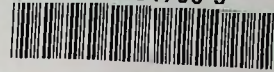


Paul O'Brien
Gerard Greene

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'In search of human space : Henning Larsen, -
Post-Modern architect.'

Gerard Greene
Fine Art NCAD
1991.

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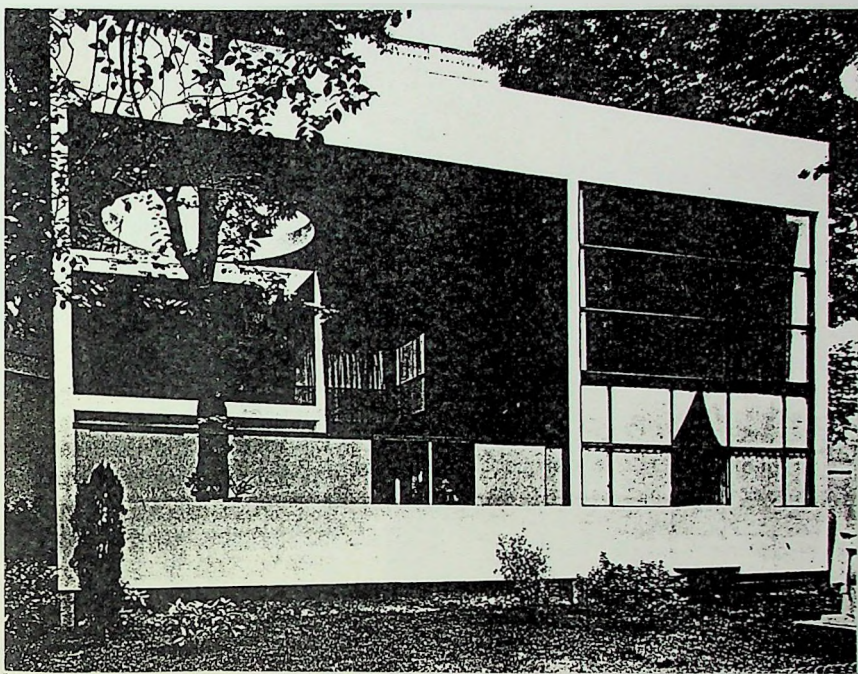
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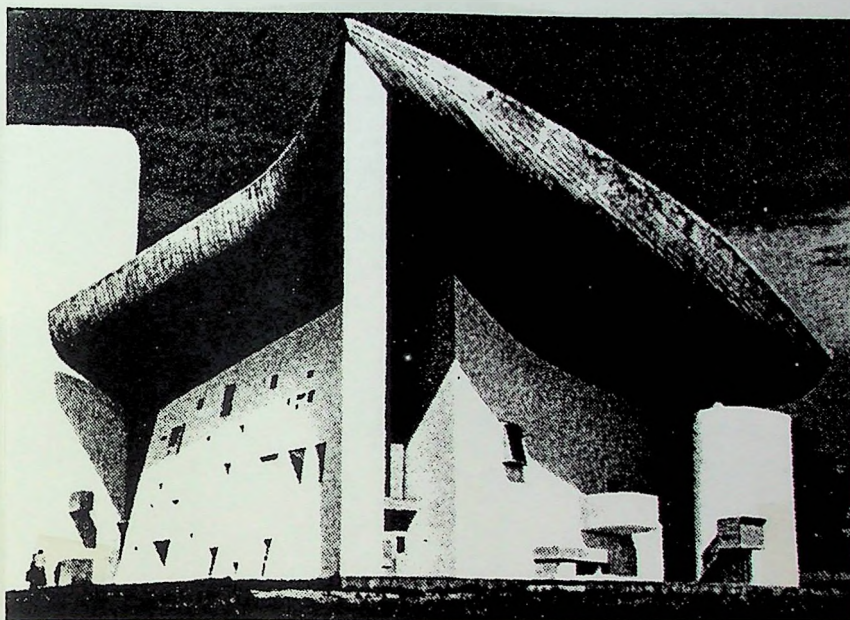
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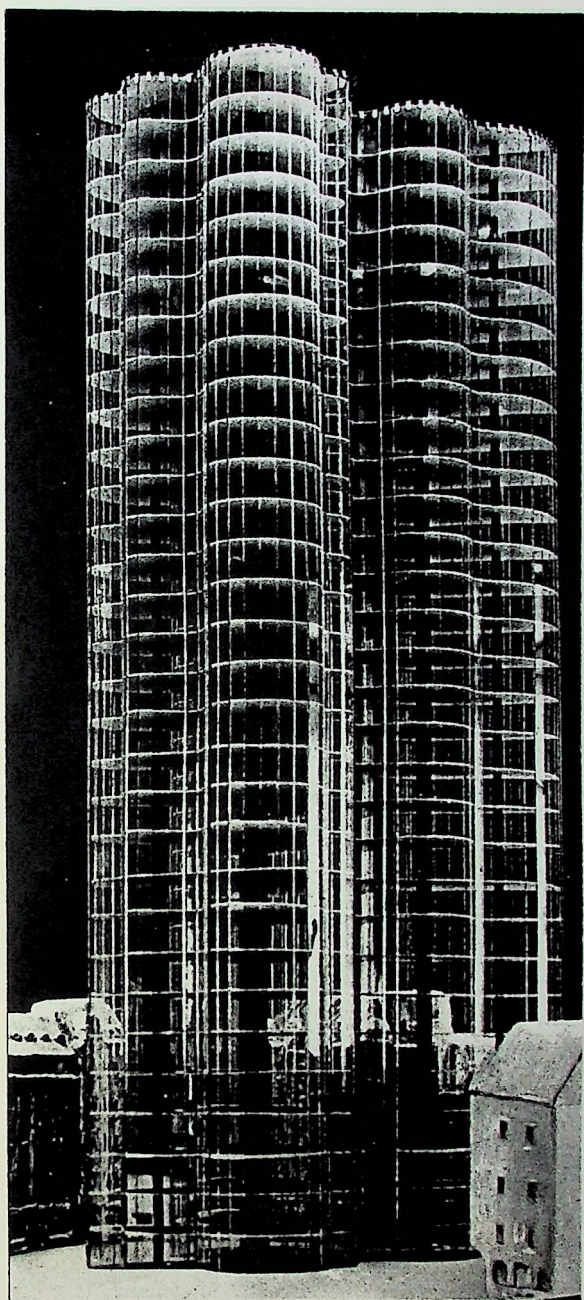


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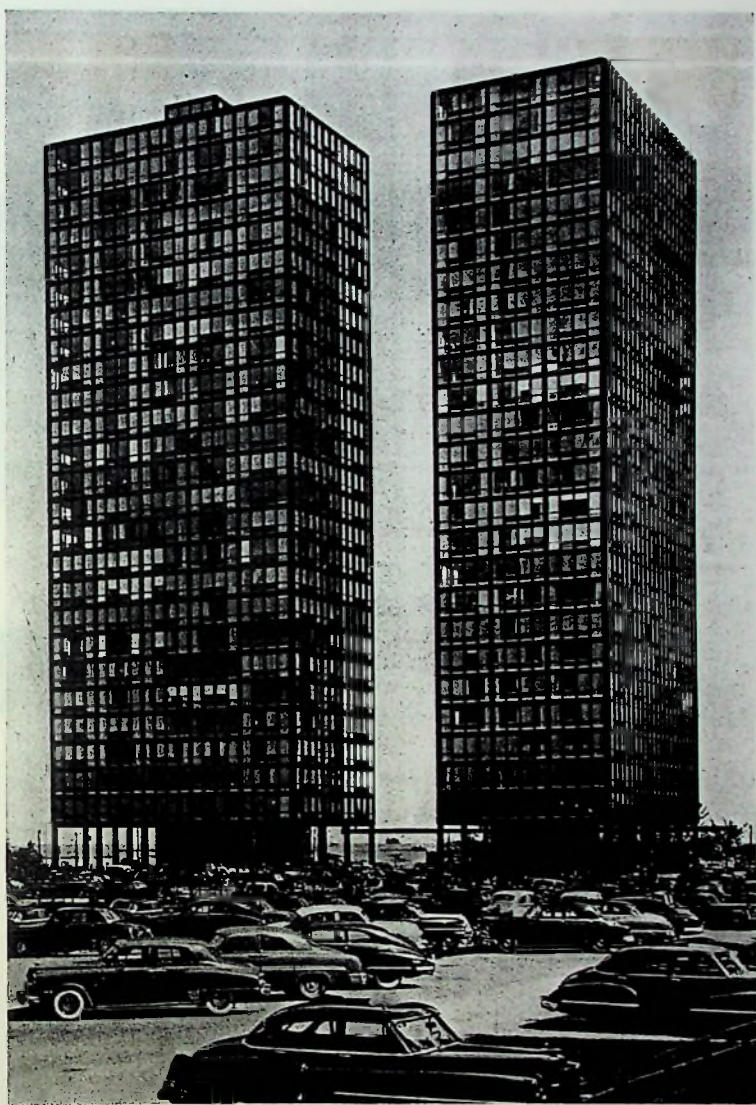


