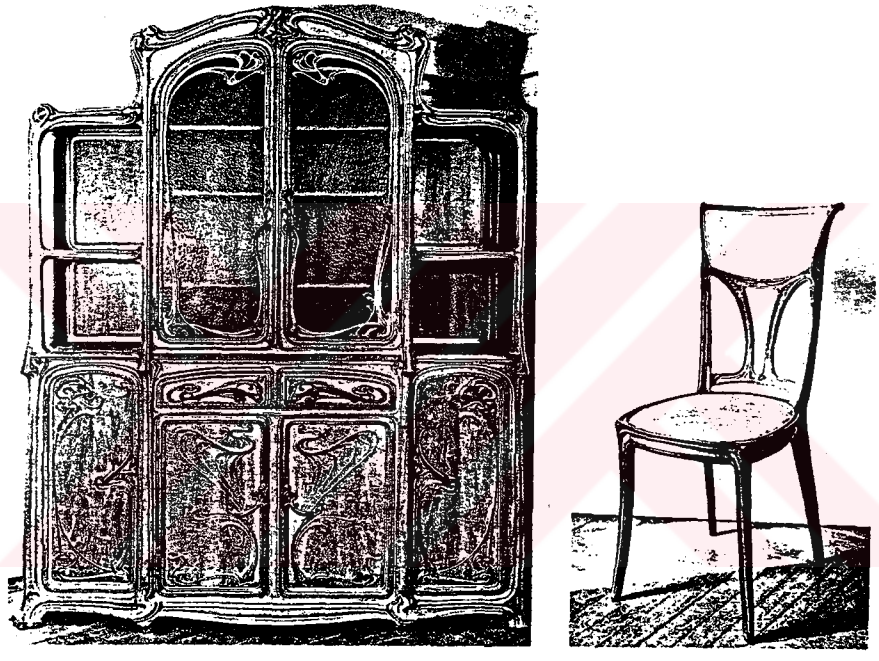


Fig. 3.69 Walnut buffet and chair by Eugene Gaillard.1900.

" Guimard's work is typical of the movement, using plant shapes and flower forms that twist and curve on the surface of the piece (Fig. 3.68). His designing included the light fixtures of the entrance gates of the subway in Paris. These bulubous shapes hang in perilous buds, which seem overweight and ungainly." (Van Domenelen, 1965, p. 42).

Two distinct center of Art Nouveau developed in France - one in Paris around Bing and his shop and the other the aegis of Emile Galle who was committed to several branches of art industry. Louis Majorelle, Eugene Vallin, Emile Andre, and Jacques Gruber continued Galle's furniture tradition, which was floral and markedly plant inspired. Galle's furniture designs adhered to a greater or lesser extent to Frendh stylistic traditions, while the nature inspired decoration without particular stylization was inlined to spread over the entire surface, enclosing it in a floral embrace.

"In contrast to the Nancy school, Parisian Art Nouveau is lighter, more refined, and austere. The nature-inspired decoration is more stylized, occasionally even abstract, and frequently confined to small areas. Unlike the Nancy school, where the artists followed Galle's footsteps, the Parisian artists were entirely individual personalities, each presenting his own form of Art Nouveau... This group produced some of the finest examples of Art Nouveau (Fig. 3.69). " (Boger, 1966, p. 443).

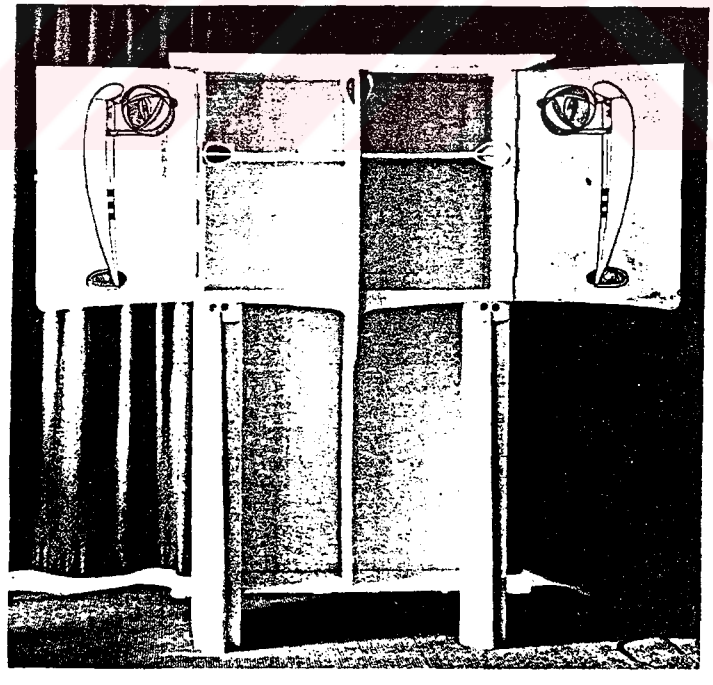


Fig. 3.70 Cupboard of white enameled wood by Charles Rennie Mackintosh.1902.

The English corollary of the continental Art Nouveau had its center in Glasgow with the architect and designer Charles Rennie Mackintosh as its most powerful exponent. Mackintosh's furniture is often straight-lined, markedly clear, and makes much decorative use of structural elements. Very simple pieces of furniture with broad plain surfaces contrasted with comperatively small areas of rich pattern. Typical of this type with its linear and symbolic features, is a severely plain, white enameled, rectilinear cupboard (Fig. 3.70) designed by Mackintosh around 1902. The projecting cornice devoid of moldings is notably simple. Because of the unusual shapes of his furniture, displaying little or no traces of tradition, Mackintosh earned a name for himself as a designer of unorthodox furniture. His chairs (Fig. 3.71) with extremely tall backs, often six feet, six inches high, characterized by oval insets, the pierced patterns of squares or crescents admirably exemplify his peculiar inventiveness.

Fig. 3.71 Oak chair by Charles Rennie Mackintosh.1900.

"Art Nouveau may be seen with remarkable clarity in Spain in the extraordinary architecture and furnishings of the Catalonian architect Antonio Gaudi Cornet. With religious intensity and rare imagination he successfully brought together most of the

style elements of the nineteenth century - neo-Gothic, neo-rococo, neo-baroque, and the most fancifull naturalism - into a decorative, rhythmic whole. His chairs and interiors (Fig. 3.72), with their markedly plastic shapes, their flowing undulating lines, admirably exemplify his style." (Boger, 1966, p. 451-2).

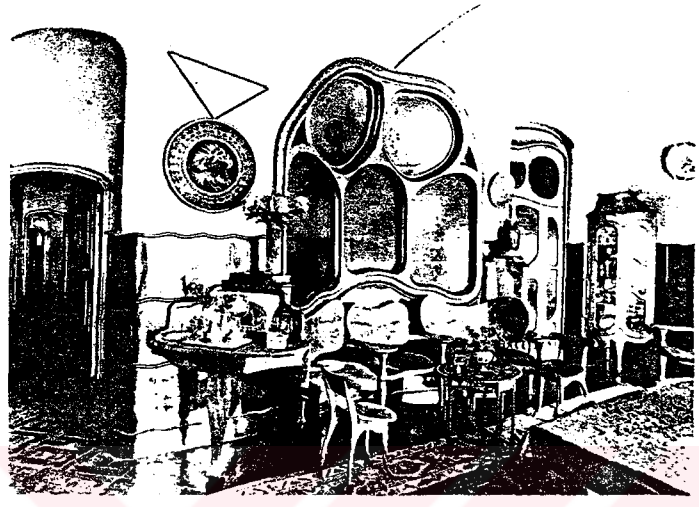


Fig. 3.72 Casa Battlo by Antoni Gaudi.1907.

Victor Horta, Belgium's most important architectural figure at the turn of the century, was the first to achieve a fully developed mastery of the new style (Fig. 3.73). Compared with Horta's dynamic and plastic forms, the work of the architect and furniture designer Gustave Serrurier-Bovy, who was inspired by the Arts and Crafts movement, is refreshingly simple.

Both aspects of Belgian Art Nouveau - the dynamic and plastic and a constructive striving - are represented in the work of Henri Van de Velde, who has been considered the creator and theoretical founder of Art Nouveau, quite apart from the role he played in the Modern movement. To Van de Velde the line was everything; and as a result of his conscious striving for line it is felt too much in almost all his furniture. Typical of his style is the undecorated furniture, depending for its strength and beauty on the movement of lines (fig. 3.74). In all his furniture he continued his struggle to find beauty in the fitness and eloquence of the line.

Fig. 3.73 Stair hall of the Tassel House by Victor Horta.1892-93

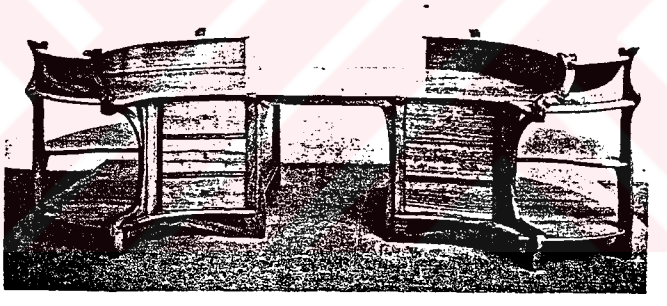


Fig. 3.74 Ashwood writing table by Van de Velde.1897.

With Van de Velde, who introduced Belgian Art Nouveau to Germany, we appoach the cultural phase in Germany and Austria, both countries being latecomers of the scene. The Jugend style had two principal centers, one in Munich and a second somewhat later at Darmstadt. The furniture designed by the members of the Munich school is markedly contructive; its wealth of joints, curving ribs, struts, and the like is reminiscent of the furniture of Serrurier-Bovy and Van de Velde. A milestone in the history of Art Nouveau was marked in 1899 when the Grand Duke of Hesse invited seven designers to live as a group in an artist colony at Mathilde-Hohe. Among those

accepting the invitation was Peter Behrens, the leading figure in the Munich group. In Behren's own house, which was his first building, little Jugend remained. The dining room shows a hardening of the tender curve of Art Nouveau, while the bedroom (Fig. 3.75) indicates the direction that Behrens was to follow.

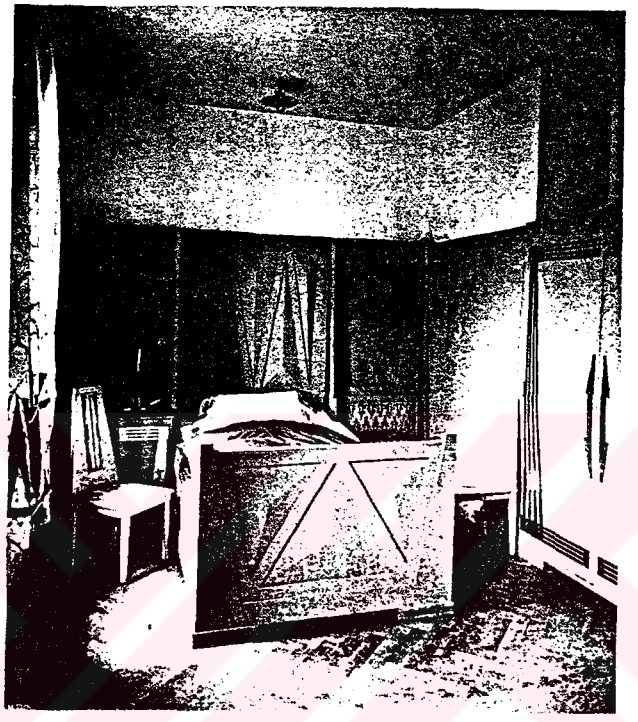


Fig. 3.75 Gentleman's bedroom in Peter Behren's house.Darmstadt.1900-1

3. 9. 6. Sculpture, painting & objects d'art:

Gothic influence played a less important part on the continent of Europe than in England, owing to the greater persistance of classical and baroque trends, but the same love of pattern and elaboration which marked the course of decoration in Victorian England still obtained. Some of the English Gothic revival interiors, where a sense of line still controls the use of ornament, are remarkably successful.

"The first sign of a reaction against the banality obtaining in the world of art was the formation in 1848 of the Pre-Raphelite movement, a small group of painters

dedicated to the re-discovery of sources of inspiration direct from nature, without the formulae or schooled approach which they alleged to have been the downfall of all painters since Raphael. The importance of this movement to the decorative arts was increased when, towards the end of 1850s, William Morris and Edward Burne-Jones joined them. In Morris' edeavour to re-state standards of taste in applied design, he looked back to medievalism, dismissing the Renaissance and subsequent industrial development as irreconcilable with the true basis of art. It is almost inevitable to regret that he did not accept the challenge of the industrial age and use his great talent as a designer in exploiting the possibilities of the machine to reach a far wider public." (Denby, 1963, p. 78-81)

The great exhibition of 1851, the first international exhibition ever held, affords an excellent understanding of Victorian tendencies and characteristics. At first glance it becomes obvious that the copying and mixing of past styles of all countries and all centuries, accompanied by a straining after novelty in trivial details, is a striking characteristic. Standing out in the general confusion is a marked emphasis on rich and elaborate carving of a sculpturesque quality; ornamental motifs from several styles were crammed together as if horror existed for an empty space.

Morris and his fellows based their methods on traditional medieval craftsmanship in an endeavour to recapture the medieval sources of inspiration without attempting a copy of historical designs. For Morris, the architect Philip Webb had designed in 1859-60 the Red House, which with its simple lines and absence of all fashionable decoration is commonly regarded as an important turning point in architecture and an ancestor of the modern movement.

"Under the influence of William Morris and Walter Crane papers decorated with floral and geometric repetitive patterns became popular, and both men influenced textile design in the same direction. Much ornamental gold and silver was produced, although machanical methods of manufacture had largely superseded the older handcraft. Sir Henry Cole attempted to interest artists in designing for silverware with a certain amount of success, and exceptional works, such as large centre-pieces were produced by artist-craftsmen." (Savage, 1966, p. 238)

Increased production and greater use of the machine is evident during the reign of Louis-Philippe, although the brashness of machine production was mitigated by hand finishing. Owen Jones in England, whose Grammar of Ornament was published in 1856, had his counterpart in France in Aime Chevenard, art director of Sevres, who published his Nouveau recueil d'ornament some twenty years earlier. Both these books, by making a variety of ornamental motifs drawn from the art of the past available to manufacturers who lacked discrimination and training, made it certain that the worst possible use would be made of inheritance of former centuries.

The influence of Japanese art brought together an interest in simple and rectilinear structure and a feeling for the light and airy, a more sparing use of ornament which when used contrasted effectively and clearly with the smooth surface that forms the background, and perhaps above all the value of the elegant and refined use of line.

"...of great importance especially in painting and the graphic arts was the impact of Japanese art. Here was a completely new aesthetic expression in which each western artist could find inspiration for his own individual style. Whistler was the first major painter to show the direct influence of Japanese art." (Selz, 1972, p. 14).

At the turn of the century Tiffany's stained-glass lampshades were common, usually hung low over dining tables. Today they are collector's items, just as vases, glasses and decorative objects of favrile, an iridiscent glass developed by Tiffany, which seemed pecularly suitable to the flowing curves and floral fantasies of Art Nouveau. Typical Art Nouveau ornament, developed by Aubrey Beardsley and the Norwagian painter, Edward Munch, was affected by the style. It can be observed in the posters of Toulouse-Lautrec, and in certain of the designs for applied ornament in the early houses of Frank Lloyd Wright who was a modern movement in himself.

"The latter part of the nineteenth century also saw the rise of the collector, and the use of works from former centuries as interior decoration. This survives today with almost undiminished popularity, and the art of using such objects has tended more and more to fall into two distinct categories. The first, often the work of professional decorators, seeks to reproduce historic interior styles with both genuine

objects and good reproductions, or to recombine objects of various periods in a manner loosely based on traditional themes." (Savage, 1966, p. 246).

The second category comprises the use of collections of similar objects as decoration. Collections of porcelain, bronzes, and other objects d'art have a decorative value which is largely incidental to their main purpose, and this kind of collecting has a relatively short history. The pursuit soon became fashionable, and long before the end of the century the dealer in antiques was an established feature of the contemporary scene. The vastness of the field, and the increasing tendency for collectors to specialize, brought into existance the specialist dealer, an expert in his own subject.

"America was not left behind in this movement of design. Although the people mainly responsible for Art Nouveau were in Europe, there were artists and architects in the United States who were very active... An American who used Art Nouveau forms in his architecture was Louis Sullivan... Sullivan wrote in one of his publications that 'ornament is mentally a luxury, not necessary,' and that 'it would be greatly for our aesthetic good, if we sould refrain entirely from the use of ornament for a period of years, in order that our thought must concetrate acutely upon the production of buildings well formed and comely in the nude'." (Van Domenelen, 1965, p. 42-4).

The austrian version of Art Nouveau, to which the term Secessionist was applied, a name which signifies its independent and even rebellious character. The Secession style was almost entirely concentrated in Vienna and its irrevocably connected with Otto Wagner's two pupils, the architects Joseph Hoffman and Joseph M. Olbrich.

"Both Hoffman and Olbrich, who were architects, were more interested in constructional problems than in ornament. The simple geometrical ornament, the square and the circle, which they developed in the late 1890s was sparingly employed and was subordinate to a strict ornamental order in an entity comprising simple planes. The simpler relationships of flat surfaces, such as Hoffman preferred, showed the way to the next generations stylistic ideals of undecorated geometric form.

Hoffman favored the square motif arranged in twos or threes or in raws horizontally or vertically. Owing no doubt to Hoffman's influence in the following decade, squares enjoyed a great vogue in Vienna and in large sections in Europe. Olbrich adopted as his favorite ornament the circle - circles in rows or in clusters, circles enclosing flames." (Boger, 1966, p. 459).

3. 10. XX th Century Debacle:

3. 10. 1. Architectural space conception in the XX th Century:

The purpose of the third chapter of the thesis is to provide a brief resume of interior decoration throughout the centuries, and it is difficult to form a balanced judgement about one's own time. Thus this last section of necessity differs from its predeccessors. They were history; how far this can be history may well be called in doubt, considering that it is the time where we came in.

Pevsner (1963) insists that after the Fist World War a new style in architecture existed; it had been well established by a number of men of great courage and determination and of outstanding imagination and inventiveness. Acording to him, they had achieved greater than any since the Renaissance had replaced Gothic forms and principles five hundred years before. He concludes that their daring appears almost greater than that of Brunelleschi and Alberti; the masters of the Quattrocento had preached a return to Rome, whereas the new masters preached a venture into the unexplored.

"The Modern movement is an unfolding story-starting as a protest against the victorian home, through a phase of oversimplification and a predilection for geometrical shapes (The tide of functionalist modern: the square, spare, bare period), and progressing to an era which shed its clinical attitude and stopped talking about the house as 'a machine for living' to the freer, more aesthetic designs of today." (Boger, 1966, p. 461).

Nikolaus Pevsner writes in his Pioneers of Modern design, 1949, these five men (Van de Velde, Sullivan, Wagner, Loos, and Wright) were "the first architects to

admire the machine and to understand its essential character and its consequence on the relation of architecture and design to ornamentation..."

"What they had done, had to be done. The style which they had created was patently in accordance with the new social and industrial situation of architecture. The 20th century... is a century of masses and it is a century of science. The new style with its refusal to accept craftsmanship and whims of design is eminently suitable for a large anonymous clientele and with its sheer surfaces and minimum of mouldings for the industrial production of parts. Steel and glass and reinforced concrete did not dictate the new style, but they belong to it." (Pevsner, 1963, p. 661).

In the immediate years before World War I, modern designers were becoming increasingly aware of the challenge of an industrialized society and the vivid beauty of engineering, whose celebrated monument was the Eiffel Tower. On the other hand, familiar influences - the lightness and spaciousness learned from Japan, the ideal of honesty in materials and construction but now transferred to new conditions - appeared more urgent than ever before. By 1920 modern designers were developing three elements: the acceptance of mass production, a predilection for geometric shapes, and the forms and materials of engineering.

The years between 1925 and the outbreak of the Second World War were years of a different character.

"The degree of acceptance of the 20th-century style can be mapped like this. In Central Europe, i.e. Germany, Austria, Holland, Switzerland, it was universal; in France it never reached beyond the small clientele of a few enterprising architects, led from 1923 onwards by Le Corbusier. Sweden made the change in 1930, in Italy there was nothing before Terragni's Casa del Fascio at Como of 1932, in England nothing before Peter Behrens built a house at Northampton in 1926, and then extremely little for another five years, after which the arrival of refugees from Germany helped to speed things up (Gropius, Mendelson, Breuer, etc.). In the United States the beginning is some skyscrapers by Raymond Hood in New York and Howe & Lescaze's Philadelphia Savings Fund Society of 1931, and a little before the Second World War. In Brazil the first appearance of the new style was due to a Russian,

Gregori Warchawchik... In Russia bold if rare beginnings were firmly checked in 1931 and the clock put back to a conventional naively rhetorical classicism. In Germany Hitler put the clock back in 1933, and the country, after ten years of leadership, disappeared from the stage of modern architecture." (Pevsner, 1963, p. 667-9).

Four men-the American Frank Lloyd Wright and the three Europeans Walter Gropius, Ludwig Mies van der Rohe, and Le corbusier-are generally recognized as the key pioneers of modernism in architecture and design. Many others contributed significantly to the development of modernism, but any one of these four leaders alone might have taken design in that direction. At the same time that they were developing their new style, most of the design in Europe and the United States followed the traditional historical styles.

Le Corbusier who, though Swiss by birth, settled in Paris after a training under Perret in Paris ever since. He is "the Picasso of architecture, brilliant, of inexhaustable inventiveness, incalculable and irresponsible". He is the extreme contrast to Gropius; yet there is a common ground on which both stand, the language of style developped before 1914 and indeed largely created by Gropius.

"The origin of the Modern Architecture could extend back to the Renaissance movement, that is to say with the birth of Modern times. Renaissance architecture was a return to the classic values and elementary geometric Platonic forms constituted its vocabularly. According to Platon, squares, cubes, cylinders, pyramids etc. were the beautiful forms. Le Corbusier, who was inspired by the antique architecture, accepted Platon's ideas by using these Rational-geometric forms without decoration he established the ideology of Purism which was already originated by Loos. Le Corbusier kept this attitude until he created his famous work, Ronchamp Chapel (1950). While he created this work he changed his previous rational-geometric attitude and followed just the reverse, towards an irrational-non geometric, manieristic and expressionistic way." (Kortan, 1992, p. 12).

The second World War meant to many countries a break of five years and more. Brazil had built what she liked, the United States had built large factories and much emergency housing and convinced herself of the Modern 20th century style. Italy and

England - more moderately - proclaimed their conversion at the same time. Germany rid of National Socialism made a new start where she had left off in 1933. Only Russia and Spain remained unconvinced. But is the style of the century, which is now so widely recognized, still the style created by the giants of the early years and advocated by the leaders of 1925-35?

"Meanwhile the world has passed through times of prosperity, a war of unprecedented severity, another era of opulence followed an almost universal depression that was accompanied by wars, and finally the holocaust of the second world war. All these swings of the pendulum had their own decided effect upon the social scene. The end of the war in 1945 found a completely different world, its needs and tastes affected by such facts of life as the redistribution of wealth, the rise of a highly paid organized labour force, the developments of new materials, and unprecedented closeness of communications. New developments in the field of communication especially make possible an almost incredibly rapid cross-fertilization of the world's cultures." (Savage, 1966, p. 260).

Changing first of all are the conditions under which architecture is operating. One major change has already been referred to, is the change from personal to impersonal client.

"...That an impersonal style such as the rationalism and functionalism of 1930 largely was suits these conditions better than any style derived from the past goes without saying. That the anonymity of the prise, and indeed genius, is equally patent... That a large commissioning body can successfully maintain high architectutal quality was shown between the wars by the Gehag in Berlin and the municipal housing department of Frankfurt (see above) and is being shown by the Ina Casa in Italy... As the client ceases to be a man and becomes a commitee, so the architect is on the way from being a man to being a partnership or firm. The Architects Department of the country of London employs 3000 (of which 1500 ae trained architects). Skidmore, Owings & Merrill in the United States, a firm not producing anything that is not of the highest standard, had in 1953 ten Directors, seven Associate Partners, eleven Participating Associates, and a staff of 1000... In connection with this development

one should also understand those cases where a group of individual architects are supposed to have designed one building. Such was the case of the United Nations Secretariat, built by W. K. Harrison in consultation with Le Corbusier, Markelius, Niemeyer, Sir Howard Robertson, N. D. Bassov, Ssu-Cheng-Liang, and four others... Nothing could be more telling of the most spectacular change between 1930 and 1950, the change from a style of pioneers and pioneer countries to a style producing outstanding work all over the world." (Pevsner, 1963, p. 686).

Moreover this increased internationalism - for the new style was of course, like any healthy style, essentially international at its beginning - has been welcomed by some, abused by others. The argument against is that, though all healthy styles of the past have begun essentially internationally, they have all assumed decided national characteristics in the end, the Perpendicular in England as against the Sondergotik in Germany, the style of Delorme in France as against that of Burghley House in England, Pevsner (1963) says. Acording to him, the dividing line between engineering and architecture in the works of planning does not exist any longer. It had for the first time been called in question when the early suspension bridges rose.Forms which had never before seen in architecture or engineering are invented. Candela's church as well as the Market Hall at Mexico City prove conclusively that extreme individual expression is possible within these innovations in the use of concrete. Their effect on architecture as an art has indeed been a revival of radical individualism. Le Corbusier's pilgrimage chapel of Ronchamp is the most discussed monument of a new irrationalism.

In contrast to the period between the wars, which was stylistically characterized by a similarity of ends and means, the architecture of the last decades shows an evergrowing diversity. The new diversity became evident soon after the Second World War. Some of the leading exponents of the modern movement aimed a further systemization of functionalist architecture. The most influential was Mies van der Rohe, who in his American buildings followed a sensitive and meaningful articulation of skeleton construction. More fruitful, however, was the "organic" current, which took a new interpretation of the concept of function as its point of departure.

"The most influential exponent during the first decade after the war was Alvar Aalto (b. 1898), who had suggested an organic approach in his Functionalist buildings from the early 1930s... The organic movement was also inspired by the later works of Frank Lloyd Wright such as Taliesen West (1938) and the Guggenheim Museum in New York (1946)." (Norberg-Schulz, 1975, p. 390-1).

Starting in the 1950s with the ultima maniera of Le Corbusier and the first great works of Louis Kahn, a pluralism of technically founded formal structures has developed.

"There are other buildings in which the challange is accepted and met fully without jettisoning the conquests of 1930. They are what in a future history of 20th century architecture will represent evolution as against the revolution of Ronchamp. The discovery of these evolutionaries is threefold, though discovery is perhaps too strong a word, as the three innovations are anticipated here and there in earlier 20th century work. The first of these new theses is that relief need not only rely on decoration, but can be achieved by variety of grouping and surfaces; the second is that the principle of variety of grouping can be extended to a whole estate or indeed a whole city center; the third is that variety can be accomplished in the relation of buildings to each other. By these three means uniformity is avoided, fantasy is let in, and a sense of human satisfaction created without recourse to wilfulness. As examples of the first I would cite the United Nations Headquarters in New York and even more the Lever Building (by Skidmore, Owings & Merrill) with its brilliantly handled contrasts of the twenty-four-storeyed glass slabs and the two-storeyed block beneath with its enclosed garden piazza inside. The best example of the second is Vallingby (Fig. 3.76) near Stockholm with its market place, surrounded by point-blocks. This was designed by Sven Markelius and others and built in the mid fifties." (Pevsner, 1963, p. 702).

The principles of Lever Building and Vallingby are in architectural terms clearly the same as those of the 18th century improvers: irregularity, informality, surprise, intricacy. But they are expressed in buildings. To express them in a synthesis of buildings and nature was bound to become an English task.

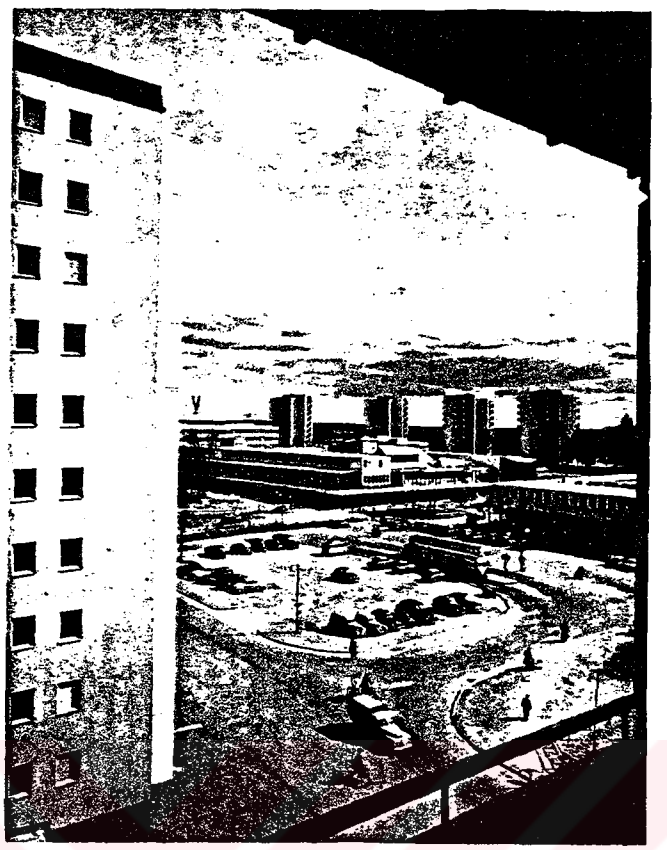


Fig. 3.76 Vallingby near Stokholm by Sven Markelius and others, 1955.

From the early 1950s on, first Johnson and then Kahn came to be increasingly concerned with reactivating the formal systems of the past. Johnson's own historicism came directly from his understanding of late Mies and something of Schinkel's Romantic Classicism. The beginning of Kahn's concern with the past, according to Frampton (1985), is more difficult to establish.

"Beaux-Arts trained in Philadelphia under Paul Cret but close in the late 1930s and 1940s to the radicalism of men like Buckminister Fuller and Friederic Kiesler, Kahn was to return after the New Deal to a remote hitorical tradition, through his preoccupation with the creation of hierarchic order out of heavy structural form... At this juncture in Kahn's career one encounters one of the central paradoxes in the work and influence of Buckminister Fuller. For whereas Fuller's contribution was posited by both himself and his followers as the only truly functionalist approach of the age, it

has since become evident that his geodesic structural systems should be regarded as evoking through their universal geometry an attitude to both form and life that is fundamentally mystical. It is clear from Kahn's subsequent career that this side of Fuller's thought exercised a strong hold over his development, and never more so than during the period of his association with Ann Tyng, who was an ardent follower of the Fuller line." (Frampton, 1985, p. 243).

Modernism is a cultural attitude rather than design style. Within that attitude which came to be called Modernism, Modern Art had many styles ranging from impressionistic to cubist to abstract expressionism (and there are styles within these styles). The same can be said for Modern Architecture - De Stijl, Futuristic, International, Brutalistic, High Tech - all are Modernist styles.

Art critic Kim Levin describes the aspirations of Modernism:

"For the modernist period believed in scientific objectivity, scientific invention; its art had the logic of structure, the logic of dreams, the logic of gesture or material. It longed for perfection and demanded purity, clarity, order. And it denied everything else, especially the past: idealistic, ideological, and optimistic, modernism was predicated on the glorious future, the new and improved..." (Levin, 1979, p. 90).

The growing awareness in the early 1960s that in common practice there was a fundamental lack of correspondence between the values of the architect and the needs and mores of the user led to a whole series of reformist moves which sought in a variety of counter utopian ways to overcome this divorce of the designer from everyday society.

"Post Modernism seems to be a direct reversal of Modernistic philosophy and its attendant idealization... Its method is synthesis rather than analysis. It is style-free and free-style. Playful and full of doubt, it denies nothing. Tolerant of ambiguity, contradiction, complexity, incoherence, it is eccentrically inclusive. It mimics life, accepts awkwardness and crudity, takes an amateur stance. Structured by time rather than form, concerned with context instead of style, it uses memory, research, confession, fiction..." (Hargreaves, 1983, p. 60).

There are two basic ideas of Modernist space on which Post Modernists have built, and to which they have also reacted. The first is that it focused on the notion of spatial interpenetration - the way two or more volumes could overlap, large glazed areas could unite previously seperated areas, and planes of architecture could slide by each other, producing continuous flowing movement.

"The other, related notion of Modernist space developed from the Chicago frame and Le Corbusier's Domino block, and resulted in the extreme isotropic space of Late Modernism. Post Modernists have clearly reacted against this, seeking to define 'place' rather than abstract space and to establish ambiguity, variety, and surprise rather than the predictability of the Chicago office floor. But even in this essential rejection of homogeneous space, there have been certain carry-overs from Modernism: in particular some spatial ideas of Frank Lloyd Wright and Le Corbusier - notably layered, shallow space - have been developed by Post Modernists. Interpenetration and layered space, two rhetorical figures of Modernism, are used by Post Modernists to define a new kind of ambiguous space which is mysterious complex, and full of surprises." (Jencks, 1988, p. 200).

The variety of different and often conflicting currents now running in the design world is characteristic of a period of change in which established norms seem to have outlived their usefulness while new norms have not yet taken clear form, similar to the Mannerist developments in Italy in the sixteenth century, when the established ascendancy of classical design systems came into question while the Baroque of the seventeenth century had not fully emerged. Mannerism was a style in transition, permitting experimentation, the testing of new and sometimes outrageous or extreme ideas, confusion, and rich development. If the present is also such a time, it is not surprising that untried and disturbing forms are emerging.

Living and working in design at such a time may not be as easy as it is in the middle of a well established period, but the level of excitement and interest is higher. Public awareness of design issues and involvement in controversy increases at such a time and makes design a lively and vital field rather than a settled craft. The last

decades of the twentieth century promise to become one of the most interesting of all historical design periods.

3. 10. 2. Eclecticism:

3. 10. 2. 1. Principles of design:

Most important buildings designed in America before World War II were influenced by the Beaux-Arts imitative way of working, often called eclecticism. The word means "borrowing from many sources" and this was the leading characteristic of eclectic design. A museum or courthouse might be Roman in origin, a church Gothic or Romanesque. New York's Pennsylvania Railroad Station was designed by the firm of McKim, Mead and White in imitation of the Roman Baths of Caracalla. A style was chosen to suit aech particular project; banks were often Greek or Roman, scools Tudor Gothic, clubs Renaissance palaces, private homes small chateaux or Georgian mansions. Modern steel structure was often concealed by the period-style exterior.

"While Gropius and his group were organizing the Bauhaus, most people in America were enamored with the past. Antiques and reproductions routed any vestige of pioneering from the drawing room. The guest for antiques was no longer confined to a few; in the brief span of about two decades shopping for antiques in all seasons, from Duveen to dark and squalid shops, had become one of the most popular American pastimes." (Boger, 1966, p. 468-9).

The most positive development of the eclectic era in interior design was the emergence of a specialized profession called, at the time, interior decorating. Elsie de Wolfe (1865-1950) is often considered to be the first truly professional decorator. Her clients were mostly wealthy New Yorkers, her work generally confined to tasteful borrowing from the historic periods. Her 1913 book The House in Good Taste served to popularize her thinking, which went far beyond stylistic imitation to probe more basic questions about aesthetic goals, even suggesting simplicity as a design objective. Her work opened the way for other decorators, such as Nancy McClelland (1876-1959), Ruby Rose Wood (1880-1950), Rose Cumming (1887-1976), Edward Wormley (b. 1907), and William Pahlmann (b. 1900) in the 1930s and 1940s had its

roots in the style-oriented professional practice developed by the first wave of eclectic decorators.

3. 10. 2. 2. Pattern & texture:

Pattern - busy whimsical, florid and usually brightly colored - may look back to the Renaissance, or it can be related to those patterns of light and dark which are now called "Op" art.

3. 10. 2. 3. Material & techniques:

Fabrics created of synthetic fibres, and the newer plastics, can look fragile, plushy, and even elegant, but easy cleaning makes it possible for them to be white or of pastel shades and yet stay within bounds of practicality. Flock wallpapers, first invented in the seventeenth century, are still employed to produce an air of opulence.

3. 10. 2. 4. Furniture & furnishings:

Interior design was expexted to follow along, providing historically believable decoration in whatever style suited the building or the taste of the owner. The profession of interior decoration became focused on the ability to create rooms furnished with antiques (genuine or imitation) and related details in one of many styles. A somewhat degraded version of American Colonial interior design became a particular favorite in residential works.

"In the United States at least commercial furniture manifacturers, and their customers, heve been attracted by what they call Italian Directoire, by French Provincial, Early American, and by Spanish design which is at once related to Gothic and to the Islamic art of the Moors. Eighteenth century English, French, Italian, Persian, Indian, Thai, Chinese - all the designs, new or old, seem welcome in contemporary interiors... They are freely mixed with abstract art, traditional Oriental rugs, and primitive pottery, in arrangements with no meeting-ground of chronology or genre, but simply because they happen to blend in a way which satisfies the taste of their owner." (Savage, 1966, p. 262).

Everyone in trade was busy making reproductions. Italian Renaissance and French interiors provided the chief source of inspiration, as is shown in the Vanderbilt mansion at Hyde Park built by the illustrious firm of McKim, Mead and White in 1896-98 (Fig. 3.77). The elaborate furnishings of this mansion were chosen by Stanford White, Ogden Codman, and other noted decorators. A bolustrade was placed around the state bed in the manner of the French "lit de parade" in order to give an air of authenticity to the state bedroom of the Louis XV period.

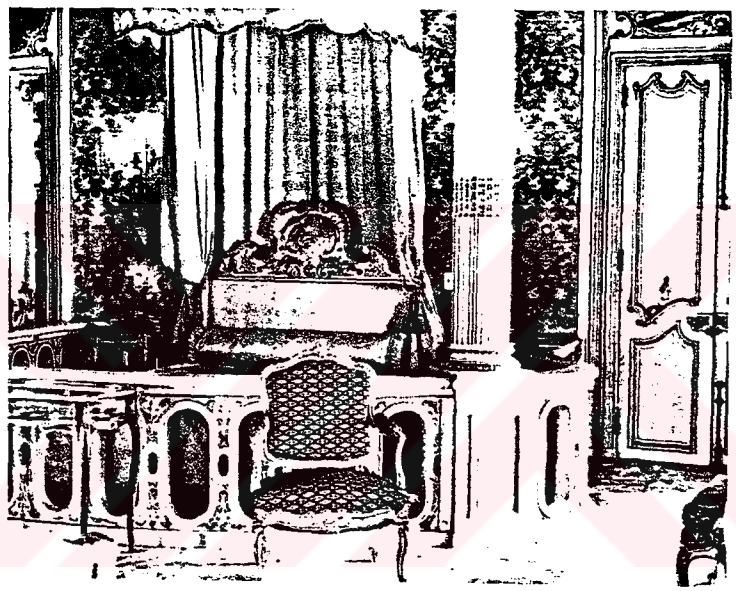


Fig. 3.77 State bedroom at the Vanderbilt mansion, Hyde Park, New York. 1898.

In the mass production furniture trade during the first quarter of the twentieth century the increased use of machinery was chiefly devoted to making atrocious copies of period pieces matched only by the poor quality of materials. A considerable part of this machine art was the "Borax" class. The era of quality reproductions was initiated in 1930s.

"In the years following World War II, modern Italian architecture and furniture attracted great interest. Its admirers acclaimed it as the second Italian Renaissance...

Looking handcrafted and sculptured to pinpoint delicacy, the new furniture was a melange of the antique, baroque, and rococo with a drop or two of German Bauhaus and French moderne cloaked in playful, ingenious Italian guise. A marked characteristic of the new furniture, which had been developed by a group of Italian architects around Milan, was the floating look." (Boger, 1966, p. 470).

