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Silent Music in the Architecture
of Frank Lloyd Wright by Anne Moylan.

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SILENT MUSIC IN THE ARCHITECTURE OF FRANK LLOYD WRIGHT

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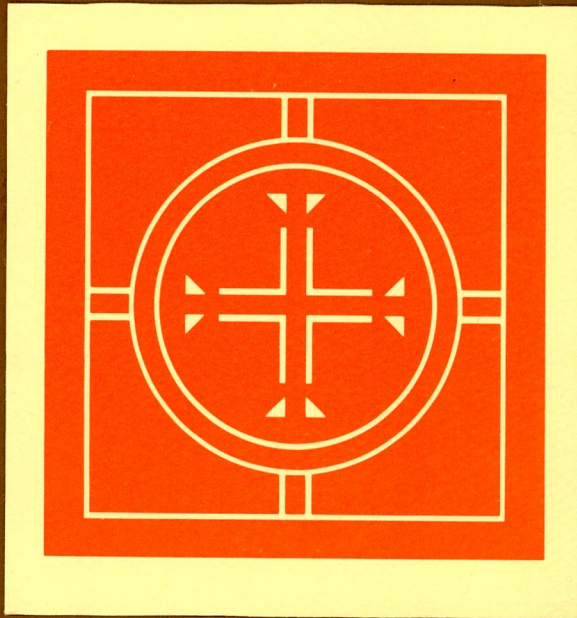


Fig. 1 Admission Ticket to Frank Lloyd Wright's Home and Studio.

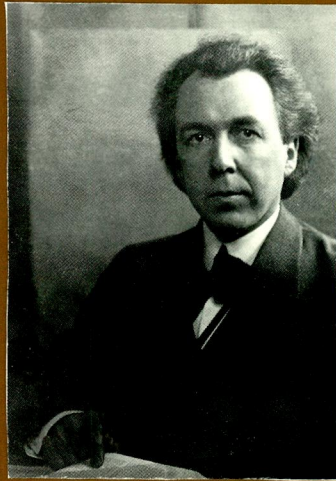


Fig. 1.1 Frank Lloyd Wright (1932)

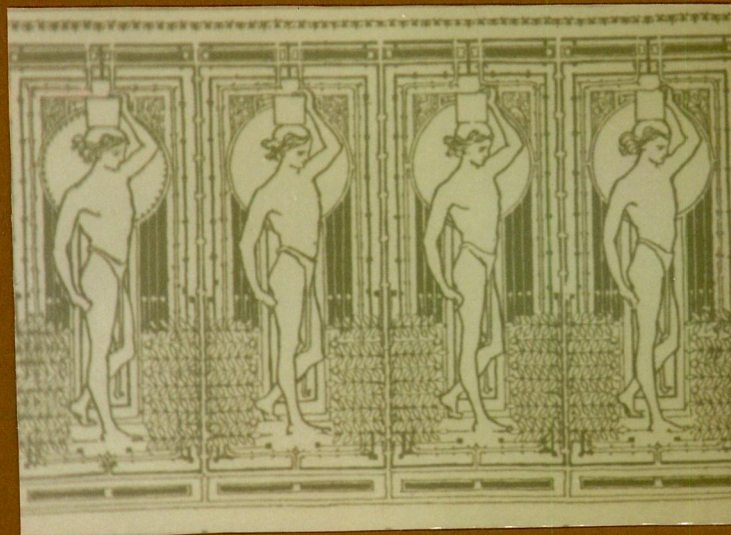


Fig. 1.2 Detail from 'House Beautiful' by William C. Gannett 1897
Kaplan 1987 P.198

Chapter One

Introduction

During a visit to Chicago in 1990 it became apparent that the architecture of Frank Lloyd Wright (1867-1959) (fig. 1.1) possessed a certain quality that was more than just visual.

Frank Lloyd Wright has been recognised widely as the most influential architect of the early twentieth century. He executed many designs for domestic architecture and his work reflected contemporary needs rather than past styles and made use of appropriate materials and technology. Wright produced houses that represented total integration of the site, structure and furnishings.