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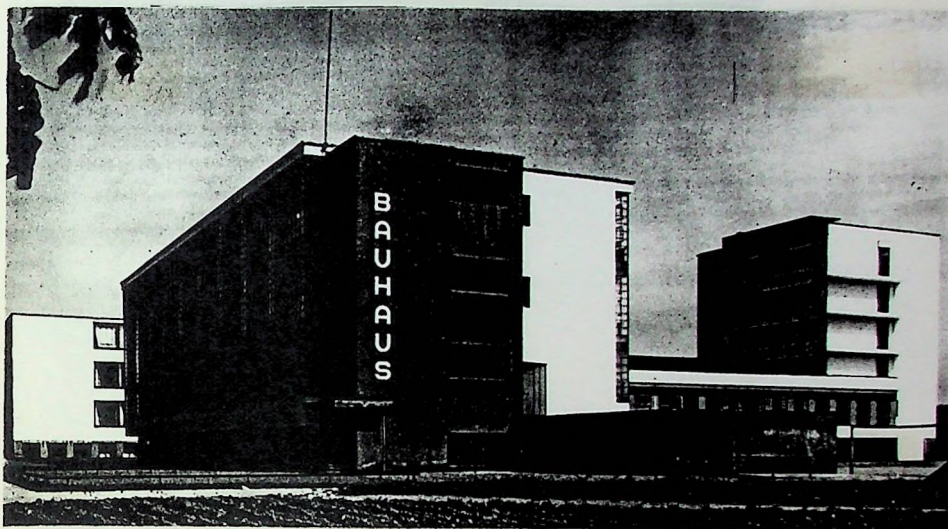
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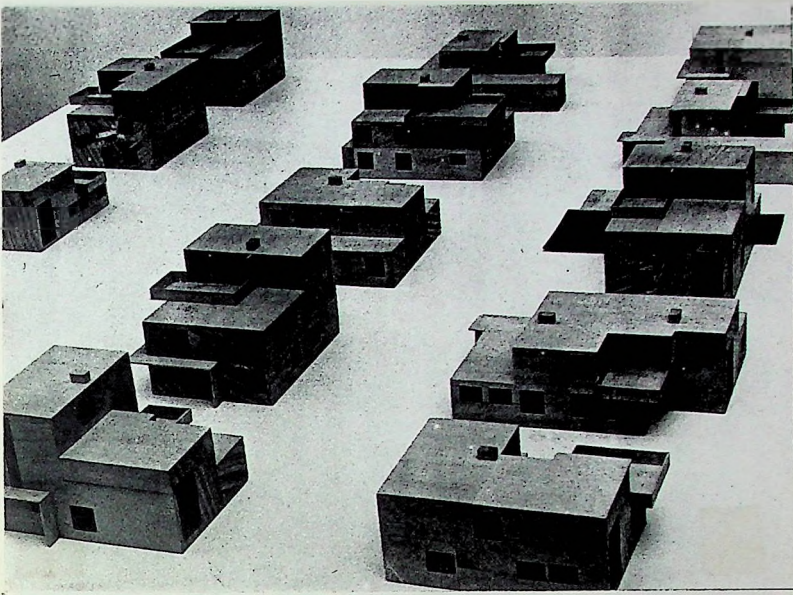
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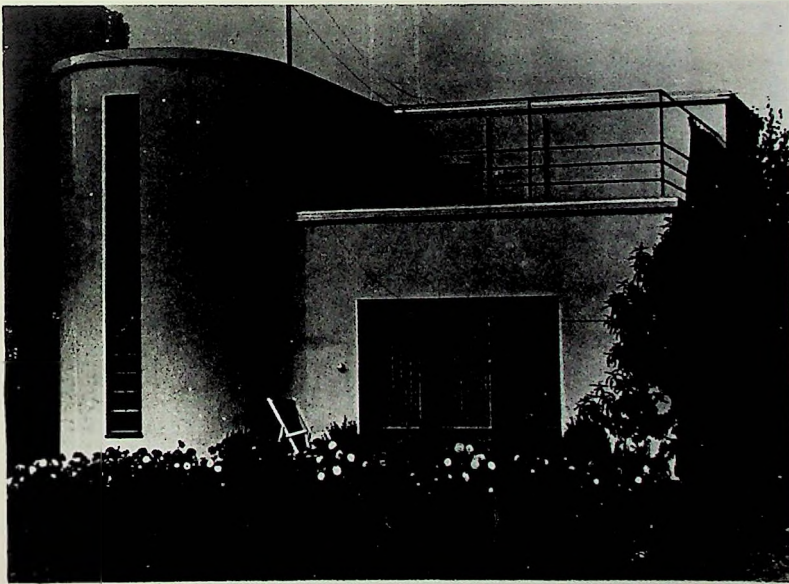
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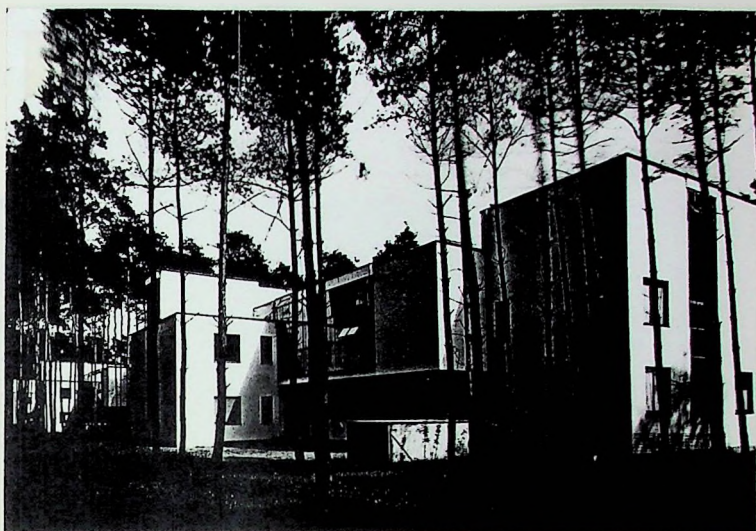
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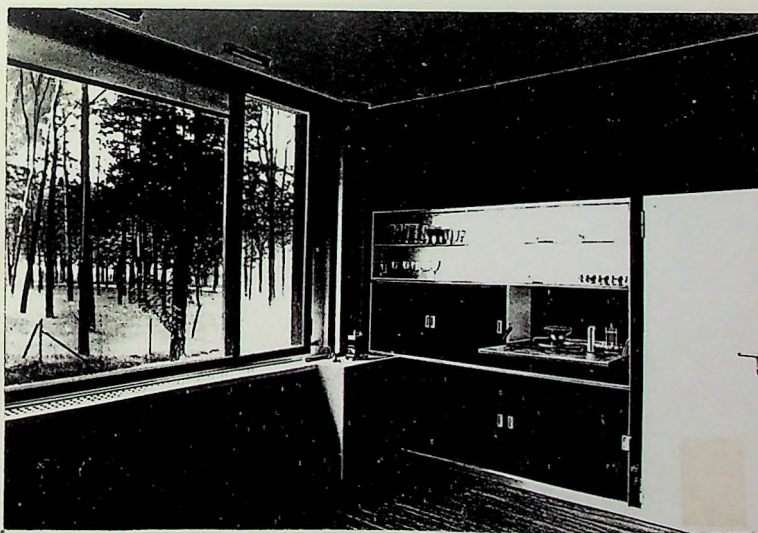
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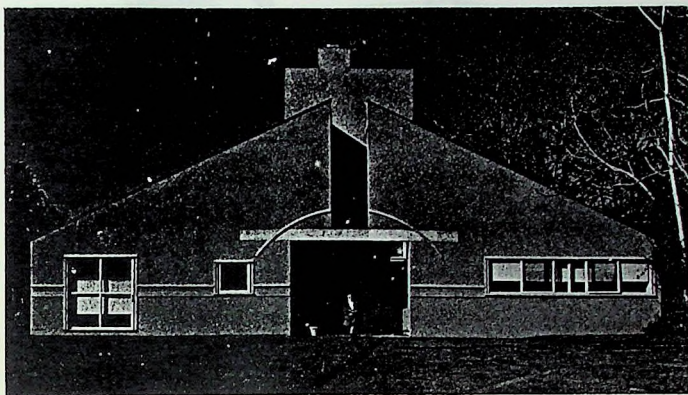
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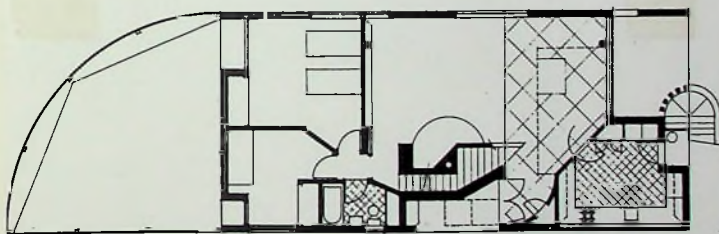
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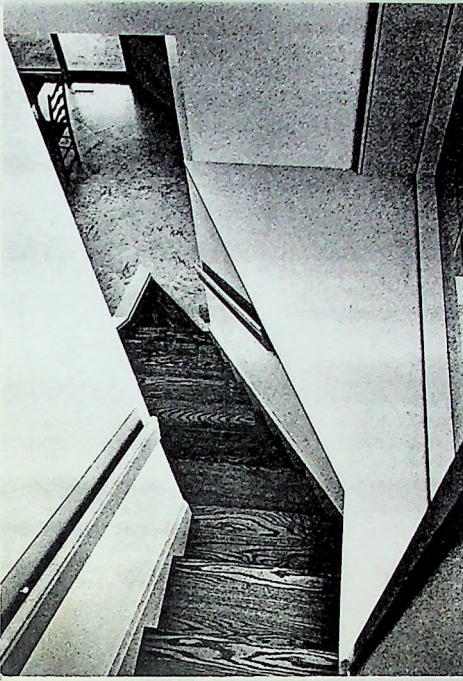
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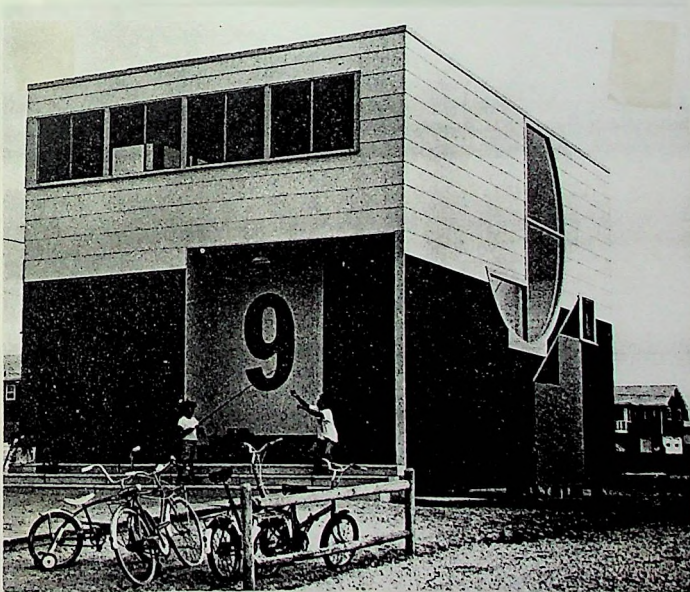