3. 10. 3. Art Deco (1909-1939):

3. 10. 3. 1. Principles of design:

At about the same time that Modernism was developping, a more commercial and fashion oriented kind of style was appearing, now usually called Art Deco. It had its origins in post-World War I France, where influences from primitive art and Cubist painting and sculpture combined with modern motifs such as electric power, radio, and skyscraper building.

In France a quarter of century had elapsed since Art Nouveau, and in the meantime modern art had arrived. All too long French decorative art had been restricted to the making of single objects of artistic interest, surely very precious, but not in step with modern industrial development.

"Relying on the French reputation for luxury craftsmanship, her aim was to create a new style that could play an important role in the new order of things. The outcome was the Exposition Internationale des Arts Decoratifs covering more than seventy acres along the right bank of the Seine, which opened in May 1925. The exposition stood for modern decorative and industrial art which excluded from the exposition 'copies, imitations, or counterfeits of ancient styles... More than twenty countries participated in the exposition, and though America did not exhibit (neuther did Russia nor Germany), American furniture manifacturers and designers attended in the thousands." (Boger, 1966, p. 471).

This style became a favorite for theaters and exhibition buildings and was often used for public spaces, office building exteriors, and apartment buildings. New York's Chrysler Building (1930) and the structures of Rockefeller center, including Radio

City Music Hall (1931) are rich in Art Deco detail. This style had also some popularity in England and, to a lesser extent, in other European countries. It was the decorative style of the interiors of some of the last great ocean liners, such as Normandie, the Queen Mary, and the Queen Elizabeth.

"...an important milestone in promoting modern in America was the International Exposition of Art in Industry sponsored by R. H. Macy... Its purpose was to encourage further interest on the part of the American public and the American designers in modern art as applied to industrial design and to present examples of the best European and American schools so the public might appraise the entire picture. Three hudred exhibitors were selected. Such famous architects and designers of modern as Joseph Hoffmann of Vienna, Bruno Paul of Germany, Jules Leleu of Paris, and Giovanni Ponti of Milan created rooms in the spirit of their national art." (Boger, 1966, p. 476).

Another influence in the 1930s came from the introduction of streamlining in dirigible and airplane design. The rounded shapes of streamlined aircraft were taken up by the practitioners of the new profession of industrial design and adopted to trains, automobiles, furniture, and even such unlikely objects as refrigerators and pencil sharpeners. Industrial designers produced interior design work - most often for trains, ships, retail stores, and showrooms - using some mixture of Art Deco and streamline styles.

"In the next few years an undercurrent of protest, which had never ceased to make itself felt from the birth of modern in America, grew more lively. Critics waxed indignant at the so-called 'corruption of taste', and justifiably so when we consider the jukebox, or jazz-type modernistic which was really cleaned up 'Borax'. Then, too, it was about this time in the early 1930s that steel furniture, especially the tubular type, had its brief hour of fashion - bred in the wake of Breuer, Mies, and the Swiss-born architect Charles Edouard Jeanneret, called Le Corbusier. The latter's famous dictum, 'the house is a machine for living' is as enigmatic as Mona Lisa's smile." (Boger, 1966, p. 477).

3. 10. 3. 2. Furniture & furnishings:

The first real interest in modern furniture in America was inspired by the Paris Exposition, which was to bring into existance the style known as Art Moderne.

"Ruhlmann, whose work exercised a wide and beneficial influence on interior decoration in France, was one of the first with the courage to conceive and carry out works that were entirely rational in construction, relying for their beauty mainly on the general harmony and balance of lines. Some of his chairs, as well as some of his sideboards and cabinets, have the legs partly included as part of the body of the piece itself (Fig. 3.78), a device inaugurated by Ruhlmann and since much imitated." (Boger, 1966, p. 473).

Fig. 3.78 Corner of a salon designed by Ruhlmann for the Paris Exposition. 1925.

Ruhlmann appreciated these values from the outset. He was especially fond of exotic woods - amboina, macassar, ebony, amaranth, and tulipwood - from which he obtained exquisite effects, ornamenting them with ivory marquetry.

"In contrast to Ruhlmann's work, extravagant excesses and arguable tastes marked much of the work at the exposition, which passed at the time for the latest

word in French decorative art. Was this effect of the mania for modern or merely an irresistable desire to do something that had not been done before? However this may be, in less than five years after the exposition the French moderated modern. 'By degrees', The Upholsterer, December 1929, reports 'they abandoned and are still abandoning the unusual which is meaningless and they are divorcing Art Moderne from the principles of Cubism, Futurism, and the various other isms of art development with which it has become associated in the public mind. They are striving for elegant simplicity that shall successfully symbolize the curent age'." (Boger, 1966, p. 474-5).

As the department in France were the main source for acquainting the public with Art Moderne, so they were to be in America. Frankl's so-called skyscraper furniture, deriving its name from the architecture which influenced it, was designed on severely simple perpendicular lines with all superfluous ornament removed.

3. 10. 3. 3. Color:

"Art Deco was the ornate phase of the Modern era, with decoration that included sleek forms and geometric shapes. Favorite colors were rose, mauve, silver and black, and warm yellow-greens trimmed with gold and mustard yellow. Art Deco forms and colors are frequently revived in eclectic interiors." (Nielson - Taylor, 1980, p. 62).

3. 10. 3. 4. Sculpture, painting & objects d'art:

Ornament was accepted, but it was a modern ornament of stepped and zigzag forms often associated with the rythms of jazz music. It was introduced more for commercial, fashion-oriented reasons than form any theoretical intent.

3. 10. 4. Swedish Modern:

3. 10. 4. 1. Principles of design:

The New York World's Fair, as well as the Golden Gate Exhibition in San Fransisco, both held in 1939, climaxed the upsurge of modern. Swedish modern

enjoyed a great vogue after its spectacular success at the World's Fair in New York, while the exhibition at San Fransisco brought into focus a growing recognition of the regional independence of architecture and design on the West Coast.

Gilbert Rhode, one of the prominent names in all that was progressive in furniture, expressed his views on the progress made the future trend of modern in an article appearing in The Interior Decorator, January 1940. "It is only about ten years ago that the first severe straightlined furnishings eschewing all decoration and making much ado about 'functionalism' appeared on the American scene... That this style did not satisfy the needs of human beings is manifest in the many attempts that came under the head of neo-classic, or modern classic, were gropings in this direction; in the latest of these efforts euphemistically called Sweedish Modern we at least find a solution more nearly suited to our American way of life. But now for the first time we see a maturing that can be called all our own. It is no mere accident that so many of the designers, who ten years ago began with the pure 'international style', are now designing in a 'humanistic' manner that admits a place to the past as well as to the present, and to the emotions as well as the mind...".

3. 10. 4. 2. Furniture & furnishings:

The Swedish prefer to think of Swedish modern not as a style but as a movement predicated on the conception of the role of furniture in modern life. A movement capable of endless development and adaptability to all conditions guided by a fundamental idea - the human form and the arrangement of the interior so as to give the individual the greatest freedom for his activities in a harmonious environment within the walls of his home.

"The typical Sweedish modern chair is especially shaped to the human form, as few chairs have been since early times. Their comprehensive unit system of furniture allows the individual to build up the exact accommodations he requires, to arrange it in a number of ways and to rearrange it easily in another quite different room, or, if necessary, even another house." (Boger, 1966, p. 481).

Although Swedish modern has such prominent designers as Carl Malmsten, Elias Svedberg, Karl Bruno Mathsson, and captain G. A. Berg, generally regarded as the apostle of contemporary Swedish, it is in the tradition of anonymous furniture.

"Many Swedish pieces of graceful and modest design, such as chairs displaying with remarkable clarity the seperation of frame and upholstery, chairs with spindled backs, wood seats, and finely turned legs and stretchers, cane-paneled low cupboards and slender sideboards, have been a fruitful influence on American furniture. In fact it is true to say that the influence of Swedish modern has become one of the essential parts of the furniture we like to think of as American." (Boger, 1966, p. 482).

3. 10. 5. De Stijl (1917-1928):

3. 10. 5. 1. Principles of design:

The Dutch movement called De Stijl defined directions similar to those of the Bauhaus and had close connections to the work of the painter Piet Mondrian and the sculptor Theo van Doesburg. Gerrit Rietvelt (1888-1964) is the best known De Stijl designer, with his constructivist sculptural Schroeder house of 1924 in Utrecht (Fig. 3.79) and his geometrically abstract furniture. The architects C. van Eesteren, J. J. P. Oud, the sculptor Vantorgerloo and many other contributers of this movement together formed a strong and spontaneous vanguard headung toward a common and constructive purpose.

"Theo van Doesburg, the famous theorist of De Stijl group, published a manifesto in 1924 named 'Towards a plastic architecture'. These theories were evolved in the light of Wright's theory of 'Destruction of the box'; therefore he was also called 'The father of De Sijl'." (Kortan, 1992, p. 13).

In this manifesto it is insisted that the new architecture is functional, formless, anti-cubic, non-symmetrical, non-monumental, anti-decorative, and open. It has opened the walls and so done away with the operation of inside and outside. It offers a plastic richness of multi-sided, time-space activity.

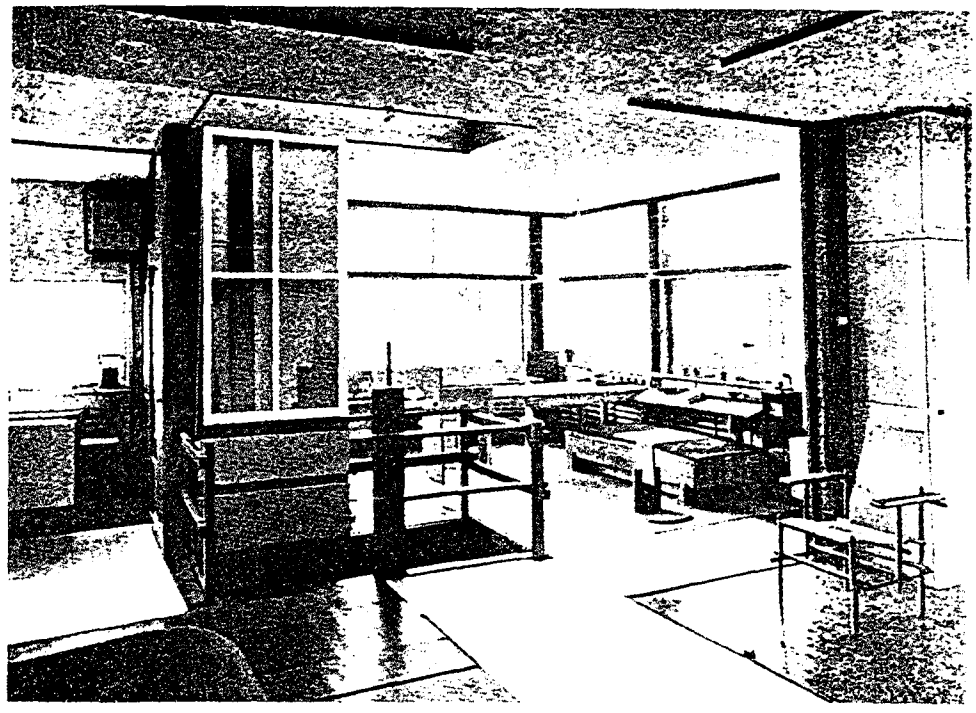


Fig. 3.79 The upper level of the Schroeder house, its main living floor, Utrecht. 1924.

The hallmark of de Stijl was the use of flat planes, rectangles, and squares, and a composition that replaced formal balance with active and informal balance. Symmetry gave way to assymetrical design. This was a balence of contrast in which "the right angle as the point of intersection of two lines provides the simplest form of contrast" (Joedicke, 1959, p. 100). Often this contrast was aided by the use of the primary colors, which the de Stijl members used exclusively. Experimentation was a part of this movement, and no form or object was sacred.

Kiesler, who joined de Stijl in 1923, designed an intricate City In Space for the International Exposition in Paris, using all the required spatially oriented squares and rectangles which were the mark of the de Stijl (Fig. 3.80).

"The germination of de Stijl did not take place by itself but was helped along several sources. Cubism, which Picasso and Braque established in Paris in the early 1900s, was a great light in the eyes of the dutch designers. Here, in painting, were some of the same philosophies that could be translated into their work in architecture,

city planning, and interior spaces. Frank Lloyd Wright, the American architect, also helped influence the movement, after two less well-known members of its group visited the United States. In many of Wright's early buildings there can be seen a definite affinity to the de Stijl style. Many of his small domestic homes are constructed of the same rectangular and square forms but are ornamented with Art Nouveau-influenced designs for which Louis Sullivan had been so well known. Even in the furniture that Wright was designing until his death, the familiar shapes of de Stijl are evident." (Van Domenelen, 1965, p. 55).

Fig. 3.80 City in Space by Frederick Kiesler for the International Exposition, 1925.

The de Stijl began to influence Germany through the Bauhaus; as we look at the movement more carefully, we will see many characteristics that can be directly traced back to Holland and the de Stijl group.

"De Stijl had an enormous impact on designing concepts, not only in Europe but in America also. Architecture and painting felt the major effects of de Stijl, which

had as its most important contribution the new assymetrical approach to design. It is not difficult to see the mark of asymmetrical design in architecture in the United States. In many of the main streets and suburbs there is architecture that reflects the de Stijl philosophies; store fronts, ranch-type homes, and building balconies furnish examples of de Stijl impact." (Van Domenelen, 1965, p. 56).

3. 10. 5. 2. Furniture & furnishings:

The major furniture designer of de Stijl group was Gerrit Rietvelt, who was also an architect. As it can be seen in his chair designed between 1917 and 1919, Rietvelt applied the de Stijl philosophy to seating as well as to other household items and architecture (Fig. 3.81). The furniture he designed, especially the chairs, lack comfort and functional usefulness because squares and rectangles didn't comform to the contours of the human body. On the other hand, they do express the ideological qoals sought after by the group and offer to the world new materials in conjunction with new ideals.

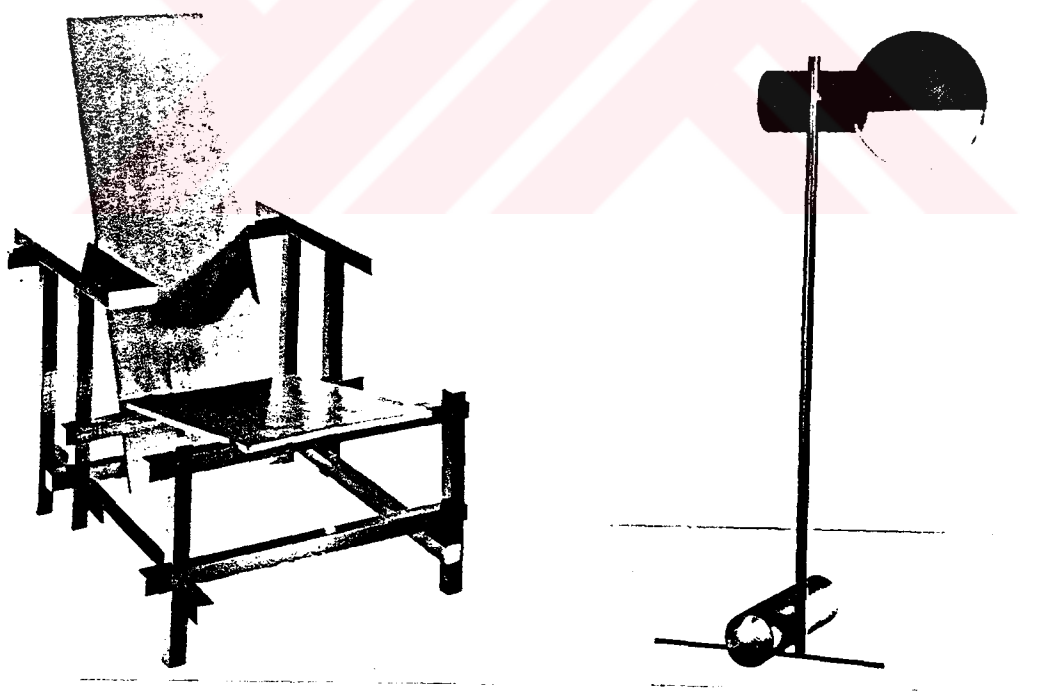


Fig. 3.81 Armchair of painted wood,1917. Chrome-plated and painted lamp, 1924. Both are designed by Gerrit Rietveld.

"The de Stijl movement declared that the furniture should be composed of simple square elements screwed together. Furniture, at this time, was a series of vertical and horizontal planes, visually weigtless in space. Gerrit Rietvelt, a furniture designer turned architect, tranlated the principle to a three dimensional form as early as 1917 in the 'Red-Blue Chair'. His intention was to design a chair anyone could afford, but it appears that the chair was made almost as a sculpture: the functional aspect was incidental." (Stepat-DeVan, 1980, p. 212).

3. 10. 5. 3. Sculpture, painting & objects d'art:

Mondrian was one of the most important artists and painters in this movement. He rejected nature and the representational objects, and accepted nonrepresentational form as his method of expressing his philosophic ideologies. He had this to say about the way of seeing:

"The emotion of beauty is ever restricted by the appearence of the thing; that is why the thing had to be eliminated in the representation. So long as there is no entirely new art of building, it is up to the art of painting to perform that in which the art of building - such as is generally apparent - has failed; i.e. to represent purely well-balanced proportions or, in other words, to be abstractly realistic representation. The abstract realistic art of painting is therefore meanwhile the life saving substitude." (De Stijl, cat. 81, p. 63).

Mondrian was very much aware of the relationship of his advences in painting to those in architecture. The new understanding that he was finding in space, light, and line (Fig. 3.82) was being discovered by the architects in new materials of industry, such as glass, steel, and concrete.

"Piet Mondrean was the chief spokesman for this group of artists, who described their theories as an attempt to close the gap between art and life. Their principles were purity of all elements; purity of horizontals and verticals; and the use of pure primary colors with black, white, and grey. The artists were to restrict the elements of painting to an abstract arrangement of lines and geometric shapes or a

flat surface using only black, white, and the primary colors." (Stepat-DeVan, 1980, p. 212).

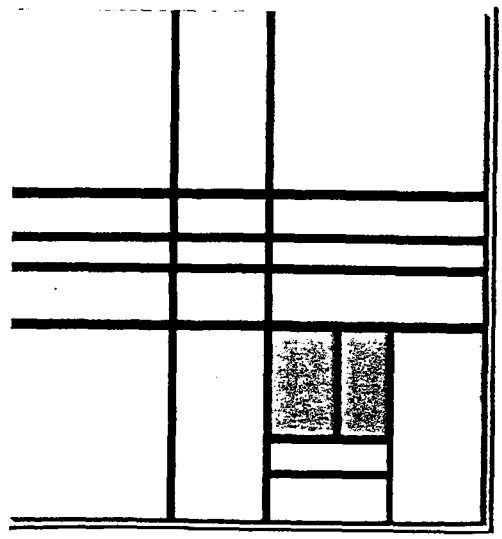


Fig. 3.82 Composition by Piet Mondrean, 1936.

3. 10. 6. Functionalism:

3. 10. 6. 1. Principles of design:

In general the period between the wars was characterized by a search for a secure common basis, that is, for principles. The word 'functionalism' is indicative of its attitudes and aims; in architecture, it is a rationalization of the general approach introduced by Sullivan and Wright. While American architecture after the turn of the century was involved in a new wave of historicism, Wright's works were published in Germany in 1910, and exercised a decisive influence on European development. Following him European architects sought basic principles in the belief that the new architecture was "the inevitable logical product of the intellectual and technical conditions of our age" (Gropius, 1935, p. 18) and those who shared this belief considered themselves exponents of a 'modern movement' which was confirmed when the Congres Internationaux d'Architecture Moderne (CIAM) was founded in 1928.

"Sullivan did a great deal to promote the skyscraper, and from his research and considerations grew the concepts of a type of building that one day would become the symbol of American cities. Sullivan's greatness lay in his ability to see and to understand the social implications of his art and its place in society. This meant that Sullivan, along with other architects and designers of the Chicago School, in order to pursue architecture honestly had to cast aside the styles and influences of past cultures and proceed to answer current problems. From this convinction came Sullivan's famous phrase, 'form follows function'." (Van Domenelen, 1965, p. 73).

Wright followed Sullivan's philosophy of 'form follows function', but he would have prefered to be known by his 'organic' architectural approach. Organic architecture for him is an architecture from within outward, in which entity is the ideal. He claims that out of nature comes what character in any particular situation it can be given to the building as a creative artist. The interiors of Frank Lloyd Wright were characterized throughout his career by preoccupation with unusual angular shapes, patterns, and textures.

"The work of Frank Lloyd Wright also became very important in the progress of modern movement. Although he designed public buildings, he applied many commercial techniques to residential strucrures with the result that his houses were innovations in design. Wright firmly believed in relating his structures to the geography of their settings, but he built from the inside out. The function of the building determined its form. He designed to take maximum advantage of sun, light, and view, but he rejected window walls when they violated privacy. He also made maximum use of decorative qualities of building materials, both inexpensive and costly ones. He created a style of architecture that has been accepted throughout the world." (Stepat-DeVan, 1980, p. 212).

The modern movement took as its point of deparure the belief in scientific analysis. This does not mean that its leading exponents were blind to the purpose and value of art. Le Corbusier's famous statement in Towards a New Architecture (1923) indicates awareness of this: "Suddenly you touch my heart, you do me good, I am happy and I say this is beautiful. That is architecture. Art enters in." (Le Corbusier,

1927, p.141). He also believed that architecture is "a thing which in itself produces happy people." (Le Corbusier, 1927, p.19).

Here it is touched upon the very core of the Functionalist creed: that the social and human problems of our time are to a large extent the products of a false and deficient environment, and man's condition may be improved through a new architecture which reconquers true and fundamental meanings.

"The elementary forms and strict principles of Functionalist architecture may be interpreted as a protest against what the architects considered to be the devalued motifs and academic compositions of historicism, but first of all Functionalism had a positive aim based on a strong belief in man and in architecture. As such it possessed the significance and power to become an international movement." (Norberg-Schulz, 1975, p. 359).

Two main endeavours determined Functionalist articulation of open space: the establishment of a unity of form and function, and a recovery of essential meanings. Functionalism thereby led on the process of phenomenization initiated during the Mannerist and Baroque periods, and regained some of the archetypal abstractions of primitive architecture.

"In general, the Functionalist approach led to a pronounced differentiation of functions and forms. To define the functions and determine their formal consequences, Functionalism isolated them and reduced them to their measurable aspects. Functionalist architecture therefore easily degenerated into a machinelike juxtaposition of seperate parts." (Norberg-Schulz, 1975, p. 386).

One class of spatial organization is almost entirely lacking in Functionalist architecture: the topological orders. Topological properties are obviously closely related to meanings such as elementary enclosure, environmental warmth, and the more general variations on a theme. In the past these meanings were concretized in terms of urban squares and streets, bordered by continious raws of buildings, and by

intimate interior spaces. The spatial aspect of many important human activities have a topological structure. Early Functionalism, therefore, did not fully satisfy its dictum 'design for life'. Early Functionalism, meanwhile, represented an important and necessary step towards the creation of fully satisfactory human environment, and it is important to point out that the further towards this goal has grown out of Functionalism.

Gropius's Totaltheater of 1927, acording to Norberg-Schulz (1975), is a symbolic expression of man's new existential situation as a participant in a total dynamic world of incessantly self-changing energies. In other words it gives human content and meaning to the concept of open space. In 1927 Marcel Breuer furnished an apartment in Berlin and made it a "machine for living" containing a minimum of practicle equipment. It illustrated the functionalist belief that participation in the modern world calls for individuals who have become free of preconceived ideas and sentimental attachments.

"...Functionalist method could not be truly open. During the 1920s, thus, forms such as wholes in the wall, closed corners, frames around doors and windows, arches and sloping roofs were proscribed, not only because they reminded one of the past, but because their use might have closed the system. Paradoxically, as a result functionalist architecture became an architecture of exclusion, that is, a style which could not account for all aspects of human existance. But the International Style was not the goal of the modern movement, but only a transitory stage. With an increasing understanding of the principles of open symbolism, even the more particular forms of the past could become part of the pluralism of formal structures which developed after the Second World War." (Norberg-Schulz, 1975, p. 388).

It is a misunderstanding that Functionalism was only interested in efficiency. Like any other great historical movement, it was first of all concerned with meanings, that is with the problem of giving man an existential foothold.

3. 10. 6. 2. Sculpture, painting & objects d'art:

"The functionalist search for essentials was felt in all fields of human activity after the First World War. In art it became manifest as different purist currents, the

most important being the pure classic art of Piet Mondrian and other members of the Dutch De Stijl group, the Constructivism of Pevsner, Gabo and Malevich, the purism proper of Le Corbusier and Ozenfant, and the sculpture of the great Constantin Brancusi. Brancusi's works are true archetypes; his Bird in a simple synthetic form expresses all the aspects of the bird's conquest of the vertical. Brancusi dealt with only a limited number of themes, but in each case he made several replicas producing ever more perfect definitions of the essential character." (Norberg-Schulz, 1975, p. 387).

3. 10. 7. Bauhaus (1919) & Purism (1918):

3. 10. 7. 1. Principles of design:

Deutsche Werkbund established in 1907 was formed to promote high standards of craftsmanship and industrial design by encouraging a closer co-operation among architect, designer, manifacturer, and workman. From the beining this group felt no horror of the machine. They belived that the machine was after all but a more powerful kind of tool which if properly directed could achieve a beauty of its own. By 1920 modern designers were developing three elements: the acceptance of mass production, a predilection of geometric shapes, and the forms and materials of engineering. In 1919 the Germans opened a new school under the tutelage of Walter Gropius to teach experimental methods of designing for the machine.

"The students were urged to explore industrial materials and processes, to experiment freely and boldly, but always to keep in mind the purpose their design should serve; that is, form should follow function, creation for use. Their functional solutions were expressed in geometric forms influenced by the de Stijl movement flourishing in Holland from around 1917 to 1928. Among the Bauhaus innovations were the employment of metal tubes in the design of furniture, highly polished surfaces made interesting by textures rather than by decoration, and stacking furniture designed to facilitate storage. Many Bauhaus designs were acquired by industry for mass production; although most of their products were made by hand, the precision and clarity of their geometric contours imbued them with a machine-made appearance." (Boger, 1966, p. 465).

The Bauhaus was active during much of the time that the de Stijl movement was operating in Holland. However, the Bauhaus was a more organized unit that housed itself in a particular building and was formally planned movement.

"In Germany, Hermann Muthesius sought a synthesis between the machine style and the Morris' arts and crafts movement. He founded the Deutsche Werkbund in 1907 in an effort to effect real cooperation between the best artists and craftsmen on one hand, and trade and industry on the other hand. At the first session of the Werkbund Theodor Fischer said, 'Mass production and division of labor must be made to produce quality'.Therewith the fallacy of Morris' 'craftsman's culture' seemed to have been overcome." (Bauhaus 1919-1928, p. 13).

Anni Albers, Wassily Kandinsky, Paul Klee, and Lazslo Moholy-Nagy were other important figures at the Bauhaus.The theories for which the Bauhaus stood are often summarized in the slogan of functionalism. The emphasis on functionalism was so great as to suggest that all furniture made through ages was hopelessly non-functional. Nevertheless, the doctrine of functionalism brushed away much Victorian clutter and in certain ways has considerably simplified our lives.

"When the Bauhaus was dissolved , its members went their different ways and carried its ideologies and principles across more of the world as they resettled. Most of its prominent members arrived in the United States to continue teaching their philosophies. They made a great impression on the American scene." (Van Domenelen, 1965, p. 68).

Ludwig Mies van der Rohe replaced Walter Gropius as director of the Bauhaus in 1930. Because of the active Nazi organization he found it necessary to close the school in 1933. He left Germany in 1937 and came to the United States, where he was participated in architecture very actively ever since. He is especially well known for his methods of breaking the four walled box structure of a building into spans of glass that permit nature freely to enter its structures.

"The satisfactory interior treatment of buildings which have been opened up by the abolition of load-bearing walls is a problem which has so far been fully solved. A

bold attempt is Philip Johnson's own glass house at New Cannan, Connecticut, with walls entirely of glass, allowing trees of the surrounding landscape to become in effect the wall decoration, throwing their shadows in a pattern on the brick paved floor and its plain rugs. Large luxuriant indoor plants give a little softness among the leather and chrome chairs designed by Mies and figure sculptures form effective points of interest, carefully chosen to complement and blend with the severe lines of the building." (Denby, 1963, p. 88).

Le Corbusier's influential book Towards a New Architecture of 1923 made him the primary theorist and publicist of the ideas of the modern movement, even before he had produced any major body of his work. In his work of the late 1920s and 1930s, he demonstrated his convinction that the aesthetic of engineering (of ships, airplanes, and industrial buildings) formed a sound basis for all design in the modern era. His work was always regulated by an orderly, mathematical modular system that gave a special power and dignity to his design. The Villa Savoye, with the main block of the house elevated to the second floor level on columns, is a good example of his work, shocking when it was built but now a respected key monument of the modern movement.

3. 10. 7. 2. Color:

The Bauhaus was a key influence on architecture, interior design, and industrial design in the 1920s and 1930s and through the continued influence of its teachers and students, onward into the recent times. The austere and unornamented 'functional' modern interior with its tubular metal furniture and color palette of black, white, neutrals, and primary colors can be traced to Bauhaus origins.

Le Corbusier's early interiors generally shared the simplicity, austerity, and Cubist geometrics of Bauhaus design, although his use of color was somewhat more adventurous, perhaps drawing on his distinguished work as an abstract painter. He used not only strong primary colors but also tints (pink and blue) and secondaries - greens and oranges - and applied them in large simple areas.

3. 10. 7. 3. Material & techniques:

The Bauhaus presented a well-formulated slate of ideas for the pursuit of a close understanding of handicrafts, architecture, and mass-production.

"The Bauhaus workshops were really laboratories for working out practicle new designs for present-day articles and improving models for mass production. To create type-forms that would meet all technical, aesthetic and commercial demands required a picked staff. It needed a body of man of wide general culture as throughly versed in the practical and mechanical sides of design as in its theoretical and formal laws. Although most parts of these prototype models had naturally to be made by hand, their constructors were bound to be intimately acquainted with factory methods of production and assembly, which differ radically from the practices of handicraft. It is to its intrinsic particularity that each different type of machine owes the 'genuine stamp' and 'individual beauty' of its products. Senseless imitation of handmade goods by machinery infallible bears the marks of a makeshift substitute. The Bauhaus represented a school of thought which believes that the difference between industry and handicraft is due, far or less to the different nature of the tools employed in each, than to subdivision of labour in the one and undivided control by a single workman in the other. Handicrafts and industry may be regarded as opposite poles that are gradually approaching each other. The former have already begun to change their traditional nature. In the future the field of handicrafts will be found to lie mainly in the preparatory stages of evolving experimental new type-forms for mass-production." (Gropius, The New Architecture and The Bauhaus, p. 37).

Mies van der Rohe followed Gropius as director of Bauhaus in its final years. Mies tended to releave the austerity of his work with rich materials, including onyx marble, travertine, chrome-plated steel, and natural or black leather. The term Bauhaus style refers to either the austerity of Gropius or the richness of Mies' vocabulary of interior color, finish, and detail.

The mainspring of progress in the technique of manufacturing furniture lies in introducing new materials and new methods and evolving appropriate designs for them, such as the metal tubes of Breuer bent into springy supports and the similar

spring-support principle that Aalto adapted to curved strips of laminated wood. Out of new materials and new methods, new and strange forms will come.

"The French architect, Le Corbusier, adhered to the same principles. In his dictum that the house is a machine for living, he overlooked the fact that most people dislike the idea of living in a machine. The machine, however, fathered much of the 'honest', 'straightforward' design which seems to have been inspired by the kind of slick, synthetic materials that the machine is able to produce enormous quantities. There is nothing wrong with such materials in themselves - the plastics, synthetic fibres, super-bonded plywoods, acrylic paints, and numerous other achievements of present-day technological progress; but they have all too often ousted natural materials by their novelty, and by the ease with which they can be used to simulate other substances. We have suffered a loss of appreciation of the beauty of wood, stone and metal, and more seriously, we have seen a generation go by in which the skilled crafts required to work them have been dangerously threatened." (Savage, 1966, p. 257-8).

3. 10. 7. 4. Furniture & furnishings:

It was at the Bauhaus in 1925 that Marsel Breuer, a student in the school from 1920 to 1924, invented the first tubular-steel chair. In his cantilivered chair (Fig. 3.82) he applied a new design principle by substituting a double S-shaped support for the conventional four legs. The metal tubes, bent into springy supports, gave comfortable resiliency.

"Ludwig Mies van der Rohe succeeded Gropius as director of the Bauhaus and spread the machine-oriented aesthetic of the Bauhaus throughout Europe and America. Mies van der Rohe designed the MR chair (1927) (Fig. 3.83), the earliest use of the cantiliver principle for chairs of tubular steel. The MR chair was originally produced with a continious seat and back of woven cane. It was later made with a seperate seat and back of leather." (Stepat De-Van, 1980, p. 214).

In 1929, Mies designed an exhibition pavilion in Barcelona. He had to design design every detail in the house, including all the chairs and tables, as there was no furniture fitting for the building. His Barcelona chair (Fig. 3.84), which entrusts the

sitter's weight to catiliverage, has become a classic. Like all Mies's furniture, it requires faultless hand craftsmanship to produce, paradoxically, its machine-made look. Described by its admirers as 'pure', the best qualities of Mies' work, economy of line, beauty of proportion, and extreme precision, are revealed in this chair. Barcelona chair and Barcelona stool are constructed on a double X frame of polished stainless steel and are meticulously upholstered in tufted leather. The Barcelona table has an X shaped frame of polished stainless steel with a glass top. The Brno chair of Mies (Fig. 3.84) is a 1930 design for the Tugendhat House in Brno.

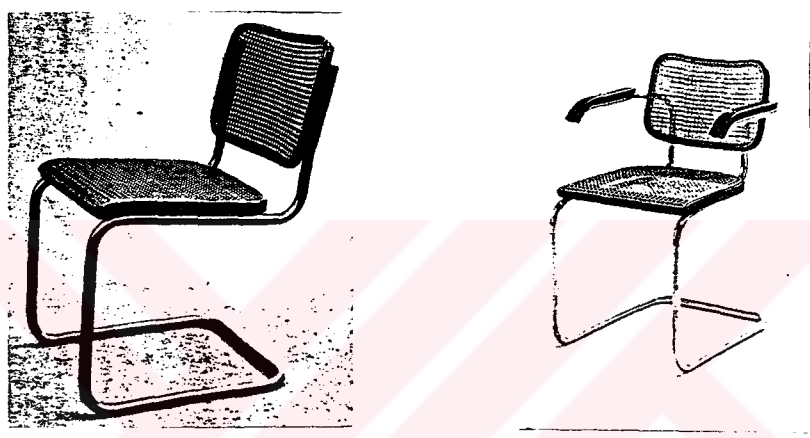


Fig. 3.83 Cantilivered tubular steel chair, 1925. Cesca chair, 1928. By Marcel Breuer.

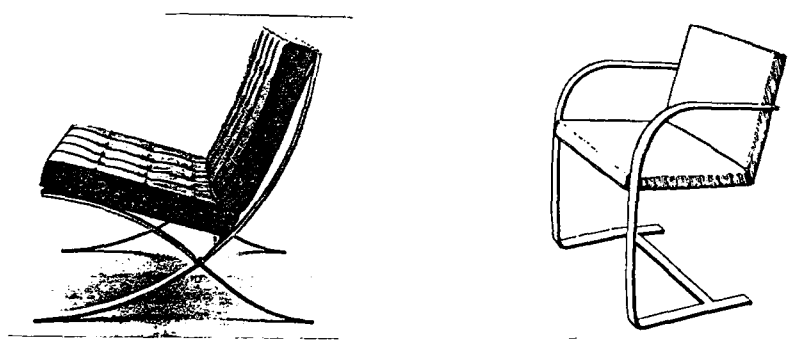


Fig. 3.84 Barcelona chair, 1929. Brno chair, 1930. Designed by Mies van der Rohe.

"Both Mies and Breuer, in their wish to represent very elegant interiors of their own day, turned their backs on the interiors of bygone times with their infinity of little

pieces. Furniture with gleaming steel tubes, designs limited to simple geometrical forms, proportions which are nearly always right because of the faultless equilibrium of balanced masses, and the axiom 'less is more' imbued their rooms with an air of sobriety, of formal austerity. None of these elements offer any very varied respurces to designers, but when interpreted by hands less skillful or stripped of space and rich materials, the interiors acquire a barren air, the air of poor relations, but at any rate of relations." (Boger, 1966, p. 466-7).

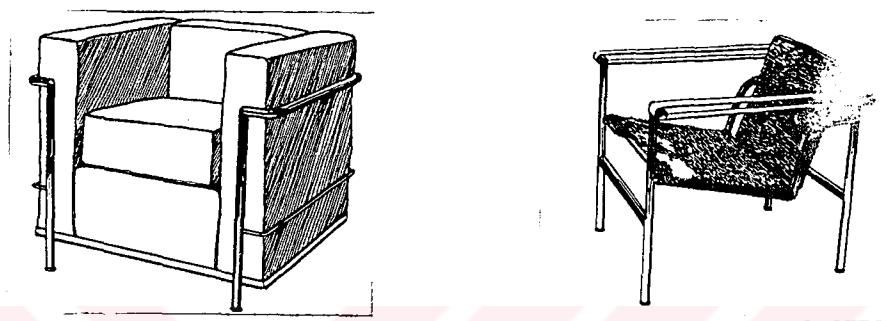


Fig. 3.85 Grand and Petit Comfort chair,1929. Basculant chair,1928.By Le Corbusier.

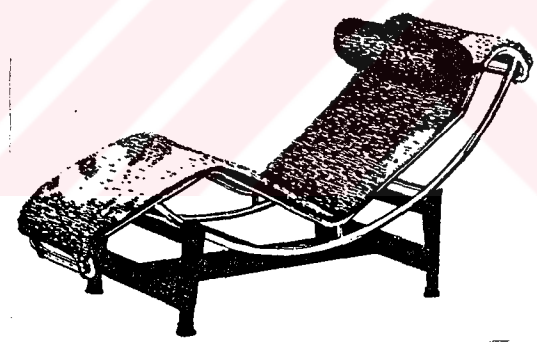


Fig. 3.86 Pony chaise, 1928. Designed by Le Corbusier

The Grand and Petit Confort chairs (Fig. 3.85) were designed in 1929 by Le Corbusier. It has a basketlike frame of bent tubular steel with a series of leather cushions forming the seat unit.

"The Basculant chair (Fig. 3.85) was designed by Le Corbusier in 1928. The chair has a frame of tubular steel with seat and back of calf skin and arm straps of

leather. The Pony chaise (Fig. 3.86), designed by Le Corbusier in 1928, is an adjustable chaise lounge with a frame of chromium-plated tubular steel, a base of matte textured steel and pony skin or leather upholstery." (Nielson et al, 1991, p. 181).

3. 10. 8. Modern International Style:

3. 10. 8. 1. Principles of design:

The term International style came to be used for the geometrically based, unornamented, and rather mechanistic work of the European pioneer modernists; Walter Gropius, Ludwig Mies Van der Rohe, and Le Corbusier. While Wright in his architecture and writings was preaching the humanism of organic space, architects and designers, who pronounced such doctrines as 'form follows function' and 'less is more', were developing in Europe. The center of this movement was the Bauhaus as indicated before.

"This school drew principles from all over Europe, including Sweden which, late in the nineteenth century, had experienced a back-to-handcraft movement as an antidote to the dehumanizing effect of the machine. But the anticipated human warmth of handcraft did not seem to emerge from the International Style, as Bauhaus design came to be called. The straight, unrelenting lines, boxlike forms, hard, glassy surfaces, metal tubing, and plywood were not in the tradition of handcraft, and to these were added a general absence of lively color, and a renunciation of any patterns but the most severe exercizes in geometry." (Savage, 1966, p. 255-6).