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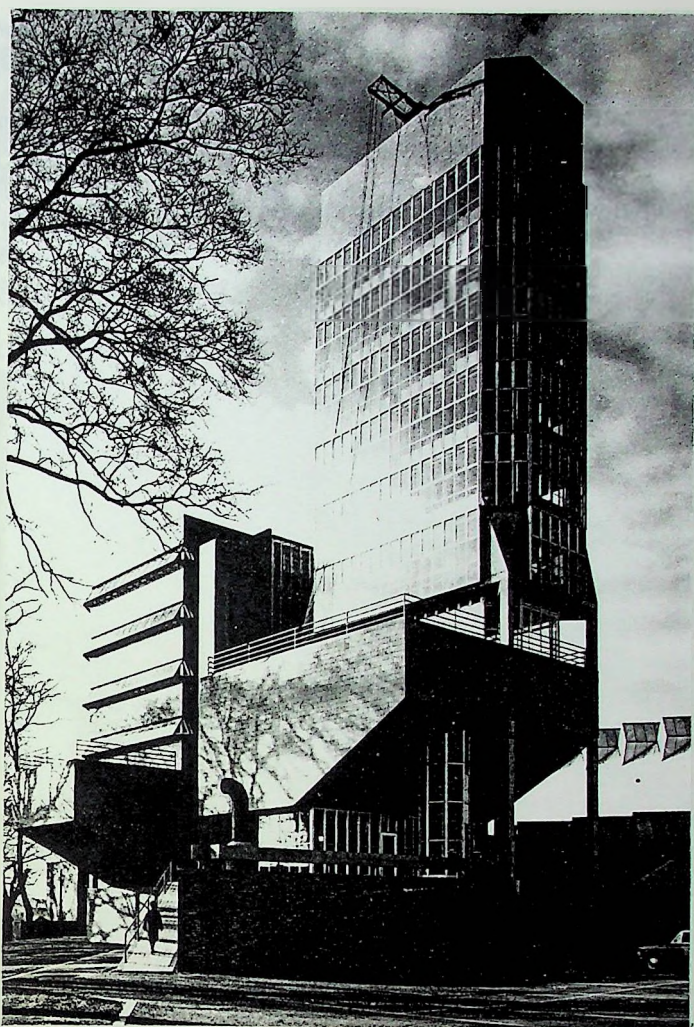
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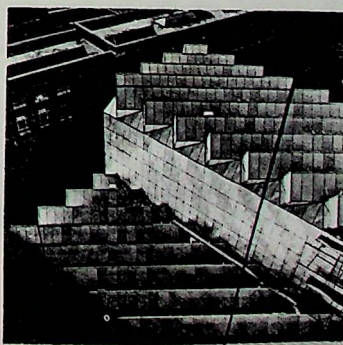
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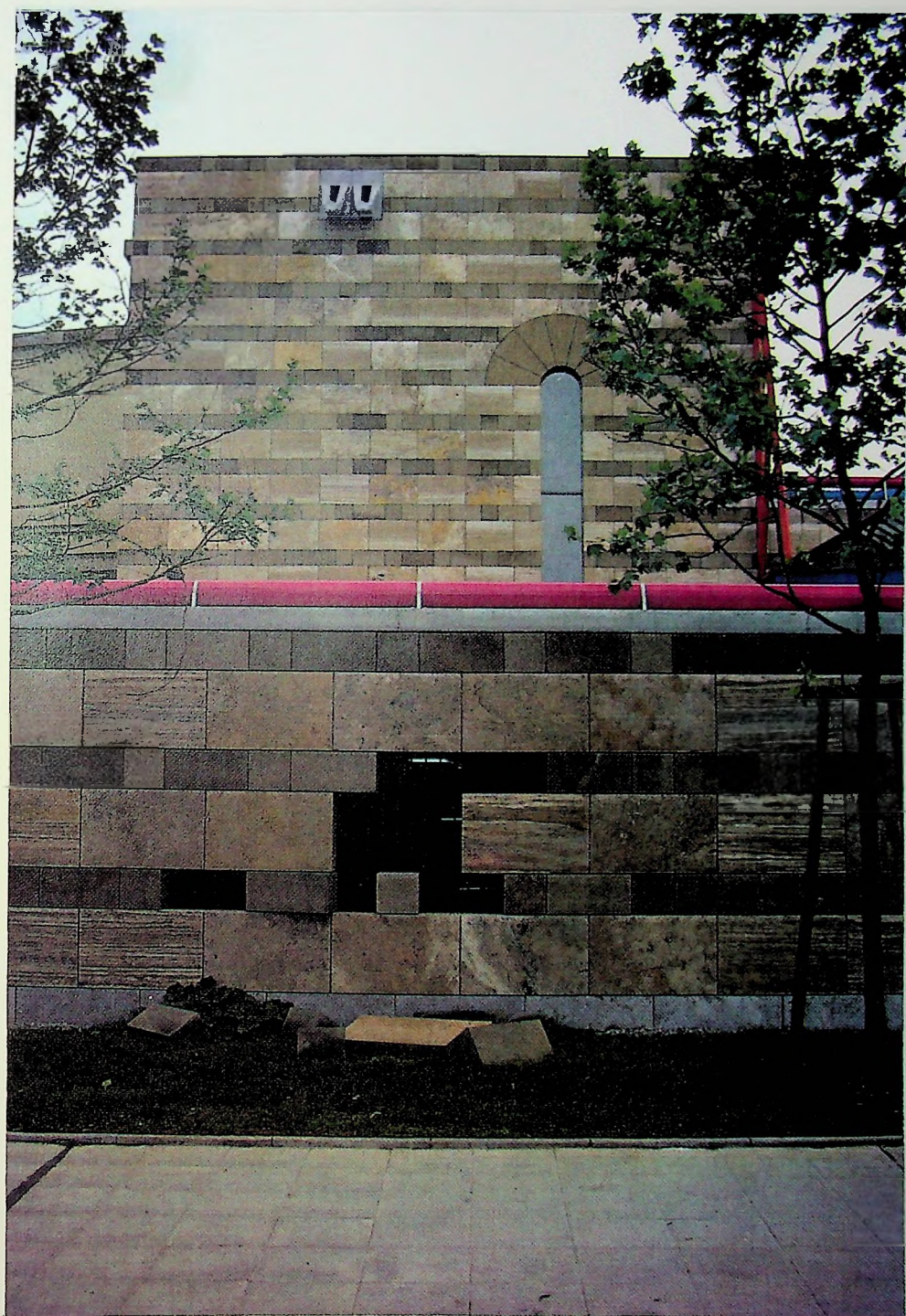
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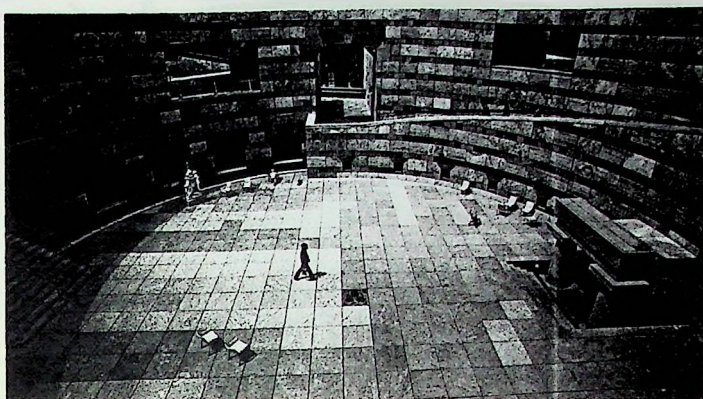
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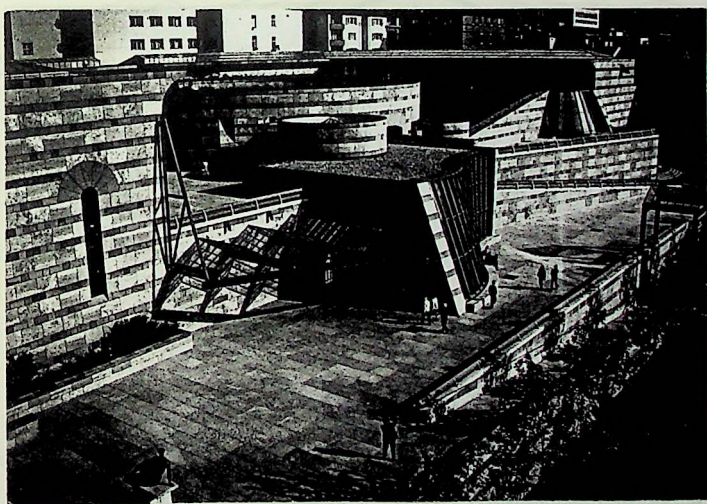
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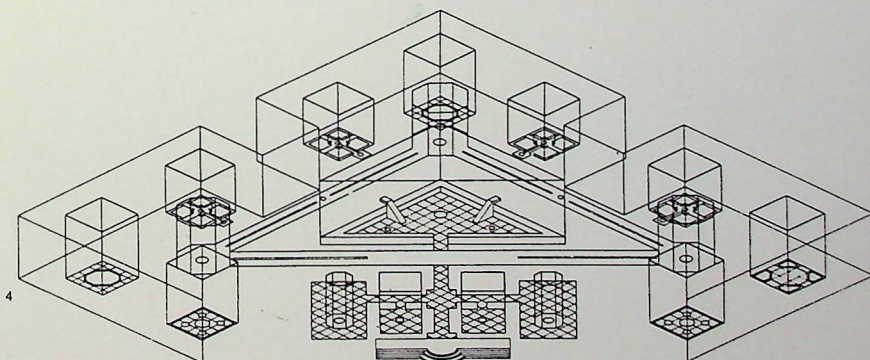
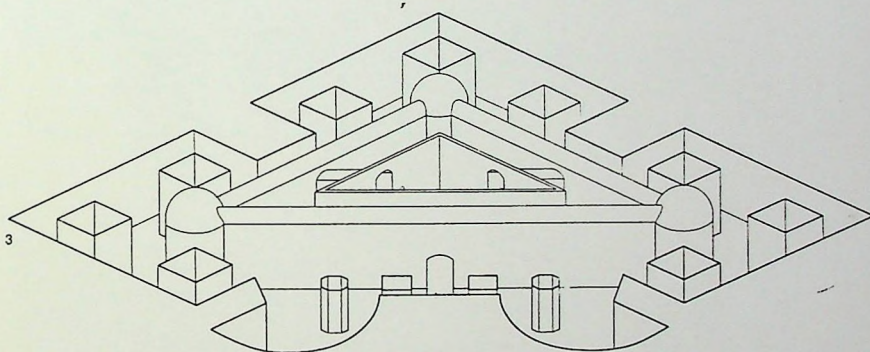
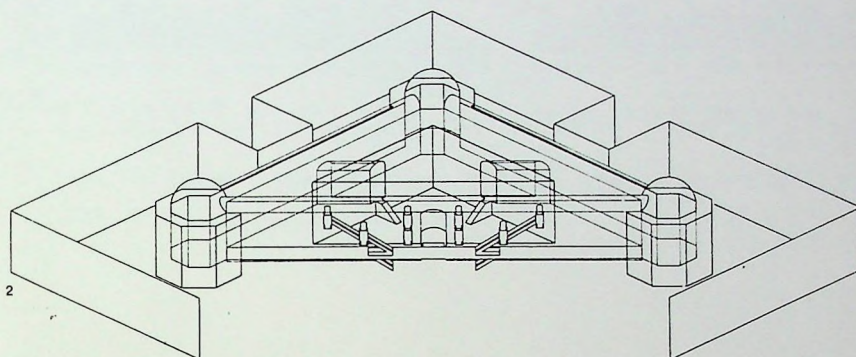
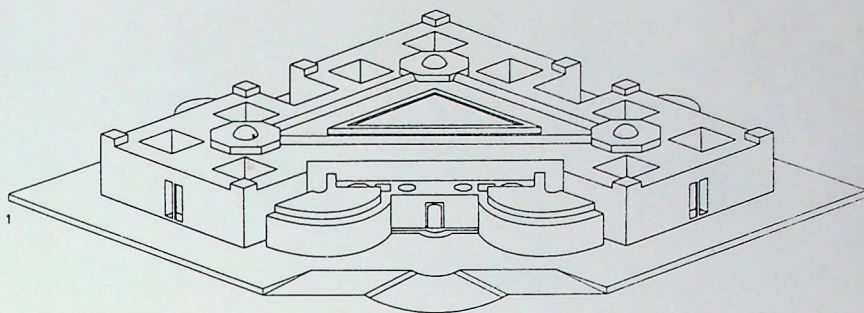
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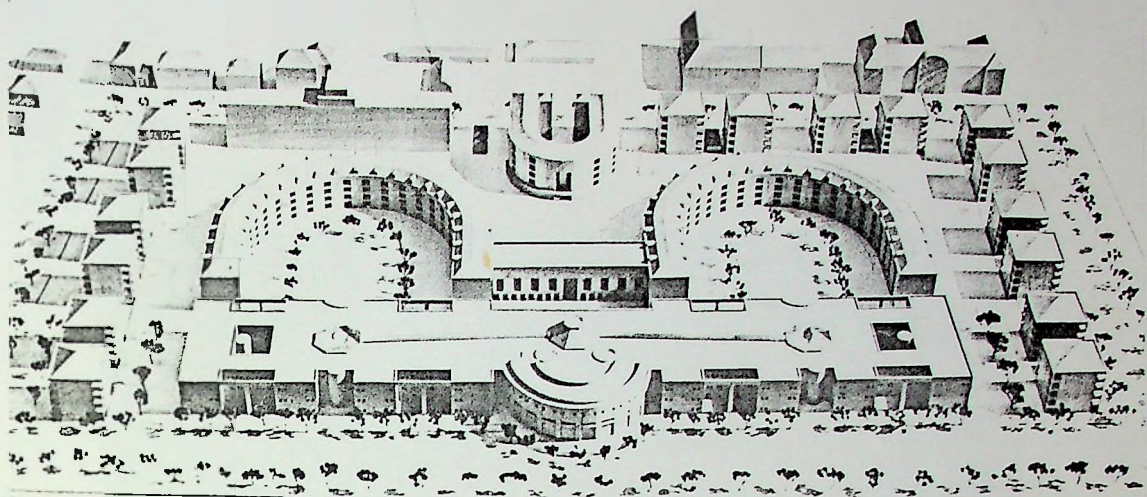
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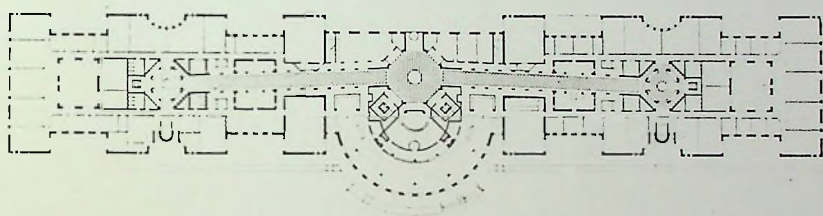