In Europe during the first quarter of the twentieth century, various new ideas for furnishings and home equipment were developed. By 1925 general interest in the new style was widespread. France sponsored an exhibition in Paris to display and publicize the advanced ideas. Neither Germany nor the United States participated. After the exposition, many of the exhibits were sent to America, where they awakened public interest in the 'international style'. Designers and manifacturers were responsive, and the year 1926 marks a milestone in the development of the modern style in America.

"Between the two world wars the architectural scene was dominated by the International Style. This term is suitable in that it indicates that the variety and apparent confusion of the nineteenth century had given way to a uniform and easily recognizable approach to design. The 'modern' buildings of the period are distinguished by a few characteristic properties: they are usually derived from simple stereometric shapes; they appear as unitary volumes wrapped up in a thin, weightless skin of glass and plaster; and they show a puritan lack of material texture and articulating detail. Walter Gropius described the buildings as 'transparent structures' and 'sharply modelled designs in which every part merges naturally into the comprehensive volume of the whole'. In their basic properties they relate to the general image of a new architecture born during the nineteenth century, and develop further the concepts of transparency and spatial continuity. At the same time there is a return to the elementary shapes and geometric relationships introduced by the revolutionary architects of the late eighteenth century." (Norberg-Schulz, 1975, p. 358).

3. 10. 8. 2. Color:

During the 1950s, research that was initiated before and during World War II was utilized for interior use. Dyestuffs chemically invented and applied to synthetic fibers gave rise to bright, clear, often gaudy colors: bright yellow, carnation and flamingo pink, oriental blue, flower red, chartreuse, avocado and pine green, and gold. These colors were usually assigned to artwork or textiles, while backgrounds and even furniture remained monochromatic colors such as rose-beige, or pale turquoise, black or white, or neutrals. Colors and design from Scandinavia were introduced during the 1950s, and for the first time in America, blues and greens were used together. Scandinavian and Bauhaus designers brought the Modern International Style, which began around the turn of the century, to America from Europe. Frequent use of metal and glass coupled with natural stone and brick gave interiors a stark, almost colorless effect.

3. 10. 9. Pluralism:

3. 10. 9. 1. Principles of design:

In contrast to the period between the wars, which was stylistically characterized by a similarity of ends and means, the architecture of the last decades shows an ever-growing diversity. The new diversity became evident soon after the Second World War. Some of the leading exponents of the modern movement aimed at a further systematization of Functionalist architecture. The most influential was Mies van der Rohe, who in his American buildings followed a sensitive and meaningful articulation of skeleton construction. More fruitful, however, was the organic current, which took a new interpretation of the concept of function as its point of depature. Norberg Schulz (1975) clarifies that period in decades, under the title of pluralism.

According to him, the most influential exponent during the first decade after the war was Alvar Aalto who had suggested an organic approach in his Functionalist buildings from the early 1930s. Aalto was one of the first to reintroduce natural materials and topological forms as, for example, in the Finnish Pavilion at the New York World's Fair in 1939. The organic movement was also inspired by the later works of Frank Lloyd Wright, such as Taliesesn West (1938) and the Guggenheim Museum in New York (1946). To conceive the building as an organ, however implied a certain danger of a return to a closed self-sufficient form.

During the last two decades, accordingly, a pluralism of technically founded formal structures has developed, starting in the 1950s with the ultima maniera of Le Corbusier and the first great works of Louis Kahn.

"...regional character had been forgotten during the first phases of modern development, when the new global situation made people leave their places phisically and psychologically to participate in the conquest of open space. Today, in reaction to this return should happen without loosing the freedom which forms the basis of modern existance... in pluralist architecture the concepts of place, path, and domain regain their fundamental importance; the problem of spatial identity again comes to the fore. The genious loci constitutes the content of pluralist architecture - not as an

isolated character, but in Louis Kahn's words, as 'a world within a world'." (Norberg-Schulz, 1975, p. 391).

As the architecture of pluralism does not concentrate its attention on fixed types or basic principles, but aims at understanding the total character of each task, it is, acording to Norberg-Sculz (1975), a method rather than a style. Pluralist architecture is generated rather than designed, and as a result the milieu becomes a dynamic totality of interacting organs. He claims that Pluralism is not at odds with functionalism, but extends the concept of function beyond its physical aspects. It looks towards the future but it is rooted in the past, and its present makes clearer man's position in space and time.

On the other hand, in cotrast to the sterile and monotonous environment of the purist architecture of exclusion, the pluralist architecture of inclusion carries with it the danger of environmental chaos if it is superficially interpreted. Norberg-Sculz (1975) claims that this danger can only be evaded if the concepts of "character" and "spatial structure" are properly understood.

"The concepts of character and spatial structure are brought together in the inclusive concept of genious loci, but to avoid misunderstandings it has to be stressed that the concept of genius loci comprises circumstantially determined meanings, as well as the general symbolizations of a cultural tradition. Pluralism usually called 'modern architecture' forms the natural conclusion to the development which was initiated by the architecture of the enlightenment and carried on by Functionalism. Pluralism does not imply a return to a multitude of closed worlds, but means that each solution should interpret openness in its own characteristic way... Every work of architecture is throughly individual, at the same time as expressing that it forms part of a general field of interacting forces. Thus the image of open space is truly concretized and integrated in our daily life." (Norberg-Schulz, 1975, p. 424).

The word "pluralism" suggests that man has lost his belief in global solutions, and hence in an "international style". Norberg-Schulz (1975) insists that modern movement has from the very begining tended towards pluralism which is implicit in Voltaire's refusal of a priory principles, and explicit in the description of the Paris

World's Fair in 1867: "All peoples are represented: enemies live in peace side by side".

"Our survey of architectural history has shown that the characters have been discovered in the process of time, and since their discovery they have remained at our disposal as existential possibilities. It is the aim of pluralism to make the totality of significiant human experiences potentially available again, with the result that history becomes a dimension of fundamental importance in the pluralistic world. The new attitude to history is already manifest in many fields. A characteristic example is Heideger's philosophy, where language is used as the main source of information about man and existance in general. When approaching the problem of language he does not say, 'Man speaks' but, 'Language speaks'. Architecture too is a language. If we study architecture as the history of meaningful forms we will also discover man, nature, and God." (Norberg-Schulz, 1975, p. 425-6).

Many contemporary architects have interpreted and practised architecture in this way, and have so contibuted to a more concrete understanding of the environmental problem. Pluralism recognizes the fact that meaning is the basic human need, and that the purpose of architecture is to make meanings manifest as a concrete system of places, paths and domains.

3. 10. 9. 2. Form:

"The basic aim of the pluralist approach to architectural form is to obtain individual characterization of buildings and places, an intention which stems from a reaction to the rather scarce variations in character permitted by early Functionalism." (Norberg-Schulz, 1975, p. 391).

The basic aim of pluralism is a new synthesis of freedom and order. In the pluralist interpretation of open form, form is not something that is imposed from outside as it still was in Paxton's Crystal Palace, but an order which is inherent in each task, and which determines the generation and growth of the solution. Kahn had said that "form precedes design". Freedom, acording to Norberg-Schulz (1975), means that the solution is free to shape itself, as a product of inner and outer forces.

3. 10. 10. Constructivism (1920):

3. 10. 10. 1. Principles of design:

One of the most significiant items in the evolution of the 20th century architecture which is realized by creating many theories is the Realist Manifesto by sculptors Naum Gabo and Antoine Pevsner. They claim that space takes its shape in its depthness from inside to outside but not through its volume from outside to inside. They submit plastic bodies which are built in a streometric way.

"The simple, classical concept of internationalism underwent a considerable change towards the end of the 1920s, when hopes of immediate world revolution receded and the more autarchic stage of the building of Socialism in one country was initiated. Simultaneously, the exuberant romantic conception of technique gave way to a sober realization that technique, in Russia, meant a hard uphill struggle to transform a peasant economy into a modern industrial organism, starting with the most primitive means." (Lubetkin, 1956).

In 1920 Inkhuk (The Institude for Artistic Culture) and Vkhutemas (Higher Artistic and Technical Studios) were founded in Moskow as institudes for comprehensive education in art, architecture and design. Both these institutions were to serve as arenas for public debate wherein mystical idealists such as Malevich and Wassily Kandinsky and objective artists such as the brothers Pevsner found themselves equally opposed by the so-called Productivists, Vladimir Tatlin.

Constructivist architecture apparently began in 1923 when a number of architects and architectural students, including Alexandr Vesnin, Moisei Ginzburg, Mikhail Barshch, Andrei Burov, Nikolai Krasil'nikov and I. Sobolev, joined LEF in response to Maiakovskii's warning: "Constructivists, beware of becoming another aesthetic school... Constructivism must become a higher form of engineering for our whole life." (LEF, 1923).

"Construction seems to have been such a powerful frame of reference because it interlocked with other areas of social experience. For example, in political discourse

the building of socialism was a recurrent term. The constructivist programme of 1921 referred to the part to be played in the building up of communist culture, enchoing the constant use made by Lenin of the methaphor of communist construction. Lenin believed that communism had to exploit for its own ends the science, technology and culture left behind by capitalism... However, despite the similarities of language, the Constructivists were not concerned with providing a picture of the building of socialism in this way, or indeed with building upon the cultural traditions indicated by Lenin." (Wood et al, 1993, p. 105-6).

For example, in the Monument to the Third International (Fig. 3.87) Tatlin symbolized the development of Socialism by using the forms of an abstract construction and envisaging on a huge scale. According to Nikolai Punin the spiral in the monument represents the movement of liberated humanity. In spite that the monument was built only in model form, it was designed to be built in modern technological materials using advanced engineering techniques (the supporting structure in iron, the suspended rooms in glass). As a symbolic structure it combined an avant-garde vocabulary of artistic form with technology and utility.

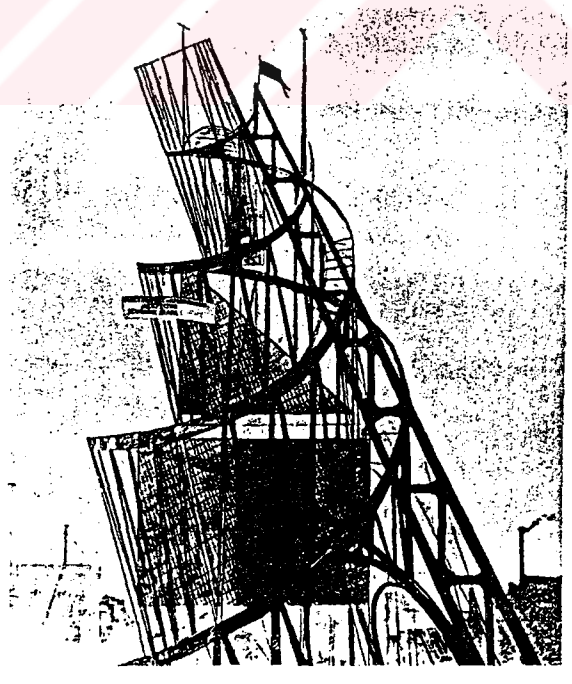


Fig. 3.87 Drawing for the Monument to the Third International,Vladimir Tatlin,1920.

"On one level Tatlin's Tower was a monument to the contitution and function of the Soviet state; on another it was intended to exemplify the Productivist/ Constructivist programme of considering 'intellectual materials', such as color, line, point, and plane, and 'phsysical materials', such as iron, glass and wood, as thematically equal elements. In this respect, one can hardly regard the tower as a purely utilitarian object. In spite of the anti-art and anti religious slogans of the 1920 'Programme of the Productivist Group', the tower remained as a monumental metaphor for the harmony of a new social order. It was first exhibited under a banner which bore the slogan, 'Engineers Create New Forms'." (Frampton, 1985, p. 170-1).

In 1924, Ginzburg's book Stil' i Epokha (The Style and the Age) was published and became the first manifesto of constructivist architecture. It had already been presented during 1923 and 1924 in the form of lectures at RAKhN (the Russian Academy of Artistic Sciences) and at MAO (the Moskow Architectural Society). In this work, Ginzburg stated:

"Rapid progress in technology should bring with it advances in architecture, which so far has only been affected incidentally. The new industrial engineering projects are closer to contemporary life and have more affinity with it. They should give new life to architectural monuments, give them a more resolutely contemporary character, help them give more importance to a new concept of architectural space. Thus the architect will no longer think of himself as the decotator of life but as its organizer... Subconscious, impulsive creation will give way to a clear, well defined methodology that will spare the creative energy of the architect... Rationalism and the present technical context shed light on another aspect of the new style that is rich in potential. This is the standardization of production in the field of building, the mechanized production of architectural details and of whole elements. On what scale should the contemporary architect work? On the scale of whole urban complexes; on the scale of problems that are now posed for the first time in all their enormity; on the scale of town planning in the widest possible sense." (Ginzburg, 1924).

On December 10th, 1925 the Vesnin brothers, Ginzburg and their supporters created the most important constructivist organization in architecture, OSA (the

Union of Contemporary Architects). The president of the new organization was Alexandr Vesnin, the Vice-President Moisei Ginzburg.

"Between 1926 and 1930, OSA published a combative, militant architectural review with the title Sovremennaia Arkhitektura (Contemporary Architecture), or SA. In its first number at the beginning of 1926, the review stated clearly that as far as it was concerned architecture was inseperable from social and political problems. It proclaimed, in the form of a typographical feature: Contemporary architecture must crystalize the new socialist way of life!" (Kopp, 1985, p. 23).

In the fourth issue OSA conducted an international inquiry into flat roofed construction, wherein Taut, Behrens, Oud and Le Corbusier were asked to comment on the technical viability and advantages of the flat roofs. Its prime concerns were: first the issue of communal housing and the creation of appropriate social units, and second, the process of distribution, namely transit in all its forms.

When it came to architectural principles Moisei Ginzburg identified a subject not touched on until then. According to him, the old system of architectural creation transmitted from generation to generation in the schools and academies was a system of conflicts. He insists that there was permanent conflict between the expression of needs, building imperatives, and formal expression. The constructivist system, on the other hand, was different in that its creative process had a single indivisible goal. This process was not based on subjective criteria such as the individual inspiration of the creator but on a mathematical method that permitted architectural problems to be solved like any other problems. That is an idea that the Russian constructivists shared with the Western European functionalists.

"Architectural methods should resemble those of the inventor (izobretatel), which means abandoning any recourse to borrowings from the past, whether in the field of architectural form or spatio-functional solutions. Research in architecture, as in any other field, should aim at organizing and formulating practical tasks which are dictated by the age and and valid for the future." (Ginzburg, 1924).

The refusal to accept that because the working class was supposedly the class in power it had become ominicient, was always present in the attitude of the Constructivists and a proof of their seriousness. Vladimir Maiakovskii raised the same problem with respect to literature.

"Just as Maiakovskii believed that it was necessary to know how to organize the expression of new needs on the basis of socio-political objectives, being certain categories or groups. This attitude was radically different from one adopted several years later by VOPRA (the Union of Ploretarian Architects), whose demagogy was one of the factors that led to OSA's downfall... The Constructivists would have refused their demands, they claimed, preferring to stack people in 'shoe boxes'. But that point had not been reached when the Constructivists were at the height of their fame, when they alone had a coherent doctrine." (Kopp, 1985, p. 24).

In 1928, OSA organized its first and last conference in Moskow, during which the aims of OSA architects were defined in a report on Constructivist activities and doctrine in the field of architecture delivered by Ginzburg.

"I would first like to define our goal and our doctrine. We are told that all architects, even the most alienated of the formalists, work with a precise goal. This is certainly true, but the root of the problem is that for the Constructivists the goal has a quite different and very precise character. The goal of the traditional architect is fixed by his contracts; the goal of a functionalist is set by the social content of the contract he accepts. The Constructivists' goal, however, is the radical transformation of existing concepts, and it requires that the architect take a clear stand. Take the example of housing for the workers. It may be thought that in this case the goal is obvious. But such a summary approach, which is shared by the majority of architects, results in a quasi-mechanical transfer to ploretarian housing of the solutions adopted for the bourgeois housing... But when the Constructivists deal with this problem, they take acount of changes in habits resulting from our way of life and create the basis for an entirely new type of housing. Thus, our goal is not the fulfilment of a contract as such, but to work with the proletariat and to take part in the tasks involved in the building of a new life." (Ginzburg, 1928).

Constructivist method was based on analyses leading to synthesis. The factors to be analyzed were social, technical and perceptual factors. As the analysis of social factors it was necessary to study the new needs resulting from the new social policy. This policy required its own architectural organisms, which were to be expressed in programmes, and the programmes could be expressed by charts constituting a visual representation of the functional and social needs to be satisfied. Technical factors are analyzed implying a study of the materials available, methods of application and building systems, giving priority to industrial processes like assembly lines, and to the use of standardized elements. The analysis of perceptual factors, finally, is done including the use of concepts of volume, color, etc., so that the user and onlooker would understand what is planned. Priority was to be given to primary colors and simple geometric volumes. All the information resulting from these analyses would then provide the basis for a synthesis on which the final plans would be based.

Ginzburg used charts for the circulation inside the housing units he designed in 1928 at the head group of architects working for Stroikom RSFSR (the Commitee for Construction of the Russian Soviet Federated Socialists Republic). Nikolai Krasil'nikov developped 'a mathematico-graphic method of composition based on a method of dialectic thought'.

"Contemporary architecture is in an impasse because it is not based on a precise scientific method... I use mathematical analysis, via the theory of limits, and mathematical statistics in an attempt to draw the conclusions that govern architectural forms." (Cooke, 1975, p. 3).

According to Kopp, Ginzburg gave priority to the analytical aspect of the work and the synthesis remined at the level of generalities. Krasil'nikov on the other hand, in Kopp's opinion, was aware of the limits of that method and that he attempted to progress further, with the help of mathematics, and to introduce a scientific approach for the study of the synthetic aspects of architectural design. He has attempted to continue in this line of research, but was unsuccessful, Kopp concludes.

"In order to say something more about the force of the idea of construction, I shall focus on just one of its elements - the drawn line. We should not be surprised,

perhaps, that drawing was such a central concern, given its associations with the elementary composition of painting in the fine-art tradition and with the kind of technical drawing used in industry." (Wood et al, 1993, p. 107).

Lubov Popova's Spatial Force Construction (Fig. 3.88) is an example of how certain techniques were used in order to signify the working of a rational system of construction.

Fig. 3.88 Spatial Force Construction, by Lyubov Popova, 1920-1.

"The works do not represent the world by conventional signification, if that is taken to be the model used in figurative art, but they contain allusions to the world in which they were produced through a currency of associations of materials and methods. One of the most important features of artistic construction was that it was treated as a system that could be broken down into component parts. Its elements could be analysed, dissected and put back together again. The basic building bricks of construction were broadly formal in character and included factura (surface texture), line, color, plane, space and material." (Wood et al, 1993, p. 108-9).

In 1921, Rodchenko identified the line as a basic element in the system of construction. It was 'the carcas, the skeleton, the relationship between different planes; it could also show movement, collision, conjunction, break and continuation'. The line could be isolated and then deployed in various combinations. Like the carcass or the skeleton, where only a stucture is left, the line is one of the basic elements of construction to remain when all the superficial elements of composition have been removed.

"Like all problems studied by the Constructivists, the rationalization of industry was not dealt with as something isolated from its social context - a context in which the proletariat had an essential role... in 1927, on a question as important as that of the rationalization of production and the role to be played in this process by the working masses, the constructivists were not, as has often been claimed, ahead of the problems of the time but, on the contrary, were merely fully committed to participating in their official solution." (Kopp, 1985, p. 28).

"The failure of the architectural avant garde to match their visionary proposals for such a life with adequate levels of technical performance led to their loss of credibility with the authorities. Finally, their appeal to an international socialist culture was clearly antithetical to Soviet policy after 1925, when Stalin announced the decision to 'build socialism in one country'. That Stalin had no use whatsoever for elitist internationalism was officially confirmed by Anatole Lunacharsy's nationalist and populist cultural slogan of 1932, his famous 'pillars for the people', which effectively commited Soviet architecture to a regressive form of hisroricism from which it has yet to emerge." (Frampton, 1985, p. 177).

3. 10. 10. 2. Sculpture, painting & objects d'art:

Painter, scultptor and architect Vladmir Tatlin, Kasimir Malevich, painter and architect El Lissitzky are the chief artists of Constructivism.

Naum Gabo, in his article called "Sculpture: Carving and Construction in Space" claims that a sculpture could also be realized with its inner and outer spaces by connecting various elements in a contructivist attitude in space just as it is created by

carving the mass traditionally. As a result, Naum Gabo brought new dimensions into the art of sculpture and made sculture and architecture become closer.

"I have looked at construction in the three-dimensional works. To construct means to put together, to build, to assemble; and work in three dimensions might seem most obviously to use a process of construction. As we' ve seen, in Stenberg's Construction for a Spatial Structure No. 11 (Fig. 3.89), iron components are literally bolted and welded together using industrial processes. Yet these techniques were displaced from their normal usage and assimilated into the idea of artistic construction." (Wood et al, 1993, p. 99).

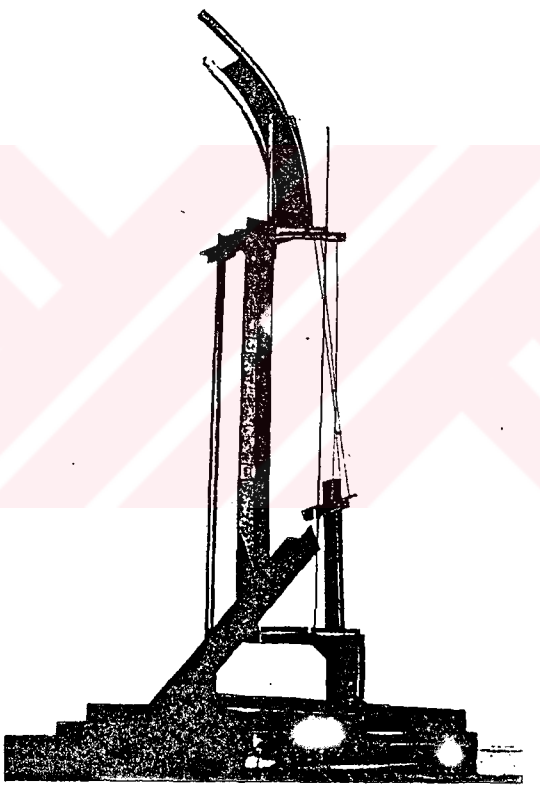


Fig. 3.89 Construction for a Spatial structure No.11, by Georgii Stenberg, 1920.

The term artistic construction was also used to apply the technical aspects of construction to art. Construction was applicable to two dimensional surfaces, to paintings, or to reliefs such as Tatlin's. Both terms, konstruktsiya and konstruirovanie,

originated in architecture and the building industry, but had come to describe the art object.

"Although the term construction had appeared in art criticism in the pre-revolutionary period, it took on additional meanings after 1917. It came to be associated with the idea of the artist as constructor, which had connotations of the engineer and of useful work. Mikhail Kaufman's photograph of Rodchenko, with his hanging constructions folded on the wall behind, represents him in this guise - as a constructor, wearing a constructor's suit designed by himself and made by Stepanova (Fig. 3.90). In 1918 in the journal Art of the Commune, the critic Osip Brik wrote that the artist was now only a constructor and technician, only a supervisor and a foreman." (Wood et al, 1993, p. 100).

Fig. 3.90 Photograph of Rodchenko with folded constructions, by M. Kaufman,1921.

"The old role of the line in composition is transformed in the language of construction. The laxity of a trembling line drawn by the artist's hand is considered

less precise and therefore of less value than a line drawn using a set-square, as if the hand plays no part. Industrial techniques could serve as correctives to the arbitrary character of the hand-made. The brush, for Rodchenko, had formerly had a use in conveying the illusion of an object; but its value was now exhausted, a sign only of servitude to an anachronistic model of illusionistic art." (Wood et al, 1993, p. 113).

Shklovsky suggests that works of art have structure like verbal language by saying that they have their own semantics; yet they have their own way of meaning through pictorial rules and conventions, which is distinct from verbal language. The metaphor Shklovsky uses of the blizzard, which evokes a screen of interconnecting, fluctuating forms and meanings, locates the interest of art in the formal and material character of the constructed object, not the language of the soul.

3. 10. 11. Late Modermism:

3. 10. 11. 1. Principles of design:

Late Modernism is firmly based on Modernism of the four pioneers, but it attempts to move forward into new forms, more adventurous and aesthetically more varied than the formula-like designs of the later generations of the modernists. The work of I. M. Pei, such as the East Building of the National Gallery of Art in Washington, D.C. belongs to this category (Fig. 3. 91). The houses and other work of Richard Meier and Charles Gwathmey also fall in a direct line of development from early modern roots.

"The Modern movement, capitalised like all world religions, had its Heroic Period in the twenties and its Classy Period, its dissemination and commercialisation, in the fifties. By the late sixties, it has lost much of its ideological power and, with the death of Le Corbusier in 1965, it has lost much of its moral and spiritual direction. As a utopian movement, or at minimum an avant-garde attempt to influence society, it always had a normative role, a role which has recently diminished if not disappeared altogether. Recently heretical groups within Modernism have flourished that have revived one or another of the founding faiths - Futurism revived by Archigram, Neo-Contructivism by some Italians - there has even been Archizoom's Neo-Dadaism. But

the essence ot the Modern Movement became somewhat hollow at its core - in the academies and scools of architecture where it continued a prolonged existance under the heading of 'Late Mies', 'Late Kahn' or even the baroque appellation applied to Richard Meier's work - 'Post Johnson-Corb' (Fig. 3.92). All these trends grew out of the International Style, but were as different from it as Late Gothic architecture was from High Gothic... the high period of the Modern Movement is definitely over and current approaches have evolved out of it. Here we'll define the essential ways Modernism has transformed itself into something still racognisably Modern with aspects that are exagerated, or 'Late'." (Jencks, 1990, p. 43).

The boredom with Modern aesthetics, the environmental crisis, the unpopularity of Modern housing estates are well known to need recounting, but it is to these pressures that both Late-Modernists and Post-Modernists have reacted.

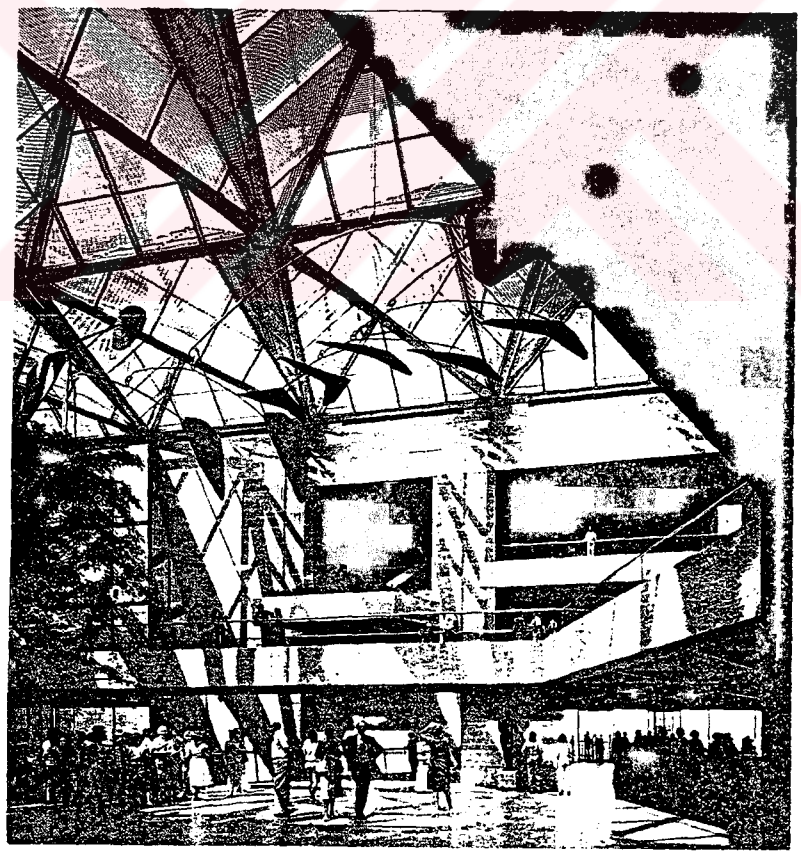


Fig. 3.91 East Wing of the National Gallery of Art, by I. M. Pei & Partners, 1971-8.

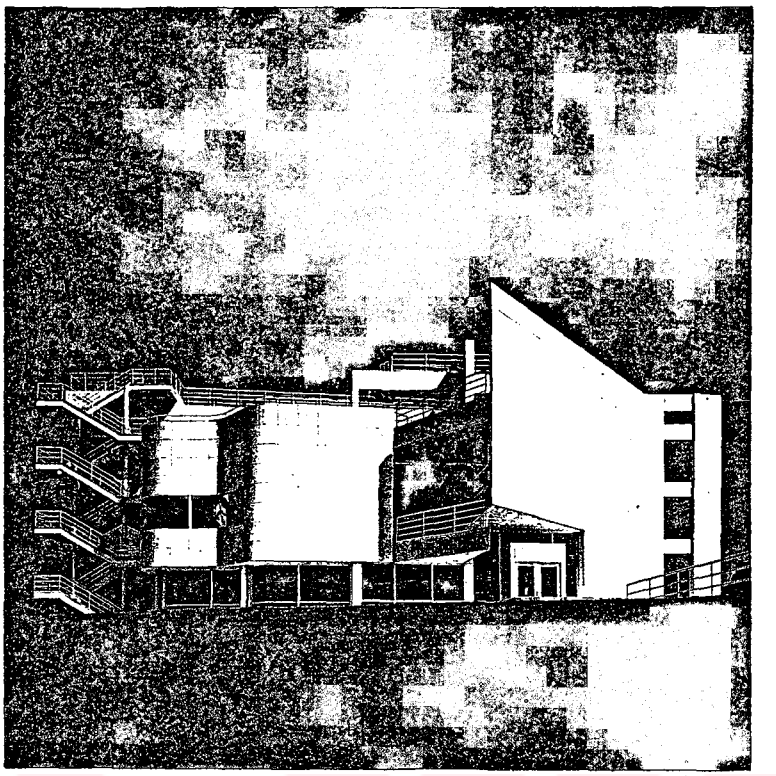


Fig. 3.92 The Atheneum, Indiana, by Richard Meier, 1975-9. West entrance front.

The Late-Modernists have taken the theories and style of the precursors to an extreme and produced an elaborated Modernism. On the contrary Post-Modernists, besides building upon the previous style, also rejected the theories almost completely.

Arata Isozaki and Herman Hertzberger's architecture responds to the anonymity of Modernism with extreme articulation in an attempt to provide identity. Where Modernists emphasised mass, volume and linear circulation spines, Hertzberger emphisises sub-centers, various routes, and individual constructional elements. Where the International Style was purist and closed as a unified aesthetic, the Hertzberger aesthetic is impure and open to addition, modification and personalisation. On the other hand, Charles Jencks, 1990, insists that, on an architectural level Hertzberger hasn' t in fact changed the basic style and ideologies of Modernism. There is still the idea that architecture can shape social behaviour, especially mass behaviour and that of large corporations, and the basic abstract style of concrete block, glass brick and constructional expression.

"The same can be said of Norman Foster's and Richard Roger's work, which, while trying to get closer to popular imaginery than Modernism, still remains essentially wrapped in its thrall of technological fantasy. Indeed the so-called London School - Foster, Rogers, Farrell and Grimshaw, Derek Walker et al - is all Late-Modernist precisely because it takes technological imagery to an extreme that the Modern Movement never reached. Partly this is due to the presence of this technology on a massive and efficient scale: something that the Pioneers never enjoyed." (Jencks, 1990, p. 44).

Pompidou Center (Fig. 3.93), aside from the tchnological fantasy, has an extreme logic, extreme circulatory emphasis, extreme flexibility and the extreme pragmatism of Modernism. George Mansell, 1979, states that basically this is a decorated box of technical tricks, an oversize meccano set painted in French blues and reds sitting in the heart of Paris.

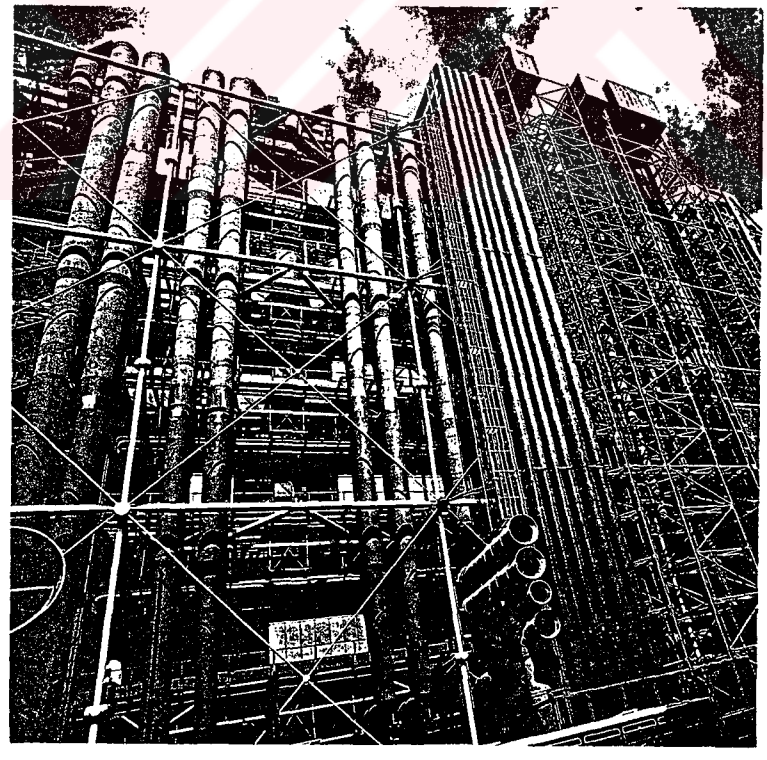


Fig. 3.93 Pompidou Center, Paris, by Richard Rogers & Renzo Piano, 1971-7.

"The Late-Modernist approach is pragmatic rather than idealist, and also ultra-modern in its exaggeration of several modern aspects - extreme logic, extreme circulatory and mechanical emphasis, a mannered and decorative use of technology, a complication of the International Style (Richard Meier for example) and an abstract rather than a conventional language of form. To these essentially Mannerist qualities ought to be added the most ultra-modern and mannered one of all: the tendency to shock by discontinuity, by newness, by being a self-sufficient, avant-garde statement cut off from traditional architecture. Norman Foester's buildings have those qualities as much as Peter Eisenman's. Other architects who should be added to this list are John Hejduk, Deny Lasdun, Cesar Pelli, Helmut Sculitz, Fumihiko Maki and most of Metabolists, Gordon Bunshaft, Kevin Roche and many corporate practitioners, Piet Blom and Riema Pietila, John Andrews and a host of architects who are pushing the mainstream tradition hard in an attempt to deal with the failures of Modernism... Post-Modernists, in an attempt to reach the various users of their buildings, doubly-code the architecture and use a wide spectrum of communicational means wheras Late-Modernists remain within the restricted and hermeneutic language of Modernism." (Jencks, 1990, p. 48).

3. 10. 12. High Tech (1969):

3. 10. 12. 1. Principles of design:

A somewhat different direction with a basis in modernism has come to be called High Tech. It places more emphasis in the exploitation and visible display of elements of science and technology, particularly the advanced technologies of the computer-oriented, aerospace, and automated industrial fields. Early modernism was closely allied with technology in its interest in the machine and its intention to create a design vocabulary suited to the modern, technological world. Devotion to the machine has gradually come to seem somewhat dated a rather naive and romantic view of mechanization as the solution to every problem. High Tech design moves forward into the post-machine-age technology of electronics and space exploration to learn from the advanced technology of those fields and to search out an aesthetic in their products.

Prior steps in this direction can be found in the work of Buckminister Fuller, known for the development of the geodesic dome structure, which has been used in many ways, including as the American exhibition pavilion at the Montreal World's fair of 1967. Charles Eames also hinted at this direction in his own house of 1949 (Fig. 3.94), assembled from industrial building components, and in his well-known and widely popular furniture designs of 1946 onward.

Fig. 3.94 Charles and Ray Eames' own house, Pacific Palisades, California, 1949.

The mature style uses industrial materials, furniture, and equipment of technological character, simple forms, and little decorative or ornamental details. Its identification advanced technologies tends to make High Tech work look futuristic. Architects and designers of this style include Renzo Piano and Richard Rogers, whose Center Pompidou in Paris has become an amblem of High Tech, and James Stirling (Fig. 3.95) and Norman Foster in England and Ove Arup & Associates as chief engineers. Aside from expressing the building support systems, they aimed at keeping up with innovations in materials and rapidly changing technology and occupant needs. They also pursued materials and building systems that are easy to maintain, modify or replace. The work of the American interior designer Joseph Paul D'Urso, with its use of industrial and other mass-produced elements, is usually called High Tech, although D'Urso disavows any such narrow stylistic labels.

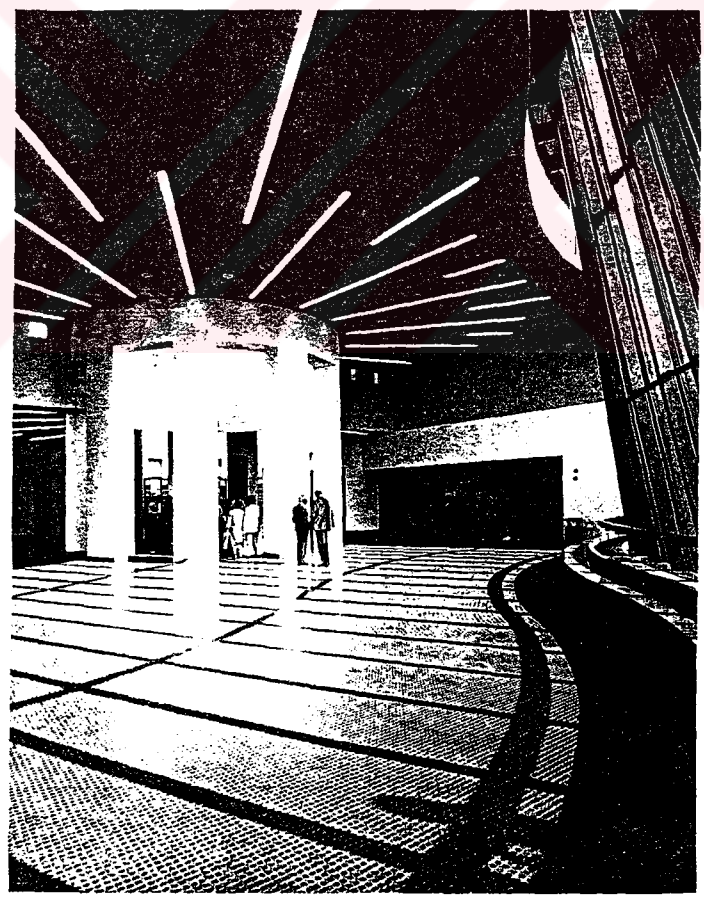


Fig. 3.95 Neue Staatsgalerie,Stutgard,by James Stirling,Micheal Willford & Ass,1984.

Charles Jencks, 1990, points out six basic rules of High Tech:

1. Inside-out
2. Celebration of process
3. Transparency, layering, and movement
4. Bright, flat coloring
5. A lightweight filigree of tensile members
6. Optimistic confidence in a scientific culture

The services and structure of a building are almost always exposed on the exterior as a form of ornament or sculpture. This expression of the servants versus the served was formulated by Louis Kahn in the sixties and has been justified by the Metabolists and Richard Rogers for allowing fast changing technology to be easily modified without disrupting the interior (Fig. 3.96).

Fig. 3.96 Inmos Factory, Newport, designed by Richard Rogers Partnership, 1982.