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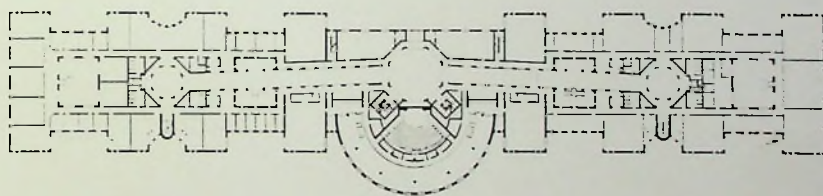


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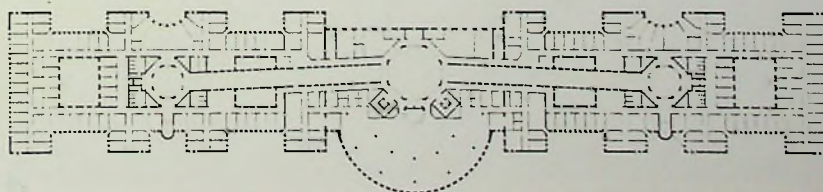
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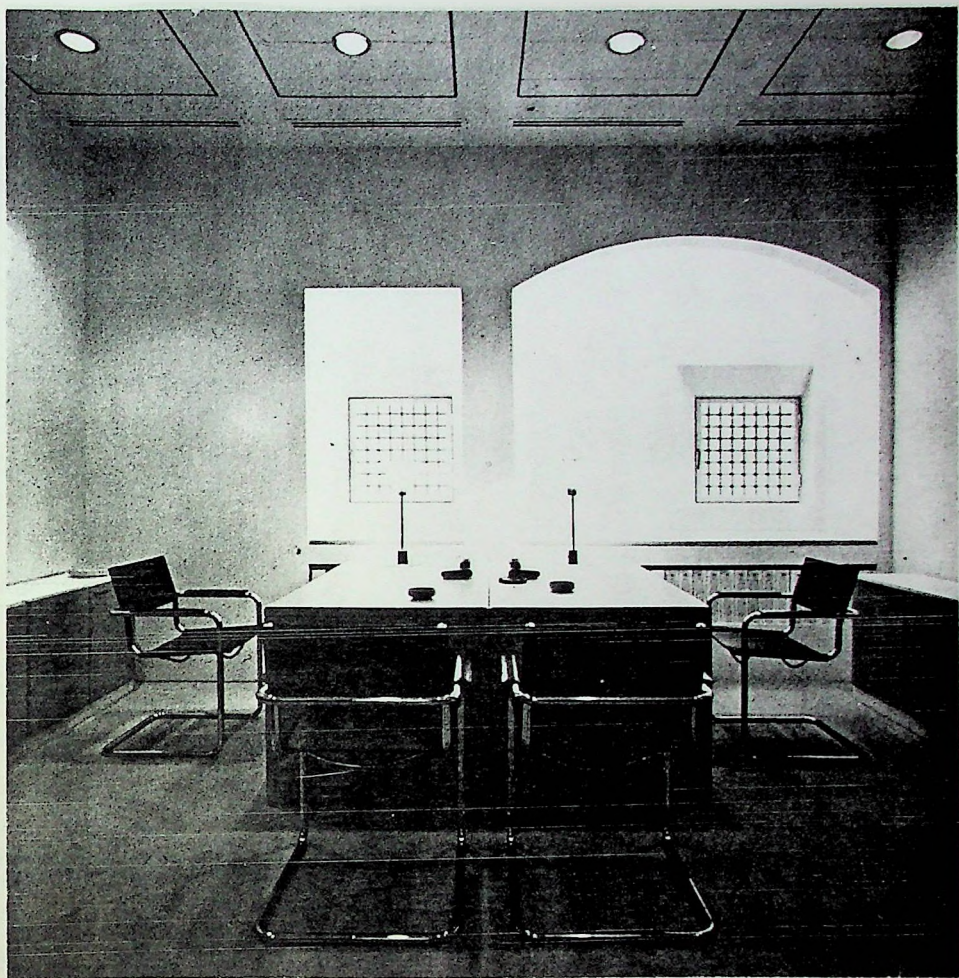
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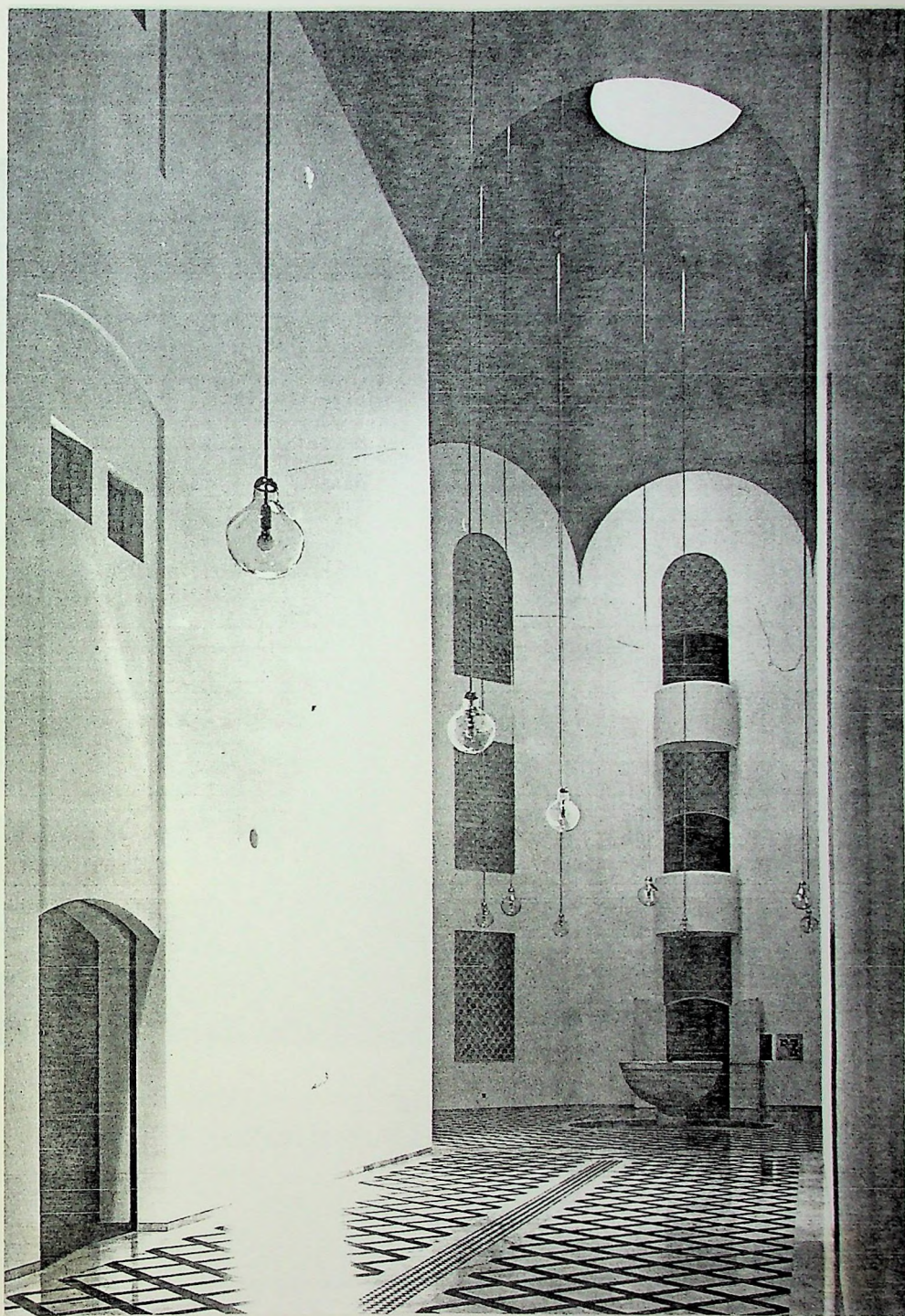
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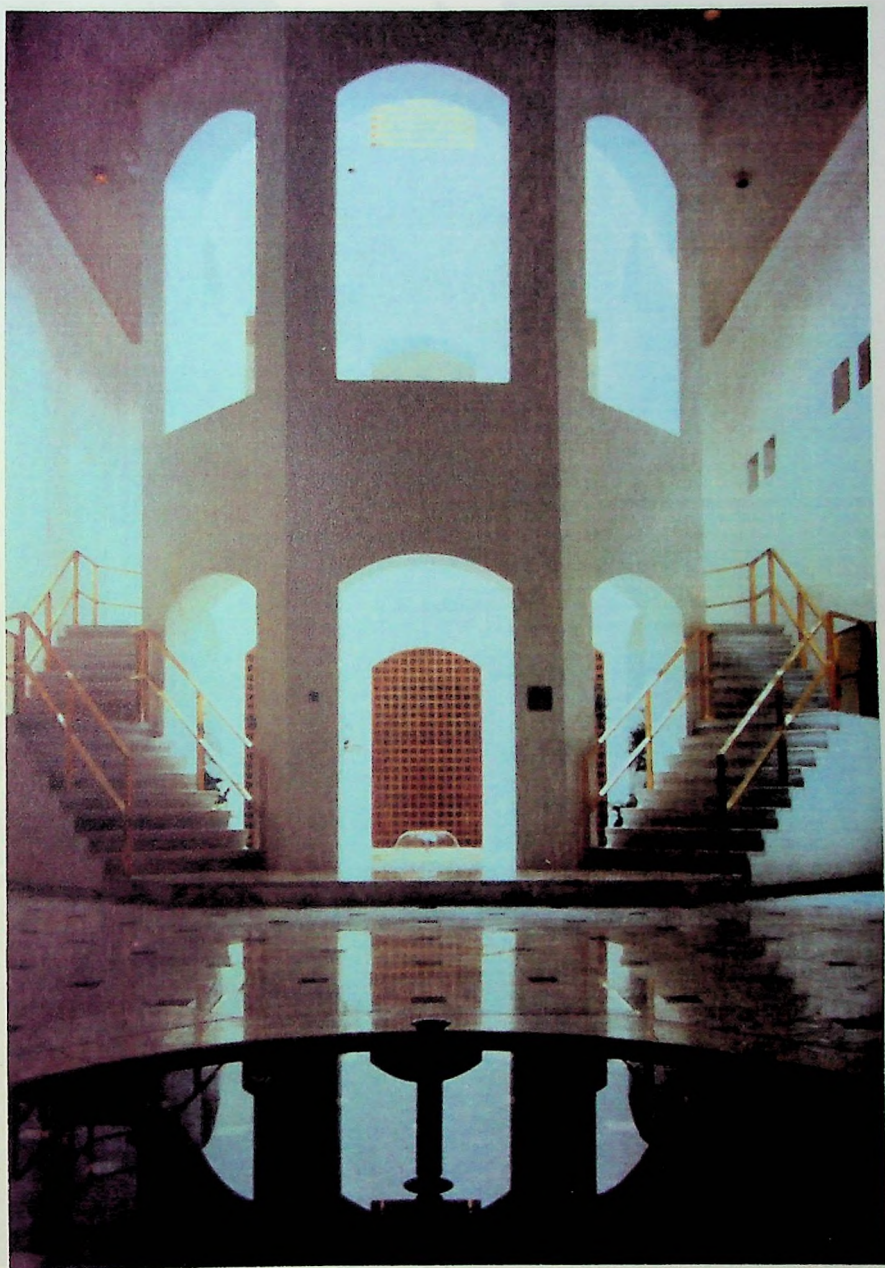
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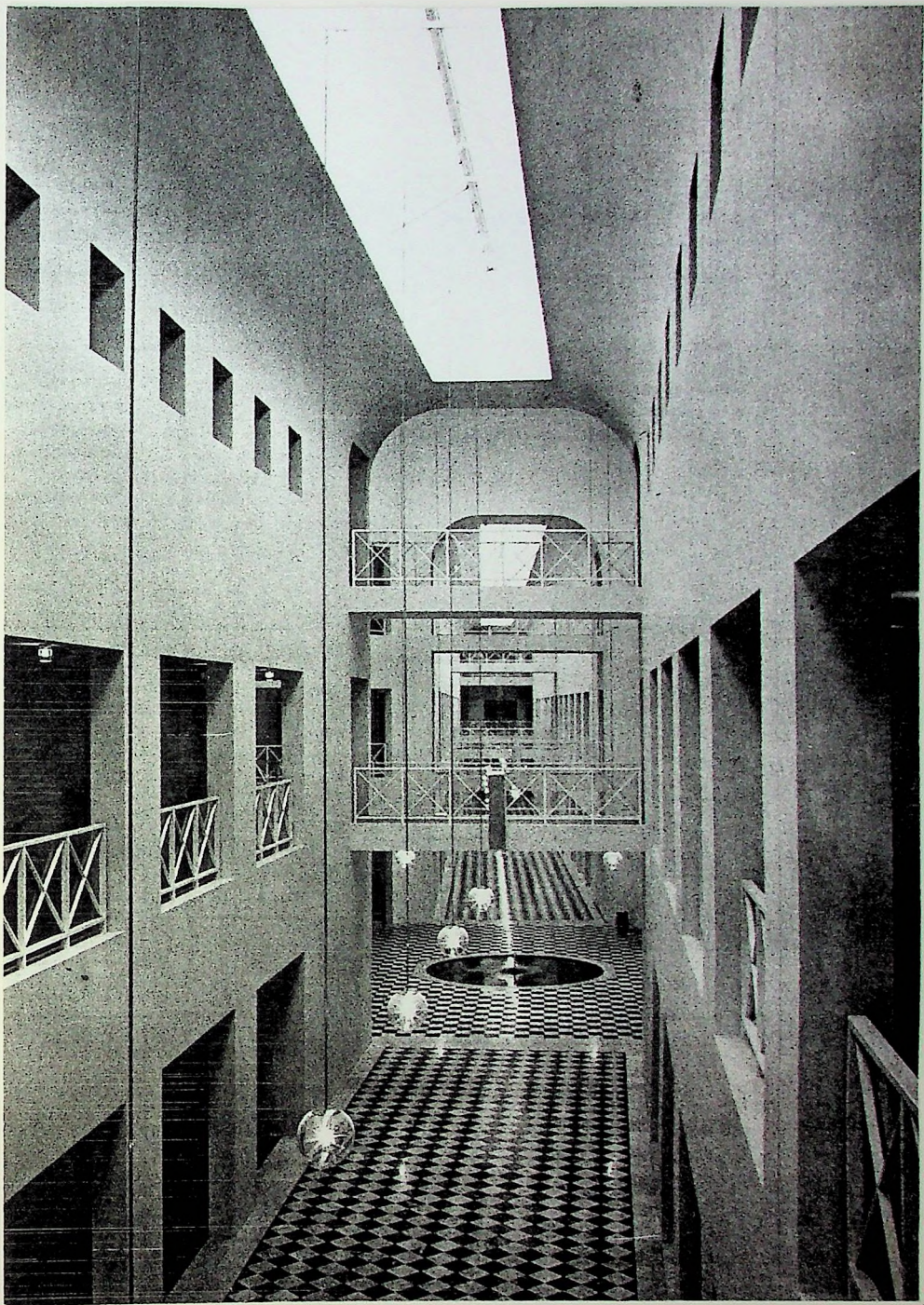
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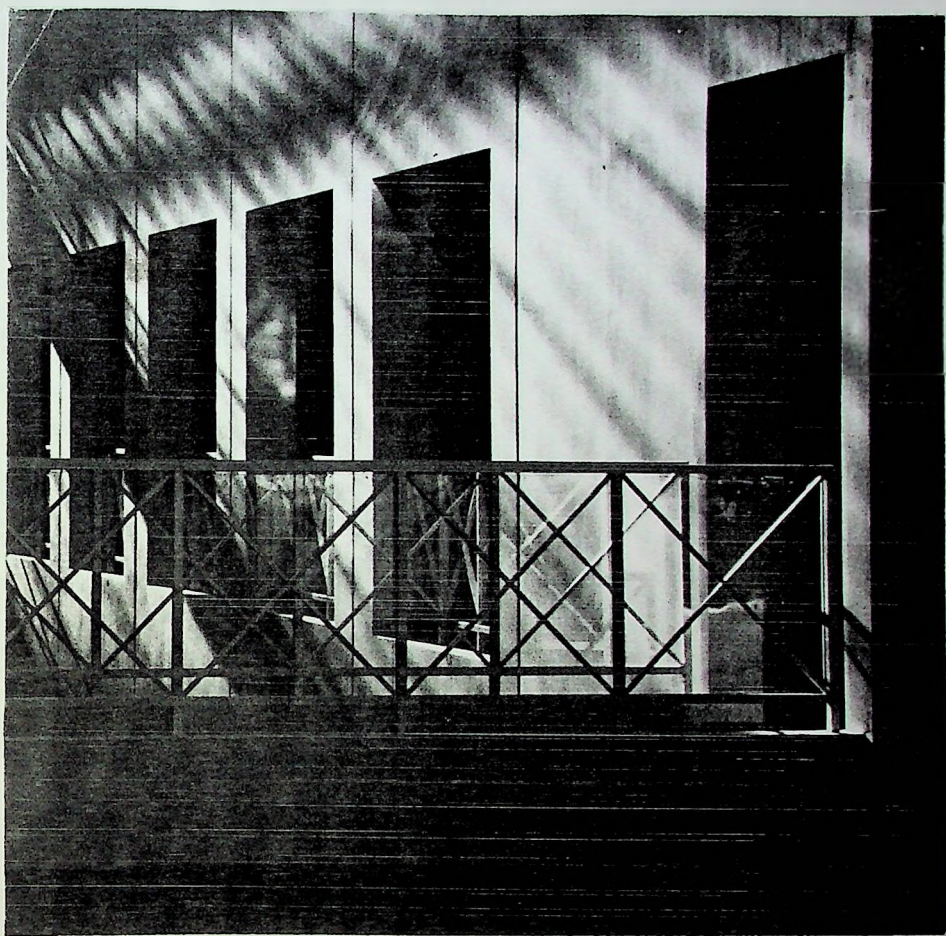
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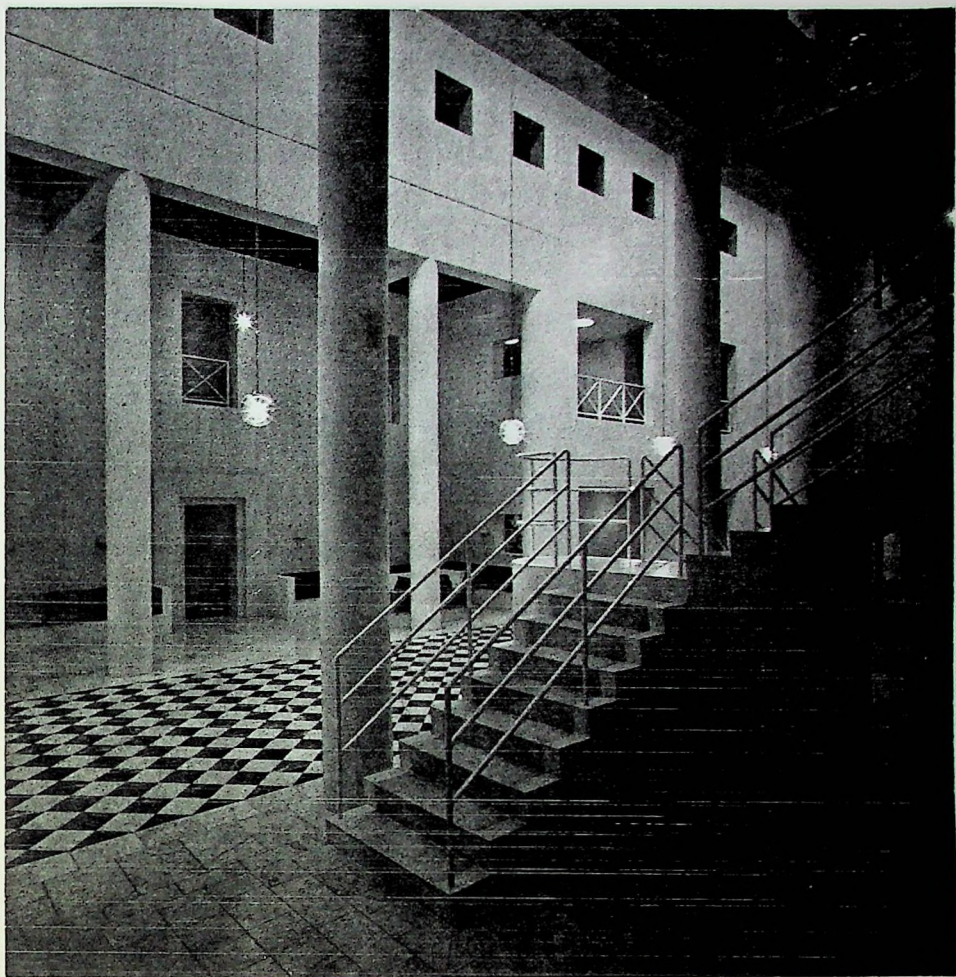
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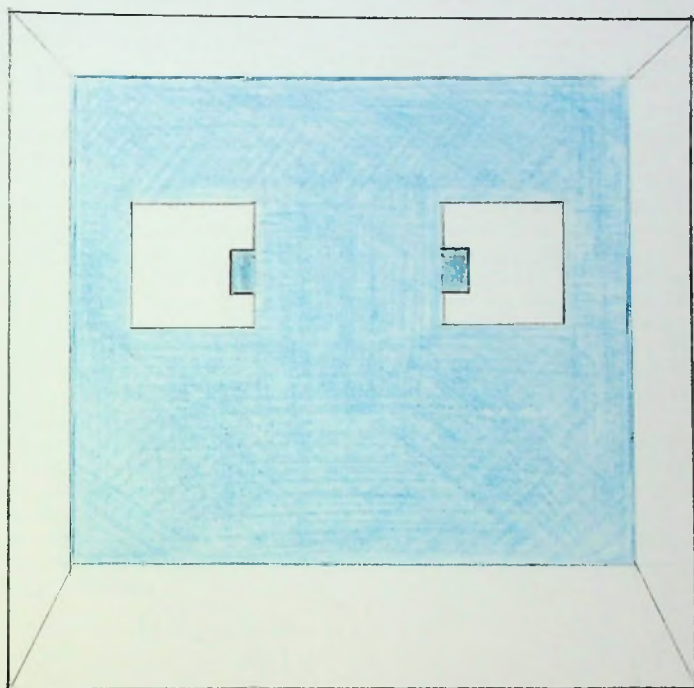
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SYNOPSIS.