"The celebration of process often extends to things that are seen to work, and in High Tech the mechanical plant and travelling crane are as omnipresent as the pediment and keystone are in Classical architecture... All buildings deteriorate and suffer continual problems, but those which symbolise technical excellence and innovate on so many levels at once are particularly prone to censure when things go wrong. There is no conclusive proof that High Tech buildings have more problems

than others, but there is certainly much evidence that people feel let down when, inevitably, some mechanisms fail. Here we come to the heart of the problem: by celebrating and symbolising process, High Tech promises more than any technology can deliver - perfect functioning and long-term efficiency." (Jencks, 1990, p. 97)

Extensive use of translucent and transparent glass, a layering of ducts, stairs and structure and the accentuation of moving escalators and elevators characterise the High Tech building. Critics invariably contend that contemplative areas are hard to find when transparency, layering, and movement are accentuated. What this suggests is the development of High Tech towards an architecture of contrasts.

At the Pompidou Center and Inmos, Rogers uses bright colors in much the same way engineers do, in order to distinguish different kinds of structure and services and allow them to be easily understood and effectively used.

"The thin steel cross-brace is the Doric column of High Tech - its visual sign and ordering device... The tent shape held by cables, especially influenced by the work of Frei Otto, is second only to the cross-brace in popularity and like the bright colors, is valued for its associations with sailboats and ephemeral, informal living - again in opposition to traditional masonry." (Jencks, 1988, p. 274) (Fig. 3.97).

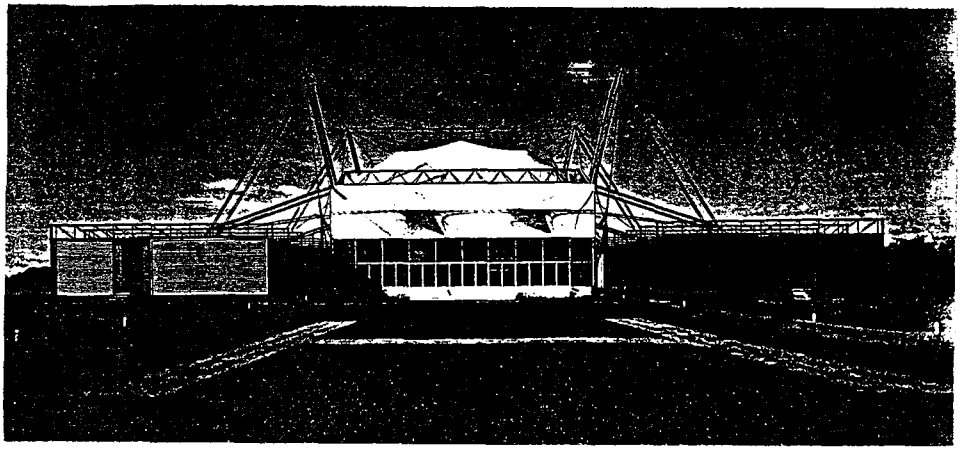


Fig. 3. 97 Research Center for Schlumberger,Cambridge,by Micheal Hopkins,1985-6.

Underlying High Tech building is the futurist promise of an unknown world waiting to be discovered. What comes through in the best designs of High Tech is an exuberant optimism about the future of a scientific and technological culture.

In order to respond to rapidly changing technology, programmatic needs and occupancy, most High Tech building systems offer tremendous amounts of flexibility to facilitate maintenance or replacement. The use of pods and modules as plug in architecture is another main concept of High Tech architecture.

"It's worth stressing that most often High Tech is indeed used on stadia, sports halls, airports, factories, and large multi-purpose centers - jobs for which society acknowledges it is the right style. The conflict arises when it is applied to offices, housing, scools, or traditional building types, or used near landmarks such as St Paul's Cathedral. Here there is a problem. High Tech architects are reluctant to admit their approach isn't universal and only too quick to condemn anything that looks remotely familiar as lacking in confidence and vigour. If, however, they actually seek universality, then their buildings will finally address questions of style, composition and suitability to context which have heretofore been suppressed." (Jencks, 1990, p. 102).

"The Silver Aesthetic is a convenient rubric to cover this new strategy for building in sensitive contexts, and it includes a lot more than the use of metallic grays or indeed blues, whites, and blacks. More importantly, it emphasizes the harmonization of all elements in a background architecture. Norman Foster's design for a sensitive site in Nimes, near the ancient Maison Carree, is the most obvious example of this new-found reticence." (Jencks, 1988, p. 276) (Fig. 3.98).

High Tech buildings have come a long way form being literal representations of industrial manufacturing facilities like the 1969 New Medical Faculty Building in German, to being more sober and subtle expressions of technology at 1987 Stockley Park, London by Foster Associates. Under the patronage of powerful clients, architects of these building have been able to get away without addressing issues of social and economic responsibility. However as their clientbase and building typology expands, they will have to start assuming greater responsibilities (establishing a

dialogue with their context, standardization of elements to reap benefits of mass production etc.). This will prove to be just another one of many iterations in the evolution of a High Tech Architecture that will lead us into the 21st century.

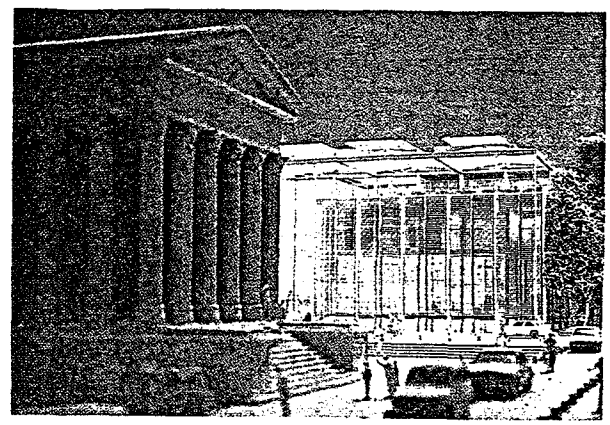


Fig. 3.98 Mediatheque, Nimes, by Foster Associates, 1985, model from entrance side.

3. 10. 13. Post Modernism (1966):

3. 10. 13. 1. Principles of design:

Post Modernism is a movement in direct opposition to the impersonal aesthetics established by the age of modernism after the end of World War II. In rejection of the symbolic industrial vocabulary, Post Modernism expresses an eclectic mix of history, individualized expression, decoration and a humanized understanding of the principles of composition.

"It is difficult to arrive at the fundamental character of the Post Modern phenomenon as this has emerged in architecture and almost every other cultural field. From one point of view it has to be acknowledged as an understandable reaction to the pressures of social modernization and thus as an escape from the tendency of contemporary life to be totally dominated by the values of the scientific-industrial complex... If there is a general principle that can be said to characterize Post Modern architecture, it is the conscious ruination of style and the cannibalization of

architectural form, as though no value either traditional or otherwise can withstand for long the tendency of the production/consumption cycle to reduce every civic institution to some kind of consumerism and to undermine every traditional quality... Post Modernism reduces architecture to a condition in which the package deal arranged by the builder/developer determines the carcas and the essential substance of the work, while the architect is reduced to contributing a suitably seductive mask." (Frampton, 1985, p. 306-7).

The term Post Modern is identified as another new direction that grew from the theoretical position taken by Robert Venturi in his influential book of 1966 'Complexity and Contradiction in Architecture'. In it Venturi challenges the emphasis on logic, simplicity, and order characteristic of modernism, suggesting that complexity and ambiguity have a place in design. Rana Nergis Öğüt, 1992, explains that Venturi, in his book, argues against 'tabula rasa' of Modernism by insisting that historical consciousness is indispensible for the solution of contemporary architectural problems. Against 'purist-functionalist' attitude of Modern Architecture he proposes 'difficult poetry' which is to be expressive of the richness and ambiguity of modern experience, in conformity with the needs of contemporary society.

"I am for the richness of meaning rather than clarity of meaning; for the implicit function rather as well as explicit function. I prefer 'both-and' to 'either-or', black and white, and sometimes grey to black and white. A valid architecture evokes many levels of meaning and combinations of focus: its space and its elements become readable and workable in several ways at once... an architecture of complexity and contradiction has a special obligation toward the whole: its truth must be in its totality or its implications of totality. It must embody the difficult unity of inclusion rather than the easy unity of exclusion. More is not less." (Venturi, 1966, p. 16).

In his book, Venturi included a chapter concerning the various contraditions which can exist between the 'Inside and the Outside' of a building. The fact that inside and outside pressures on a building are often different and that traditional architects often mediated this difference with 'residual' or left over, or porche, or layered, or 'lined' space, were lessons insisted on by Venturi. A minor point he touched on was

the way exterior, urban space can be considered dominant over interior space and functions.

"Post Modernist architecture, sculpture, and landscape architecture should seek to find out more of what the world is like instead of producing new objects. They should derive composition and meaning from the exterior world rather than an idealized internal space. And as Levin proposes, Post Modernist works sould relate to map instead of the Modernist grid." (Hargreaves, 1983, p. 60).

This later became a seminal idea of the Krier brothers, Colin Rowe, and the contextualists. For architects such as Micheal Graves, this notion led to an ambiguity between positive and negative space, solid and void. We have seen this same ambiguity in Richard Meier's exquisite plans.

Post Modern design departs from modernism in its willingness to include ornamentation and elements referring to historical styles. Such traditional elements are not intended to imitate past building styles but rather to act as references used out of context, often with humorous impact. Such metaphors, as these designers' figures of speech are often called, seem to question the seriousness of mainstream modernism. If the realities of the modern world sometimes seem to approach absurdity, Post Modernism offers absurdities as serious creativity.

"Tradition, that has been tried to be replaced by functionalism, utopianism and innovation (by the 'modernism') is regained... Post-modernist dogma presumes that abstraction involves divorce from the past, but in the right hands it may become a device through which the artist enters the past on a number of levels simultaneously and then transforms its lessons into an authentic form in the present..." (Curtis, 1983, p. 1).

As Vincent Scully insists, Le Corbusier's book called 'Vers une Architecture' and Venturi's 'Complexity and Contradiction in Architecture' do in fact complement each other; and in one fundamental way they are much the same. Both are by architects who have really learned something from the past. In spite that they

resemble each other on bringing a new and symbolic attitude into architecture, however, their images are diametrically opposed.

In 1972 Denise Scott Brown, Steven Izenour and Robert Venturi outlined the semiotic method to the ironic approach in the book entitled Learning from Las Vegas. A principle thesis of the book was that architects should learn to interpret contemporary culture and building as they are, rather than ignoring them or dismissing as meaningless. In their book the authors draw a distinction between buildings that are 'ducks' and those that are 'decorated sheds'.

"Venturi is more sympathetic to the decorated shed, and he advocates an architecture of explicitly simple structures upon which ornament is lavished, in order to convey specific meanings that grow out of his interpretation of a building's program and its physical and cultural context. For Venturi, the symbols of architecture must be separated from the facts of building in order for both to succeed, and the symbols must refer to contemporary life. This segregation of symbol and fact and the insistance of contemporaneity is the key to why he has never designed in a straightforward historical style, which Venturi and his associates have frequently disparaged as 'too easy'." (Stern, 1988, p. 68)

In comparison to the Pop style of Venturi, Rauch, and Scott Brown, architects Micheal Graves and Robert A. M. Stern use more personal and historical images. These architects rummage through forms preceding Modernism in search of cultural and historical associations.

Micheal Graves' witty and odd furniture and interior designs are now being joined by major architectural projects. It is interesting to note that Philip Johnson, long a proponent of modernism in America, has moved toward Post Modernism in recent projects such as the A.T.&T. headquarters office building in New York (1984), with its references to Roman, Romanesque, and Georgian design elements.

"As far as my own work was concerned, I was devoted diciple of Mies and of the Style. The Style lasted clearly through the 1950s, but then I got bored with it. My reaction was an anti-father one. Anti-Mies. Anti-Modern. I joined in what Robert A.

M. Stern and Robert Venturi were doing, putting forth the continuity of history as something that could be learned from. Being a historian first and an architect afterward, I found the idea appealing. I jumped at Venturi's book, Complexity and Contradiction in Architecture, in the sixties. But I'm a jumper-arounder anyhow. I was interested in Schinkel, Classicism and Ledoux before I was interested in modern architecture." (Johnson, 1995, p. 34-6).

Frank Gehry, whose work shows a striking difference in style to most architects considered Post Modernist, splits buildings apart. They become objects in the landscape since the space between buildings is as important as the building themselves. Gehry expresses the Post Modern idea of external orientation in a different way; his buildings come apart and attempt to fuse with the immediate context. To further this fusion, he uses materials such as stucco, plywood, concrete block, chain link, and stud wall construction. By exposing and juxtaposing layers of technique and materials, Gehry blurs the boundary between building and environment. Frampton (1985) claims that Hollein is another figure among the Post Modernists who has been able to combine an indulgance in craft aestheticism with a revealing critical distance. Friedrich Achleitner implied in his essay 'Viennaese Positions' (1981) that Hollein is at his best in the design of interiors.

From another point of view, according to Charles Jencks, Post Modernism is the combination of Modern techniques with something else enabling architecture to communicate with public and a concerned minority; usually other architects. It is this attempt which ties Post Modernists to previous traditions - the Classical language, Queen Anne Revival and Art Nouveau, to name the three.

"Post Modern is a portmanteau concept covering several approaches to architecture which evolved from Modernism. As this hybrid term suggests, its architects are still influenced by Modernism - in part because of their training and in part because of the impossibility of ignoring Modern methods of construction - and yet they have added other language to it. A Post Modern building is doubly coded - part Modern and part something else: vernecular, revivalist, local, commercial, metamorphical, or contextual." (Jencks, 1988, p. 111).

"I shall talk as an architect, not as a theoritician but as a Modern architect - not a post modern or neo Beaux Arts architect. Our work evolves from the recent past; in honouring our grandfathers on this occasion I am not compelled to kill our fathers: I sometimes think my next book should be called Modern Architecture is Almost All Right. So in a specific way we consider ourselves part of the Modern movement, evolving within it. But in a general way architects are always modern, modern with a small 'm'; I think the architects of the Echole des Beaux Arts in all its periods considered themselves modern." (Venturi, 1979, p. 23).

Charles Jencks, in his another book called The New Moderns (1990), stresses on the similarities and divisions between Late Modernists and Post Modernists. According to him, there are philosophical and social points which divide them in spite that they both focus on the basic issue of architecture as comunication. Late Modenists stress the aesthetic aspect of the architectural language, whereas Post Modernists stress the conventional aspects. The perennial truth of Late Modernists, that beauty can result from technical perfection and that the means of architecture are also its ends, remains a challenge to Post Modernists whose handling of new technologies tends to be rudimentary. The claim that architecture is a social art which communicates in a conventional code has, however, wider validity because it encompasses the technical and aesthetic codes within its framework.

The primary motive of Post Modern architecture is to bridge the resulting social failure between the public and architects of the Modernist period. Post Modernism is an architecture based on new techniques and old patterns, while still incorporating current social realities. Like its Modern predecassor, though, even Post Modernism has its architectural limits.

"In human terms, modern architecture recognised that life was complicated enough, that chaos was an increasing symptom of modern times and ought to be aggravated by either office or home... The world of the 1980s seems no less chaotic or complex than the world at the beginning of this century, and postmodernism, with its sometimes refreshing architectural instances and its openness, will remain with us. My own worry is that, like most attacks, the onslaught of criticism thrust at modern

architecture is distorting its target. And like more than a few attacks, the fire sometimes finds the wrong target altogether." (Goldblatt, 1987, p. 65-6).

3. 10. 13. 2. Sculpture, painting & objects d'art:

"The evolution of modern sculpture could be seen as a physical unfolding from an idealized inner core: Picasso's early cubist constructions, Caro's colorful metal constructions, or even Stankiewitz's flattened junk metal construction - all have internalized spatial relationships. Such sculptures may rove from placement to placement in galleries, private homes, museums, and the outdoors, since modernist sculpture typically dominates site. Sculptors object to the modern attitude on the premise that idealized space tells us nothing about real space or the real world. In pursuit of the 'real', post modernist sculture can be seen as a dissolution of object into environment... Site-specific and site-generated sculpture are one and the same with the post-modern movement from internal to external; it easily passes Kim Levin's litmus test of grid vs. map." (Hargreaves, 1983, p. 61-3).

Lucy Lippard, an art critic and historian, is likewise seeking ways to install real meaning in contemporary art, in particular public art.

"Art must have begun as nature itself - not as an imitation of nature, not as a formalized representation of it, but as the relationship between humans and the natural world, from which we can't be seperated despite our attempts to set up a technological superstructure to destroy it... The park is probably the most effective public art from there is - the park itself as an ongoing process, the domain where society and nature meet." (Lippard, 1981, p. 137).

3. 10. 14. Deconstructivism (1970):

3. 10. 14. 1. Principles of design:

In the second half of the 1960s an attempt was made to develop a theoretical and artistic production as rigorous as that achieved by the pre-war European avant garde. This effort crystallized around the work of the Five Architects of New York under the leadership of Peter Eisenman. While two members of this group were to

ground their work in pre-war avant-gardist aesthetic practice, namely Eisenman and John Hejduk, who respectively took Giuseppe Terragni and Theo van Doesburg as their models, the remaining three, Micheal Graves, Charles Gwathmey and Richard Meier, assumed the Purist period of Le Corbusier as their point of departure.

The New York Five were not only architects of the late 1960s to ground their work in the aesthetic and ideological premises of the 20th-century avant-garde. The role they assumed in New York was echoed in London in the work of OMA (Office for Metropolitan Architecture), comprising Rem Koolhaas, Elia and Zoe Zenghelis and Madelon Vriesendorp.

"Reflecting changes in the literature of the sixties (Roland Barthes' 'death of the author' and, later, 'pleasures of the text') and changes in philosophy (Jack Derrida's notions of critical 'deconstruction' and 'difference'), deconstructionist movement has been comprehensively developped by Peter Eisenman as a theory and practice of negativity ('not-classical,' 'de-composition,' 'de-centering,' 'dis-continuity'). " (Jencks, 1988, p. 250).

In the summary given before the MoMA show on Deconstructivism, 1988, Deconstruction is claimed to be Post-Structuralism (a reaction to the Structuralist theories and practice of Claude Levi-Strauss, Noam Chomsky and all those who found meaning, wholeness and explanation in the relationships between things, in structured oppositions). But Post-Structuralism, according to the paper, doesn't have the provocative overtones of Deconstruction (the somewhat revolutionary and subversive frisson associated with a process of dislocation, de-composing and de-coding).

"As a Post-Structuralist, Derrida believes that meaning and significance are not closely and identifiably related, but that, on the contrary, they continually separate themselves from each other and come together in other combinations. In the poetic, literary, artistic and architectural debate, no element may function as a sign without referring to another element which is not present. The result of this combination is that each element turns itself into a sign which combines other elements of the system... The insert (writing means to insert) and the mimic (the text imitates the

object studied) are two of the principal elements in Derrida's method of Deconstruction." (Glusberg, 1991, p. 7).

"In short, to indulge in the word-play and etymological associations and alliterations of Nietzsche and Derrida, we should hear all the de's and dis's embedded in deconstruction. It decenters, decomposes and detaches whole structures into parts; it debunks, derides, and deprecates all values and goals which are held with a single minded fervour, and shows how they are self-contradictory with fractures and slippages; it demands, debauches and deludes those looking for a unitary system; it dehumanises humanism, desacralises religion, dethrones monarchs, decenters the city and it deflates those who still believe in evolutionary progress with a theory of decline, desolation, degradation - or simply devolution. Finally, for those who propose social harmony and buildings which can actually stand up there is devastation, demolition and destruction." (Jencks, 1990, p. 203).

But does Deconstruction equal destruction? Not completely, according to Derrida and Tschumi: there is 'affirmative deconstruction', or 'Deconstruction / Reconstruction' - a twin, an opposition, a dialectic.

"Deconstruction (to denounce doctrines and to abolish standards), far from being a recipe or a standard, is usually seen as a scornful superficialisation of all fields of human creation and even of human life. It is neither a guide nor a puzzle, a school nore a code. It is a provocative method, aimed at discovery and discovering ourselves." (Glusberg, 1991, p. 7).

In 1988 the Museum of Modern Art in New York put on an exhibition entitled 'Deconstructivist Architecture'. Under the aegis of veteran American architect, Philip Johnson, the show featured six architects and one practice, and for many it was the first they had heard of 'Deconstructivist' or 'Deconstruction' architecture.

The architects involved were Bernard Tschumi, Frank Gehry and Peter Eisenmann, all of whom were based in the United States; Daniel Libeskind, based in Italy; Rem Koolhaas, in Holland; Zaha Hadid, in Britain; and the Austrian Coop Himmelblau in practice.

The exhibition stressed that Deconstructivist architecture was not a new style, nor was it creed, or even a movement. Instead it stated that this architecture harked back to the Russian Constructivists of the 1920s and 1930s.

"For all its critical acuity, much of the theoretical discourse that accompanies this work is both elitist and detached, testifying to the self alienation of an avant garde without a cause: as the Dutch critic Arie Graafland remarked, where Constructivism intended a synthesis - the creation of a new architecture for a new society - Deconstructivism's anti-thesis derives, at least in part, from the recognition that global modernization is pushing so-called technocratic order beyond its rational limits. " (Frampton, 1985, p. 313).

The Deconstructionists share aspects of a common style although its practitioners claim different goals. What are the main differences, in a movement which supposedly celebrates difference? According to Jencks, 1990, there are basically four divergent tendencies:

I. First is the fragmentation and discontinuity of Frank Gehry - breaking up the whole into dissociated parts and juxtaposing them with an artful informality.

Gehry's method of Deconstruction can be quite literal at times, since he will smash an existing building into parts, leave elements of his own work unfinished and, as in his disintegrating cardboard furniture, make an aesthetic virtue of rough, crumbled surfaces. With Gehry's production of cardboard furniture and Formica fish lambs, his many building commissions and art installations, his traveling exhibition originating at the Walker Art Gallery in 1986, his fish restaurants in Japan or fish skyscraper proposed for New York (Fig. 3.99) and his acceptance as the leading American avant-gardist by Progressive Architecture and House and Garden one can speak of a widespread acceptance of the Deconstructive aesthetic.

"Deconstruction always depends for its meaning on that which is previously constructed. It always posits an orthodoxy which it subverts., a norm which it breaks, an assumption and ideology which it undermines. And the minute it looses this critical role, or becomes a dominant power itself (as in so many academies), it becomes a

tyrannical bore. The same is true for Deconstructivist architecture: it works best as an exception within a strongly defined norm." (Jencks, 1988, p. 251).

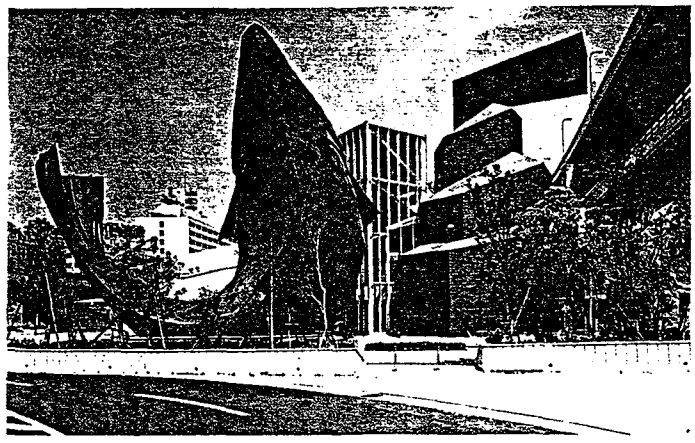


Fig. 3.99 Fish Restaurant, Kobe, Japan,designed by Frank Gehry.

Frank Gehry's most successful interventions, such as the attachment to the Aerospace Museum in Los Angeles (Fig. 3.100), relates directly to the function and urban context. According to Charles Jecks,1988, the Aerospace Museum has a characteristic Gehry problem: it assaults the rather drab building to which it is attached, thus denying the possibility of a gentle discourse and continuity. This is the classic stance of most Deconstruction, anyway, which makes contact with what exists by contrast and aggression.

II. "Second is the Neo-Constructivism of Rem Koolhaas and OMA - the rotational inversions of big slabs into colourful distorted, perspectival de-compositions. Or his five superimposed layers of strips, confetti, grids, circulation elements for the Park de la Villette, the competition Tschumi ultimately won. In the Neo-Constructivist repertoire Zaha Hadid has perfected the 'flying beam' and 'coctail stick', and the anamorphic projection which makes Deconstruction so beautifully decentered, dislocated and - in her words and Leonidov's - 'anti-gravitational'. This Neo-Constructivism is populist, optimistic and realistic about mass culture. It seeks

the promise hidden within modernism of a hedonistic play with social and technical forces. " (Jencks, 1990, p. 205).

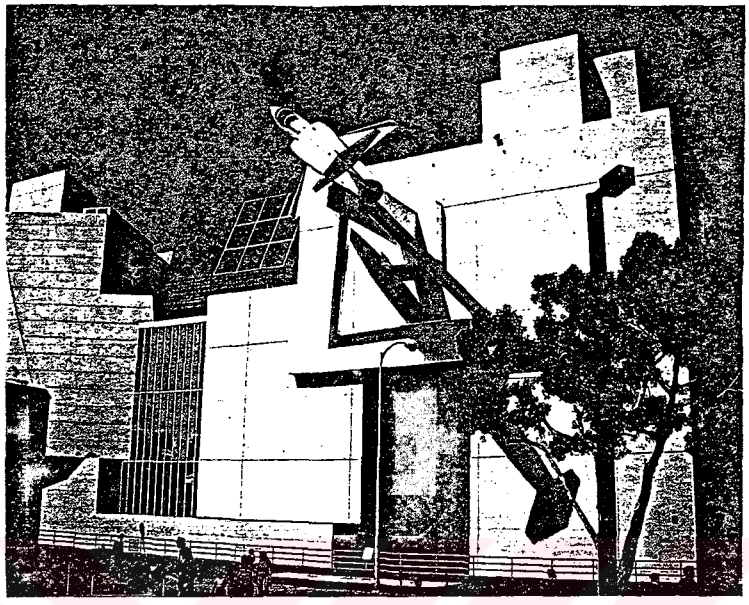


Fig. 3.100 California Aerospace Museum, Los Angeles, by Frank Gehry 1982-4.

Koolhaas and his group called OMA have produced many city projects which illustrate their theories and have won several competitions. OMA's work is not so much Deconstructionist because of being combinatory - combining typologies of many different Modernists (Hiberseimer, Mies, Cedric Price, Malevich, Leonidov). But they are doing so in a way which is discontinuous with the existing fabric, as in the scheme for the Parc de la Villette (Fig. 3.101). This layering of opposed systems and OMA's work has had a significiant effect on Hadid, Arquitectonica and Tschumi, who are more obviously within the general trend.

In Koolhaas's first major completed building, the National Dance Theatre in The Hague, the wavy roof, the interior ovoid satellite suspended by cables and the swimming pool suggest a counter-theme, the programmatic hedonism which underlies OMA's theory (Fig. 3.102). The foyer has a dynamic spatial quality; a ceiling slides down into the wall, giving perspectival distortion, while the suspended

ovoid champagne bar and curving balcony add further accelerations to the movement. The anti-gravitational architecture of Leonidov is used here effectively as forms are held as 'tension in space'.

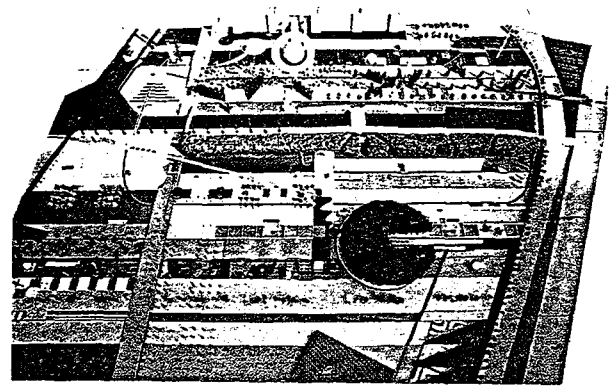


Fig. 3.101 Parc de la Villette Competition,Paris, by Rem Koolhaas and OMA 1982-3.

III. "Third are folies - folies of Bernard Tschumi - a cross between Late-Constructivism of Chernikhov, the aesthetics of Kandinsky and the current French Deconstructions of Foucault and Derrida. These are well-known and considered the heart of the movement, but some of the same ideas and forms are synthesized and taken to an extreme by Daniel Libeskind. He has absorbed notions from several sources - Gehry's fragmentation, Koolhaas' 'flying beams and coctail sticks', and Eisenman's hermetic representation - and combined them in a frenetic and intense language which is both very personal and 'anti-architectural' (although with the aid of the engineer Peter Rice it is structural)." (Jencks, 1990, p. 205).

Tschumi perhaps the architect most influenced by Derrida believes that it is now necessary to abandon Post-Modern architectural notions in favour of a Post-humanist architectural idea, characterised by the dispersion of subject and de-centralisation.

"The disjunctive architecture has three common denominators, according to Tschumi:

1.Rejection of the notion of syntheses in favour of the notion of disassociation and disjunctive analysis.

2.Rejection of the traditional opposition between use and architectural form in favour of a superposition or juxtaposition of two terms that can be both independently and equally applied to the same methods of architectural analysis.

3.Emphasis on the methodological plan, on fragmantation, superposition and combination, which undoes a disassociating strength that extends itself to all architectural systems; and at the time of breaking free from its limits, it is given a new definition." (Glusberg, 1991, p. 8).

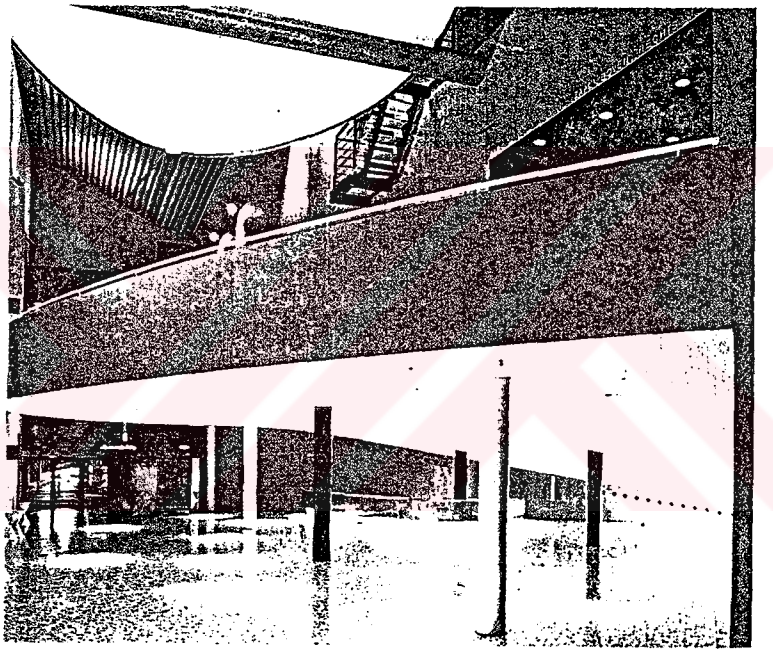


Fig. 3.102 National Dance Theater,The Hauge, by Rem Koolhaas and OMA, 1984-7.

"The year 1983 was decisive for Neo-Avant-Gardism, as Rem Koolhaas and the American based Swiss architect Bernard Tschumi competed openly in the final phases for the commission to realize the Parc de la Villette in Paris as a prototypical urban park for the 21st century. " (Frampton, 1985, p. 312).

The feeling of the new, created by combining forms of the old Modernism, is so strong in Bernard Tschumi's winning competition masterplan for the Park de la Villette (Fig. 3.103). Jencks, 1990, insists that Tschumi's plan makes a combination of previous formulae which are acknowledged as historical: the layering of three systems - points, lines and surfaces - recalls Kandinsky's and Klee's aesthetics; the transformation of folies resembles Chernikov's 'one-hundred-and-one architectural fictions' in method and style; the graphic abstraction of the aerial perspective owes something to Cedric Price, Archigram, and OMA.

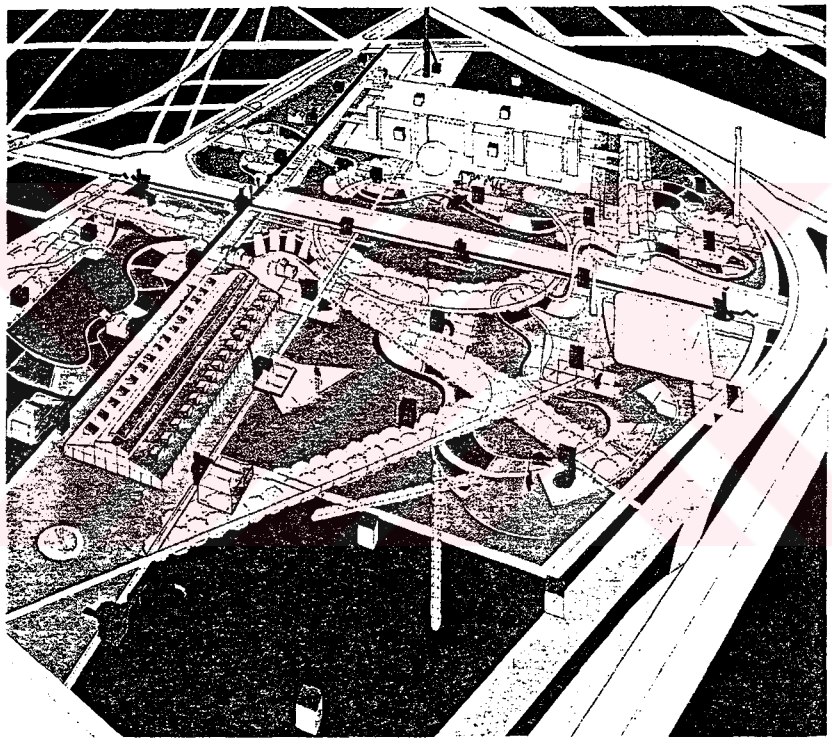


Fig. 3. 103 Parc de la Villette, Paris, by Bernard Tschumi 1985, Aerial view of points.

Tschumi's project is directly indebted to Derrida's ideas. Here they are applied in a conjunction of aesthetic, moral and philosophic energies in the 1960s-70s.

"Revisions, combinations and replacements of the architectural and social elements, the buildings, within and athwart the main conceptual framework, are not

only possible but called for, so that the differences of future contributions by architects, other professionals and the actual users, would decide individual contributions and interact without harm to the democratic, uncentred, structural principle... A regular point grid is used so as to refuse precedence of programme over architecture and vice versa, and so as to eradicate the architect as the eternally privileged director of building function. Classical rules of composition, hierarchy and order have been refused. The competition programme, even the architect's programme, has been deconstructed, and fruitful 'intertextuality' and 'anticontextuality' have been replaced an ever-immanent directive 'meaning'. Each observer and user will, it is hoped, add to the never fixed meaning of the whole." (Tschumi, 1987, p. 17)

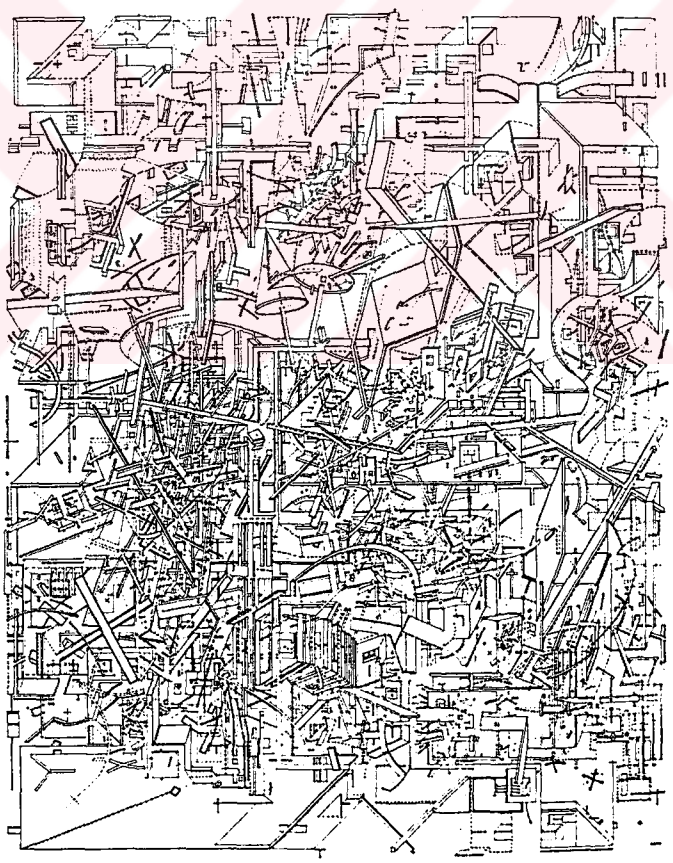


Fig. 3.104 Maldoror's Equation, Cranbrook, Daniel Libeskind, 1979.

John Hejduk whose bleak and beautiful constructions often resemble a functional mechanism that is deconstructed and reconstituted on a new scale is one of the masters of cryptic religious style. He combines word, scenario, and Minimalist image in a unique style, but his work relates to that work of Libeskind and Eisenman in having an almost nihilistic metaphysical origin.

"Daniel Libeskind, who draws and 'writes a Not-Architecture' according to Peter Eisenman, uses as a departure point a wide variety of metaphysical sources including the nihilism of Nietche, the eternal flux of Heraclitus, the phenomenology of Husserl, and the Deconstructionist assumption in general. Much of his graphic work has a frenzied complexity and is formed by luxuriantly redundant superimposition of four or five systems of projection, as if this 'dance of cacophonic geometries' (as John Hejduk calls it) could capture our flux and perplexity (Fig. 3.104)." (Jencks, 1988, p. 261).

Fig. 3.105 Collage Rebus 2 Model, Cranbrook, by Daniel Libeskind, 1980.

Libeskind's 'Lebus 2 Model' (Fig. 3.105) shows the extension of the structure from a very small point into the environment, from 'zero to infinity', as one of his publications was called. Between zero and infinity, he insists, there is a lot of room to cover and what strikes one about these deconstructions is that, perceptually, they seem 'all middle' without beginning or end.

Deconstruction, according to Charles Jencks (1988), is a mandarin style which is meant to be arcane and difficult and, in any case, deconstructive of all codes of perception and ideology, especially traditional and reigning ones. In addition the tenets of Deconstruction in literature are founded on the notion of fallibility and presume that all texts have gaps and contradictions. Furthermore they assume an a priori incoherence to all discourse and look for slippages, fractures, and partness.

"After all, since we are now quite certain that the world is absurd, that the self is both socially constructed and contradicted by the subconscious, and that the cosmos (of rather chaos) is indifferent to our petty constructions, than it follows that mere texts, or architectures, will reflect this incoherence. Besides, as Deconstruction theory postulates, interpreters make the text through their own misreadings, or incoherence, and this is not only their right but their obligation: for 'to deconstruct the opposition is, above all, at a particular moment to reverse the hierarchy'. In this sense Deconstruction is an applied 'dogmatic scepticism' because it always knows in advance what the text and the world mean: i.e., nothing." (Jencks, 1988, p. 263).

IV. Fourth is Peter Eisenman's position, a positive nihilism. Eisenman is concerned with the loss of center, the alienation inherent in Modernism, the uprooted masses, the end of ethic identity. But these themes always take second place to his rhetorical figures and are sublimated in a set of changing tropes: 'catachresis', 'arabesques', 'grotesques', or in the past 'scaling', 'self-similarity' and 'transformation'. His architecture is very abstract and consistent. The only way one cam fully appreciate his work is by reading about it and looking. For this reason it is primarily soliphistic and aesthetic, quite beautiful and moving, but private.

Eisenman has said that looking at the corrosion of formal categories, the work of him suggests that there is no such thing as the good or the beautiful. If the work is thus meant to be good, it still remains not-bad either.

"As Eisenman faced questions of content, and introduced new rhetorical tropes into his own armory - 'fiction', 'anti-memory', representation', 'figuration' - he became much closer to the Post-Modernists he spurned. But to save himself from this unspeakable fate, he inverted their primary methods and turned miraculously into a 'Not-Post-Modernist'. Thus for Post-Modern 'simulation' of ruins, for instance, Eisenman proposed a 'dissimulation' of ruins, that is counterfeit excavations and false foundations that either pretend to be real ones, or present in some phoney material the fact that they're false." (Jencks, 1988, p. 267-8).

The absence of God is the ultimate reference for the de-centered work of Deconstructionists. It brings up the point of whether the feeling of loss is not a form of Nietzschean, or at least Existentialist, revivalism. According to Jencks (1988), Eisenman and Derrida's garden for Tschumi's 'park of the twenty-fist century' is where all this absence comes together and becomes recursive, referring to itself in a kind of silent ping-pong game of nothingness (Fig. 3.106).

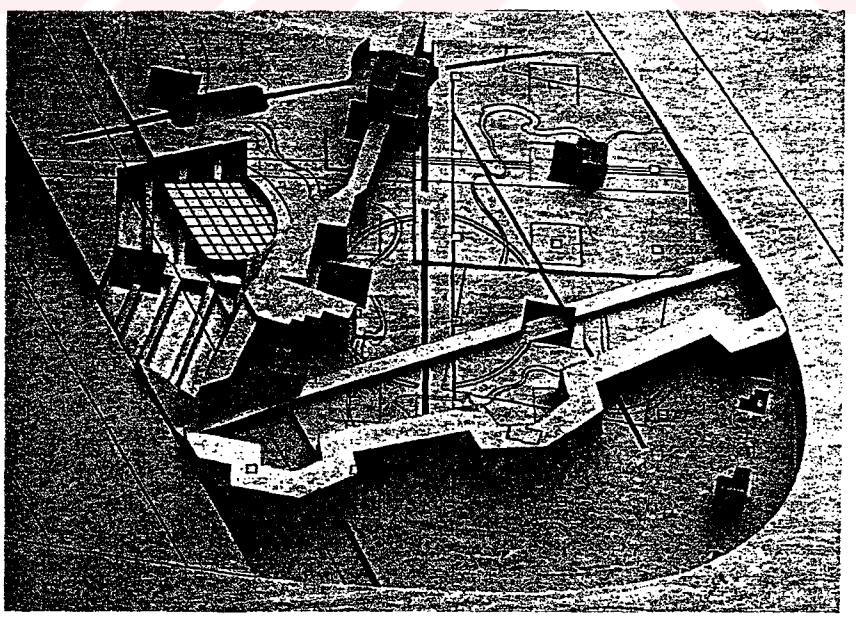


Fig. 3.106 Garden for the Park de la Villette, Paris, P. Eiseman with J. Derrida 1986.

"By 1987, Eisenman's definition of the 'Rhetorical Figure' asserted that architecture must convey its simultaneous 'presence' (as an existing object) and 'absence in presence' (those things which are repressed by building and destroyed or missing). In effect, like Derrida's 'affirmative Deconstruction', his positive nihilism makes an expressive virtue of its own fallibilities and destructions. It also conveys optimism and enjoyment which attend any breaking of habitual categories, the creative exuberance apparent also in the best work of Gehry, Koolhaas, Hadid, and others. If one values Deconstructionists from a skeptical position, as I do, then it is for their inventive freshness, their bringing of new rules and conventions to the tried game of Modernism, for making it truly 'Neo'." (Jencks, 1988, p. 269).

So there were four different positions which are grouped together in the Deconstructivist show that Mark Wigley and Philip Johnson have mounted at the Museum of Modern Art.

"Wigley distrusts the application of Derrida's form of Deconstruction on to architecture. He feels that just as Derrida deconstructs language from within, so architecture, too, should be deconstructed from within itself. Wigley's architect should locate dilemmas inherent in the nature of architecture by laying pure architectural forms on the couch and then interrogating them by alternating gentle coaxing with violent torture, thus drawing their impurities to the surface. But that surely is what the Baroque and those many other architects did anyway, except that they interrogated Classicism whereas Wigley's architects start with pure forms of the Modern Movement... So Wigley seeks a form of Deconstructivism in which architecture will be free from the influence of any language or philosophy. But his deconstructivism opens the flood gates, for if Constructivism was an influence - as clearly it was, if only in the works of Meier and Tschumi - then many other Modern '-ists' and '-isms' can be seen as equally legitimate sources."(Glusberg, 1991, p. 25).

Deconstructivists take traditional principles and either accept traditional ideas without traditional values or purposely reject the principals of traditional architecture. For these architects, if the value is given to the principal similar to the traditional value, the principal is employed, but if the traditional value of the principal is in

conflict with the modern value, the arcitect will force the inhabitant to question this preconceived notion. They aim to evoke the internal potential of Modernism which was not realized by the Modernists. As a result it seems that Deconstructivist theory can be complementary to the unfinished Modernist discourse.

"The Deconstructivist architect should stop being a decorator of life and become an organiser of life, creating a new concept of architectural space. Moreover, through Deconstruction, the architect has his programme, his tool, his means and a message." (Glusberg, 1991, p. 9).

3. 10. 14. 2. Form:

As Mark Wigley, the Associate Curator explained, architecture is a conservative discipline producing pure form, while in Deconstructivism this dream of pure form is disturbed and becomes a nightmare. He wrote in his cataloque to the 1988 show at the Museum of Modern Art, New York, entitled Deconstructionist Architecture:

"The form is distorting itself. Yet this internal distortion does not destroy the form. In a strange way, the form remains intact. This is an architecture of disruption, dislocation, deflection, deviation and distortion, rather than one of demolition, dismantling, decay, decomposition and disintegration. It displaces structure instead of destroying it. What is finally so unsettling about such is precisely that the form not only survives its torture but appears all the stronger for it. Perhaps the form is even produced by it. It becomes unclear which came first, the form or the distortion, the host or the parasite... No surgical technique can free the form; no clean incision can be made. To remove the parasite would be to kill the host. They comprise one symbiotic entity. " (Wigley, 1988).

3. 10. 14. 3. Sculpture, painting & objects d'art:

Paul Crowther (1989), in his article 'Beyond Art and Philosophy Deconstruction and the Post-Modern Sublime', claims that in order to understand recent fundamental changes in the practices of art, it is first necessary to trace parallel

patterns of development during the Modernist epoch. Clement Greenberg (1984) has argued that Modernism was a response to a crisis.

"There are two broad approaches here. First, from a formalist direction, critics such as Fry and Bell, and Greenberg himself, hold that through the possession of significiant form or declared flatness (respectively) art gives rise to a unique mode of experience - the aesthetic. Second, a substantial number of both artists and critics have suggested that the visual arts' distinctiveness lies in the way they give expression to what, in the broadest sense, might be termed states of spiritual reality. Cubism's early theoreticians and Mondrian, for example, see their art as examplifying visual reality as conceived, ie, in its essence, rather than as given in the particularity of direct sense perception. Others, such as Malevich and the Surrealists, see the the uniqueness of their work as consisting in its privilaged access to deep-seated subjective states - pure feeling in the case of the former, and unconscious in the case of the latter. Yet others - such as Dunchamp, the Dadaists, certain Pop and Minimal artists, and the protagonists of Conceptual Art - see the distinctive feature of the art-object as consisting in the creative idea which underpins it." (Papadakis et al, 1989, p. 98).

Modernist art divides into two broadly opposed tendencies (formalist and spiritual) which themselves contain diverse and conflicting approaches. When art, according to Crowther (1989), explicitly orientates itself towards some assumed unique or privileged features or effects, it deconstructs: its historical development differentiates a variety of putatively essential art features and effects.

In the magazine called 'Art & Design' (1988), Geoff Bennington puts the principles of Deconstructionist tendencies in art as;

- Deconstruction is not what you think.
- Deconstruction is not (what you think if you think it is) essentially to do with language.
- Deconstruction is not a theory or a project. It does not prescribe a practice more or less faithful to it, nor project an image of a desirable state to be brought about.
- Painting. Not just that painting is probably unthinkable without language. Certainly not that painting is like a language. But there's no trouble thinking about painting as

difference and trace. The event of presence which a painting presents would be quite unpresentable otherwise.

- Color is in deconstruction.
- Deconstructionist painting could not be the result of a successful application of Derrida's theory.
- A painting could try to be a reading of texts by Derrida. Leave a trace in the text if you can.

Deconstruction was a significiant cultural phenomenon of the 80s. John Griffiths (1988) traces the origins and characteristics of an influential philosophical idiom that has had a significant impact on trends in contemporary culture. He examines his counterparts in current art, describing the ways in which artists as diverse as Bacon and Graham have related to it.

Jacques Derrida is the seminal figure whose philosophical writings have come to stand as the most comprehensive articulation of Deconstruction. In 'The truth in Painting' Derrida, 1988, not only establishes painting as a vehicle for speculation but questions traditional assumptions about form and meaning in art. Here he summarises the intention and extent of his method.

"The sense of eliciting a style from a despair afforded not only by Derrida but by other French Post-Structuralists whose criticism has approached the condition of art (for instance, Barthes on the pleasure of text, or on the peculiar forms of unease evoked by photography) has seemed appropriate to the work of artists whose visual stuff includes the distress or nastiness of being human. Francis Bacon, for example, has said that he finds what might be called Derrida's 'uncongeniality' congenial." (Griffiths, 1988, p. 14-5).

Griffiths, 1988, claims that moving from Deconstructionist architecture to Deconstructionist Conceptual Art, the work of Dan Graham, because of its obvious architectural-environment and unscripted performance interests, provides the best link with the multitude of supposed and actual Deconstructions in painting and sculpture.

"Various artists labelled Deconstructionist are merely so because they conjoin fashionable forms provoking and shifting dangerous dreams. The artist so rearranges them as to evoke profound irony, distrust, nostalgia, a dizzymaking sense of randomness or nullity, and possibly an unsatisfied longing for timeless form and content... It is not too fanciful to see these, the whole Deconstructionist project, and its Constructivist, Cubist and Dada as well as Minimalist forebars, as part of the same complex of uncertainties as our late 20th century mathematics and physics of indeterminacy and uncertainty. Even populist Deconstruction looks back with learned yet ironic nostalgia to the age of linear order; it rejects all certainty and privilege, yet operates as if an overwhelming certainty were in the offing." (Griffiths, 1988, p. 18).

According to Griffiths Deconstruction is not merely a new movement in art an 'ism' of a specific decade. It is a way of conceiving how a work of art really works. It is applicable to art of any time or place. It sees a work as a process of signification but refuses to accept any meaning before or outside it.

3. 10. 15. Furniture design from World War II to the present:

The progress made by the Modern Movement is clearly portrayed in chairs. In this age of simple interiors, of disappearing wall space, built-in storage cupboards or furniture that behaves as if built in, such as sectional storage and seating units, the chair has become even more important. As a result it will first be described preceding models of chairs which represent achievements in technologically inventive furniture.

Following the lead of German designers, the Finnish architect Alvar Aalto adopted the similar spring-support principle used by Breuer in his tubular steel furniture to bent laminated plywood.

"Aalto was influenced by the steel-tubing furniture of Marcel Breuer and Marl Stam. According to him they are right because of their lightness and availability for mass production, however they are wrong by being anti-humanist." (Alyanak, 1995, p. 70).

Aalto was the first to apply that principle to modern domestic furniture design. He also experimented with curving plywood to fit the human shape. In 1934 he

introduced a chair (Fig. 3.107) having a continuous seat and back bent in sweeping curves and formed from a single sheet of plywood, suspended within a bent cut-out plywood frame. The chair was igeniously designed so that the curves made use of natural springiness of plywood.

"For the library in Vippuri (1927-35), whose wave-patterned acoustic ceiling is often cited as the first example of Aalto's 'organic architecture', he designed seating that was a direct result of his Paimio experiments and in which no steel parts were used at all (Fig 3.107). " (Mang, 1979, p. 143-4).

Fig. 3.107 Lounge chair of bent plywood,1934. Stools and chairs for the Vipuri library, 1929-35. Both are designed by Alvar Aalto.

Aalto referred to furniture as 'accessories to architecture' and said of his experiments:

"The first experiments consisted of bending laminated pieces in one direction only. It has always been my dream to create multi-dimensional, sculpture-like wooden forms that may someday lead to freer and more stable forms. The first attempts to construct organic volumes out of wood without resort to cutting or carving led later, after almost ten years, to triangular solutions that took the direction of the wood grain into account. The vertical, load bearing element in furniture is so to speak the little sister of the column in architecture. " (Aalto, 1963).

About 1937 Aalto went one step further, and left off the laminated wood frames of his chairs altogether, giving them a flexible base much like the earlier steel-tubing chairs (Fig. 3.108). Aalto's furniture is just an integral part of his architecture as the lambs and doorknobs he designs. This expresses his attitude to materials and his humanistic approach to architecture.

Fig. 3.108 Chair 406 with red fabric straps, Alvar Aalto, 1937.

Even though new materials were used in their manufacture, these chairs still employed traditional methods of shaping individual pieces and then joining them in different ways.

"As horizons widened, it was possible to see that respectable modern design had now split into at least three main traditions - American, Scandinavian and Italian - each owing something very important to the environment that fostered it. The one that owed most of the Bauhaus was the one that had its roots in America. But what the Bauhaus had achieved was now being developed by native American designers, prominent among them Charles Eames, and with the help of the formidable resources

of American technology. To already standard metal and plywood they added glass fiber reinforced plastic." (Lucie-Smith, 1988, p. 189).

Now we come to the chairs whose plastic or plywood seats are made, in Boger (1966)'s words, in much the same manner that the body of an automobile is stamped out by a die press. In this manner the back, seat, and arms can be made in one piece. This technique was used by Charles Eames and Eero Saarinen.

"American technology had taken a giant step forward during the war and was quickly able to adapt to peacetime needs. War research, particularly on the use of plastics in aircraft production, soon found wide application in a number of consumer goods. The initial step in this direction had been taken much earlier, however, with the contest sponsored by The Museum of Modern Art at the suggestion of Bloomingdale's department store in 1941, entitled 'Organic Design in Home Furnishings'. First prizes for chairs were awarded to the theme of Charles Eames and Eero Saarinen. The forms suggested by these two architects - three-dimensional shells - led, in their complete rejection of the right angle, out of the two-dimensional formal world of bentwood and steel chairs of the Breuer or Aalto type into a new sphere of 'sculpted' furniture based on the latest technology. Most of the furniture that the Herman Miller Company was to make, in corporation with Charles Eames up to the sixties, can be traced back to the results of this contest (Fig. 3.109, 3.110, 3.111)." (Mang, 1979, p. 146).

Fig. 3.109 Chair, 1946. Armchair, 1950. Wire shell chair, 1951. By Charles Eames.

Fig. 3.110 Molded plywood table and chairs with metal rod bases, C. Eames, 1944-6.

Fig. 3.111 Chair and stool of alluminum base, molded rosewood plywood seat and back, leather cushions with foam-rubber padding, designed by Charles Eames, 1957.

It is interesting to compare Eames's wire shell chair (Fig. 3.109) of 1951 by the Italian-born sculptor Harry Bertoia which designed in 1956 and for Hans and Florence Knoll (Fig. 3.112). In spite of a superficial likeness, the two chairs are fundamentally different. One basic difference is that Eames's seat cradle is supported on legs, while in Bertoia's chair the seat cradle is suspended by triangular side braces over the base.

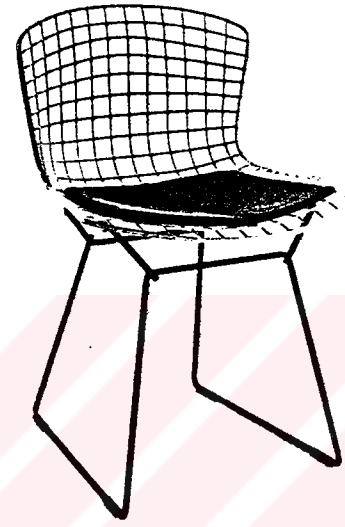


Fig. 3.112 Chair of chrome-plated steel wire, designed by Harry Bertoia, 1952.

"The lounge chair 670 (Fig. 3.113) by Eames was designed in 1956 to give comfort, both physical and psychological. Its leather, permanently wrinkled by the way the buttons are placed, suggests that it has recently been sat in." (Stepat-DeVan et al, 1980, p. 220).

Miller and his colleagues worked a lot for molding plywood in three dimensions besides attaching metal legs to plywood seats and molded plywood parts to one another. Particular attention was given to the use of new plastics from the aircraft-manufacturing field and to an industrial spot-welding technique for making bucket seats of metal rods. Industry begun to take its advantage of its chance to put the best experimental designs into production.

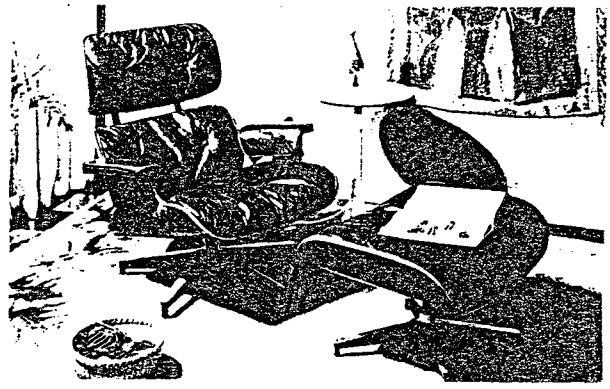


Fig. 3.113 The lounge chair and ottoman, designed by Charles Eames, 1956.

"The Aluminum Group (Fig. 3.114) was also designed by Charles and Ray Eames in 1958. The chairs consist of a cast aluminum star base with horizontally ribbed seat and back of fabric or vinyl attached to a curved aluminum frame. The design offers a great deal of flexibility because the pieces are available in a variety of sizes. Herman Miller is the manufacturer of the aluminum group." (Nielson et al, 1991, p. 182).

With the rapid development of plastics designers turned to plastic molded shells. Eero Saarinen began working for Hans and Florence Knoll as early as 1943. In 1946 he introduced a molded plastic shell armchair, the womb chair (Fig. 3.114).

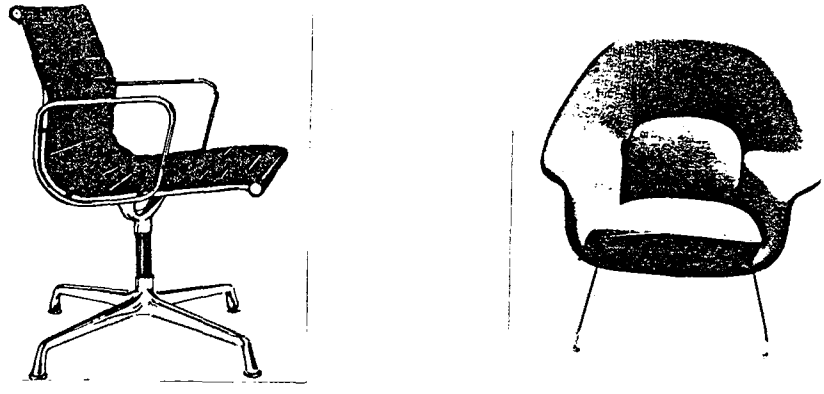


Fig. 3.114 Aluminum group,by Charles & Ray Eames. Womb chair, 1945, by Eero Saarinen.

"Saarinen, who always designed imaginatively and soundly within the new aesthetics that the machine demands and allows, achieved a great triumph in his chalice-like pedestal chair introduced in 1957 (Fig. 3.115)... this chair presents a more truly unified design whereby the seat and supports, the two essential parts, seem to be of one and the same material. In this instance the seat is a molded plastic shell reinforced with Fiberglass, while the stem and base are of spun aluminum." (Boger, 1966, p. 486).

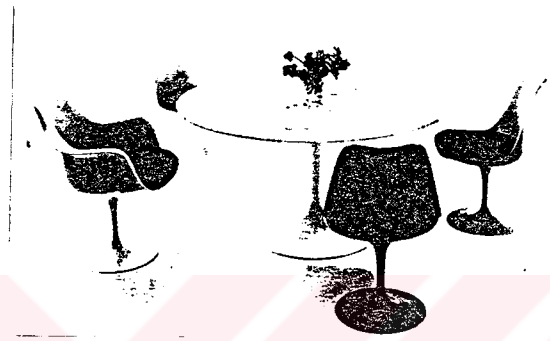


Fig. 3.115 Pedestal chair of molded plastics, by Eero Saarinen, 1956.

Scandinavian furniture continued to fulfill many of the demands made by the new age. Jacobsen's Swan chair (Fig. 3.116), designed in 1958, is as advanced in its way as anything produced in America. Yet it is also related to the furniture that Aalto designed in the 1930s.

The Hardoy chair (Fig. 3.116), which is adapted from a folding wood and canvas chair, has a metal rod frame and leather. It is designed by three Argentinians, Antonio Bonet, Juan Kurchan, and Jorge Ferrari-Hardoy. It is, in Boger's words, nothing more than a continuous metal frame on which the four pocket like ends of a length of leather are slipped over the two uprights of the back and the two front corners of the seat.

Apart from these examples of chairs, there are certain practical ideas and functional inovations, such as storage walls, room dividers, demountable partitions, and modular case furniture.

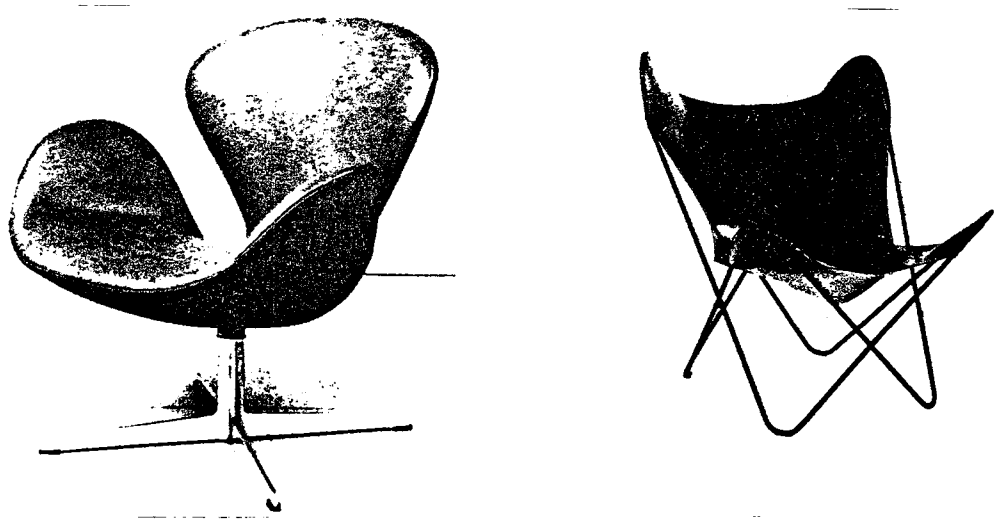


Fig. 3.116 Swan chair, Jacobsen, 1958. Hardoy chair, A. Bonet, J. Kurchan, J. Ferrari-Hardoy, 1938.

"Another very versatile designer with a background in architecture, George Nelson has created a variety of storage units (Fig. 3.117) that indicate a superb ability to combine beauty of form with the highest degree of functionalism. His designs of other pieces are equally beautiful." (Stepat-DeVan et al, 1980, p. 222).

A substantial part of Nelson's designs are furniture 'systems' rather than individual items of furniture. An example of such is his comprehensive storage system (Fig. 3.118) of floor to ceiling poles on which can be suspended a wide selection of drawers, desk, shelf, table, door, and panel components plus accessories.

"To meet the challenge of flexibility created by complex and changing needs in offices, laboratories, and production facility designs, product designers have developed systems furniture, manufactured in modules that can be assembled and reassambled in different configurations. The spaces created may be open, private, semiprivate, or a combination. The modules might consist of full or partial height panels or divider units to which coat racks, filling cabinets, storage bins, writing surfaces, chalkboards, computer stations, work surfaces, drawing surfaces, and drawer units can be attached. The systems can also be integrated with freestanding furniture components. These systems contain all the wiring for task lighting, ambient

lighting, telephones, computer links, electric power, and the systems designed for laboratories even provide flexible plumbing connections." (Nielson et al, 1991, p. 183-5).

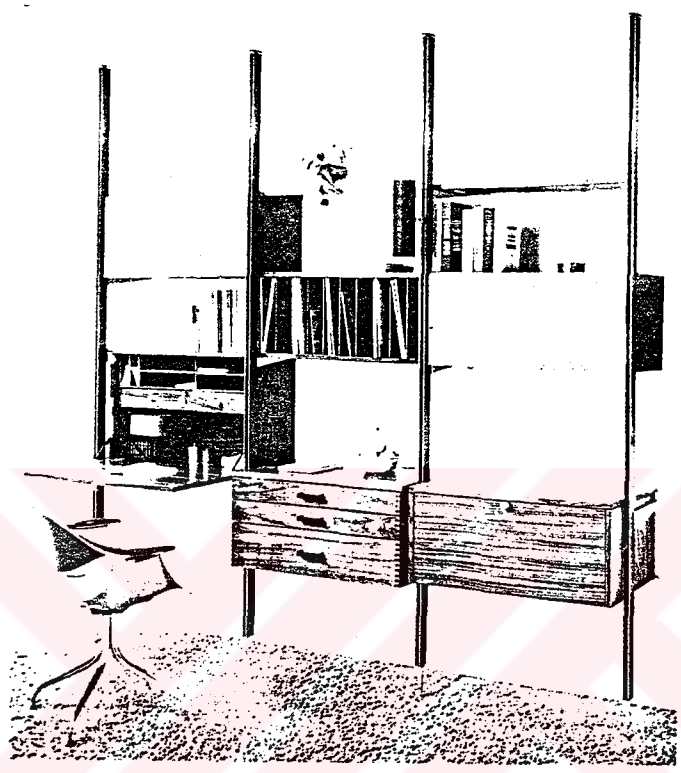


Fig. 3.117 A classic storage unit, designed by George Nelson.

The International Style in architecture and design was taken to a new level of perfection in postwar America.

"The tremendous influence of the United States on the entire Western world soon brought with it a reneissance of the International Style in the countries of its origin, where rapidly growing affluence assured a warm welcome for cool Neo-Functionalism." (Mang, 1979, p. 157).

"After the demise of the International Style and the gradual ebb of the teak wave, Italy took over the lead in European furnituremaking. The style that emerged

here was actually the last truly national furniture style in the narrower sense; with most barriers to world trade down and export markets expanding after the war, national currents had soon merged into one broad stream." (Mang, 1979, p. 160).

Fig. 3.118 Comprehensive storage system, designed by George Nelson.

In the years following World War II, modern Italian architecture and furniture attracted great interest. Its admirers acclaimed it as the second Italian Renaissance.

The new furniture, according to Boger (1966), was a melange of the antique, baroque, and rococo with a drop or two of German Bauhaus and French moderne cloaked in a playful, ingenious Italian guise. A marked characteristic of the new furniture, which had been developed by a group of Italian architects around Milan, was the floating look (Fig. 3.119). For example, the legs of chairs that had formerly

extended from the seat frame to the floor were now cut off in midair. Beneath the truncated legs a concealed stretcher supported the floating seat. This sculpturesque and light appearance had profound significance in America. It presaged the doom of the heavy block-like look which up to that time meant modern in America.

Fig. 3.119 Corner of a room, furniture and interior made by M. Bega, 1950.

"It is interesting to note here the extent to which the contemporary furniture made in Italy and also in Denmark reflects the experiments of modern architecture. Especially in chairs the designers have broadly interpreted the weightless look of modern buildings by trying to minimize the strength it takes to support a relaxed human being. This recalls one of Le Corbusier's characteristic architectural devices - the lifting of the main part of a building off the ground by columns of distinctly sculptural character. This feature occurs in his classic chaise-longue." (Boger, 1966, p. 492).

Furniture design experienced a strong revival in Italy after the war despite the long hiatus imposed by Fascism. What counted most after 1945, however, was the sense of liberation. In the field of industrial design, a number of extremely fine products appeared in Italy: the Olivetti typewriters by Marcello Nizzoli, and the

Vespa and Lambretta motorscooters of 1948 and 1949. These models of good design were to have a wide effect, even on the shape of home furnishings (Fig. 3.120, 3.121).

"Though these demanding designs were turned out in only limited numbers and reached only the happy few who could afford them, the effect they had on the rest of Europe was tremendous. Everyone began talking about the success of Italian products. What was exciting about them was their new aesthetic approach, which led to sculptural solutions that stood in direct contradiction to the rigorous functionalism of the International Style." (Mang, 1979, p. 161).

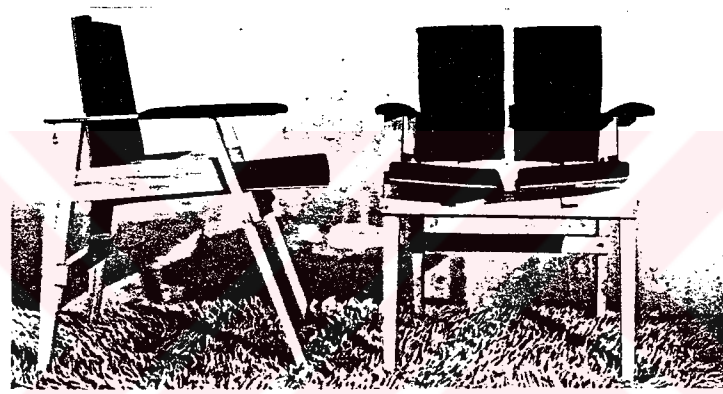


Fig. 3.120 Armchair, by F. Albini, L. Colombini, E. Sagrelli, 1950.

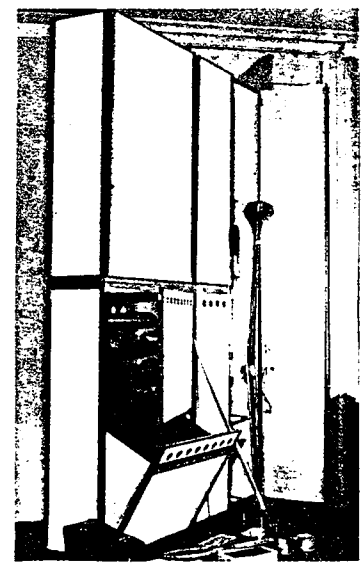


Fig. 3.121 Wardrobe build up of various-sized elements, A. Mangiarotti, 1950.

In this period fall the experiments with plastic as a material for furniture. It was hoped that plastic would open the way to make good furniture at reasonable prices, and thus bring modern design to a wide audience. As a result designers had a material which chairs could be form-fitted to the human body with comperative simplicity. Their models were like sculptures, and their imagination was only limited by the requirements of machine production and the characteristics of the material (Fig. 3.122).

Fig. 3.122 Stacking chair, by J. Colombo, 1965. Molded plastic chair, by W. Panton, 1965.

"'See-through' furniture has bacome important in modern style. Laverne International introduced a plexiglass chair in 1962 (Fig. 3.123) that became known as the 'invisible chair'. Transparent substances for furniture have provided a new dimension of lightness in modern design..." (Stepat-DeVan, 1980, p. 224).

Another designer who has shown interest in new methods for mass production is Milo Baughman, who thinks that craftsmanship can be related to modern technology. His use of metals, such as steel and chrome, often combined with wood, his sensitivity to the new materials, and his appreciation of vibrant colors and textures (Fig. 3.124) have established a new look in contemporary design.

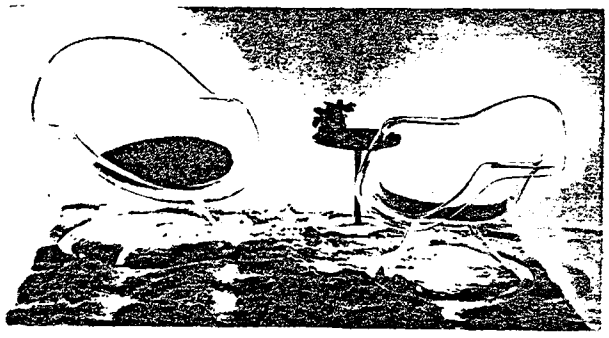


Fig. 3.123 Plexiglass invisible chairs, Laverne International, 1962.

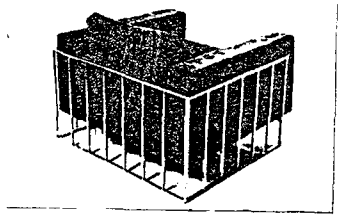


Fig. 3.124 Lounge chair of steel tubing frame to support blocks of foam rubber covered in a textured fabric, designed by Milo Baughman.

"GF40/4 stacking chair by David Rowland (Fig. 3.125) was created in 1964 to meet the need for a well-designed nonresidential chair that could be stacked in large numbers. It has strong legs made of bent steel rods with a seat and back of thin sheets of rolled steel. The chairs can be loaded in a four-foot stack, forty chairs deep, on a specially designed trolley." (Nielson et al, 1991, p. 183).

The coctail table in (Fig. 3.126) is a sculptural shape. Its oval glass top is cantilivered from a marble base. Ronald Schmitt, who designed this furniture form, was discovered by the Turners at the Cologne Fair in 1972.

Danish designs have two virtues - a graceful practicality and livability, a simple and natural vocabulary of form that looks handmade. Toward the end of 1940s, as a result of the fruitful collaboration between designers and cabinetmakers, a few simple types of furniture had been created which were to become nucleus for a more industrialized production.

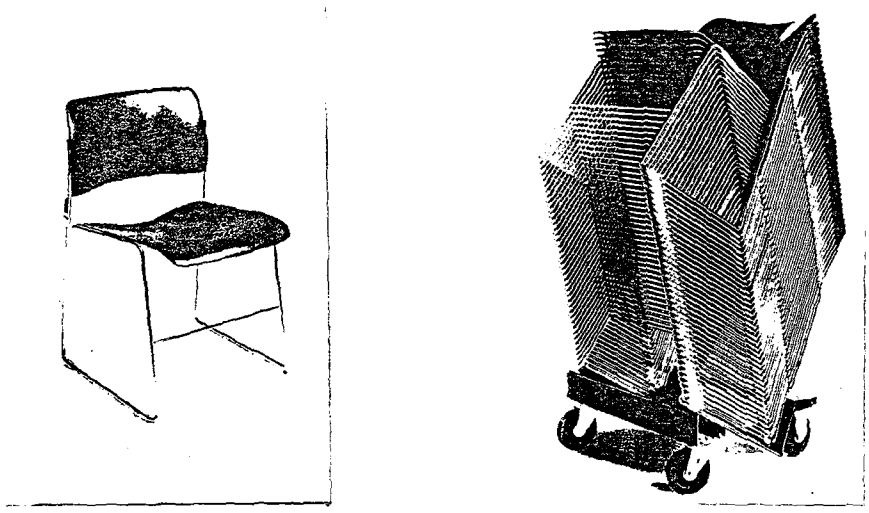


Fig. 3.125 Stacking chairs, designed by Daved Rowlands, 1964.

Fig. 3.126 Coctail table with a clear crystal glass top, designed by Ronald Schmitt.

"As an example of these models we can take the teakwood chair (Fig. 3.127) with open arms designed by the architect Finn Juhl for the cabinetmaker Niels Vodder. As it is seen in this chair, Juhl likes to emphasize the separation between seat and frame - an ingenious way of shedding weight... To divide the chair into components is one of Juhl's characteristic design principles. Some of his case pieces, such as chests or drawers, reveal a similar independence between the drawers and frame. Danish armchairs as a rule are not overstuffed or even entirely upholstered." (Boger, 1966, p. 496).

Another example is the well-known chair designed in 1949 for Johannes Hansen by Hans Wegner, 'the chair' (Fig. 3.127). The interest in Danish furniture

created among American designers a new respect for the treatment of wood - its structural and decorative possibilities when woods of various colors and grains are combined.

Fig. 3.127 Armchair, by Finn Juhl, 1945. Armchair of teak, by Hans Wegner, 1949.

Since 1950, there are a few factories in Denmark based on industialized methods, in which such materials as light metals and artificial materials as plastics are employed. This revealed in Jacobsen's chair shown in (Fig. 3.116) and in the steel chairs combined with leather or wicker by Paul Kjaerholm (Fig. 3.128).

As a result, it is observed two polarities in Danish design: the handcrafted, sculptured quality of wood and the new internetional expression in modern materials with austere linear lines reflecting Bauhaus traditions.

"Compared with the efforts of American, Scandinavian and Italian designers, British work was somewhat provincial. Yet as the festival of Britain showed in 1951, a real effort was being made by British designers to catch up with the Modern Movement. The chair designed by Ernest Race (Fig. 3.128) for general use on the

festival site, with its framework of steel rods and moulded plywood seat, looks somewhat prim compared to American achievements of the same idiom, but it was nevertheless committed to the new age." (Lucie-Smith, 1988, p. 192).

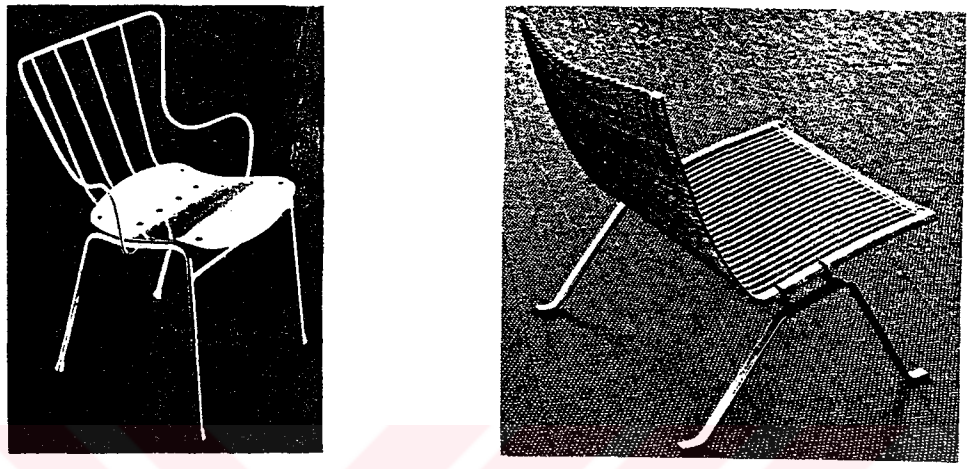


Fig. 3.128 Antelope chair, by Race, 1951. Chair of steel and wicker, by P. Kajaerholm, 1957.

'Good' design was only part of the story in the fifteen years that followed the war. There was also kitch - a kind of bad taste (Fig. 3.129) which was becoming assertive about its own right to exist. Because of the gap resulted by the war, the late 1940s and the 1950s turned at this popular level into a stylistic battleground. There was a definite revolt against rectilinear forms, even when the material chosen did not impose such a chance. Ameoboid shapes became widely popular. Another popular motif was the boomerang.

Much further down the scale of 1950s design were the artefacts produced by the new Rock culture. Rock had begun to affect the appearance of the objects outside its own specialized field. It made the juke-box for example into a kind of chrominum-plated altar to Elvis Presley and his peers. That was a significance for the future that Pop influence would spread to interior decoration as well.

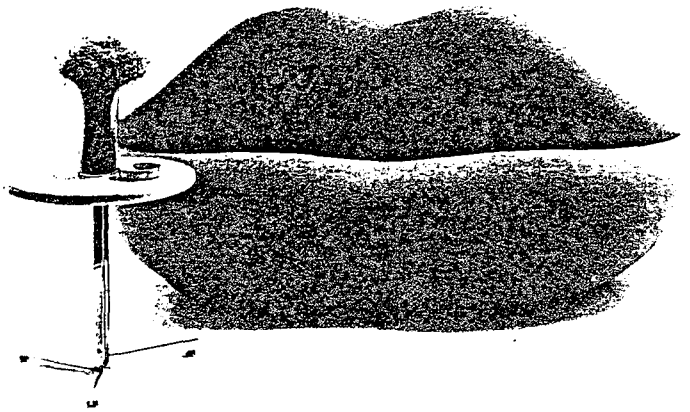


Fig. 3.129 The Marilyn love seat, 1974.

Edward Lucie-Smith (1988) claims that the 1960s and 1970s marked the growth of a much keener stylistic self-consciousness. According to him, a wide range of choices was then available to anyone interested in modern design. He enumerated some as follows:

1. Classic Modern. Designs by Mies, Breuer and Le Corbusier no longer manufactured were brought back into the repertoire. To these were added others, some by contemporary name designers, such as Eames, Saarinen and Harry Bertoia, while some were 'proto-modern' classics, such as Victorian steel rocking chairs and Thonet bentwood chair.