The word 'modern' in its Latin form "modernus" was used for the first time in the 5th century in Italy. The need to look back to the classics in order to be 'modern' began to change with the French Enlightenment in the 18th century. The relation between 'modern' and 'classical' has definitely lost a fixed historical reference. (Jurgen 1985 p4) Modernism in architecture covers approximately the period from the beginning of the 1890's to the end of the 1960's. Some of the most important of the Modern architects were Le Corbusier, Gropius, Van der Rohe, Lloyd Wright and the De Stijl group. It can be argued that Le Corbusier and the architects of the Bauhaus were the most influential in the development of modern architecture. Some characteristics of Modern architecture were, truth to materials, purity of design, mass-production housing, an emphasis on horizontal rather than vertical lines and flat planes meeting at right angles which were often painted white. There was little or no reference to past architectural styles. Modernism was largely concerned with the power of mass-production and progress as a democratic force in society. Post-Modernism is believed to have been first used as a concept by Frederico de Onis in 1934. The first known reference in architecture was by Joseph Hudnut in 1945. Some key definers in Post-Modern architecture are: 'pluralism both philosophical and stylistic and a dialectical or critical relation to a pre-existing society'. (Jencks 1986 p23). Arguably the main reason for Post-Modernism was the social failure of Modern architecture. The book 'Complexity and Contradiction in Architecture' by Venturi in 1966 is said to have made a big impression on architecture. In 1959 Sterling began a new kind of 'skin' architecture. There is a problem about this type of building in relation to tectonics. The work of Henning Larsen is discussed, particularly his use of light. 'Dwelling' is discussed with reference to Heidegger's 'Building, Dwelling, Thinking' article (1971). Two of Larsen's most recent buildings are the Ministry of Foreign Affairs in Riyadh and the Business School in Copenhagen. How can one design for the Saudis considering their type of society? The cultural exchange between Saudi Arabia and Denmark is discussed in the case of the Riyadh and Frederiksberg buildings. Conclusion: Henning Larsen as a Post-Modern architect, the environment, and the future of architecture.

INTRODUCTION

In this dissertation it is proposed to discuss Modern and Post-Modern architecture and their background, and to relate this to the work of Henning Larsen in terms of his search for 'human space' as a Post-Modern architect. The words Modern and Post-Modern architecture will be used in this dissertation following Jencks' usage of capital letters and hyphenization

MODERNISM

The term "modern" has a long history. The word "modern" in its Latin form "modernus" was used for the first time in the late 5th century in order to distinguish the present, which had become officially Christian, from the Roman and pagan past. (Habermas 1985 p3)

Up until roughly the middle of the 19th century, the word "modern" was used to express the consciousness of a period which has been perceived as having changed from the old to the new through a renewed relationship to antiquity. The spell which the classics of the ancient world cast upon the spirit of later times, was first dissolved with the ideals of the French Enlightenment, in the 18th century. (Habermas 1985 p4)

The need to look back to the classics in order to be "modern" began to change with the Enlightenment, which came about because the main area of knowledge which was religion and metaphysics began to fall apart, to be replaced by three separate areas of study, science, morality, and art. These three areas of study therefore gave rise to 'experts' who became specialised in a particular field of study, and the Enlightenment philosophers envisaged the accumulation of this knowledge as being both enriching in daily life and helpful in the organisation of society. In the early 19th century as a result of this change came another form of 'modernist consciousness' which was opposed to the classics. This was the Romantic movement, which itself referred back to the Middle Ages. Later in the 19th century the Romantic movement gave rise to a more radical form of modernity which was free from all specific historical ties. 'Since then the distinguishing mark of works which count as modern is the "the new".' (Habermas 1985 p4) However, the new becomes obsolete in time, to be replaced by something else. The 'truly' modern work in a way survives time and has a secret link with the classical, since that which survives time has always been considered to be a classic giving rise to the phrase 'classical modernity' in art history. The relation between "modern" and "classical" has definitely lost a fixed historical reference.' (Habermas 1985 p4)

MODERN ARCHITECTURE

The influence of Modernism in architecture approximately covers the period from the beginning of the 1890's to the end of the 1960's. Arguably it still has an influence in the 1990's. Modernism might be said to coincide roughly with the era of monopoly capitalism'. (O'Brien 1989 p18) Modernism in architecture was largely concerned with the power of mass-production and progress as a democratic force in society. However, the artists of other areas of Modernism were not always in full agreement with their architectural contemporaries whose idea of harmony was often expressed positively through their belief in "progressive" economical and functional building methods.

Modernists like Picasso and Beckett often expressed the idea of harmony negatively, manifesting social contradiction in their work. Common areas of agreement between most Modernists included the value of abstraction, the importance of form in the work and experimentation. Some of the most important of the Modern architects were Le Corbusier, Gropius, Van der Rohe, Meyer, Lloyd Wright and the DeStijl architects. The driving force behind modern architecture was political as well as aesthetic, and in the 1920's a 'great many architectural influences were at work. From America came the dramatic private houses of Lloyd Wright, along with an architectural language for high-rise office buildings by Sullivan'. (Rowland 1990 p 98). Sullivan coined the phrase 'form follows function.' It was Lloyd Wright's theory that if the interior was well designed, the success of the exterior will follow. However, this belief may now appear one-sided and over-simplified, but it raises a very central question in architecture today: how should the exterior and interior design of a building relate to each other ? Opinions vary widely on this point. 'The inside and the outside of a building are of equal importance architecturally speaking. Sometimes the interior will determine the exterior, sometimes vica versa.' (Larsen 1991) Though Lloyd Wright may have been an important architect ,it can be argued that Le Corbusier and the architects of the Bauhaus school were the most influential in the development of Modern architecture and the industrialisation of the building process.

Le Corbusier exhibited his plans in 1922 for 'a mass production house (Maison Citrohan), a new kind of apartment house (Immeubles Villes) and a Contemporary City for Three Million Inhabitants (Une Ville Contemporaine) - he provoked a wide range of reactions in the journals and newspapers of Paris'. (Serenyi 1975 p4) People at the time were said to have been disturbed with the idea of living in mass production houses or in cities with motorways. Later, in 1925, Le Corbusier exhibited the Voisins plan of Paris in which he envisaged the demolition of some important, along with some derelict areas of the city. These were to be replaced by apartment blocks, parks, office buildings, and highways. He considered these changes as being very necessary to the needs of Paris. Le Corbusier designed a wide range of buildings including private houses (fig 1), worker's housing, churches and hotels. 'The pilgrimage chapel at Ronchamp [fig 2,3] elicited admiration for its poetic form but criticism for its content from Stirling for having an "entirely visual appeal", without demanding "intellectual participation" from the public'. (Serenyi 1975 p8) Against this, it can be argued that if the Ronchamp chapel serves the people's needs well and they feel good in it, then it is questionable whether they should have to undergo "intellectual participation". In 1924 Le Corbusier designed a worker's housing project in Pessac near Bordeaux, and though he studied the history and development of worker's housing, they were claimed to have failed to meet the inhabitants needs. Le Corbusier

believed that he could shape, indeed elevate, humanity through architecture. Instead of responding to the actual social and psychological needs of working-class people, he tried to redefine these needs in order to bring about a new consciousness.' (Serenyi 1975 p6) It is debatable whether architects should attempt to change people's consciousness. Perhaps it would be better to try to meet their needs, and at the same time to use their architectural skill to make better designs. Later in 1948 Le Corbusier developed a mathematical approach to architecture, with the use of the "Modulor". This was a measuring tool based on the proportions of the human body, the basic geometrical units of the square and double square along with the Golden Section to create a number series for use in design. The Golden Section is the only true proportion consisting of two magnitudes, and in it as you know, the ratio of the whole to the larger part always equals that of the larger to the smaller part: $A/B = B/A+B = .618/1 = 1/1.618$ (Serenyi 1975 p87) The ratio of the Golden Section is found in some life forms (for example on the growth patterns of certain species of shellfish) and is claimed to have a universal nature. The idea of using a number series was that numbers would represent basic geometrical units which could be built up to form a design and yet varied like the keyboard of a piano which has a structure yet can produce infinite melodies. Le Corbusier believed in the 'mass production spirit, the spirit of constructing mass-production houses'. (Jencks 1986 p48) In order to re-enforce this belief he claimed that the use of the 'Modulor' would give a 'perfect means of unification in the mass-production of manufactured articles' (Serenyi 1975 p88) and that in contrast to an arbitrary module it would offer 'the possibility of harmonious integration of standardized products'. (Serenyi 1975 p88)

'Le Corbusier believed that good architecture must fulfill certain specific structural, biological, economic, social and psychological requirements' (Serenyi 1975 p6) Clearly his intentions were good, but perhaps he should have had more communication with people about his buildings and designed in a broader sense to meet the many different needs of the public. Le Corbusier's ideas for the re-development of Paris in the Voisin plan are now criticised for having been an oversimplified solution to the complex problems of a big city. However, many of these solutions are now the realities of today's cities, with high-rise apartments and office blocks and many fine residential and commercial buildings having been demolished to make way for highways. Critics since the 1920's have objected to Le Corbusier's impersonal, standardised and geometrical architecture. His mathematical approach to design has been called scientifically unobjective. However it was claimed by Rudolf Wittkower that he brought to proportion a searching poetic mind. Paul Westheim said that he 'did not wish to replace architecture with engineering or artistic expression

with mere functionalism' (Serenyi 1975 p2) and that in his use of geometry he was seeking universal and eternal values.

The Bauhaus school of art was founded in 1919 by Gropius, and though it did not have an architectural department in the beginning its three directors Gropius, Meyer and Van der Rohe were all architects, and their approach was highly experimental. One of Gropius' 'key interests was in the industrialization of the building process in order to achieve good low cost housing' (Rowland 1991 p101) and it was his view that the new way of building should be an international issue. One of the key elements of the Modern movement in architecture was the desire to produce low cost, functional, comfortable buildings because of the breakdown in society in Europe after the First World War and the failure of politicians to provide good, low-cost housing. Clearly there was an important aesthetic element in the Modern movement and this was a desire to move away from the arguably overly decorative styles of the 19th and earlier centuries. Meyer's approach was strongly collectivist and materialist, and it was his firm belief that architecture was not an aesthetic process but a technical one 'function times economy' (Rowland 1990 p101) It appears that Meyer was one of the more extreme of the Modern architects in terms of the economic "progressive" ideal because of his rejection of the aesthetic element. As stated earlier the Bauhaus had a major influence on the spread of Modern architecture and the development of what became known as the 'International Style'. 'Van der Rohe designed his first glass skyscrapers in 1920. He realised that by using an internal skeleton, the outside walls could be visibly relieved of their load-bearing function.' (Rowland 1990 p118) The surface of the building therefore reflected the images of surrounding buildings in the city. The old way of defining mass by light and shadow was no longer the only way (fig.4). (Another example of the 'International Style' is shown in fig.5). In 1923 a new building was designed for the Bauhaus by Gropius and it was claimed to have been one of his finest (fig.6). In that same year Gropius developed an idea in Germany called Baukasten in Grossen (full scale building blocks) (fig.7). The idea was to use low-cost, prefabricated housing units (blocks) to give the greatest degree of variation within a standardized system, thereby creating not only low cost housing but unity in the diversity of the modern city. (Rowland 1990 p99)

The aesthetics of Modern architecture naturally evolved from the theory of mass-production, the lack of historical reference and the rejection of the Classical and Romantic idea of beauty. Modern architecture could thus be defined in a moral sense, where truth to materials, honesty and purity of design without unnecessary decoration were paramount. The pursuit of these ends however, arguably bordered on the 'clinical' in the case of Meyer for example, leading to the construction of some buildings that were rigid and insensitive to peoples needs. One characteristic of many Modern buildings was the lack of importance

given to any particular side of a building, all were treated equally. That is a very important point that is relevant to architecture today. Another key characteristic was the emphasis on the horizontal rather than the imposing vertical lines of 19th century buildings. The flat roof was another Modern element which was scorned by conservatives in Germany. Other characteristics were the angular nature of the buildings, flat planes often meeting at right angles, and the surfaces both inside and out often painted white to symbolize purity of design (fig.8, a 'classical modern' house designed by Carl Fregor). Houses designed by Gropius (fig 9 a,b) for the tutors in the Bauhaus were quite formal, asymmetrical with no one side predominating. Light space and air were a priority. The interiors of these houses were very carefully designed in an efficient yet comfortable way. There were fitted cupboards and wardrobes throughout with the necessary domestic appliances and the rooms were flooded with light. The general atmosphere was one of clean lines and open spaces. Windows with roller blinds as curtains were thought to be fussy and unhygienic. The Bauhaus has been very influential in interior design, especially furniture, table lamps and domestic appliances, and this influence is still important today. However:

Bauhaus architecture can be said to lack the variety and formal interest of the work of Lloyd Wright and Le Corbusier, and it has suffered through being identified with the 'little boxes' approach to housing. But in addressing the challenge of prefabrication and the industrialization of the building process, the Bauhaus was as always confronting questions that are still being debated.' (Rowland 1990

POST-MODERNISM

Post-Modernism as a concept is believed to have been first used in 1934 by Frederico de Onís in his book Antología de la poesía española e hispanoamericana, and it referred to a reaction from within Modernism. In 1938 it was used again by Arnold Toynbee in A Study of History. In this book the word Post-Modernism was a general term used to describe the historical period which started in 1875. This was the period of the decline of colonialism, capitalism and Christianity and the rise to power of a non-western culture. 'In addition it referred to a pluralism and world culture, meanings which are still essential to its definition today' (Jencks 1986 p3). The first known reference to Post - Modernism in architecture was by Joseph Hudnut (who worked with Gropius at Harvard) who used 'the term in the title of an article published in 1945 called "The postmodernism house"'. (Jencks 1986 p14). From roughly 1975 on, the term Post-Modern became more common in architectural literature.

POST-MODERN ARCHITECTURE

Post-Modernism in architecture began roughly at the beginning of the 1960's. Key definers are a pluralism both philosophical and stylistic, and a dialectical or critical relation to a pre-existing society. There is no one Post - Modern style, although there is a dominating Classicism, just as there was no one Modern mode, although there was a dominating International Style. (Jencks 1986 p23). Post-Modernism is concerned with pluralism and 'world culture' and uses architectural elements from the past not, it is claimed by Jencks, to revive them for their own sake, but in order to communicate to different cultures in an ironic way about the present and how the world has changed in terms of the spread of mass culture. It is though, very questionable whether architecture is the correct means through which to use such irony, for the good reason that people need to live in and use these buildings and many of them are lacking in good design and use of good materials. There is of course an overlap between Modernism and Post - Modernism which is often blurred because Post-Modernism is still going on.

Post-Modernism should not be confused with Late Modernism which is a continuation of Modernism in the sense that Late Modernism is 'committed to the tradition of the new and does not have a complex relation to the past, pluralism, continuity and symbolism.'

(Jencks 1986 p40) 'The main motive for Post-Modern architecture is obviously the social failure of Modern architecture' (Jencks 1986 p15) From the late 1960's on many blocks of Modern apartments were intentionally demolished in America and Europe in order to make way for new buildings. Modern architecture failed because of an over-emphasis on the use of technical solutions for social problems, the use of cheap materials and basically the failure to meet peoples needs. Often people could not relate to the buildings-they felt

lonely and separated from the community. Much of the time the inhabitants of these buildings simply did not like or understand their surroundings, and in many cases Modern buildings did not integrate well when constructed beside older buildings in a city. However, Modernism was not all bad-aesthetically much of it was arguably sound, and from a production point of view there were many discoveries. The problem was, these things were done without sufficient sensitivity for the people who were going to live in them and for the surroundings. Post - Modernism was a reaction to this insensitivity, and by the 1980's its architecture was well established.

Robert Venturi is an American Post-Modern architect, whose book Complexity and Contradiction in Architecture published in 1966 made a big impression on American architecture. Clearly America has a strong influence on architecture in other parts of the world because of its power and pluralism. A main part of Venturi's work concerns the relationship between the inside and outside of a building. The exteriors of his buildings reflect the external public forces, whether Pop art or urban space, while the interior reflects the 'individual circumstance' (Jencks 1973 p218). In the house in fig10a the facade has a public function in that it attempts to communicate, whereas the inside is private. This contradiction, it is claimed by Jencks, shows a return to rhetoric and social discourse. The facade is quite simple, there is a split in the roof and in the symbolic archway over the entrance, an ironic reference to classical architecture. The interior reflects the complexity of what Venturi calls the individual circumstance (fig 10b). 'Here it amounts to a distortion of circulation space to keep it at a minimum and the assertion of each functions' identity out of the rectangular frame' (Jencks 1973 219). The function of each room is expressed by starting a dialogue with the next adjoining room, perhaps by means of using similar colours, materials or furniture in both rooms. The dialogue could take place (as in fig 10c) where the 'stairway distorts one way to acknowledge the entrance, the other way to recognise the chimney' (Jencks 1973 p220). The point is that each room relates to the next, and that is what it seems the house owner wanted. This could be connected to what Jencks meant by a return to 'rhetoric and social discourse' from the point of view of satisfying people's needs in terms of architecture:

I think you can discuss a lot of different questions concerning the building you are going to design for a certain group. Most often the people you are dealing with will not be the people who are going to live or work in the building. Therefore I think one must design for human values which are common-one must design buildings and space that are good for the human being in general-that have much more general qualities and qualities which can be appreciated by anybody. There is no doubt that you can design

spaces in buildings which appeal to most people, and it is a question of finding some general principles of design.'

(Larsen 1991)

In seeking to find general principles of design Venturi's work may be lacking through an overly negative opinion of Modernism when he says: 'I like complexity and contradiction in architecture. I like elements which are hybrid rather than pure, I am for messy vitality over obvious unity, I prefer 'both-and' to either-or'. (Jencks 1973 p221). This also tells us much about the difference between Modernism and Post-Modernism in architecture. Venturi sees a greater richness in the ironic view towards reality over a simple outlook, and that a building should make reference to the pluralist culture by being complex and contradictory, for him 'more is not less' and he argues for the inclusion of all elements in a building regardless of their origin.

In my opinion perhaps it is more important to have buildings with good general principles of design that are comfortable and pleasant to be in, and constructed of good materials, than it is to make reference to pluralism and mass-culture in a building, where 'anything goes' in terms of the materials and elements used. Of course there needs to be some leeway in this respect, otherwise it involves a form of rigid control. The local architectural culture, materials, and topography I think are some key elements in the making of good design. In fig 11 the flat roof and cubic form have a Modern look. This is offset by the use of differently shaped windows and the use of two colours on the outside. Arguably the house looks unresolved, like a Modern house with the 'bits stuck on' for example the large number nine on the house looks like an added effect. James Stirling is said by Jencks to be another important architect of recent years. He is: 'perhaps the apotheosis of the functional sensibility, not that his buildings work extraordinarily well, but (more important) they look and make the inhabitants feel as if they did, i.e. they are the 'essence' of the representation of function.' (Jencks 1973 p261) In 1959 Stirling began designing a new kind of building, (fig12a,b) which was basically a new skin architecture with an undulating surface that could wrap around and articulate any function' (Jencks 1973 p263). The word Post-Modern itself is a double word and therefore its definition will include 'double coding' which means that many Post-Modern architects will use elements of both Modernism (elite and new) and Post-Modernism (popular and old) in their work. Elite could be used to describe the house in fig 1 by Le Corbusier. There is the purity of design approach and the claim by some critics like Walter Curt Behrendt in 1931, that such houses were suitable only for 'cultured people'. On the other hand the house in fig 11 by Venturi is less formal in design with perhaps more popular appeal:

The most notable and perhaps the best use of this double coding in architecture is James Stirling's addition to the Staatsgalerie

in Stuttgart (fig 13a,b,c). Here one can find the fabric of the city and the existing museum extended in amusing and ironic ways. The U - shaped palazzo form of the old gallery is echoed and placed on a high plinth, or 'Acropolis' above the traffic. But this classical base holds a very real and necessary parking garage, one that is ironically indicated by stones which have 'fallen' like ruins, to the ground. The resultant holes show the real construction not the thick marble blocks of the real Acropolis, but a steel frame holding stone cladding'. (Jencks 1986 p18)

Jencks says that we can look at this building and think about the past and our lost innocence, in the sense that it is no longer appropriate to present day living to design in a purely classical way. He argues that it is possible to use elements from classicism today in order to show how we have changed and perhaps to express something of the splendour and elegance in classical design, as long as we admit that we are using such elements to communicate this change in time and are not merely reviving dead classical elements. 'Architecture today seems to be drawn between a ' high tech' approach which is geared mostly towards production and' the provision of a "compensatory facade" to cover up the harsh realities of this universal system'. (Frampton 1985 p17)

While Post-Modernism often relates to the use of ironic commentary and parody, arguably much of this this architecture does not celebrate our various cultures but relates to a 'bland mass culture' using pluralism as an excuse for pastiche and bad design. In the Staatsgalerie fig 13 we are allegedly reminded of our past and lost innocence, which are ironically indicated by the ruin-like quality of the stonework. I do not however think that being reminded of our lost innocence is very important. Of course we need to acknowledge the architecture of the past, and where appropriate to use elements from it in our buildings. Perhaps we need to live more in the present rather than looking back to the past. There are important issues to be faced up to now and in the future, such as how architecture should relate to the environment, energy conservation and the type of building materials to be used. With regard to the 'new skin' architecture of Stirling (fig 12,13), Jencks says that his (Stirling's) buildings do not work very well but make the inhabitants feel as if they did. I do not think that people should have to feel that something works well if it does not. There is the suggestion that the 'skin' is representing something that is not really there, almost like an unnecessary decoration. If a building is well designed and meets the inhabitant's architectural needs, presumably they will feel it. Architecture which is the art of building and 'derives its authority from tectonic reason'. (Porphyrus 1986 p30) is in many Post-Modern buildings denied this 'reason'. This could be said of some of Stirling's 'skin architecture'. (fig 13) 'The tectonic is embodied in the revealed ligaments of the

construction and in the way the structure resists the action of gravity'. (Frampton 1985 p27) It is the assembly of the parts to create a structural harmonious whole.