"Classic Modern interiors were arranged to show off the aesthetic qualities of the furniture they contained - the pieces were presented as independent sculptural objects, against great expanses of polished marbe or wood. They themselves were manifactured to the highest standards and were in no sense mass-produced. Though the designs retained their impact and relevance, they never succeeded in penetrating the mass-market, as the Bauhaus designers had hoped they would when they came off the drawing-boards in the mid 1920s." (Lucie-Smith, 1988, p. 195-7).

2. Radical Modern. This embraced not only new technological advances, but new attitudes towards interior architecture.

Among inovations in modern design are the inflatable Blow chair by Scholari, D'Urbino, Lomazzi and De Pas; and the Sacco chair (Fig. 3.130) by Gatti, Paolini and Theodoro. They were examples of 'provisional' furniture. The Blow chair, made of PVC, could be inflated or deflated as required. Sometimes the transparency of the plastic skin emphasized the immaterial nature of the object. The Sacco was not only very light, it completely contradicted Classic Modernism's preference for rigid and cubical form. It consisted of a sack filled with plastic granules which adapted itself to the movements of the body. However these forms of experimental seating were less comfortable than the upholstered furniture they aimed to replace, and established themselves only for a time.

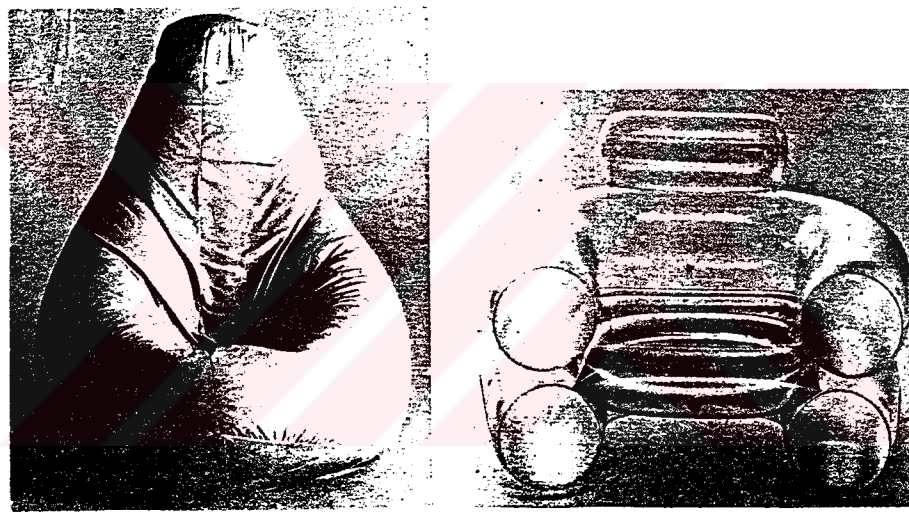


Fig. 3.130 Sacco chair,Gatti,Paolini & Theodoro,1969. Blow chair, De Pas, D'ubino, Lomazzi & Scholari, 1967.

Radical Modernism also concerned itself with the abolition of nearly all movable furniture, of whatever kind. The interior space was now scooped and hollowed to provide places where people could sit. The 'conversation pit' first made its appearance in houses designed by Saarinen's architectural partnership during the late 1950s. Later interior designers such as Max Glendinning had the idea of raising

part of the floor-area of a room into a series of stepped platforms where cushions could be placed.

"You do not sit on chairs in these environments; you lie down, make yourself comfortable, and enjoy your freedom from convention - generally on cushions spread around the room, sculpted foam-rubber seats, and wall-to-wall carpets. This trend to free and versatile utilization of the entire available floor space certainly contains a large dose of criticism of those perfectly planned interiors which, once they have been installed, are fixed for evermore." (Mang, 1979, p. 169).

Sculpture of the 1960s was in any case closely related to much of the rigid plastic and metal furniture. The sight of an object like Pastille chair (Fig. 3.131), a brightly colored flattened ovoid with a dent in the top to receive the buttocks, conveys the discussion.

Fig. 3.131 Pastille chair, designed by Aero Aarnio, 1968.

3. Package Modern. Not merely furniture sold in knock-down form, but department-store marketing of a total contemporary 'look'.

What Lucie-Smith (1988) have labelled Package Modernism has been in a state of continuous development from the mid 1950s to the present day. Terence Conran's 'Habitat' retail shops had important place in the rise of Package Modernism in England.

"...the most of the Habitat stock - wood, plastic, ethnic basket-work, chrominum plate and giant floor-cushions - would somehow mix and match in all its possible combinations to make an acceptable background for a modern middle-class way of life." (Lucie-Smith, 1988, p. 200).

4. Pop. Furniture and decoration related to 1960s Pop Art.

Pop Art had an impact on the typical interior of the time. However its influence made itself felt more in soft furnishings, decorative objects and knick-knacks than it did in actual furniture. Few homes could afford the sado-masochistic girl-table (Fig. 3.132) designed by the Pop painter Allen Jones which was not made to serve any practical purpose.

Fig. 3.132 Table sculpture, painted glass fibre and resin, by Allen Jones, 1969.

5. Deco Revival, sometimes also labelled Retro.

It is not certain that the Deco revival should actually be classified under the heading of Modernism. Because, in the strict sense, it was simply a fresh manifestarion of the eclectic revivalism which had been going on since the mid eighteenth century.

6. Post Modern. A commercial idiom, which neither embraced Modernism wholeheartedly nor completely rejected it, but which favoured instead a stylistic

amalgam, with modern or modernistic elements used quite empirically. This was the mid twentieth-century version of a phenomenon which has occured at all periods but which in the 1970s acquired a kind of academic respectability of its own.

Post Modern reaches its apogee in the gambling casinos of Las Vegas. Lucie-Smith says that Morris Lapidus, who is said to be father of Post Modern style, mixes all the popular periods of interior design - Louis XIV, Robert Adam, Moderne Streamlined - in a distinctive but unclassifiable style.

In the United States, biomorphic forms closely related to the more abstract aspect of surrealism have been used by leading artist and craftsman Wendell Castle (Fig. 3.133). Castle's furniture is hand-made, carved into intricate forms which no machine could produce. He is a leading figure in a craft revival which has also made itself felt in England, with craftsmen such as John Makepeace, Rupert Williamson (Fig. 3.134), Richard La Torbe Bateman and Martin Grierson. A chair produced in the Makepiece workshops in 1978 (Fig. 3.133) consists of more than 2000 pieces of ebony.

Fig. 3. 133 Laminated cherywood settee, designed by Castle, 1968.

"One of the reasons why craftwork has experienced such a revival in the 1960s and 1970s seems to be impatience with the way the fine arts are going, and a hunger for a display of skill which painters and sculptors are no longer willing to provide.

Makepeace's chair, which shows both Gothic and Art Nouveau influences in its design, has one characteristic which makes it seem peculiarly modern. It demands to be looked at more or less in isolation. If it is added to an interior, it takes its place as a piece of sculptor would." (Lucie-Smith, 1988, p. 206).

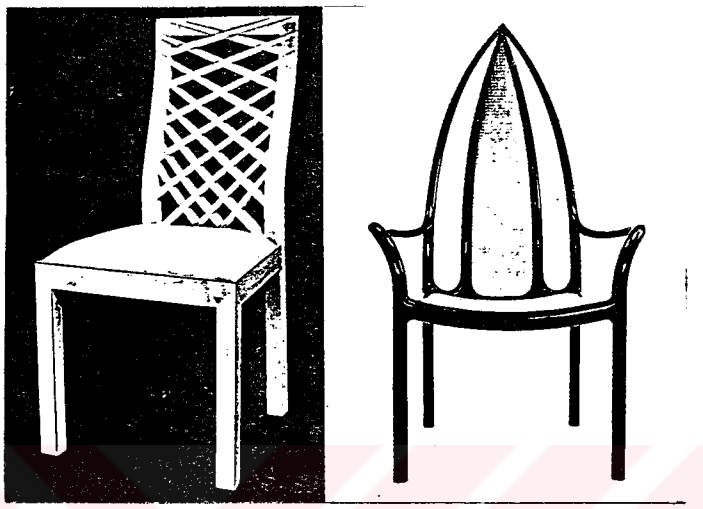


Fig. 3.134 Sycamore and walnut chair, by Williamson. Ebony and nickel-silver chair, by Makepeace, 1978.

In today's society many people spend the greter part of their day in work situations where they must be seated. In order to be functional, seating must offer its users comfort. Because of this need, there has been much research that has led to the design of highly flexible seating pieces. The new trend in chair design is known as ergonomics or biotechnology. Ergonomics in its broadest sense is the study of the relationship between humans and the objects in their environment or the adaptation of human and their conditions to each other.

"William Stumph, a professor of design at the University of Wisconsin, designed the Ergon chair (Fig. 3.135), introduced in 1976 by Herman Miller. After nearly ten years of studying how people sit, Stumph found that office workers have three basic postural positions: work-intensive, versation-reflective, and relaxation-

stretching. His chair was designed to fit all these postures in a healthful and comfortable way." (Stepat-DeVan et al, 1980, p. 234).

Fig. 3.135 Ergon chair, designed by William Stumpsf, 1976.

"The word modern has taken so many meanings since the nineteenth century that today it is almost without meaning. Here, using it to mean of one's time, as did Manet, one can begin to investigate the design of the present... The New Moderns.. are difficult to classify. Fortunately, the visual is not limited by any lack of explanatory vocabulary." (Downey, 1992, p. 155).

Borek Sipek's work in furniture, objects, and interiors reflects diverse influences. He chooses an abstract vision of the world, an abstraction which results, by his own words, in a 'non-abstract' object. When Sipek is designing objects and even furniture, he is, he says, 'working for himself'. The result is a design inseparable from himself (Fig. 3.136).

Sipek has produced a collection of glassware for the Italian company Sawaya & Moroni. William Sawaya and Paolo Moroni have been collaborating with designers since 1984. Almost every one of the designs of their company, according to Claire

Downey, has stood as a marker of up-to-the-minute modernity. They have worked with Ron Arad on his Crust chair (Fig. 3.137), and most recently, with Luigi Serafini and Marco Mencacci. They are in search of the modern, the standards of the moment, and not any particular style. Moroni says that it is not important to reinvent, but to be inspired by your time.

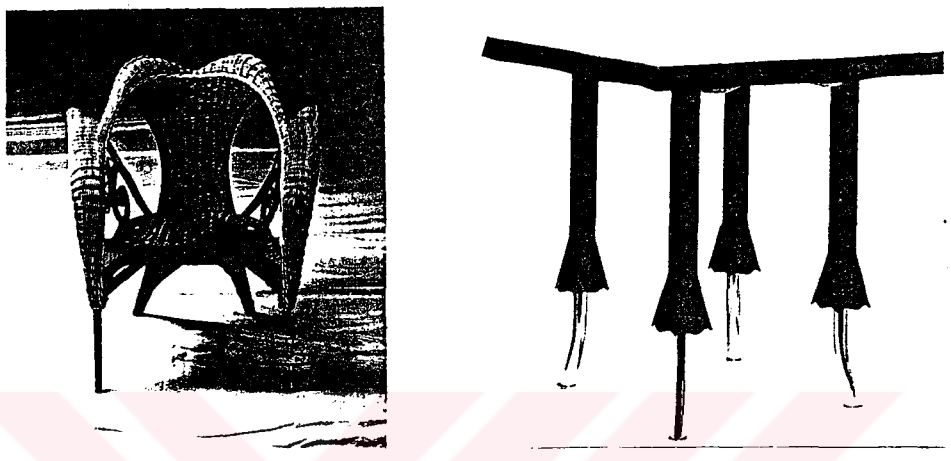


Fig. 3.136 Prorok chair and Satomi San table, 1988. Both are designed by Borek Spek.

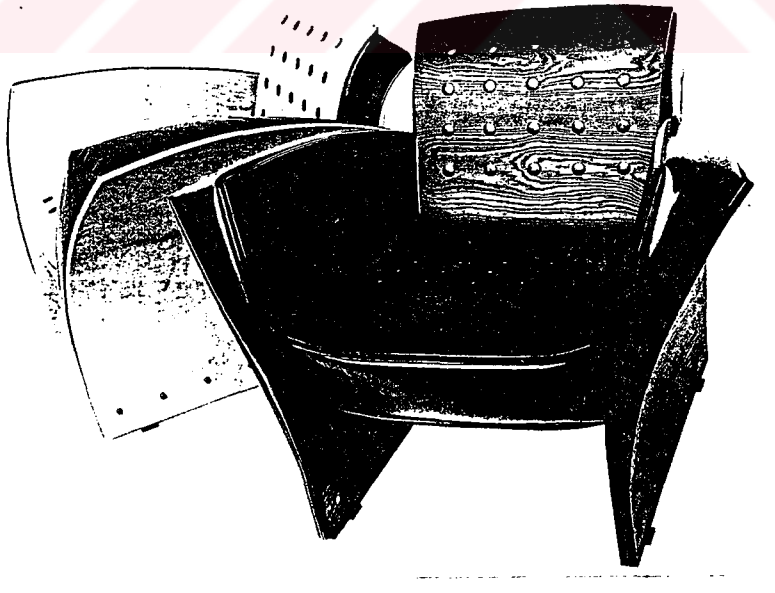


Fig. 3.137 Crust chairs, designed by Ron Arad,produced by Sawaya & Moroni, 1988.

"The importance of Sawaya & Moroni is their realistic and refreshing response to modern design as a time-event phenomenon. They accept as a basic premise that what is modern is always changing... Sawaya, himself a furniture designer, believes in the distinct domains of the artist, the designer, and the architect. 'All designers,' he says, 'know how to manipulate form and color to be in fashion, but at this point design looses its first function. You must know the rules of each domain'. Sawaya's designs are decidedly in the domain of the designer, controlled and alive at the same time. Animated with minimal but direct gestures, they include the feminine La Belle and Diva, and the masculine Xaver (Fig. 3.138) with its arched metal spike fixing it firmly to the earth... Sawaya's designs form the foundation of the company." (Downey, 1992, p. 168-9).

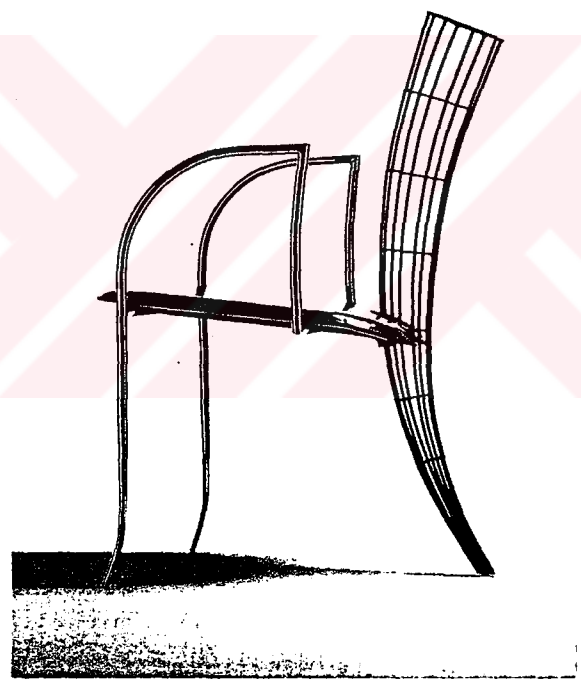


Fig. 3. 138 Xaver chair, designed by William K. Sawaya, produced by Sawaya & Moroni, 1988.

Luigi Serafini, another designer currently working with Sawaya & Moroni, is a young Italian designer. His Santa chair is a design that is as minimal in line as it is full

of animated spirit. This ability to animate the object, according to Downey, to open it out of pure function and into fiction, is what makes Serafini a New Modernist.

The designs of Jeannot Cerutti and Marco Mencacci are also considered New Modern. Cerutti's Libabel bookcase (Fig. 3.139) is decorated in stainless steel stars, spearheads, an accordion-fold arm, and wood supports, themselves covered with Greek and Roman letters and other symbols. Downey (1992) insists that Libabel is a modern warrior, aided by a bit of mysticism.

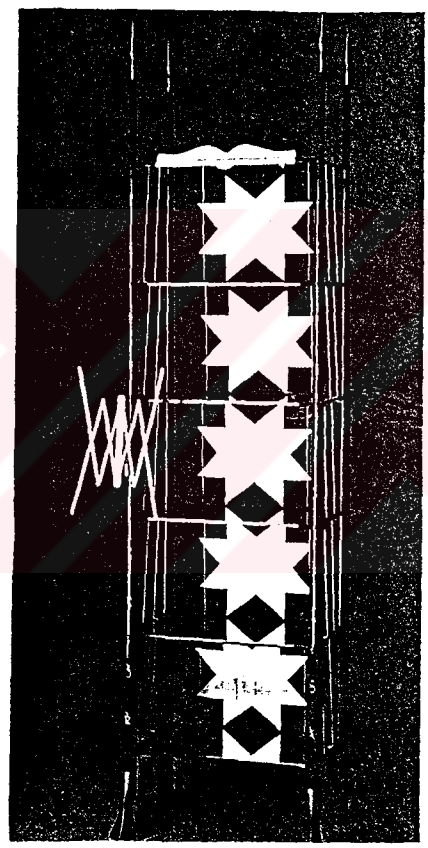


Fig. 3.139 Libabel bookcase,by Jeannot Cerutti,produced by Sawaya & Moroni,1989.

"Bolidism, as its name implies, is brash and dynamic design. Bolidists have often been called futuristic because of their preference for aerodynamic shapes and George Jetson cartoon colors. Yet this furniture is not for the future but the present. It is

designed for the population that lives in the fast lane, on the highway, in the airport. It is young and it is now in the pop, cool sense of the world." (Downey, 1992, p. 171).

Massimo Iosa Ghini's designs seem to dominate the space they inhabit. His first collection, New Tone for Morosso, was a turning point, not just for Iosa Ghini, but for Morosso as well. Ghini created a collection of wood furniture of uncommon fluidity and craftsmanship in 1991 for Lisar, a manifacturer of custom furniture.

"Iosa Ghini's furniture designs are an outgrowth of his drawn worlds and a means to bring the same ideas to reality. They have lines to make movement easier; they eradicate the friction and keep things flexible, sliding, flowing. The idea of constant movement and interaction is Iosa Ghini's chalenge to a world which, he believes, has become sedentary; his means are the signs of man's most sedentary movements: the chair, the table. His strategy is to turn the tables, to make the sedentary the active." (Downey, 1992, p. 175).

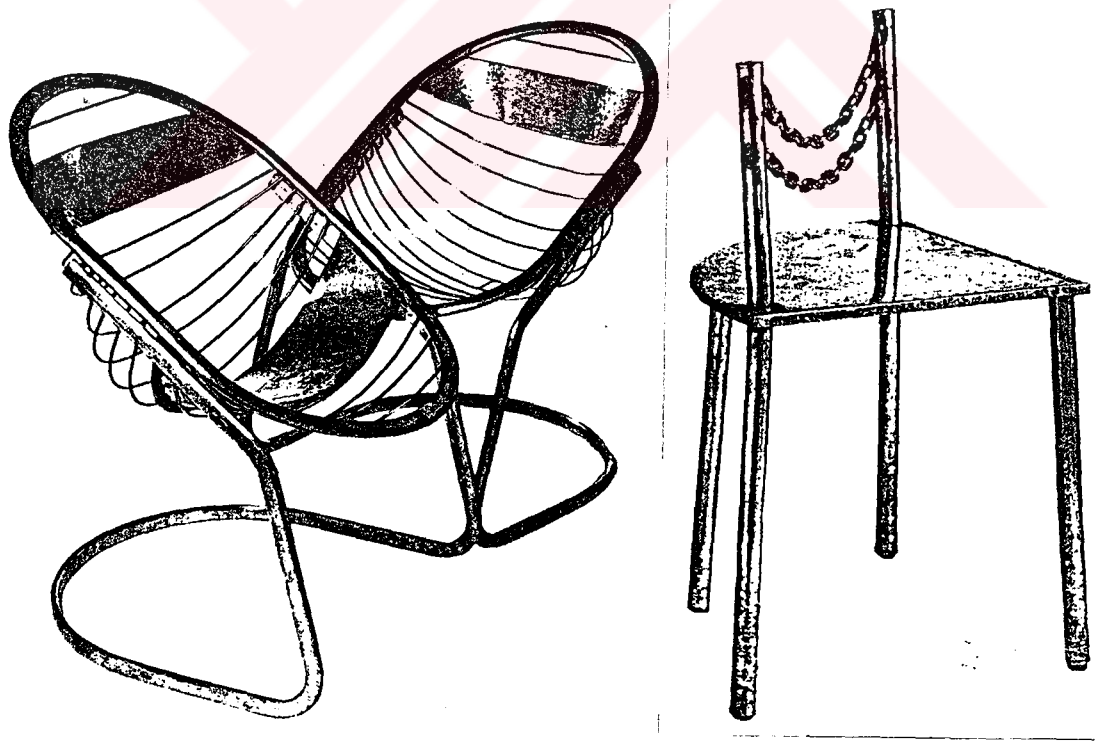


Fig. 3.140 Number 35 & 36 armchairs, 1991. Number 32 quarter chain of tin, 1991. Designed by Rei Kawakubo.

While Iosa Ghini is bold extraversion, Rei Kawakubo moves intuitively in silence and rigor. Her work - the clothing she designs, designs of her boutiques, and furniture design - is at every point an event (Fig. 3.140). Her design has been described as modern and imaginative, exploring new fabrics, forms, and moods. Her 1991 collection was inspired by an attraction to the tin buckets and cups found in bazaars. She says about the Number 32 chair that beyond the ethic feeling she had an impulse to add something modern to the chair, the aluminum chains.

"Existing for the present, being shaped by the present is the essential quality of the New Moderns... There is an increasing concern with intimacy in much of the New Modern design. There are no leanings towards a mega-scale, an overall uniformity which will unite the modern world. On the contrary, these designs are personal, changing in mood form design to design..." (Downey, 1992, p. 189).

CHAPTER IV

PROPOSAL FOR A PUBLIC INTERIOR

4. 1. General:

In this study the main purpose was, after making a historical survey of styles developed on the subject of interior design in past and in current time, to design an interior.

In the second chapter of the thesis, the general principles which should be considered while planning an interior were explained. The historical survey of interior design in the continuing chapter (Chapter 3) was made so that it would be possible for me to design in the light of the knowledge of the past experiences.

The intention in that part of the thesis is to design a public interior nesting private spaces, such as part of a hotel. The reason why it is intended to be a public interior is its wide range of possibilities of using different styles, patterns and materials besides the possibility of creating private spaces within the public space. Moreover, public interiors are accessible to a large range of users and include highly visible, even spectacular spaces that attract interest and excitement.

That kind of a public space nesting private spaces could be an urban hotel which contains interrelated and independent public and private spaces having distinct characters. An urban hotel would serve for the people who live in the city where the hotel is placed besides the visitors. Consequently, a public interior space of an urban hotel is determined to be designed as the proposal which will form the final section of the thesis because the public spaces of an urban hotel would have a social character.

As a result it is decided to choose an urban hotel which might be under construction or already built or designed but not completed yet. It is not prefered to choose an interior which is already designed because an interior which is designed by another architect would restrict the creativity and it might be influenced by his or her design. Çankaya Hotel Convention and Shopping Center in Ankara which is under costruction is chosen. Its situation of being under construction would let me feel the proportions of its interior spaces and dream of the interior I would aim to design. Another point which was affective for making that choice was that Çankaya Hotel Convention and Shopping Center, because of being placed in the city we live, has the advantage of being easily accessible bringing about the possibility of controlling the design and making feedbacks.

4. 2. An Analysis of Çankaya Hotel Convention & Shopping Center:

Hotels and motels range from the simplest of small guest houses to vast complexes, complete resorts and urban meeting places on a major scale. Çankaya Hotel Convention and Shopping Center is planned to be an urban luxury complex which is preferred by the people of high income group. Big hotels have arrangements for international congresses, meetings, cocktail parties, receptions, balls, and available spaces for luncheons, dinners and banquets.

There exists two hotels being in that category in Ankara; Hilton Hotel and Sheraton Hotel. The general approach in Çankaya Hotel/Shopping Complex Project, as the architect Cemal Kayalar (1996) insists, is that it is designed to be a higher standard than both Hilton and the Sheraton/Karum in Ankara. The guestrooms, for example, are planned in a way that each room is larger than hotel room standards and several different guestroom types are planned for the choice of the customer.

Çankaya Hotel Convention and Shopping Center is located at the prestigious district of Ankara, Çankaya, in the middle of embassies and the residences of the President and the Prime Minister (Fig. 4.1). It is situated on land facing Uğur Mumcu Street and Kızkulesi Street. The site is 18000 square meters. The total construction area is 41200 square meters (multilevel garage and mechanical rooms are not included). The complex consists of 234 guest rooms and suites on 20 floors, a garage

of 500 cars capacity, a Convention Center of 3000 square meters total area including banquet and meeting facilities with translation rooms, spectators' balconies and press center, a shopping mall of 11000 square meters area on three floors, a business center, a night club, a gambling casino, a health club, a glassed-in swimming pool and a sun deck open swimming pool in 2000 square meters terrace garden, tennis courts and areas reserved for jogging and rollerscating.

The shopping mall has two entrances from different levels. One is from the sunken court (level -8.35) which is connected to the other parcel on the other side of Uğur Mumcu Street, including areas for sports activities, by means of an underground walkway passage. Under that passage there exists another passage for vehicles into the garage. The other entrance to the shopping mall is from the second floor of the mall (level -4.00) (Fig. 4.2) and gives access for the people coming from the Uğur Mumcu Street. Another entrance, from the passway which connects Uğur Mumcu and Kızkulesi Streets, exists on the third floor of the mall (level +0.35).

The entrance of the Hotel is from level +3.90, above the shopping mall, accessible from Kızkulesi Street.The reception, lobby, a piano bar, a snack bar, shops, congress/ball room, and meeting rooms are placed at the entrance floor (Fig. 4.3) with two atriums looking through the shopping mall. The Convention Center also has its own entrance at that level for giving direct access to the people coming from the outside of the hotel.

On the upper floor of the hotel entrance indoor and outdoor swimming pools, health club, business center and a coctail lounge are placed (level +12.70).

The hotel contains a main restaurant, two speciality restaurants, and a rooftop restaurant and bar. The main restaurant and speciality restaurants are placed on the level +17.10 (Fig. 4.4) including an atrium which allows a visible connection between the main restaurant and lower floors in the vertical axis. The rooftop restaurant and bar are placed on the levels +100.28 and +103.48 (Fig. 4.5). There exists an atrium at the bar level (level 103.48) facing the lower floor which is planned to be the rooftop restaurant.

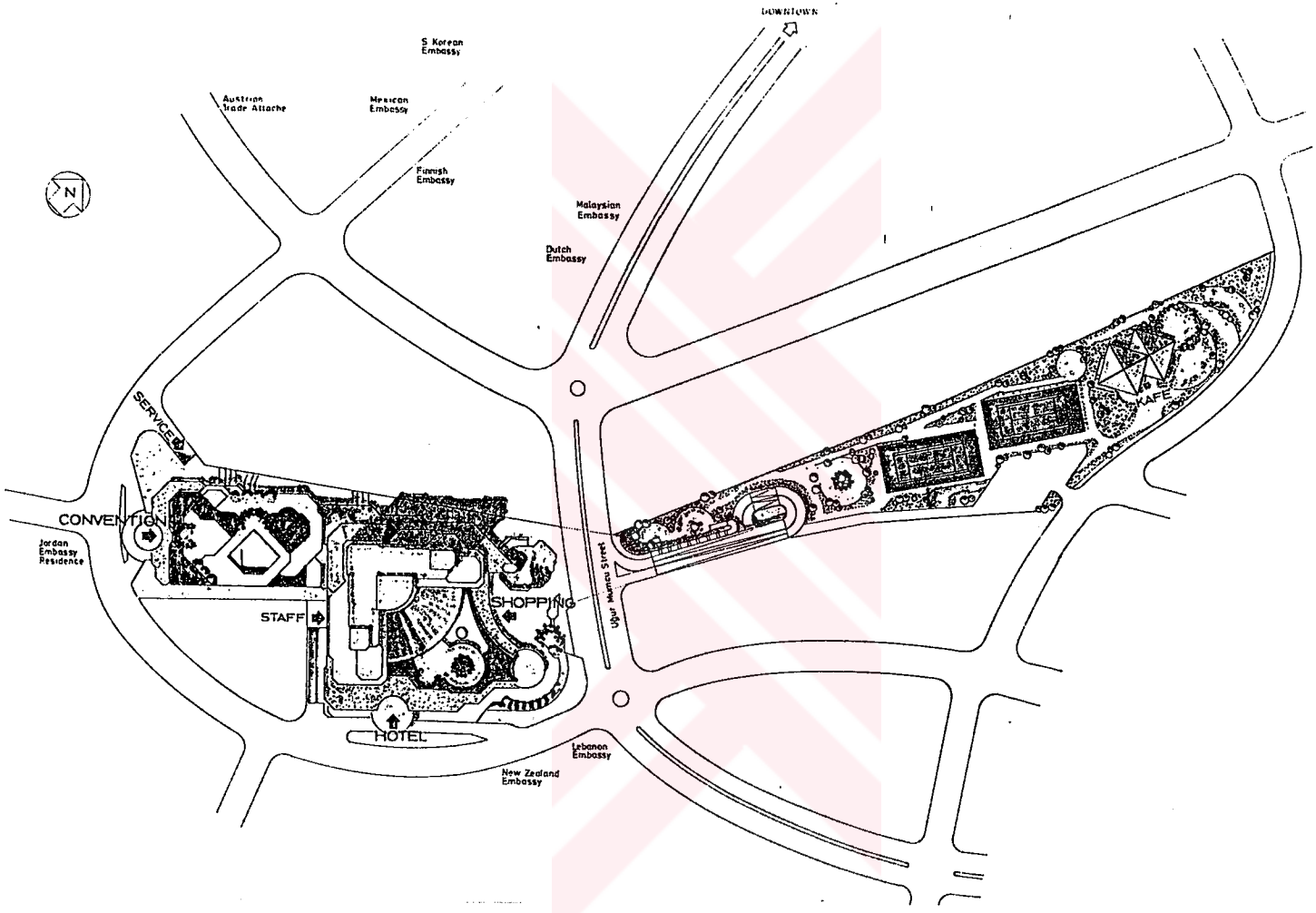


Fig. 4.1 Çankaya Hotel Convention & Shopping Center, designed by Cemal Kayalar, Site Plan.

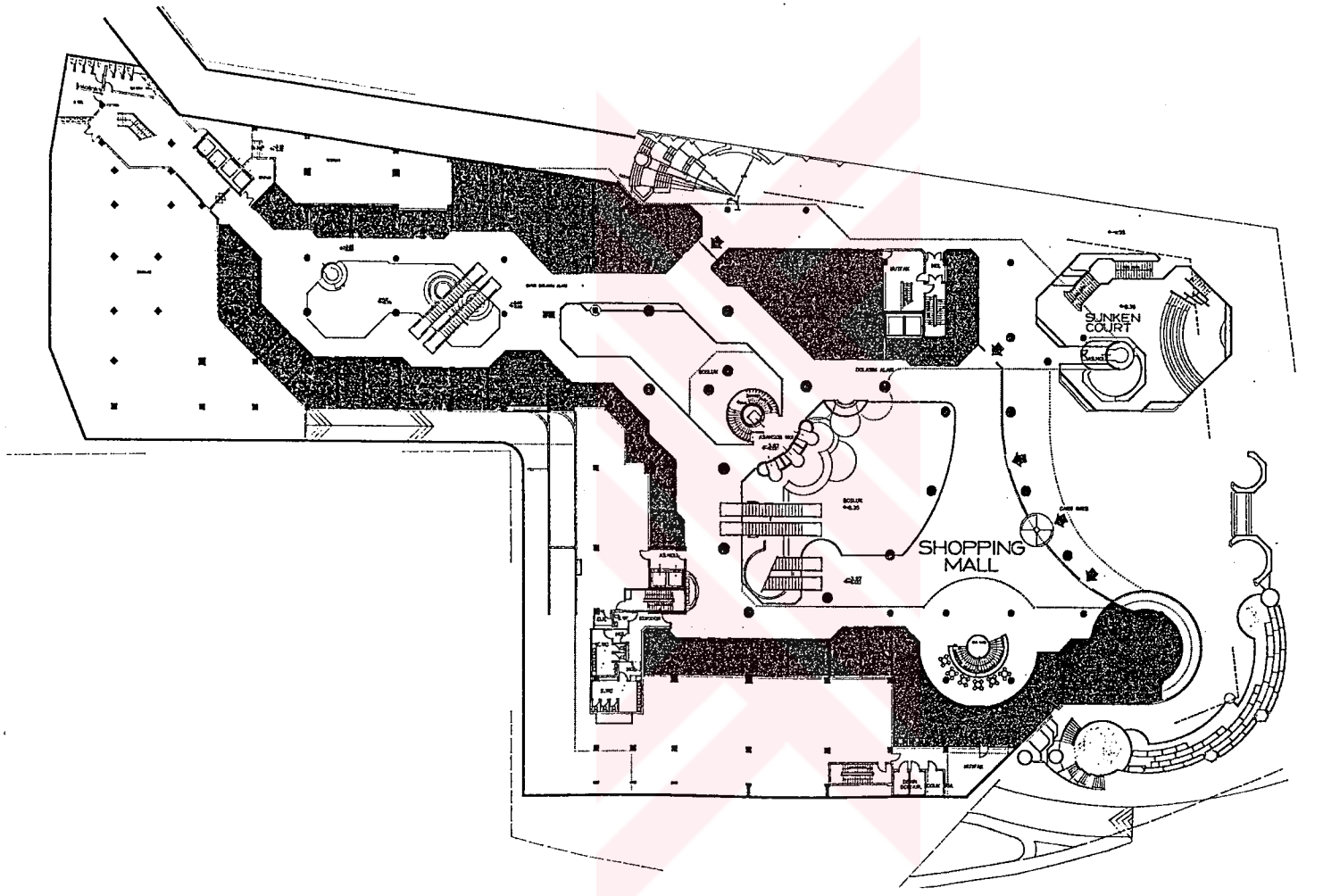


Fig. 4.2 Çankaya Hotel Convention & Shopping Center, designed by Cemal Kayalar, -4.00 Level Plan.

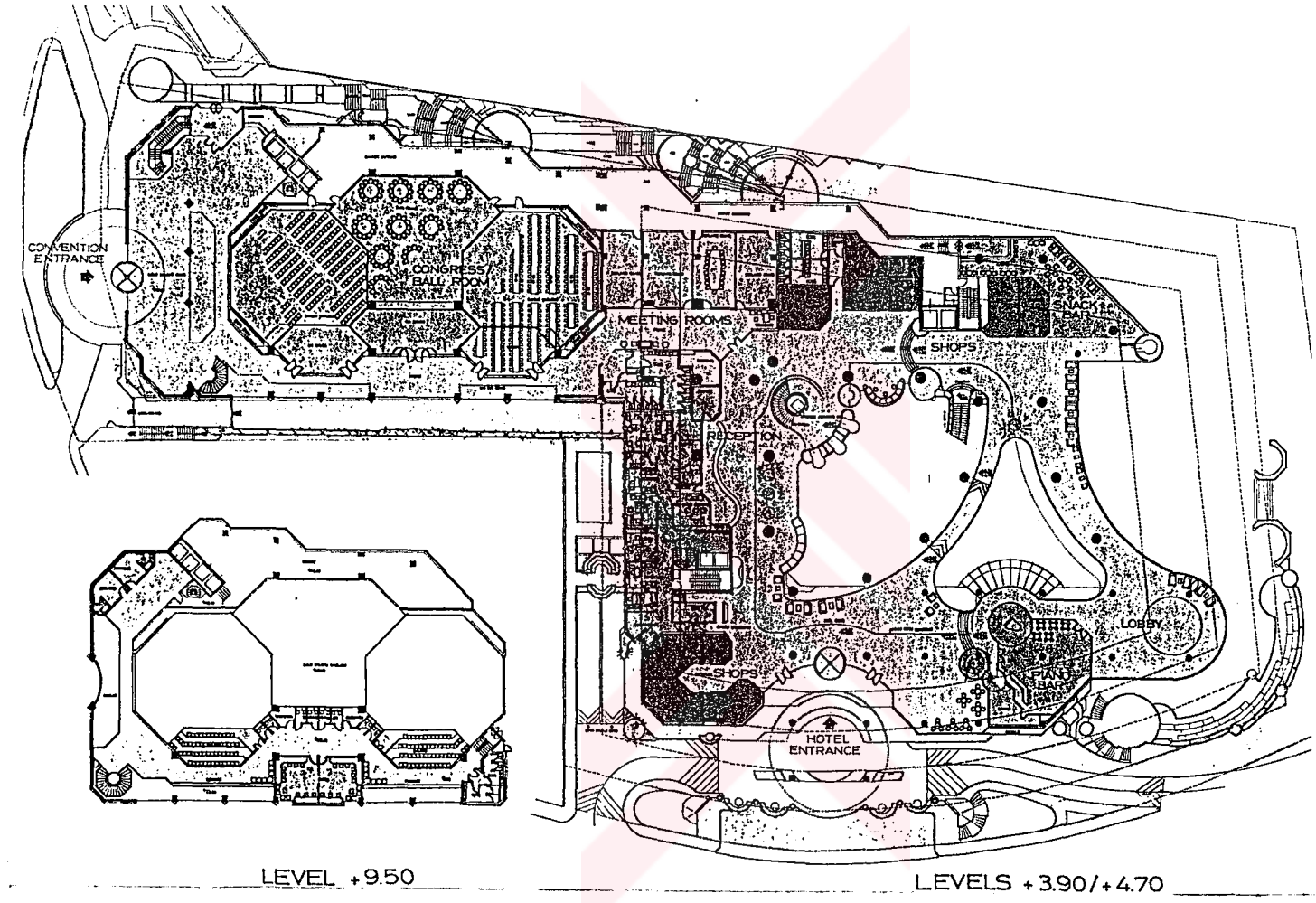


Fig. 4.3 Çankaya Hotel Convention & Shopping Center, designed by Cemal Kayalar, +3.90/+4.70, +9.50 Levels plan.

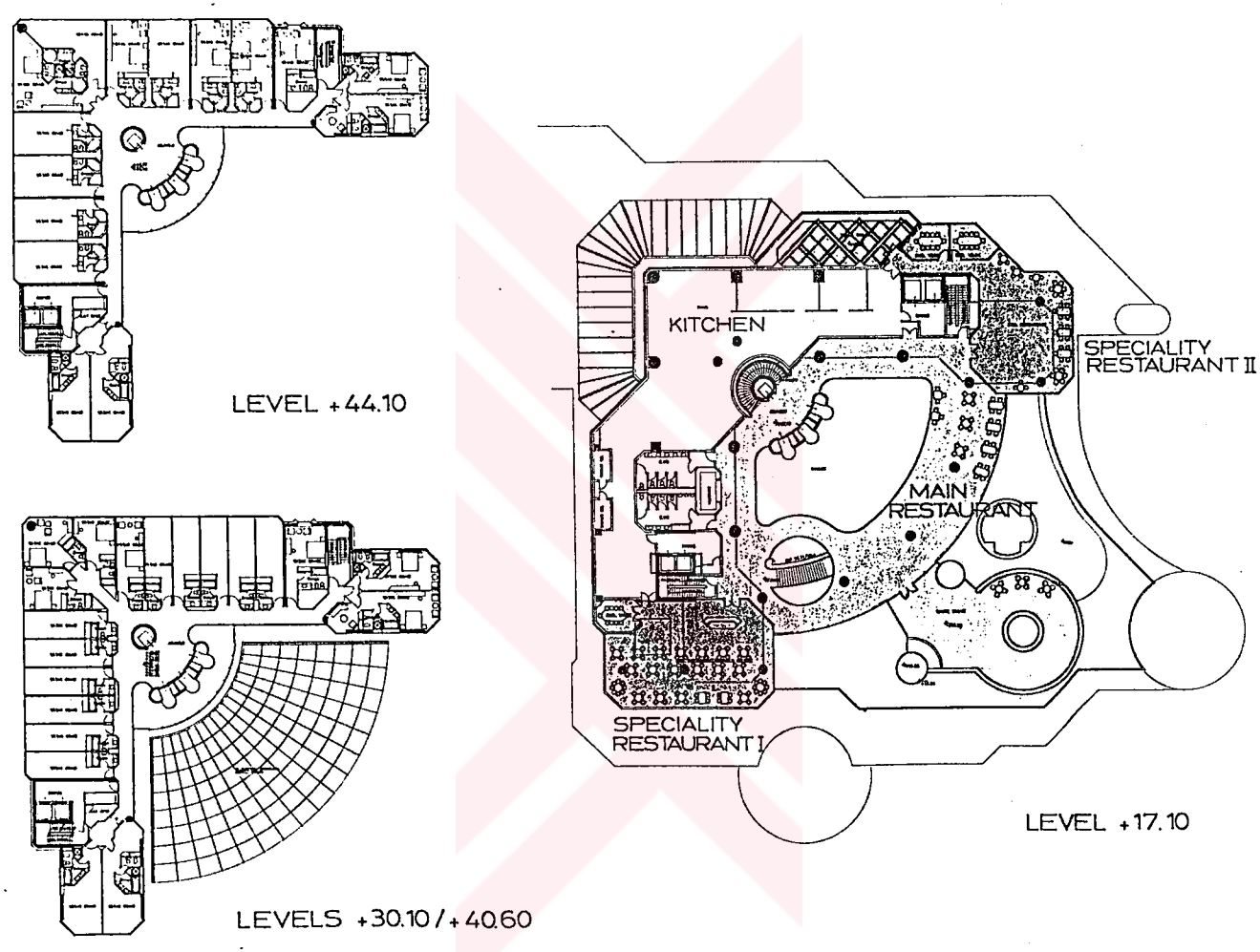


Fig. 4.4 Çankaya Hotel Convention & Shopping Center, designed by Cemal Kayalar, +17.10, +30.10/+40.60, +44.10 Levels Plans.

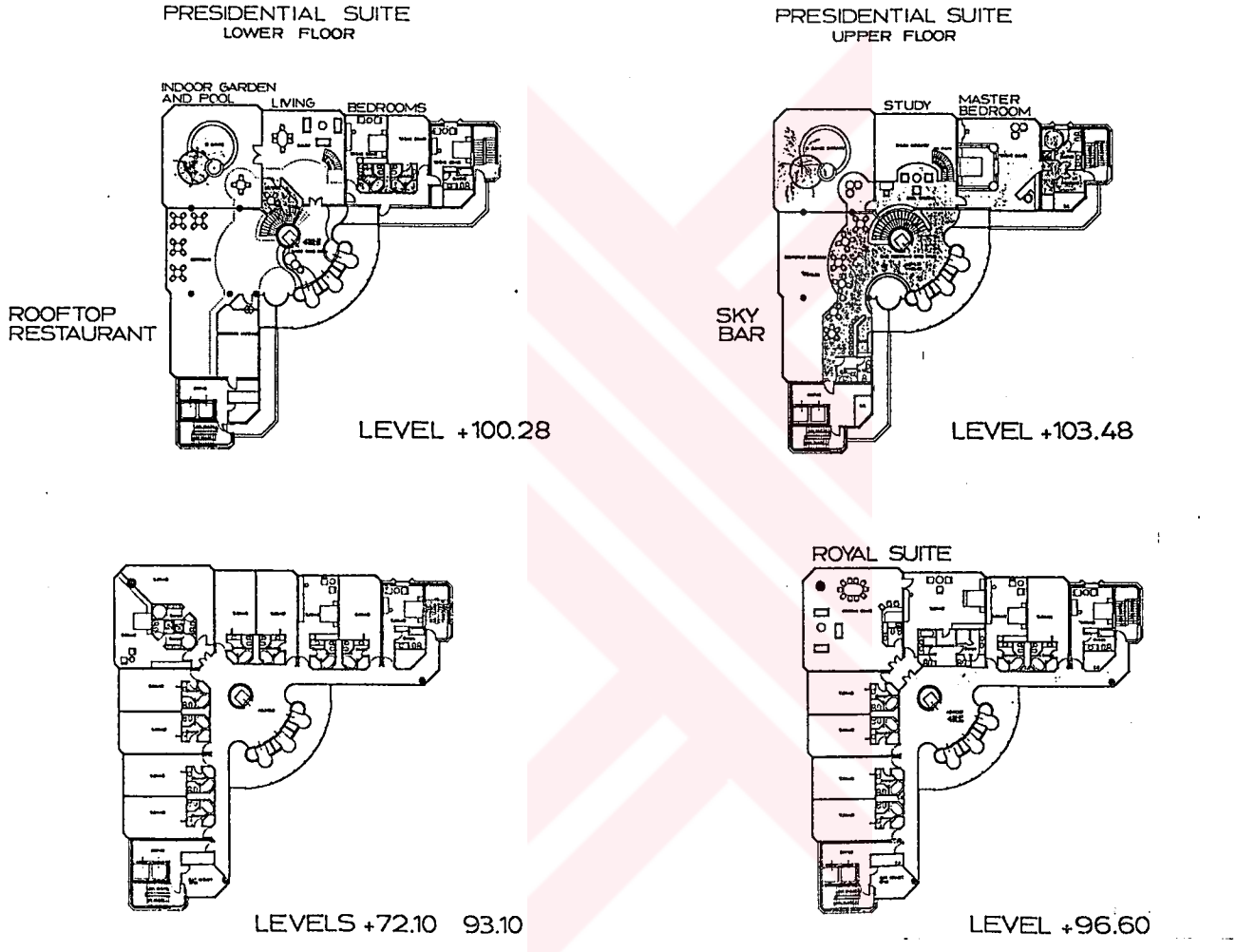


Fig. 4.5 Çankaya Hotel Convention & Shopping Center, designed by Cemal Kayalar, +72.10, +93.10, +96.60, +100.28, +103.48 Levels Plan.

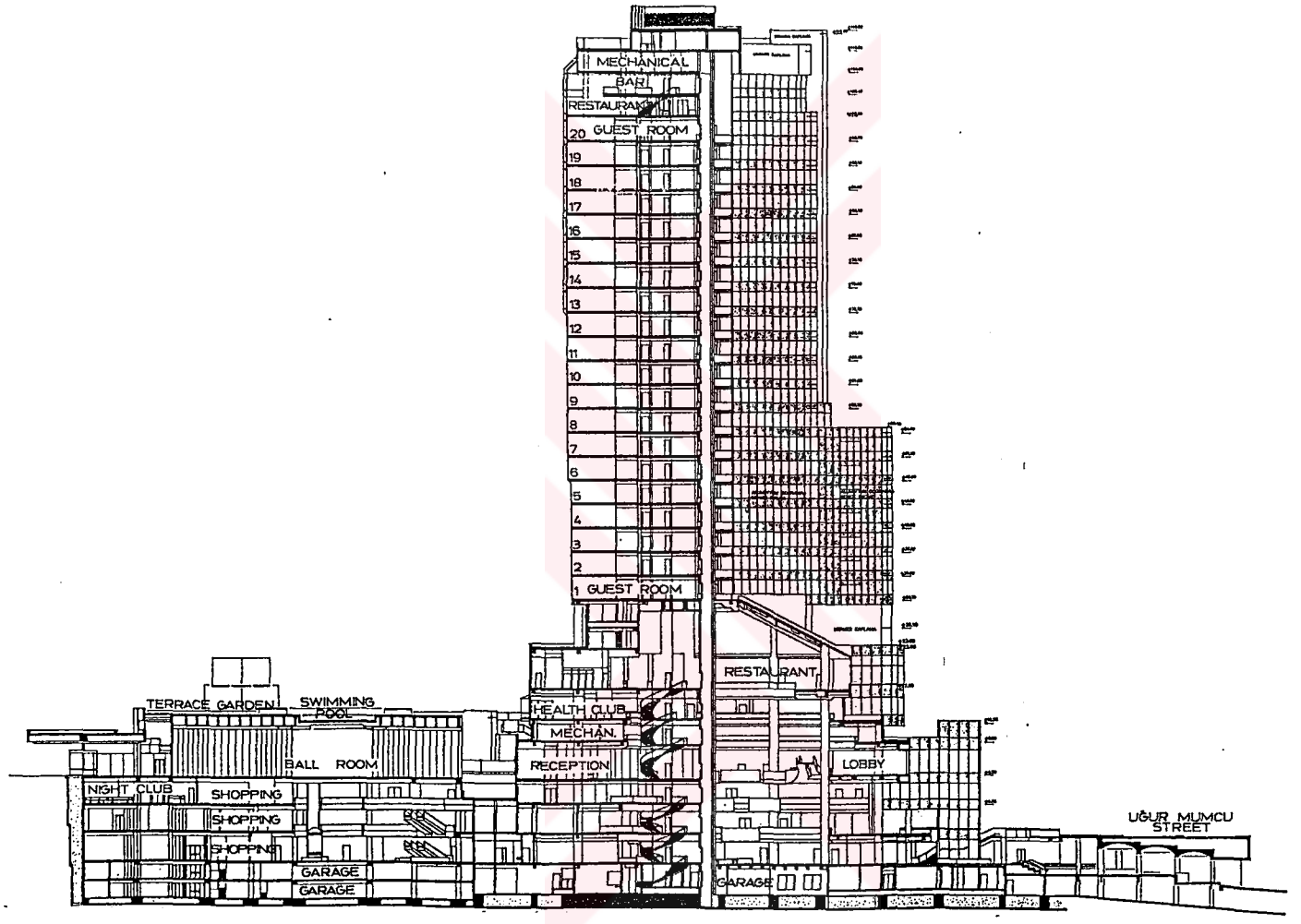


Fig. 4.6 Çankaya Hotel Convention & Shopping Center, designed by Cemal Kayalar, Section.

At this point, after selecting and analyzing Çankaya Hotel Convention & Shopping Center, it is necessary to choose an independent but interrelated public space within the hotel so that it would be possible to make a detailed design of its interior. That could be one of the restaurants of the hotel which might have a distinct and special character because of being an independent space. Although it should never be forgetten that it is a part of the Hotel Complex and it should be planned within that whole, its independency would allow for the use of different design features and styles together.

The interior design of the main restaurant of the hotel should be thought together with the other activities placed on the lower floors in between which there is a visible connection. The rooftop restaurant, on the other hand, is an introverted space which is small in area when compared to the monumentality of the complex. As a result the rooftop restaurant and bar have been chosen as the subject for this thesis where I would have the freedom to design the interior in an expressive way, having the possibility to go into more detail, and not being limited by the other activities placed within the complex.

4. 3. General Features That Affect The Design Of A Restaurant:

The aim of restaurant design is to create an atmosphere or ambiance that supports the character of the food and service being offered and makes the experience of dining memorable, encouraging the customer to return and to recommend the restaurant to others. Restaurants vary from simple to elaborate, from frenzied to leisurely, from cheap to staggeringly expensive. All these possibilities have their usefulness and their own particular clientele.

Design, including that of private dining rooms, bars, lounges and restrooms, must reinforce the best aspects of a restaurant's qualities while promoting functional efficiency, ensuring the comfort and pleasure of the diner, and serving the economic needs of the management.

4. 3. 1. Approach to interior design:

Design concept: Design involves planning , selecting and organising for a specific purpose. Fred Lawson (1987) explains that, in the case of restaurants and bars, these requirements may be grouped under three headings. The first requirement is to appeal to identified target markets by projecting the desired image and providing acceptable price and quality. The second requirement is to create an aesthetically pleasing environment and conditions which encourage a suitable social atmosphere complementary to the style of service. The last one is to meet the practical requirements for efficient operation and maintenance of standards.

Individuality of design: Furniture, fittings and equipment may be obtained from standard manufactured ranges, controlled manufacturers or individual designs made to order. Standard items are usually widely available and easily replacable. Controlled furniture or equipment may include variations in weave of carpets and fabrics and customer designs in laminates and paints and modifications in construction. Individual designs include purpose built equipment and furniture. This is invariably required for fixed seating, booth construction, counter and display fitting work.

4. 3. 2. Scope of design:

A design scheme must be carefully integrated with practical requirements. The designer must have a clear understanding of the way the restaurant is to operate. Equally the design itself must incorporate or influence the choice of technical equipment and other components.

Factors which affect design include:

•Exterior: window designs and dressing, entrances, stairs, canopies, external vistas, outdoor activities and associated terraces, patios and lawns, landscaping proposals.

•Relationships: spatial relationships between the restaurant, bar, kitchen restrooms, intended circulation patterns of customers and staff.

•Construction and services: interior construction of restaurant and ancillary areas, existing linings and surface finishes, space and structural restrictions, types of

engineering services like heating, air conditioning, gas, water, lighting, communications.

•Operating standards: seating capacity requirements, table groupings, anticipated seat turnover, extent of flexibility in seating arrangements.

Interior design skills are also essential in creating a suitable ambiance in lounges, bars and private function rooms. This also includes the entrance lobbies, cloakrooms and associated areas used by the customers. Kitchen design, food storage and cooking areas are often excluded from the main scope of design because they should have more specialized requirements.

4. 3. 3. Expression in design - mood, atmosphere, theme, style, order:

Feelings of excitement or calmness, sociability or intimacy can be conveyed by the nature and intensity of design and interior arrangement.

"An atmosphere of sociability and liveliness usually attracts customers and this is often deliberately built into the design by way of bar seating, bright lights, backgroung music... However, in many restaurants the acceptable level of background activity and crowding will depend on the extent to which this intrudes on the privacy of particular individuals or groups, and on the social mix of the occupants." (Lawson, 1987, p. 96).

To some extent separation and privacy can be provided by suitable positioning and screening of the tables and seats, by providing a choice in variety of seating arrangements and subtle use of lighting to define areas of interest.

"Style of interior design, furniture and furnishings may reflect the artistic influence of an individual (Adam, Chippandale, Hepplewhite) or of a school or movement (Cubist, Abstract, Classical, Romantic, Art Deco, Futuristic). Styles may also be identified with a period of history or cultural development with which they are primarily associated (Baroque, Rococo, Gothic, Regency, Victorian, traditional, contemporary). They may also be characterized by the traditional designs and materials used in particular countries or localities (Indian, Chinese, Spanish, Mexican, Scandinavian, French Provincial)." (Lawson, 1987, p. 97).

Basic themes in design may be expressed in several forms like mood, period, fashion, ethnic origin, intensity. The design may also reflect the kind of food served and the way it is presented. In every case research is needed to identify the particular features which characterise that style, the degrees of authenticity required and the complementary requirements of decor, furniture, tableware, etc to provide a unified scheme.

4. 3. 4. Inter-relationships:

Circulation and seating areas: Circulation routes for customers and staff must be planned to minimize disturbance. Seating preferances are generally near windows and outer walls, around the periphery with alcoves and personalized areas or near particular features of interest or displays. Equality of treatment is important in planning seating layouts. Each seat must have particular benefits or advantages. The examples of such are bar seating provided for sociability , table seating arranged in personalized areas, window seating for views.

Ceiling height: "The height of the ceiling should be in proportion to the size of the restaurant. If restaurant is divided the heights in the smaller areas such as alcoves may need to be proportionately reduced to retain balance." (Lawson, 1987, p. 105).

Emphasis: A design needs some point of interest, one or more features which will dominate the composition. In restaurants and bars several key features such as windows, balconies, fireplaces, self-service counters, and bars may be used but too many points of emphasis will only be confusing.

4. 3. 5. Pattern & texture:

In restaurant design patterns can be created by the shapes and arrangements of tables and chairs, effects of light on different surfaces and textures, decoration of walls and furnishings, or designs in carpets and flooring.

Texture simulates senses of touch and there are four main characteristics of texture: soft rough, soft smooth, hard smooth, and hard rough. Soft rough texture presents a broken up surface which absorbs light and tends to look darker and appear

closer than it is. Soft smooth textures cover a wide range of close pile fabrics such as velvets, linens, silks, satins, leather and vinyl used in furnishings and upholstery. Hard smooth textures include most traditional interior finishes like plaster, marble, glass and tiles which give a coldness and severity that must be softened by other elements. Hard rough textures are exposed stonework and brickwork which produce strong penetrating impressions.

Soft materials generally absorb sound and can be used to control acoustics. An interior with hard surfaces may require acoustical ceiling or panel treatment.

4. 3. 6. Lighting and colour:

The use of natural light during the day in restaurants is always preferable. This has psychological benefits and allows color discernment. Provision should be made for even distribution and screening of light where necessary. Artificial lighting is used as a feature of design and environmental interest as well as to meet functional requirements.

Colors in decoration affect the reflection and use of light in a room, the visual impression of space and other emotive responses. One of the color sources is color spectrum of the light source and another one is lamp shades and screens. Colors used in decoration and furnishings is also a source of color. Many colors and combinations of colors are used in decoration but there should be some form of association between the colors to produce a comprehensive scheme.

4. 4. Proposal - The Main Concept & Principles Of Design:

During the design process of the proposed interior, first it is started with the architectural anathema, a preconception of the 'character' or 'mood' of the project. This 'mood assessment' is a product of both the mood inherent in the problem and the mood the designer intends to impart to it.

In the proposed interior a systematic approach is followed by emphisizing what is already there. The primary aim of selecting interior design as the main subject of thesis was the claim that interior design and architecture should be handled together

within a unified style and vocabulary carrying the ideas of exterior form to interior design. As a result, the designed interior is aimed to be closely integrated with the reinforced concrete structure by emphasizing it. The pattern, form, texture and lighting design are made to be part of architecture besides that qualities of interior and the architecture are tried to be integrated.

The created atmosphere or ambiance of a space would have an affect on the psychology of man. Consequently, while thinking of the interior atmosphere to be created, a crucial question is that what it is expected about the mood of the people coming to that space. In the proposed interior, it is aimed to make people feel themselves relaxed and reposed as if sitting in nature. And it is tried to be created such an environment that man coming to the restaurant would feel himself like sitting in a lakeside or in a tropical forest which would help for the intended formation of the reposed atmosphere.

As it was mentioned, the aim of restaurant design is to create an atmosphere or ambiance that is complementary to the style of service offered and makes the experience of dining memorable, encouraging the customer to return and to recommend the restaurant to others. The proposed restaurant is decided to have an all day dining facility including breakfast, brunch, lunch and dinner. Breakfasts and brunches are considered to be self serviced while lunches and dinners to be waiter serviced. The restaurant of a five star hotel with its finishes, furniture and furnishings, materials, and service should be of a very high quality and very distinctive in design.

Consequently the furniture, fittings, and equipment of the rooftop restaurant bar are planned to be individual designs made to be ordered. The materials selected are rich dark colored granites as the floor covering material, redish beige travertine veneer for the walls, Red Oak wood for the fruniture and furnishings as well as water features and plants which would help for creating the desired ambiance for the interior of the rooftop restaurant bar. Because the ambiance of an interior is strongly affected by the materials and textures used. The proposed use of hard-smooth surfaces with the aim of creating the desired luxurious environment and the result of stylistic prefences might bring about acoustical problems. The use of plants and water

would serve for the solution of such a problem besides the aesthetic quality they bring.

As it was mentioned in the analysis of Çankaya Hotel Convetion & Shopping Center, the rooftop restaurant and bar are placed on the levels +100.28 and +103.48 giving possibility for a great overview of Ankara with its glass walls all around. The design of such an interior should take its shape according to the view, allowing the guests and the visitors to have meal watching that view.

While designing the interior of the rooftop restaurant bar it is aimed to make people see the view through a green silhouette. Such a view of Ankara might be expectable for the guest coming to the rooftop restaurant of the hotel. However, perceiving a 35th floor tropical park is unexpectable so that the first impression of the visitor which is, as mentioned in the 'general features affecting the design of a restaurant' section, an important factor while designing a restaurant interior would be a surprising ambiance created by water features, palm trees, bamboos and banana trees. Apart from the aesthetic qualities such a pattern would also help to control glare which the glass walls may cause.

In the proposed interior the main idea is to create such an athmosphere that people would feel themselves as if sitting in a 35th floor garden, having their meals under tropical trees, and hearing the sound of water falling. Furthermore the name of that restaurant might be "Oasis" or "Heaven".

Being the scenario written while designing the interior of 'Oasis'; the visitor getting out of the elevator first of all perceives the pool placed at the central point of the restaurant entrance at the bar level. Hearing the voice of the water falling from the bar level to the restaurant level in an atrium, in the center of which a bamboo tree of two storeys height is placed, the visitor perceives the view of the city at the back of two palm trees. After having a drink in the snack bar he/she goes down using the staircase placed around the central elevator. Coming down by the stairs, the visitor comes accross with the water falling down from the upper floor the sound of which was heard on the upper level. Finally he/she has his meal seated under a tropical tree or by the water and hearing the sound of water.

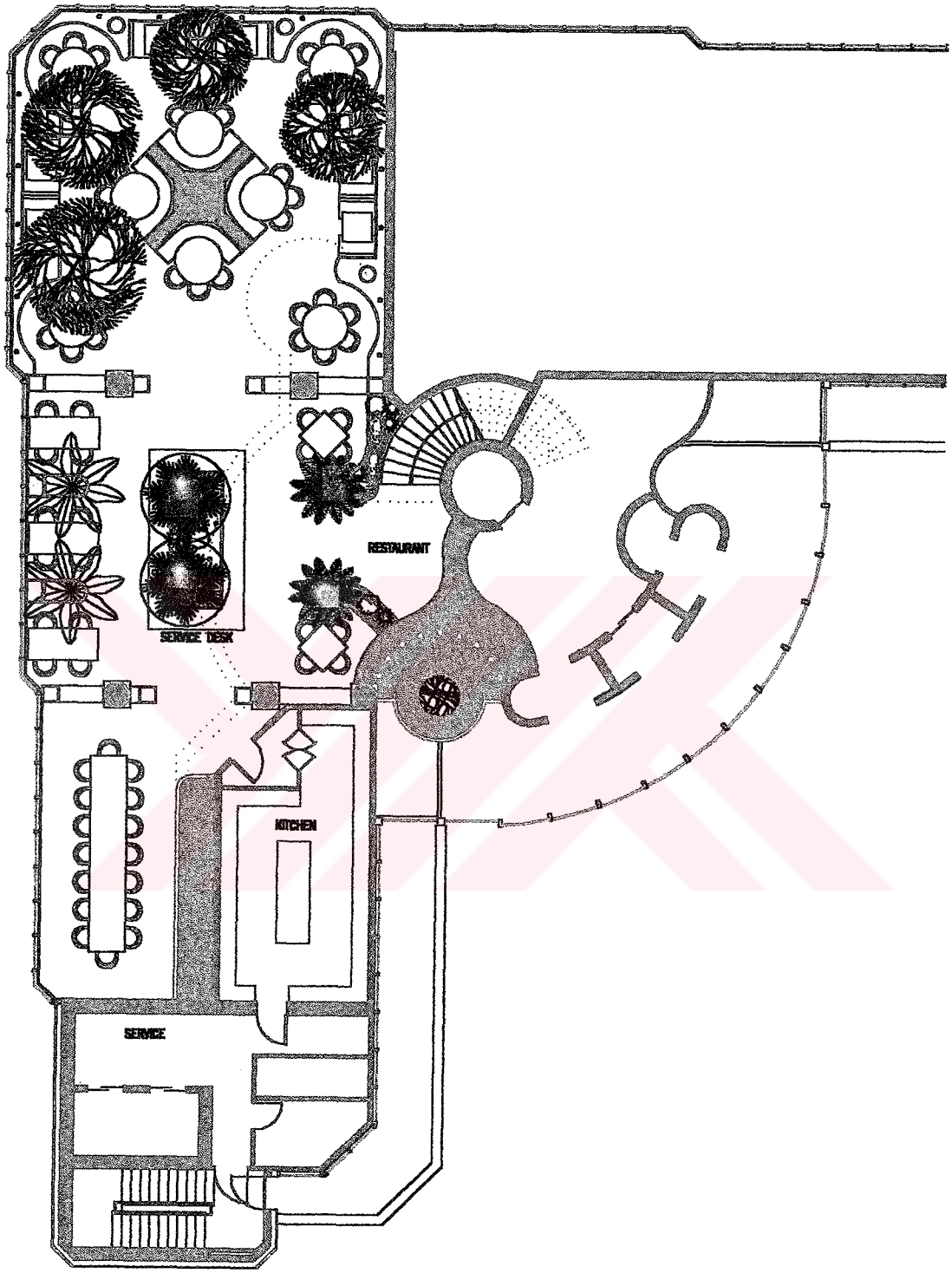


Fig. 4.7 Restaurant level plan showing water features, plants & seating arrangements Scale: 1/200.

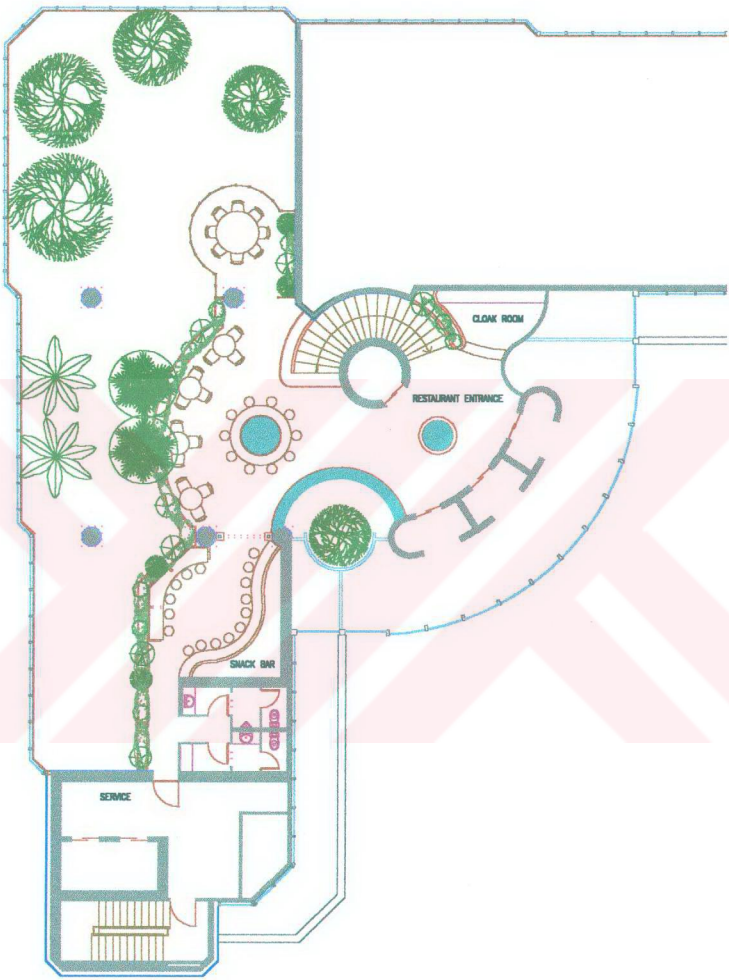


Fig. 4.8 Bar level plan showing water features, plants & seating arrangements
Scale:1/200.

While planning the restaurant the main criteria was giving possibility of watching the view to each seating group and making people having their meals under tropical trees.

In the proposal, either water element or plants are used as a point of emphasis in some cases. In addition, they are also used in order to form alcoves and personalized areas for each group of seating. Consequently the privacy of each group is achieved by the use of these elements dividing space (Fig. 4.7, 4.8). Finally unity in composition is expressed in a common theme, links between areas, extended and reflected use of those identifying elements and continuity of space.

The architect of Çankaya Hotel, Cemal Kayalar, has planned the upper level to be a place for aperatives with its snack bar and the lower level to be the restaurant which is placed in the same level with the kitchen. The entrance to the restaurant by means of four elevators is from the bar level which has a visual connection with the lower retaurant level created by an atrium. During this study, the architect's decisions on the fuctional layout plan are taken as entries and not changed, the reason being that it is thought to be the most suitable arrangement and the reinforced concrete structure is already built. Vertical transition between the restaurant and bar levels is by a staircase around the elevator.

The existing free-standing round columns two of which are continuous among two floors are emphisized as sculptural dividing elements and their verticality is stressed by forming a column-base and a column-capital for each one. The self service counter which will be used for breakfasts is placed at the center of the restaurant as another point of emphasis.

Seating and table layout is planned in such a way that it provides a choice in variety of seating arrangements (seating arrangements for 2, 3, 4, 6, 8, 16 people goups and bar seatings). Seats and tables are arranged near window walls and around periphery with alcoves and personalized areas and near particular features of interest. Seating capacity of the bar is 46 people and of the restaurant is 92 people (total: 138 people capacity).

4. 5. Proposal - Design Features:

4. 5. 1. Style:

"Is there not a blend or a happy medium of the old and the new that will meet our current needs?... We must use the experiences of the past in combination with current objectives." (Stepat-DeVan, 1980, p. 215).

The interior designed at the end of the thesis is aimed to prove the point that in the design of an interior style takes the most important place and every well designed interior belongs to a style or a mixture of styles.

"Is it necessary to furnish in one style or is it permissable to have a mixture of styles?... It is true that if we are not entirely confident in our taste, we are less apt to err if we stay within the limits of one style. But on the other hand such a rigid rule affords less scope for our individual taste, less oppurtunity to express our personality. It resolves itself into a matter of taste and tact. Two pieces of different styles may seem to be made for each other; they are different but get along well together. This is the storey of many happy marriages." (Boger, 1966).

Although I am not a member of any style or current I am very much impressed by the expressionist movement with its organic and individualistic character and free forms inspired by the later works of Frank Lloyd Wright such as Guggenheim Musuem in New York.

What is modern? Every style in the past was at one time modern, and each one had both good and bad examples. So it is with the modern style today. Besides the knowledge coming from the past I insist on using the advantages of recent technology. Finally I aim to make a successful combination of Neo-Modern and Expressionist styles in addition to the use of new materials and techniques which used to be the aim of High Tech era with its smooth, clean surfaces. In my opinion, the contrast created by the use of reflective surfaces together with natural landscaping elements is an appealing feature of the design.

The atmosphere of such a restaurant should reflect its luxury with high quality materials used and furniture and furnishings which are very distinctive in design. That is the criteria which affected my choice about the style of the restaurant. The furniture and furnishings used are individual designs created by clean, simple lines with no ornamentation and the material used is wood and metal. Steel structures which are suspended from the ceiling are stylistic features of design. The slightly curved wall at the back of the snack bar and the slightly angled wall with niches are cool high tech touches with their smooth marble surfaces. An Ottoman Style touch is achieved by the lattice wood work used at the bar level for achieving the privacy and personalization of a seating group.

Finally, what is tried to be achieved was the use of different styles together under the control of the main idea, the theme, the concept providing a unified scheme.

4. 5. 2. Water Features & Plant Design:

As it was mentioned, the water features and plants are either used as a point of emphasis or for forming alcoves for each group of seating and were illustrated by the plans on figures 4.7 and 4.8. The detail drawing of the element which is composed of the water feature, the plant box for bamboo tree and a lighting feature and helping to form personalized areas for each group of seating is shown in figure 4.9. The element is continuous among the periphery in the middle of which another water feature is placed as a point of emphasis taking shape with the seating arrangement designed with it (Fig. 4.7).

The element on the periphery (Fig. 4.9) is constructed by a frame composed of metal tubes and covered by cement bonded particle board. Either supply water or planting medium is placed in plastic containers which also makes the insulation job. The water feature is composed of pebbles which are placed on a steel grill, a stone sphere from the center of which water comes up with the help of a pump, and a supply tank in which water is filled. The lighting feature is composed of a precast concrete box with pebbles and a metallic fallide narrow spot lighting feature on it.

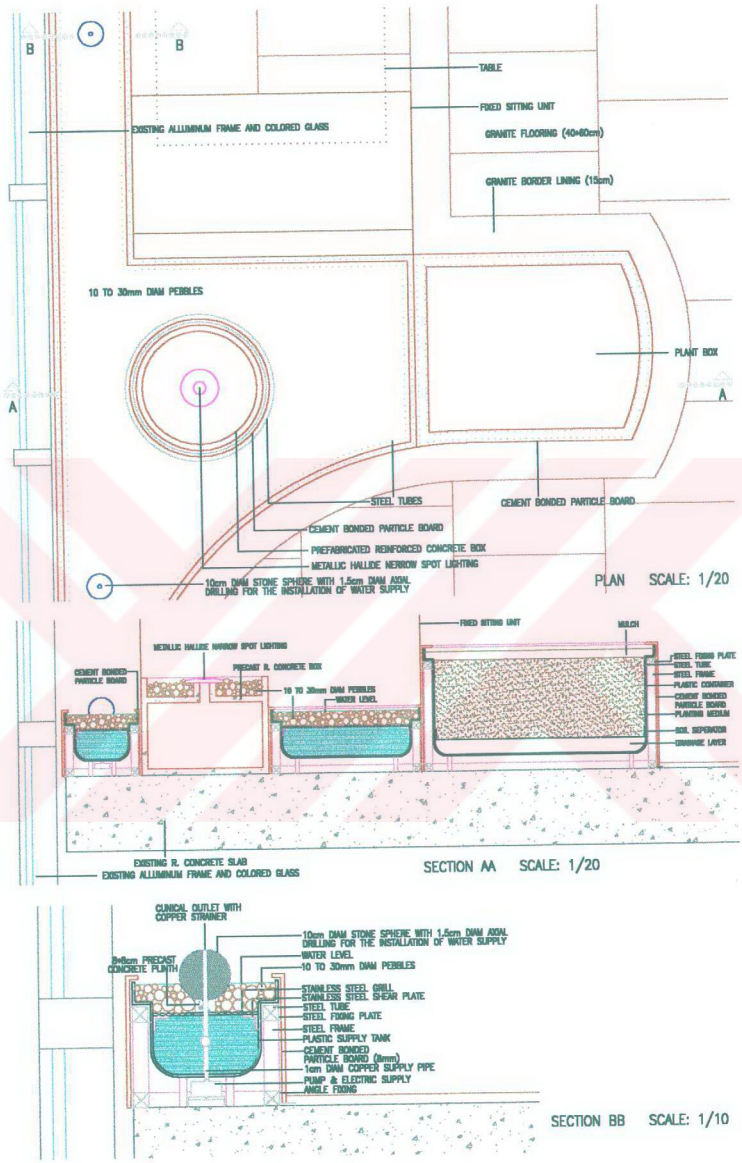


Fig. 4.9 The detail drawing of water element, plant box and lighting feature.

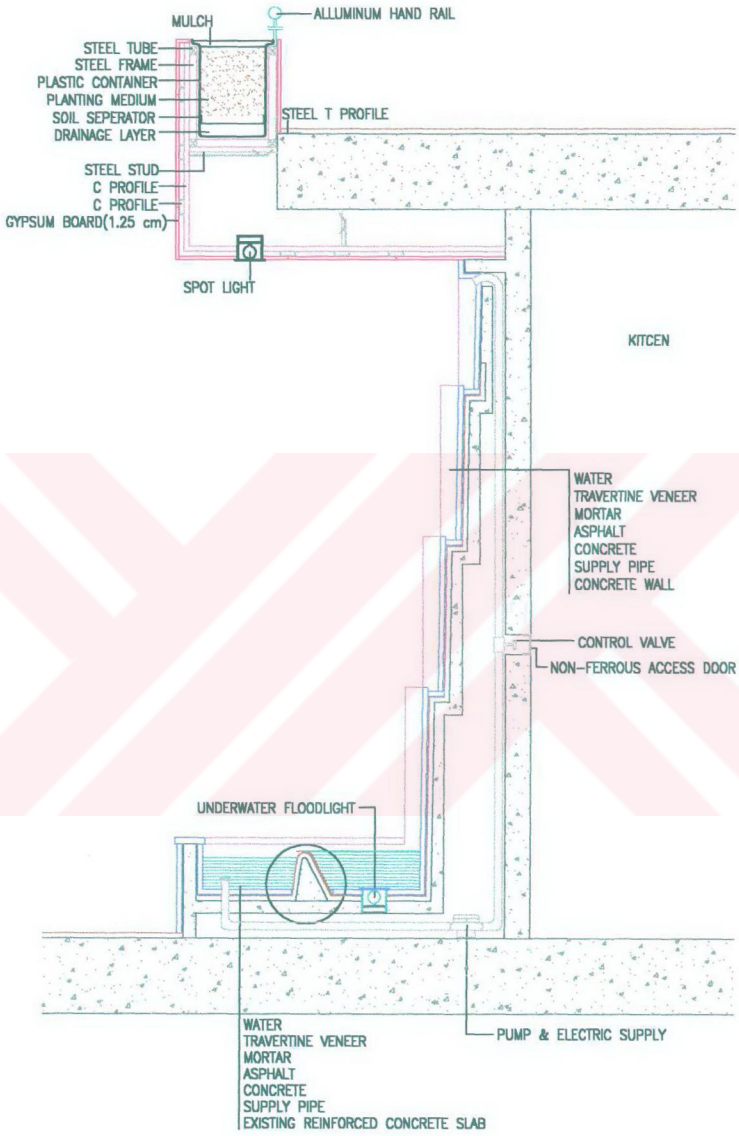
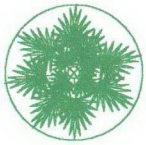


Fig. 4.10 The detail drawing of water feature on the side wall of kitchen. Scale: 1/20.

BANANA (MUSA ACUMINATA) h: 5.5m. w: 3m.



WASHINGTONIA PALM (WASHINGTONI FLIFERE) h: 5.1m. w: 2.7m.

YELLOW GROOVE BAMBOO (PHYLLOSTACHYS AUREOSULCATA) h: 5.5m. w: 2.2m.

SAGO PALM (CYCAS REVOLUTA) h: 2.2m. w: 2.2m.

SHEFFLERA ARBORICOLA "COMPACTA"

FICUS PUMILA h: 0.3m as a ground cover

VARIEGATED JAPANESE SILVER GRASS (MISCANTHUS SINENSIS VARIEGATUS) h: 1.2m. w: 0.9m.

CHAMAEDIREA ELEGANS

BEGONIA – AZELYA – SIKLAMEN – PRIMULA

NIDULARIUM BILBERGIOIDES "CITRINUM"

CYPERUS (WATER PLANT)

Fig. 4.11 The list of the plants used in the proposal.

Another detail drawing which gives information about the water element on the side wall of kitchen is shown in figure 4.10 where water falls by the wall with the help of tiny terraces adjacent to the wall into the pool on the floor. The circulation of water is done by means of pumps. In the same drawing the detail of the plant box which is continuous among the gallery on bar level is also shown. That plant box is carried by steel frames, composed of steel tubes, and fixed to the reinforced concrete slab by means of steel T profile sheets. The gypsum board material of the suspended ceiling turns and covers the steel frame as a continuous element. The planting medium is placed into the plastic container which is put into the steel frame.

The list of the plants used in the proposal is shown in figure 4.11. As it was mentioned tropical plants are used which are possible to be used as interior landscaping elements. It is aimed to create such an ambiance with palm trees, bamboos, banana trees and water element that people would feel themselves as if in a tropic region.

4. 5. 3. Ceiling design & ventilation system:

The plan showing the ceiling and ventilation system takes place in figure 4.12 and 4.13. Suspended ceiling of white gypsum board is proposed to take its shape according to the planning of the interior. Level differences are created on the ceiling according to heights necessary, ceiling light features and ventilation units. The lowest part of the suspended ceiling is designed to be at the periphery of the restaurant so that ventilation system would also be solved in that lowered part.

The ventilation system which is planned to be at the periphery gives possibility for the air outlet onto the glass around. Because heavy exhaust-air requirements will be necessary, other ventilation units are also placed. It is necessary to point out that this is only a schematic ventilation system and the details of the system should be decided by the help of a mechanical engineer.