Clearly the tectonic 'cannot be brought into being where the structure is masked or otherwise concealed'. (Frampton 1985 p 27) However it is not always possible to reveal the structure of a building:

'In our climate and in our energy conscious time it is most often impossible to expose the structure of the building. Anyway in most of today's building types. Most buildings are to have an insulated skin and the detailing of this outer skin is bound to hide most of our buildings inner structural qualities. Only in specific building such as for instance large single volume structures (airports, stations, convention halls etc.) you can design the building and its structure in a manner as to be able to expose the interior structural qualities-or similarly where you are able to put the structure outside the actual skin.' (Larsen 1991)

In the following chapters I will discuss the work of the Danish architect Henning Larsen .who designed a building complex for the university of Trondheim in Norway in 1970. The buildings are connected by glass covered streets and also by bridges 'The idea was to cover the street like an ordinary walking-street. To create the bustle of town life, it was a protest against Modernism when they designed one off buildings with no proper coherence. I wanted to return to the close-knit town'. (Larsen E.B.U. 1990)

Larsen designs for human values which are common and good for the human being in general, through his use of light in particular, but also through his use of materials, form and colour. Larsen takes the local culture and architectural tradition into account when designing and uses elements from Modernism and other styles of architecture from the past when necessary. It is clear from the above that Larsen is a Post-Modernist.

DWELLING AND ARCHITECTURAL LIGHTING

In order to make our buildings more humane, we need to ask what we mean by humane? Put simply, it means constructing buildings that satisfy our needs as human beings. In theory our architecture needs could be divided into the 'physical/functional' and the 'spiritual/emotional' needs. Generally speaking our 'physical/functional' needs are adequate space, comfortable surroundings in terms of temperature, light and the use of materials and colour. In other words well designed living areas, which are efficient for our daily needs at home, at work, and in public places. Our 'spiritual/emotional' needs are more difficult to define. The word spiritual could be defined as relating to that part of our personality that is believed to survive death. Generally it could be said that the spiritual is a feeling or sense of something powerful that is within us and yet outside of us, a force or energy beneath the surface of everyday life and yet something that has not been proved. This leads on to what Heidegger says in his article "Building, Dwelling, Thinking " (1971). According to him, to dwell means many things, it includes to stay in a place, to remain in peace, to cultivate and care for, to feel at one with ourselves, others, nature and the universe. Heidegger gives an example of a farmhouse in the Black Forest 200 years ago, where peasants dwelled: 'Here the self - sufficiency of the power to let earth and heaven, divinities and mortals enter in the simple oneness of things, ordered the house'. (Heidegger 1971 p160) In this house there was a closeness to nature, the earth, the sky, there was an altar and apart from bedrooms and other living rooms, there was a room or a place for a coffin to lie. The journey of life was there in the house. What Heidegger is saying, is that these people knew how to dwell at that time, as full human beings as best they could, expressing their feelings and so on, and that therefore they knew in what way to build. 'Only if we are capable of dwelling, can we build'. (Heidegger 1971 p 160) Even though Heidegger is not suggesting that we should live like that now, it could be said that he over-idealizes the peasants of the Black Forest 200 years ago. These people had a hard life economically, there were various forms of oppression at the time both political and religious. Who is to say that many people today do not live as full lives as they can, lives that could be more full than those of the peasants 200 years ago? Who can really say how we should dwell? As human beings we are evolving and changing, we are learning more about ourselves all the time. In my opinion perhaps part of the way forward is through more communication, more sharing of power and responsibilities in communities so that people can express their views about what kind of buildings they need. At the same time, architects may need to design in a more general sense without forcing rigid points of view on people.

One important point I think is that our bodies are not just functional and therefore we need more than just functional spaces. There needs in my view to be elements and qualities in our buildings, which enable us to experience a sense of well-being, to be uplifted, that acknowledge our culture and geography, and enable us to communicate with others. I will examine the extent to which Henning Larsen's work satisfies the above criteria.

Larsen's work first aroused attention in 1953 with his proposal for the Langelinie Pavilion. After entering competitions with other architects for many years, he finally was able to begin to realise his own ideas' with his design for the University Of Trondheim, Norway, in 1970.

ARCHITECTURAL LIGHTING

With reference to buildings: public spaces, and work spaces, relate directly to our dwelling, because we spend so much time in them and what we do in them is an extension of our dwelling and is part of it. Along with the shelter, warmth, and security given by a building, lighting is a major contributor to our well-being, while being an important element in the design of a building. With reference to Larsen's work and his use of light, the European Broadcasting Union television programme "Light the Now" (1990) had this to say:

Architecture for him is a way of celebrating the 'now', the present, the presence of being. That moment in time, when a structure-when one's presence and the light come together to form a true architectural experience. The sun moves around and the way it changes the light helps create the experience of the 'now', just as it does in nature. This sense of time has a great influence on Larsen (E.B.V. 1990)

Larsen considers the lighting throughout the design process in order to achieve an integrated overall design in a building. A good harmonious lighting system will satisfy the needs of its inhabitants at all levels. It almost goes without saying that natural light should be used in a building as much as possible. When artificial light is used it should be of the right colour, intensity and distribution according to the need. Daylight is variable and artificial is not, so both need to be used together in a system that gives the required result:

Daylight can be used by the architect to emphasize or to subdue forms and space. In his architecture an architect can dramatize an interior by a clever use of daylight. He can make a space dull or highlight a space or certain elements in his architecture by using the light. He can give an interior a mild and comforting light or if he wishes an irritating light, maybe almost blinding light to stress comfort another place. It is important to create variety to stimulate the eye walking through a building from space to space to

give rhythm, variation, stimulation and contrasting architectural experiences. Thus daylight should not be of the same intensity throughout a building. (Larsen 1991)

Figs 14 and 15 show two of Larsen's most recent buildings, the Ministry of Foreign Affairs in Riyadh (1982-84) and the Frederiksberg School of Business in Copenhagen (1988-89) In the Riyadh building, because of the climate the architect had to keep out the heat and intense light: 'You have to let light in, in sufficient quantities to create a pleasant indoor ambience, that was our starting point'. Larsen (E.B.U. 1990) In this building a triangular street goes around a triangular lobby lit by skylights, which bathe the white walls in light from the side. High key lighting (where all areas are equally lit) is combined with low key lighting(certain areas lit) to give a diverse and rich atmosphere. The triangular lobby fig 16 has large clear glass tungsten bulbs hanging from the high ceiling which contribute to the reflected light from the walls. Reflected light can have many qualities, its intensity is reduced, its colour is different because of the surfaces it strikes, also reflections from the light coloured walls soften shadows. Reflected light is used very effectively by Larsen in this building: 'The windows in the outer walls achieve a special treatment through the use of a double wall construction. Light falling in through the small square windows is reflected in a niche and then into the room through arched openings, thus reducing glare.' (fig17) (Abel 1985 p315) The way in which one space is related to another can create diversity and richness in an interior, for example a dark space leading to an open brighter space (fig 18) 'Light flowing obliquely across a form or object will create light and shade patterns that express three dimensional properties and relationships' (Bell 1988 p55-63) Because of the number of interior arches and windows, the indirect reflected light coming from the skylights and light towers creates a wide variety of light and shade. Many of the windows have a criss-cross covering which casts an ever-lengthening shadow as the day goes on.

The light and the way light falls across an interior has values for me beyond the purely functional,for me light has great spiritual value. I often sat in pews examining the murals and the light which is so lovely in old churches. The light seems to bounce off the thick walls up to the vault and around again. Reflected light has always meant a lot to me. I think this has left its mark in the way I have worked so much with light as an architect. Larsen (E.B.U. 1990)

It is clear from what Larsen says about his use of light in his work, that he does not use light merely as a design element. Light he says has a deep significance for him and his use of light in this building in Riyadh is arguably both sensitive and artistic, so that the person experiences the building, feels part of it, is uplifted.

Being an architect is not just a question of building walls, what is important to me is more than just solving practical problems, the mood and the atmosphere that comes with the finished building that is the goal we work towards, creating the mood, making a place where it is nice to be and which gives you a lift and cheers you up as you walk through the building. Larsen (E.B.U. 1990)

In what way does Larsen use light to achieve these results and how important is light in his buildings ?

I think daylight (and also artificial light) is very, very important in any building. Light is of paramount importance, and I like very much to get the utmost out of daylight to enhance interiors. To give variations for the eye and to support the rhythms and proportions in a building. Light can emphasize certain parts of the interior-it can create drama, comfort, quietness mildness, it can be dull or stimulating and the variations of the daylight throughout a building and the variations during the daytime can be a wonderful enhancement. (Larsen 1991)

In order to design lighting for an interior so that it is comfortable and suitable for the particular function whether it be relaxation, work, or a public space, one must balance the intensity and quality of light both natural and artificial, with the forms and spaces to be defined by that light. From the point of view of natural light we can look at the Riyadh building interior. The inside walls of the triangular street fig 20 meet at three sharp junctions and each junction is marked by an octagonal 'light tower'.

Each tower is capped by a dome in the middle of which is a circular skylight slightly larger than those in the streets from which a well defined shaft of light beams down to place an oval disk of brightness on the walls of the tower, swivelling slowly round like some lazy search light as the day grows on'. (Abel 1985 p315)

Below the light towers is an octagonal floor with a large marble bowl whose fountain flows into a pool (fig 19). The moving shafts of light in the streets can be seen in (fig 20). On the ground floor there are two pierced octagonal light shafts like the three larger ones which are sky lit. They also have a fountain at the base but are freestanding with stairways (fig 21). 'The effect of the light seeping down and through the arched openings in each side of the octagon gives these smaller shafts a special power of their own. These are two minor miracles of light and space'. (Abel 1985 p315)

There are many elements from the Riyadh project used in the Frederiksberg building (fig 15). Natural light comes in from the roof through long skylights onto the 'street' and like the Riyadh building there are mainly white interiors, outside and inside windows and marble floors (fig 22). Again, as in Riyadh, a rich atmosphere and pattern of light and shade are created (fig 23) as the sun changes position during the day. On the ground floor canteen area there are small and large rectangular windows which allow light to flow in (fig 24). In the library light enters through circular skylights (fig 25). From a functional-aesthetic point of view, the type of artificial light used is important, so also is the positioning and distribution of light fittings. There is considerable evidence (Burian 1987 p30) to show that fluorescent lightening is not only very uncomfortable, unfriendly and unflattering but can make people irritable and ill. Along with this , the ultra -violet rays of fluorescent light can react with chemicals present in carpet glue and photocopy machines in offices, to create a photochemical 'smog' that can cause eye complaints. The distribution of light fittings can contribute towards a harmonious atmosphere, where for example instead of rigid straight lines of fluorescent lights on ceilings in offices (which can be oppressive), there is desk lighting as well as background lighting of the correct colour and intensity working together with natural light . 'An intelligent and creative lighting scheme will bring out the positive virtues in most of us because its life-enhancing cheerfulness warmth and sympathy is contagious'.(Burian 1987 p30) The arrangement of light fittings, the type of artificial light used plus the addition of natural light creates a rich, rhythmic atmosphere in the lobby of the Riyadh building (fig 16). Using the correct lighting for a particular function goes a long way towards good design in the Frederiksberg Business School canteen (fig 24). Lamps hang from the high ceiling to eye level on the tables. Again an intimate,calming atmosphere is created which is pleasant to be in and the distribution of the lamps creates an interesting pattern across the room at eye level. An 'interior street' goes from one end of the building to the other as in the Riyadh project. In the Frederiksberg building there is a bend in the 'street' with large clear glass light bulbs hanging from the ceiling.(fig 22) 'This street is more beautiful than a straight street, ones perceptions respond better to such a street, you feel it especially at night when the lights come on, the lines that the lamps make form a curve'. Larsen (E.B.U. 1990)

CULTURE AND REGIONALISM

The foundations of Islamic culture were laid by the Arabs using religion as a means of expression, language, writing and visual symbols playing the decisive role as the unifying elements of the principal structure. Islam prohibits a naturalistic reproduction of nature, the vigorous rejection of an art form which imitates nature, means that Islamic art consists of highly connotative abstract expressions. (Larsen 1983 p95).

Building today is strongly influenced by 'universal technology'. There is a kind of Post-Modern - 'International Style' going on at present which partly reflects mass culture as in the buildings of Venturi and makes references to past styles of architecture through the use of ornamentation. This style of building differs from the Modern International Style as developed by Van der Rohe Le Corbusier and others in a number of ways. Firstly the Modern International Style did not reflect mass culture but aimed instead towards a purity of design that could change public consciousness, and did not use elements from past architectural styles. Where the two building 'styles' overlap is the use of prefabricated units which can give a 'sameness' in appearance and a consequent loss of 'place' to a building. Thus, the term Post-Modern - 'International Style'. A reaction to this type of building is going on at present, but as yet seems to have made little progress. It can be called 'Regionalism' which broadly means building with elements and materials from the local architectural culture, but with the help of modern technology. If we are to construct buildings that are 'humane' and good to live in, arguably they must reflect the local culture, and use local natural materials as much as possible. Otherwise people end up living in buildings which are meaningless and placeless. Larsen took full account of Islamic culture in the making of his design. First of all, he noted that the traditional Saudi town functions as one big building complex, simple on the outside and rich and varied on the inside with bazaars, houses, public buildings and temples linked together by 'interior streets'. He used this concept in the Ministry of Foreign Affairs building in Riyadh.

'One of the most characteristic features of Islamic architecture, is the focusing on the clearly defined interior as opposed to the exterior'. (Larsen 1985 p95) The exterior is usually plain and has a closed appearance because of the climate but also because an anonymous facade in Islamic ideology warns against the manifestation of power and wealth of gaudy buildings. There is however a problem about this, in that Saudi society is not democratic, and if Islamic ideology warns against the showing of wealth does it not also warn against the hoarding of such wealth and the unequal distribution of this wealth ?

Is it alright to have enormous wealth and power and to deprive the less well-off in society as long as this wealth is hidden behind an anonymous facade?

In the Riyadh building local light shines into the interior which 'guarantees the appearance of a place conscious poetic'. (Frampton 1985 p27). The whole atmosphere in this building is one of peaceful ambience, a church-like atmosphere, where the changing patterns of natural light create a relaxing, uplifting visual experience. Larsen shows great sensitivity to the Islamic (Saudi) culture, by creating such an atmosphere which is completely unlike that of the interiors of other buildings in Saudi. These other office buildings were mainly constructed by foreigners who took little account of the culture and built skyscrapers of glass and steel, where there is little natural light, only fluorescent. Allowing for Larsen's sensitivity to the Saudi culture, there is a contradiction between the humane, peaceful and uplifting atmosphere of this building in Riyadh and the values of the Saudi government and society in general. Saudi Arabia is a racist, sexist, hypocritical and cruel religious oppressor of its people. It is a society where women are treated as second class, and, inhumane barbarous punishments are given to those who break Islamic law. It is a government that sought the help of the U.S. government at the time of the Iraqi Gulf war and yet has not taken on very many of the democratic values of that country. How can one design a building for such a country? This is a very difficult question. On the one hand, one could argue that anyone working for the Saudis be they architect, nurse, doctor, carpenter or engineer is supporting this society. On the other one could say that in time, by working with the Saudis and exchanging cultural ideas (as Larsen is doing) that this may help them to be more objective about themselves and to see the oppressive aspects of their society for what they are and hopefully to change them. It is not a question of the 'West' telling them what to do by force, but in my opinion no cultural value whatsoever can take precedence over human rights, and in time the world community may bring pressure to bear on the Saudis as happened in South Africa. Leaving this argument aside, however important light is in a building, there are other elements to be considered. It has been said by (Frampton) that too much concentration on the visual suppresses the other senses of smell, hearing and taste, and a consequent distancing from a more direct experience of the environment results. Larsen says that:

Architecture is most often read by vision-by seeing. The other senses are more indirect in activity when reading architecture. Certain times the other senses have almost had nothing to do when reading architecture, because our time has been dominated by a so called minimal art and architecture with a minimum use of material

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of texture, colour, different materials etc. I think that emphasis on the use of different materials and colours .i.e. stimuli for the different senses vary from time to time. Nowadays we see various trends in postmodernism. (Larsen 1991)

Larsen points out that 'daylight should not be the same intensity throughout a building' and that 'the theme of variation can just as well be applied to acoustics'. (Larsen 1991) The sense of touch too has been neglected: 'The impulse to touch returns the architect to the poetics of construction to the erection of works in which the tectonic value of each component depends upon the density of its objecthood'. (Frampton 1985 p29). Tectonics, or the 'poetics of construction' it would seem are often forgotten by Post-Modern architects and through the use of irony and parody, 'facades' and cheap unnecessary ornament are used in many buildings today. To experience a building it is necessary to have a feeling of how it fits together, and nowadays many buildings are constructed with a 'universal' technique that gives in turn a kind of 'universal' structure which is covered by a standardised 'architectural skin'.

In the Riyadh building, Larsen opens up spaces, which he said himself were as if they were carved out of a 'block' which is the heavy stone exterior presence of the building. The spaces inside have a classical appearance in that they resemble white 'Roman ruins', and there is a sense that nothing extra is added for effect, there is harmony of construction. Here perhaps we can see some influence from Le Corbusier, the white surfaces being in accordance with his ideals of harmony and purity. Of course this is not the case in traditional Islamic architecture, ornament being an important element. Larsen managed to combine the characteristics of Danish architecture which, usually includes, purity and integrity of design without unnecessary ornament (these are central elements of Modernism) with those of Post-Modernism which includes the use of architectural elements from past styles. In this case he used both European and Islamic (local Saudi Arabian Nejd and perhaps Mogul Indian) styles. There is cultural cross reference, the use of contemporary architectural ideas and building techniques to produce in this instance a Post-Modern building. Abel, claims that the monumental plan of the Riyadh building may have been suggested by the Islamic monuments of Mogul India and the Taj Mahal and one of his criticisms of the exterior of the building states:

Yet for all these references to an unreservedly monumental tradition, Larsen stops short of giving the building the full mantle of a monumental architecture. But in steering clear of any clichéd repetition of Mogul form, Larsen totters dangerously close to a pastiche of another kind. For what one actually sees is something like a fortress. All this adds

up to an intimidating aspect, and one approaches this building in trepidation. (Abel 1985 p314)

Larsen's concern for materials is evident in this building. The floors are of marble which gives an acoustic quality and keeps the interior cool. There are open courtyards, 12 in all, surrounded by wooden trellising each with a variation on the Islamic garden. (fig 18) These give a cool shaded retreat during the day. There are 32 fountains in the building, and it is almost impossible to move without hearing the sound of running water (water like the garden to Muslims is a symbol of paradise). Danish culture is of course based on Christianity (or was), and the situation in Denmark is almost opposite the to that in Saudi in terms of the importance of religion in the culture. If it is impoverished because of this, it certainly wouldn't be the only 'western country' to be so. On the other hand it is free from the potential (and in the case of Saudi the real) oppressiveness of religion. Denmark is largely secular-what replaces the spiritual and cultural values of Christianity ? It is difficult to say, but the Frederiksberg Business School seems to have the potential to raise the human spirit, and in my opinion it does this mainly through Larsen's use of light. Frederiksberg near Copenhagen is really a town within a city with its own town hall. With this site Larsen has taken the theme of a community in one building (from the building in Riyadh with the interior streets) back to Denmark to be used in the design of the Business School, which is as he says 'a building turned inside out'. One of the failures of Modernism was that people were often cut off from one another in their community, and this kind of building is an important statement about our society and our needs. There is a classical feeling to the white interior like the one in Riyadh, but it is more angular and Modern. The exterior is quiet and relatively austere, white with a flat roof in the Modern style. Inside, the atmosphere is rich and luxurious in terms of materials and the architectural experience. The use of light defines the spaces and as one moves through the building there is a constant sense of change of atmosphere. (fig 23,26) The variation of light in terms of intensity and colour and the way the architect has used light and shadow to highlight and subdue forms and spaces helps create a rich visual atmosphere. The importance placed on daylight in the building ,and the way it changes during the day and with the seasons, creates a 'place conscious poetic' which enables the user of the building to know and feel where they are geographically. On one floor of the building there are square holes or windows in the walls (fig 27):

The little holes create a special effect, through the gaps you can actually see four walls, one behind the other. Walking along the corridor, you see through the gaps beside you to the gaps in the other three sections, giving you the impression that you are travelling on a train and the trains beside you are travelling at different speeds. (E.B.U. 1990)

This effect allows the individual to see through to other spaces in the building, and perhaps makes the person more aware of their own movements as they walk along the corridor. This allows the individual to enter into a greater experience of the building, and along with this the artistic treatment of light arguably helps raise the spirits. The floors are of marble and are similar to those of the Riyadh building. There is a fountain in the middle of the 'street'. Entering the library, the acoustic changes from marble to that of carpet, acknowledging the peaceful atmosphere. The light comes in through circular skylights which are echoed by the circular artificial lighting discs. (fig 25) Many elements of both the Riyadh and Frederiksberg buildings could be said to be successful architecturally and Nils-Ole Lund says that:

As opposed to Riyadh with its sequence of surprising spatial experiences, the concept of the business school is easily grasped. It represents the height of simplistic perfection. Yet there are traces of disorder in Henning Larsen's work - His proposal for SAS's headquarters outside of Stockholm in 1985 resulted in a somewhat bombastic scheme. His proposal for a three towered design centre on Copenhagen town hall square in 1986 was inexplicable banal in its symbolism. (Lund 1985 p55)

CONCLUSION

Henning Larsen is a Post-Modern architect who seeks to design living spaces that are comfortable, functional and uplifting and it seems that his method of achieving this is flexible and open.

In order to design architecture, the architect rarely takes the actual programme as a point of departure-not directly anyway. Rather he starts from an architectural idea, although the programme is the offspring of designing that specific job. Such architectural ideas can have their offspring from many different sources and often occur as images or feelings. These vague beginnings are as a rule immaterial and cannot really be described. Often I start with a feeling that I want to design something, not knowing really what, and then start the pencil, and things hopefully occur. The strange thing about all of this is that the design process does not really start from anywhere, and at the same time it starts from everywhere. The design process is a process where one jumps from one thing to another, from one scale to another. Continuously the mind is following this very jumpy process with an almost simultaneous analysis of what one just did, in order to evaluate and control. As this process comes closer to a result, the more the controlling analysis comes in, in order to see that everything gets right. (Larsen 1991)

In what way is architecture to develop in the future and how are the environmental concerns of the Green movement likely to effect this development?

There is no doubt that environmental questions will be still more important. Up till now these questions have had only minor influences on prominent architects' work. Generally speaking I think that our lives in general will have to take into consideration that we are going to live in cities and closer together, as one of the major imperatives in future living will have to take the energy problem seriously and simply to have less glass surfaces in our dwellings, which is the first thing to consider when talking about energy saving. Living in cities, rather dense will save energy. Having better insulated buildings with less glass will save energy. This sounds very dull and uninteresting-but it is a fact. I think it is a general attitude in our northern countries to see the sun and the daylight as a scarce resource and therefore architects have for generations tried to get the very best out of the available daylight. I feel the sun and the daylight is a precious material and

a material that can give you stimulation in your daily life-can add to your comfort and welfare. It can be utilized by ingenuity to enhance the interior buildings in many different ways. (Larsen 1991)

In my opinion we need to go back to the past to revive some methods and traditions of building, for example in the case of a particular region, to use local natural materials and building techniques as much as possible, and to combine these with modern technology. However going back to the past should not mean reviving past architectural elements completely (because we need new elements to express our time in the present) but rather to use these elements sparingly and where appropriate. For example, in the integration of a new building with older ones. As stated previously Modern architecture failed because there was an over- emphasis on technical solutions to social problems. People often felt isolated and did not understand their surroundings. Modern architecture often did not integrate well with older buildings and the problem was made even greater with the use of cheap materials. Some Modern architects tried to change peoples consciousness rather than meeting their needs more directly. Post-Modern architecture communicates by using irony and pastiche, but it is questionable whether architecture is the appropriate means through which to use irony, because people require comfortable and well designed buildings not continuous references to pluralism and mass-culture. Often a 'skin' type architecture is used in Post-Modern buildings, where the internal structure is covered, along with the use of cheap materials. Larsen overcomes many of these objections to, and failures of Modern and Post-Modern architecture, because he designs for human values which are common and good for people in general, he has a strong sense of the 'well integrated community' where people can meet and communicate with each other. This is shown by the design of the Riyadh and Frederiksberg buildings. Larsen's work communicates by allowing the individual a greater experience of a building (by his use of light in particular) rather than by using irony and pastiche. He makes cross cultural references as can be seen in the Riyadh and Frederiksberg buildings and uses good quality materials. Larsen says that a 'skin' type architecture is often necessary but that it is not always the case ,that there are ways to avoid it in order to reveal the structure of the building.

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