At the two ends of the interior, steel structures are suspended to the ceiling like sculptural elements on the top of special seating features giving a sense of scale.

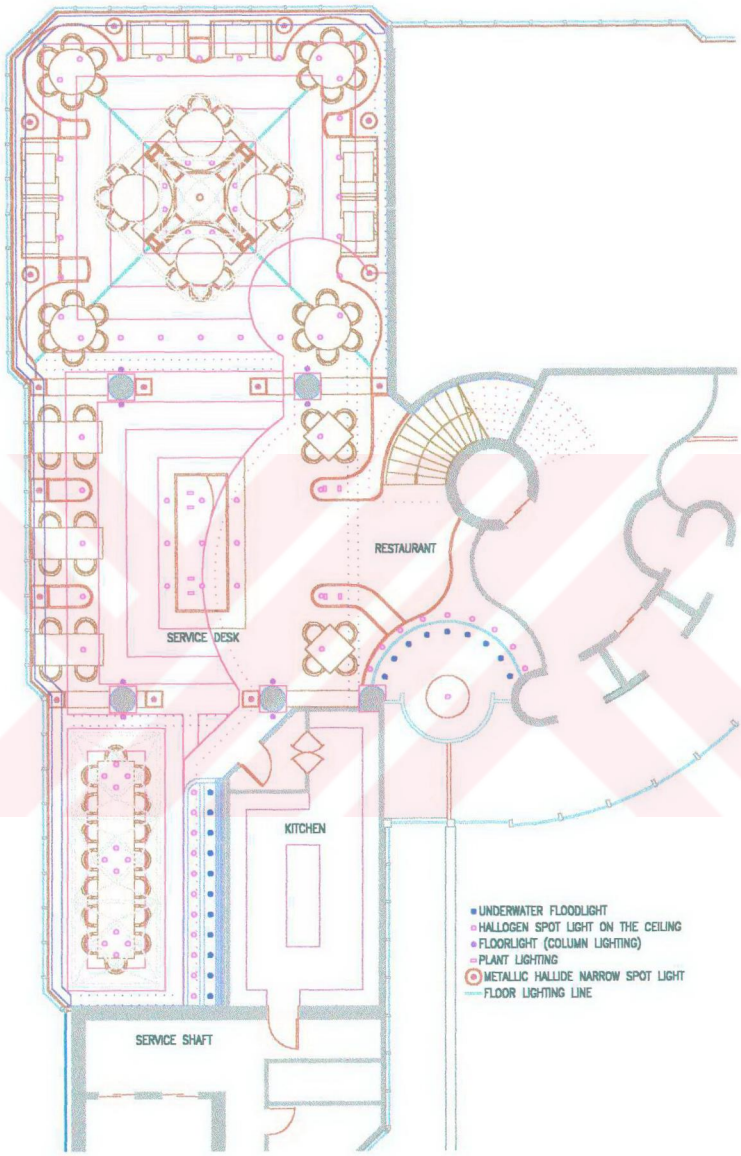


Fig. 4.12 Restaurant plan showing suspended ceiling, ventilation & lighting system.

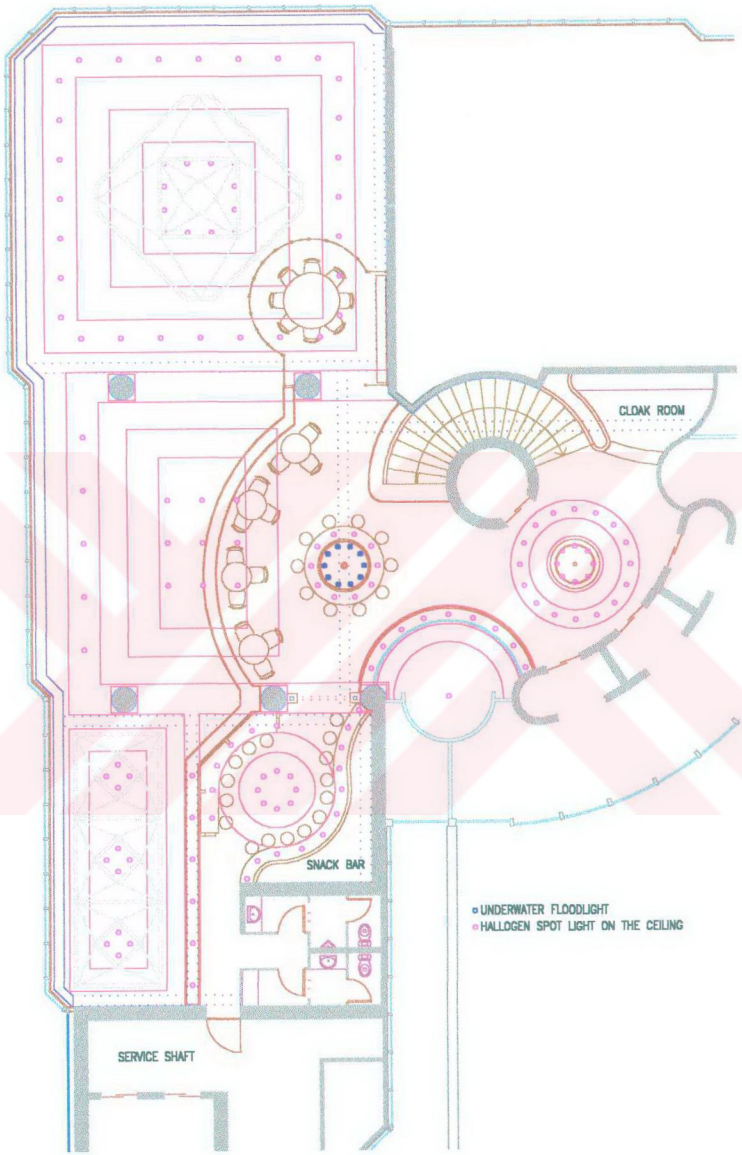


Fig. 4.13 Bar level plan showing suspended ceiling, ventilation & lighting system.

4. 5. 4. Lighting design:

There exists a variation in the lighting elements in the designed interior (Fig. 4.12, 4.13). The first kind is hallogen spot lighting features, buried into the suspended ceiling, and the placement of them is arranged according to tables or seating arrangements, points of emphasis, plants and water features all of which need to be lightened imaginatively.

Another lighting feature the detail of which was shown in figure 4.9 is a kind of landscape lighting element which is a box with pebbles in it and inside the pebbles a metallic hallide narrow spot lighting fixture is placed. That is an element which is repeated in the proposal either as a circular box or a rectilinear one. Another kind of landscape lighting element which is placed into the plant box is also used for enlighting palm trees and sicas plants from the bottom to top.

The verticality of four freestanding columns is stressed by floor lights at two sides of each column. There exists another kind of floor lighting feature at the top end of the restaurant forming diagonal lines of light.

4. 5. 5. Determination of materials:

The intended athmosphere or mood of the interior is the most important consideration in the selection of materials for the success of the total interior. The style of design is another important factor for the determination of the materials. The factors of suitability of materials in terms of wearibility, maintenance and cost are other factors affecting that job.

The materials selected for the restaurant of a Five Star Hotel Complex should be of a very high quality. The floor covering material is proposed to be granite; dark brown color for the border lining and light brown to red color cut in the dimensions of 40/60 for the flooring (Fig. 4.14, 4.15). Granite is a hard-smooth surfaced material (hard flooring) which is both suitable for the mood and style seeked as a well-waxed and shining surface and easy to maintain with its great advantage of giving maximum wear resistance

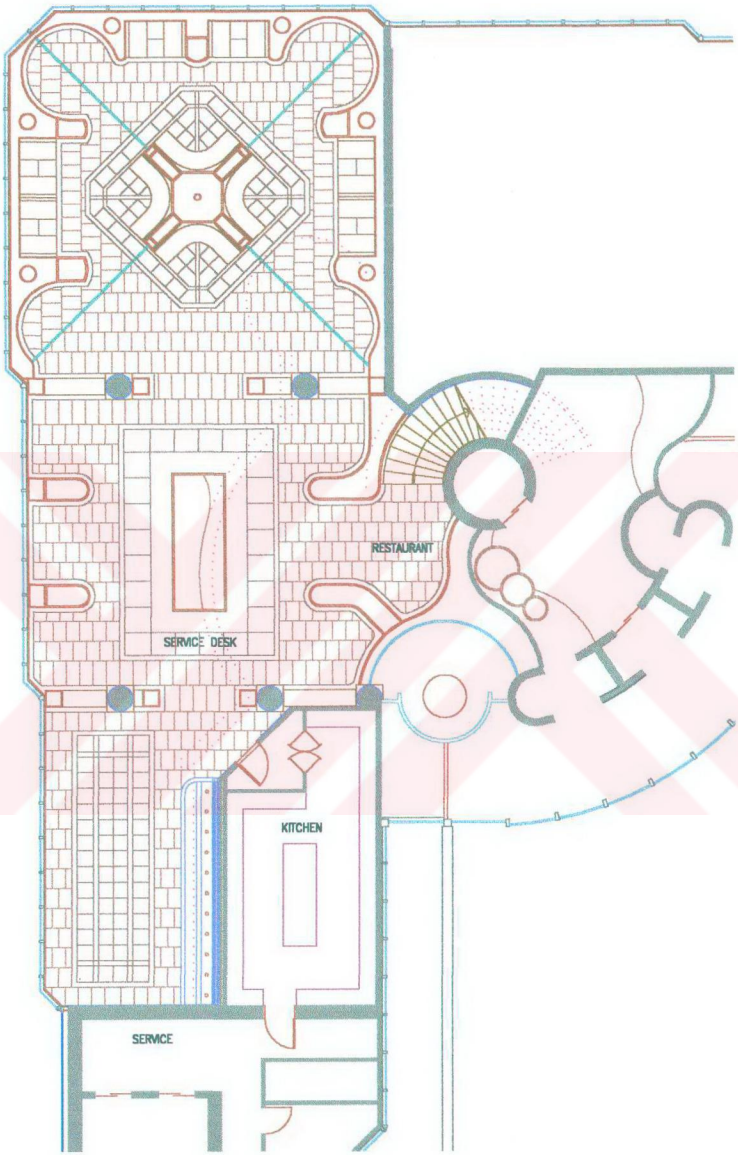


Fig. 4.14 Restaurant level plan showing floor covering design.

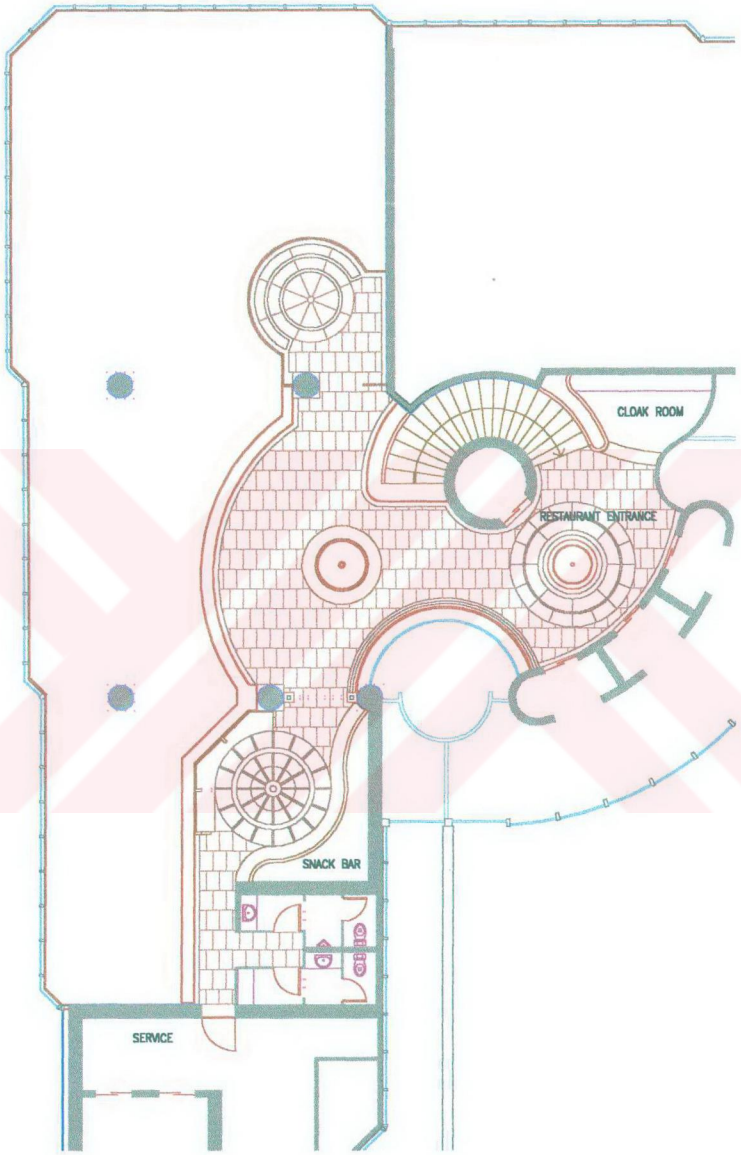


Fig. 4.15 Bar level plan showing floor covering design.

The walls around the entrance part, the outer surfaces of the elevators and the walls of the cloak room are coated with white colored gloss paint while the walls facing the Restaurant-Bar and the freestanding round columns are covered with redish beige color travertine veneer.

White gypsum board suspended ceiling is chosen as the material and at the two ends of the restaurant steel structures are suspended to the gypsum board ceiling as space defining elements.

The furniture and furnishings are made of Red Oak (Quersus Borealis) wood as a natural material and the connections of wood is made by metal sheets. The material used for the lattice wood work on the bar level is English Brown Oak which is a kind of wood used for fine architectural and furnishing works.

4. 5. 6. Service areas:

Method of food and drink service, service arrangements, staffing and support facilities are important factors affecting the design of a restaurant interior and convenience of the guests. In the case of the Rooftop Resturant-Bar of the Cankaya Hotel Complex it is decided to provide all day dining and brakfast facilities. Waiter service except for breakfast is recommended.

The process begins when the food is delivered which is realised by the vertical service shaft reaching to the restaurant level by means of service elevators and taken in by a door to the kitchen. The same shaft also reaches to the bar level where only drinks are served. Servicing of the snack bar is by a door from the service shaft to the service hall from where it is passed to another hall opening to the restrooms.

It is very important to provide suitable traffic area and adequate substations. Proposed system of service lanes, before serving place, substations in order to store cutlery, napery and necessary auxilaries for presenting meals and a central substation which is used as self service counter for the breafasts and as a substation for the presentation of deserts and beverages during all day dining is shown in figure 4.16.

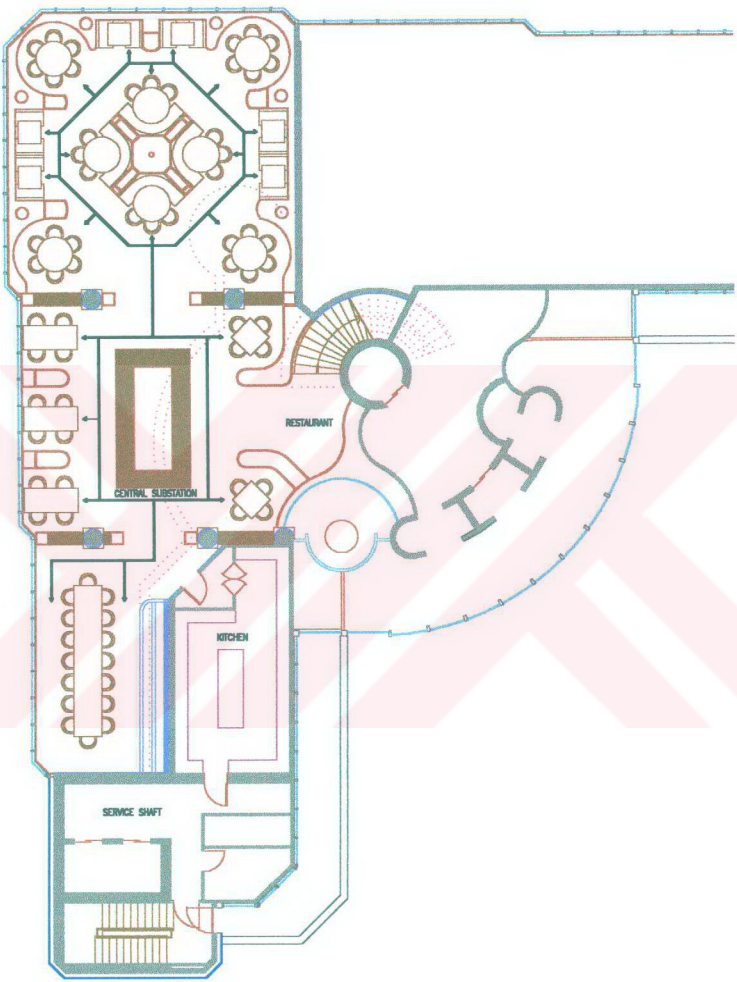


Fig. 4.16 Restaurant level plan showing system of service lanes & substations. Scale: 1/200.

Relationship of the restroom with the restaurant should be considered carefully. A space has been reserved for the restrooms on the bar level. As it was mentioned before, the functional layout decisions of the architect are not changed because they are considered to be the most appropriate decisions besides that the reinforced concrete structure of the building has already been completed. The restroom for ladies is planned to have three parts as the powder room, lavatory and the water closet while the one for men as the lavatory, the urinal area and the water closet.

CHAPTER 5

CONCLUSION

In the studies carried out heretofore the point of discussion was to what extent the stylistic preferences are effective in the design of an interior space. A historical and theoretical survey on the stylistic development which is an important tool for the designer is made in order to search how style has effected the design of interiors in the history and what other influences were effective while planning an interior space. The aim of the historical study has been to conclude with an interpretation of the architectural form as a concretization of existential meanings and to evaluate interior design in relation to the historical situation and cultural tradition.

In general, architectural history shows a development to a symbolization of natural and human characters which took place mainly in antiquity. During the middle ages a new spiritual dimension came to the fore whereas the humanist architecture of the Renaissance and the Baroque aimed at a synthesis of natural and spiritual characters. Today we experience a pluralism of manifest characters. All the existential possibilities experienced during history are at our reserve. History of architectural design helps us to reeducate our sensibility to environmental characters and to improve our understanding of the relationship between man and his environment.

At the end of all the theoretical research, the thesis ended up with a concrete solution, a proposal for a restaurant interior, which is aimed to experience the phases of interior design and to show the effect of stylistic preferences in the design of an interior.

First it is started with the architectural anathema, a preconcetion of the 'character' or 'mood' of the project. According to Hugh Casson, 1996, this 'mood

assessment' is in itself a product of two elements: the mood inherent in the problem, and the mood that the designer intends to impart to it in order to emphasize or play down what is already there. Together these combine into the the mood that the final job presents to all the senses when completed.

"...for the interior designer, there will be two approaches: the first is the Systematic, where the interior is closely integrated with the structure and where pattern, form, texture and lighting are part of the architecture, and qualities of permanance and monumentality are sought. The second, which may be termed the Superimposed, is where the interior is required to be more flexible and easily modified or even transformed without mutilating the architecture in which it is temporarily contained. Within these two groups the variations are limitless, but each one atmosphere is all." (Casson, 1966, p. 382).

In the proposed interior the Systematic approach is followed by emphasizing the reinforced concrete structure and integrating the qualities of the interior and the architecture. The primary aim of selecting interior design as the subject of thesis was the claim that interior design and architecture should be handled together within a unified style and vocabulary carrying the ideas of exterior form to interior design.

If I had the chance for making the study of the thesis once more I would plan the interior of a building the architectural project of which was done by me. This would make it more feasible for arguing the insisted importance of creating the interior athmosphere and qualities as part of an over-all design. On the other hand, during the design of the proposed interior, the process of designing the interior of a building the exterior of which has been designed by another architect within a unified and integrated whole has been experienced.

During the whole thesis the effect of style upon the design of interiors is emphasized. At the end of the thesis, after designing the proposed interior, it is came to the point that the main concept, the architectural anthema, is the most effective feature in the design of an interior just as it is in architecture. Style as another effective design feature helping to form the intended 'mood' or 'character' of the interior, comes after the main concept as in any branch of art and architecture.

The intended preconception of the atmosphere of the project might bring us to various points as it was in the case of the proposed interior. In the proposed restaurant-bar interior, as it was mentioned before, it was intended to create such an atmosphere that people would feel themselves like sitting in a 35th floor garden, having their meals under tropical trees, and hearing the sound of water falling in the restaurant called 'Oasis'. As a result my dream of designing a restaurant starting with that main concept and having such an ambiance brought me to the point that it necessitated to make another research on landscape architecture which was not considered either at the begining of the thesis or among the other stages while writing the thesis.

As a result, besides having a detailed knowledge of architectural and interior space history, the principles of interior design in general, and the features effecting the design of a restaurant interior; how an interior is planned, what stages are followed in the design of an interior which was a concrete solution of what it was claimed among the whole thesis has been experienced. Moreover, by the help of the research done on the subject of landscape architecture, I had the chance of having an idea about another branch of architecture.

As a further study, the interiors of varying public spaces might be researched as case studies trying to find out how the stylistic prefence would influence the interiors having distinct social characters. Such a case study besides the research done in the thesis might also be useful ending up again with a concrete solution, a designed public interior. Such a study of interior space might also be done for residential buildings as another study.

BIBLIOGRAPHY

———, Bauhaus 1919-1928. Bayer, H., Gropius, W. and Gropius, I. pp. 13.

———, 1923. Lef, No. 1.

———, March, 1988. The First International Conference on Deconstructivist Art and Architecture, Tate Gallery. The summary given as a paper before the MoMA show on Deconstruction.

Aalto, Alvar and Aalto, Aino. (1963). Alvar Aalto. Zurih: Verlag für Architectur.

Alexander, M. J. (1972). Designing interior environment. U. S. A.: Harcourt Brace Jovanovich, Inc.

Alyanak, Ş. (1995). Alvar Aalto. Arredamento Dekorasyon. Mobilya '95. pp. 68-73

Argan, G. C. (1964). L'Europa delle capitali 1600-1700. Geneva

Baker, H. S. (1965). Furniture In The Ancient World; Origins & Evolution. New York: Macmillan.

Bayer, H., Gropius, W. and Gropius, I. (1938). Bauhaus 1919-1929. Museum of Modern Art, New York.

Bennington, G. (1988). Deconstruction is not what you think. Art & Design. Volume 4, No. 3. Ed: Dr. Andreas Papadakis. London: Academy Group Ltd. pp. 6-8.

Boger, L. A. (1966). Furniture past and present - A complete illustrated guide to furniture styles from ancient to modern. New York: Doubleday & Company, Inc., Garden City.

Bursa, N. (March, 1987). Interior Design: Historical Survey and A Proposal for A Restaurant Interior. A Master Thesis in Department of Architecture, METU.

Busch, H. and Lohse, B. (1965). Pre-Romanesque Art. London: B. T. Batsford.

Casson, H. (May, 1966). Inscape. The Architectural Review. Volume CXXXIX, No. 831. Special number: Inscape. pp. 331-390.

Ching, F. D. K. (1979). Architecture: form, space & order. New York: Van Nostrand Reinhold Company.

Cooke, C. (1975). Environment and planning B. The British Journal. Volume II.

Crowther, P. (1989). Beyond Art and Philosophy Deconstruction and the Post-Modern Sublime.

Curtis, W. J. R. (1983). Myth and Architecture. Authenticity, Abstraction and the Ancient Sense: Le Corbusier's and Louis Kahn's.

Davey, P. (January, 1989). Interior spaces. Architectural Review. Volume 185, pp. 19

Denby, E. (1963). Interior design. London: Country Life Limited.

Derrida, J. (April, 1988). The truth in painting. Art & Design. Volume 4, No. 3. Ed: Dr. Andreas Papadakis. London: Academy Group Ltd. pp. 19-25.

Downey, C. (1992). Neo Furniture. New York: Rizzoli International Publications, Inc.

Drohojowaska, H. (March, 1988). San Fransisco style - Art deco elements inform a small city residence. Architectural Digest. Volume 44, pp. 114 - 121

Fisher, T. (September, 1985). A walk through the woods. Progressive arcitecture. Volume 66.

Fletcher, B. A. (1961). A history of architecture on the comperative method. London: The Athlone Press

Focillon, H. (1963). The art of the west in the middle ages. Edited by: Jean Bony. London: Phaidon Press Ltd. (Volume1 and 2).

Frampton, K. (1985). Modern Architecture: A Critical History. Thames and Hudson, Third Edition.

Friedmann, A. (August, 1988). Interior design and the profession. Interior Design. pp. 202

Friedmann, A., Pile, J. F., and Wilson, F. (1976) Revised edition - Interior design - An introduction to architectural interiors. U. S. A. : American elsevier publishing company, Inc.

Giedeon, S. (1962). The beginings of art: The eternal present. London: Oxford University Press (Volume 1, 2)

Ginzburg, M. (1924). Stil'i Epokha (The style and the age). Moscow

Ginzburg, M. (1926). The new methods of architectural thinking. SA, No. 1.

Ginzburg, M. (1928). Constructivism in Architecture. SA, No. 5.

Glussberg, J. (1991). Deconstruction: a student guide. Journal of Architectural Theory and Criticism. 1: 2: 91. London: Academy Editions.

Goldbatt, D. (Fall, 1987). The frequency of architectural acts: Diversity and quantity in architecture. Journal of aesthetics and art criticism. pp. 60-6.

Greenberg, C. (1984). Modernist Painting. London: Harper and Raw. Ed: Francis Frascina and Charles Harrison.

Griffiths, J. (April, 1988). Deconstruction Deconstructed. Art & Design. Volume 4, No. 3. Ed: Dr. Andreas Papadakis. London: Academy Group Ltd. pp. 9-18.

Griffiths, J. (April, 1988). Deconstructionist Tendencies in Art. Art & Design. Volume 4, No. 3. Ed: Dr. Andreas Papadakis. London: Academy Group Ltd. pp. 53-60.

Gropius, W. (1936). New Architecture and The Bauhaus. Museum of Modern Art, New York.

Hargreaves, G. (July, 1983). Post Modernism looks beyond itself. Landscape Architecture. pp. 60-5.

Jencks, C. (1988). Architecture Today. Revised and enlarged edition. New York: H. N. Abrams.

Jencks, C. (1990). The New Moderns from Late to Neo Modernism. Rizzoli Int. Pub. Inc.

Joedicke, J. (1959). History of Modern Architecture. Frederick A. Preager, Inc., New York.

Johnson, P. (May, 1995). Philip Johnson on the International Style - The architect's new forward to a landmark treatise. Architectural Digest. pp. 32-6.

Kayalar, C. (1996). Çankaya Hotel, Convention and Trade Center Project Information.

Kopp, A. (1985). Constructivist Architecture in the USSR. Academy Editions; St Martins London: New York.

Kortan, E. (1992). Mimarlıkta Teori ve Form. Ankara: METU Faculty of Architecture Printing Studio.

Krasilnikov, N. (1928). The problems of contemporary architecture. SA, No. 6.

Lawson, F. (1987). Restaurants, Clubs & Bars - Planning, Design and Investment. Van Nostrand Reinhold Company Inc.

Levey, M. (1970). Early Renaissance - Style and civilization. England: Penguin books Ltd., Harmonsworth, Middlesex

Levin, K. (October, 1979). Farewell to Modernism. Arts Magazine. pp. 90-1.

Lippard, L. (November, 1981). Gardens: Some Metaphors for a public art. Art in America. pp. 137.

Lubetkin, B. (1956). Soviet Architecture: Notes on development from 1917 to 1932. AAJ.

Lucas, A. (1948). Ancient Egyptian materials and industries. (4rd and revised edition). London: E. Arnold.

Lucie-Smith, E. (1988). Furniture - A Concise History. London: Thames and Hudson Ltd.

Mang, K. (1979). History of Modern Furniture. New York: Harry N. Abrams, Inc, Publishers.

Mansell, G. (1979). Anatomy of architecture. London: The Hamlyn Publishing Group Limited.

Mc Coy, M. (August, 1988). Interior design and the profession. Interior design. pp. 203

Michalowski, K. Art of ancient Egypt. New York: Harry, N. Abrans, Inc. publishers.

Nielson & Taylor. (1991). Interiors - An Introduction. USA: Wm. C. Brown Publishers (WCB).

Norberg-Schulz, C. (1975). Meaning in Western architecture. New York: Praeger Publishers.

Öğüt, R. N. (1992). Robert Venturi and criticism of contemporary art.

Pahlmann, W. F. A. I. D. (1968). The Pahlmann book of interior design. New York: The Viking press.

Papadakis, A., Cooke, C. and Benjamin, A. (1989). Deconstruction: omnibus volume. London: Academy Editions.

Pevsner, N. (1943). An outline of European architecture. USA: Penguin Books Ltd.

Savage, G. (1966). A Concise History of Interior Decoration. New York: Grosset & Dunlop Publishers.

Savarasse, S. (July, 1989). Atlantic cross furniture fair. Design. Volume 501, pp.487

Selz, P. and Constantine, M. (1972). Art Nouveau. Volume 1.

Stepat-De Van, D., Kness, D. M., Logan, K. C. and Szekely, L. (1980). Introduction to Interior Design. New York: Macmillan Publishing Co, Inc.

Stern, R. A. M. (1988). Modern Classicism. New York: Thames and Hudson.

Taylor, J. R. (1966). The Art Nouveau book in Britain. London: MIT Press

Tschumi, B. (April, 1988). Disjunctions in Yale Architectural Journal. Art & Design. Volume 4, No. 3. Ed: Dr. Andreas Papadakis. London: Academy Group Ltd. pp. 17.

Venturi, R. (1966). Complexity and Contradiction in Architecture. New York: Boston: The Museum of Modern Art.

Venturi, R. (January, 1979). Learning the right lessons from the Beaux - Arts. Architectural Design. pp. 23-31.

Van Domenelen, D. B. (1965). Designing and decorating interiors. New York: John Milley & Sons, Inc.

Viladas, P. (September, 1986). New products and literature. Progressive architecture. Volume 66, pp.147-8

Viladas, P. (September, 1985). Harmony and Counterpoint. Progressive architecture. Volume 66.

Viladas, P. (September, 1985). Sense and Sensibility. Progressive architecture. Volume 66, pp. 146-9

Whiton, S. (1974). Fourth eddition - Interior design and decoration. U. S. A. : J. B. Lippincott company

Wigley, M. (1988). Deconstructivist Architecture. Cataloque to the 1988 show at the Museum of Modern Art, New York.

Wood, P., Batchelor, D. and Fer, B. (1993). Realism Rationalism Surrealism - Art Between Themes. Yale University Press.

Wright, F. L. (1970). 3rd Edition. The future of architecture, A pulme book. New York: New American library.

APPENDIX A

PHOTOGRAPHS TAKEN FROM THE MODEL OF THE PROPOSED RESTAURANT - BAR INTERIOR

At the end of the thesis the proposal for the restaurant-bar interior of Çankaya Hotel Convention & Shopping Center was developed and the fourth chapter included the main design concept, stylistic preferences, design principles and features of the proposed interior illustrated with diagramatic drawings.

Appendix A consists of varying interior views of the proposed restaurant-bar the aim of which was to help the observer imagine the designed interior in the third dimension. As a result this part includes the photographs taken from the model of the proposed interior. The photographs are taken either under natural lighting conditions or by the use of artificial lighting.

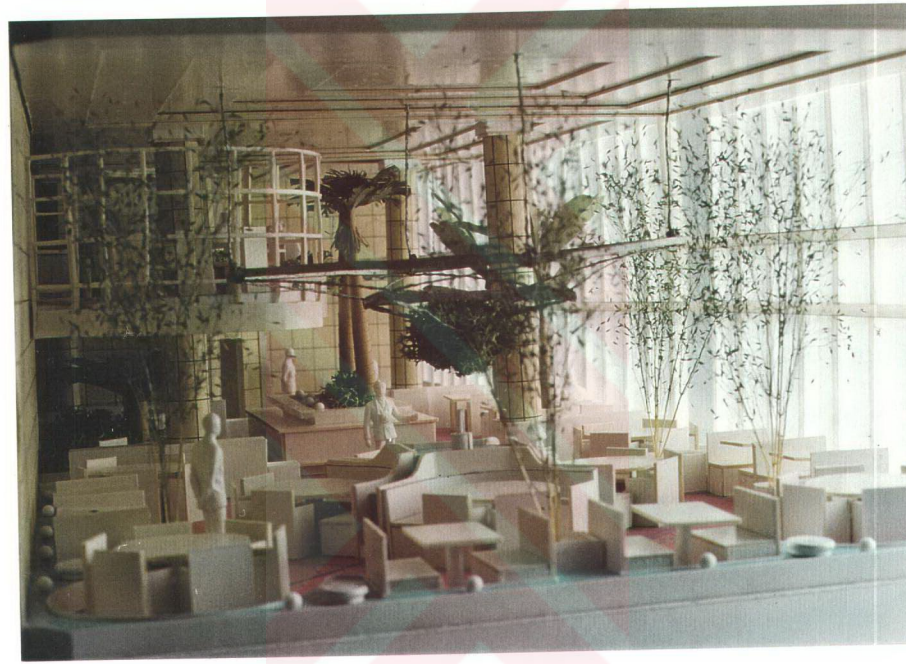


Fig. A.1 Interior view of the proposed restaurant-bar.

Fig. A.2 Interior view of the proposed restaurant-bar.

Fig. A.3 Interior view of the proposed restaurant-bar.

Fig. A.4 Interior view of the proposed restaurant-bar.

Fig. A.5 Interior view of the proposed restaurant-bar.

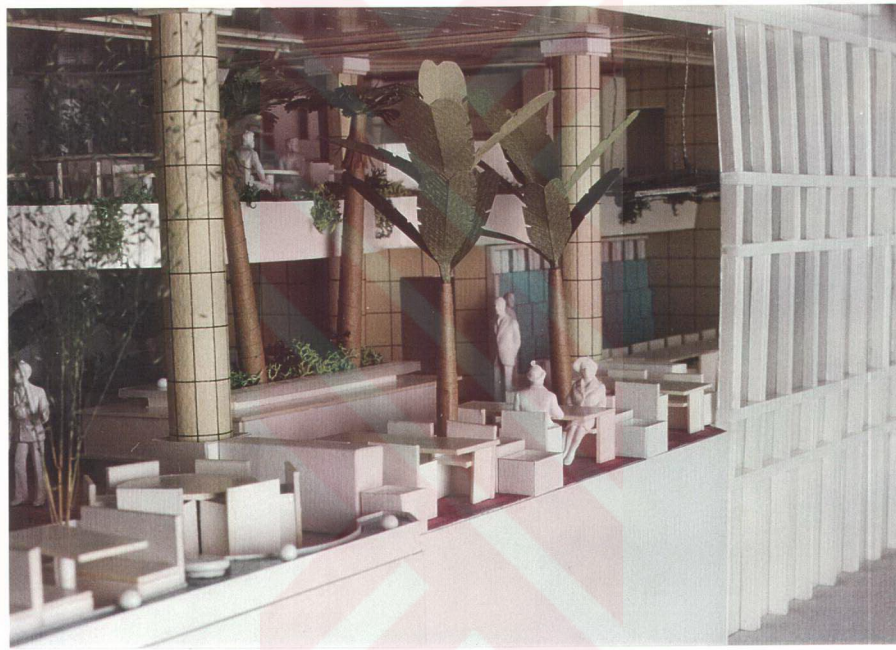


Fig. A.6 Interior view of the proposed restaurant-bar.

Fig. A.7 Interior view of the proposed restaurant-bar.

Fig. A.8 Interior view of the proposed restaurant bar - Looking from the bar level through the restaurant level.

Fig. A.9 Interior view of the proposed restaurant bar - Looking from the bar level through the restaurant level.

Fig. A.10 Interior View of the proposed restaurant-bar - Top view.

Fig. A.11 Interior View of the proposed restaurant-bar - Top view.

Fig. A.12 Interior view of the propesed restaurant-bar. Looking through the water feature and the snack bar.

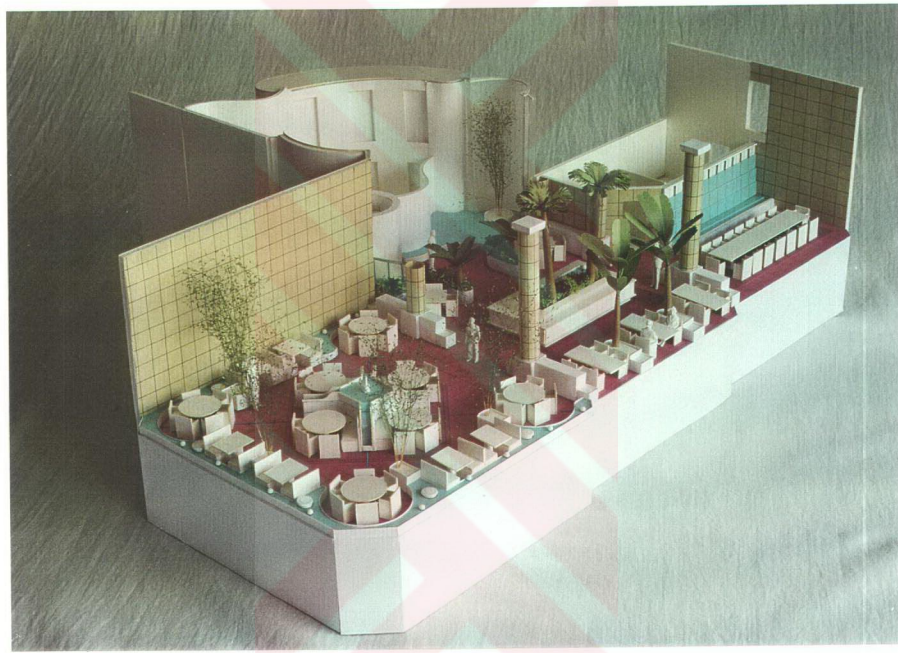


Fig. A.13 Model view showing the restaurant level.

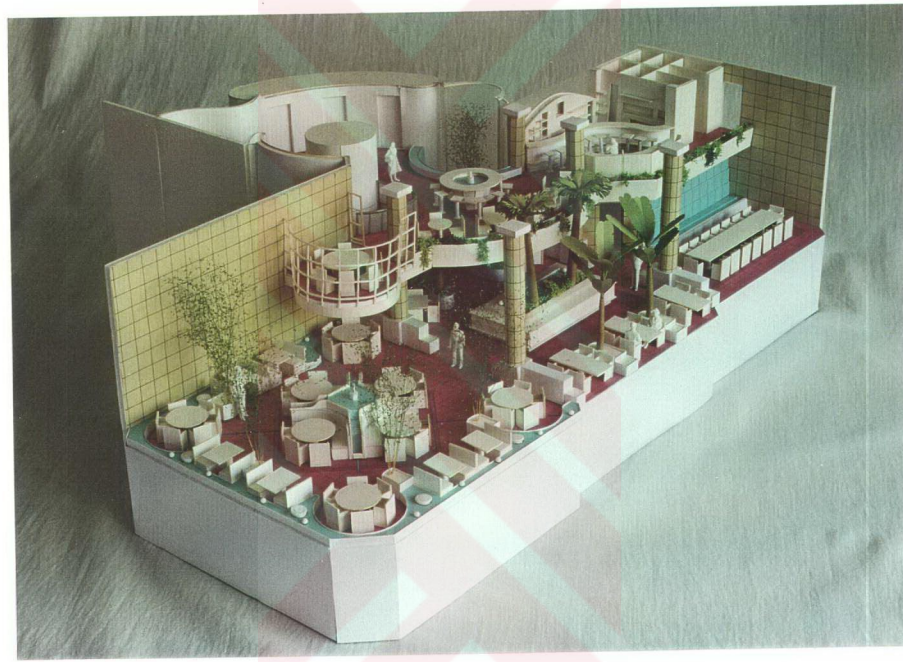


Fig. A.14 Model view showing the restaurant and bar level.