There are hundreds of books and articles written about Frank Lloyd Wright, his innovative powers, his involvement with the Arts and Crafts movement, his influence on Europe and his decorative designs. However, it is his own writings and lectures at the Taliesin Fellowship, (some of which are included on the accompanying tape) that inspired this thesis. There ^{are} ~~is~~ some references in ~~some of~~ these writings to the influence of music on Wright. Looking at the architecture of Wright the viewer becomes aware of the musical quality contained in the flow of line and rhythm and the sense of balance and space.

In his book "The Decorative Designs of Frank Lloyd Wright", David Hanks discusses music in Wright's graphic design for the magazine "House Beautiful" (fig. 1.2). He states that it can be heard as well as be seen and that the repetitive design of Wright as illustrated in a page of "House Beautiful" is reminiscent of the work of Beethoven. Hanks goes on to say that Wright would be designing while his wife Catherine played the piano. 1

In another book entitled "Mind and Image" by Herb Greene, the author states that a combination of rhythms can be harmonised in an image and that the result is like a dialogue or conversation in which one rhythm informs, supports or offers contrasts to the other. He states that the value of rhythmic dialogue is that it allows and encourages us to organise complex groups of contrasts much in the manner of orchestration in music. Greene uses the image of the interior of a Prairie House. Here, there are several rhythmic systems in dialogue between the shingled walls, floors and ceiling. He says they speak of human scale, warmth, softness and vibratory activity. 2

William Curtis, in "Modern Architecture Since 1900" compares Wright's dynamism in his buildings to a life force which Wright sensed in nature. He says that this force gave Wright's dwellings a quality of a spatial music in which rhythm, movement, repetition and variation of similar elements created an intense emotional reaction. 3

An article by Harold Henderson in "The Chicago Reader" of 31st August, 1990 compares Wright's artistry as being ranked with Michelangelo and Beethoven. 4

In the book entitled "Frank Lloyd Wright: His Living Voice" (which is a selection from his Sunday talks to his apprentices) selected by Bruce Brooks Pfeiffer. In his 1954 lecture at the Taliesin Fellowship Wright talks about Beethoven and how he was inspired by nature's sounds. Wright's father had taught him at an early age to regard a symphony as an edifice of sound. Wright compared himself to Beethoven in his approach to his work in architecture. 5

Wright was born in rural Wisconsin. As he was growing up in the 1870-80s his mind was directed by his progressive parents towards architecture, literature and music.

Wright entered the architectural profession in 1887 as an apprentice to Joseph Lyman Silsbee, a Chicago architect who worked primarily in the shingle style, in which the direct expression of wooden construction, informal open-planning, verandas, and a romantic display of hipped roofs chimneys and gazebo elements all played a part.

At the end of the year, Wright left Silsbee's office and began to work for Dankmar Adler and Louis Sullivan, who needed extra draftsmen for the Chicago Auditorium commission then underway. As the result of his preparatory working drawings from Sullivan's ornamental sketches Wright gained a solid understanding of the master's approach to design and ornament. About 1890, the principals of Adler and Sullivan firm, preferring large commercial structures began to turn small domestic projects over to Wright, who was then the chief draftsman, he spent increasing time on house designs, and was dismissed by Sullivan eventually in 1893 for accepting commissions outside the office.



Fig. 1.3 ^{William} Martin Winslow House, River Forest III (1892)
Clark 1972 P.290



Fig. 1.4 Frank Lloyd Wright Home and Studio (1895) Oak Park

How? When first on his own Wright worked in a variety of styles, including Shingle, Queen Anne, Old English and Colonial Revival. His William Winslow House (1894) (fig. 1.3) in River Forest, Illinois resembled Wright's own house built in 1889 in Oak Park (fig. 1.4). This house provides insight into his architectural philosophy. The renovations and additions (which began in 1895) to this shingle style building foreshadow some of the most important components of his mature work. The kitchen was converted into a dining area distinguished by stark geometric simplicity and totally integrated furnishings for example tall backed chairs appeared almost like screens, solid tables were given rectilinear moulding and stained glass windows were placed as friezes above simple wooden panelling (fig. 1.5). The variety of materials and textures lend warmth and visual richness to the room. The house also contains a two storey barrel - vaulted playroom with a fireplace mural and indirect lighting shown in his later Prairie style. In 1898 Wright added another wing, articulated with banks of windows and a series of posts and lintels in which he located his studio, office and library.

Wright's interest in a new native or indigenous style and in the integration of the construed environment led him to be one of the founding members of the Chicago Society of Arts and Crafts in 1897.

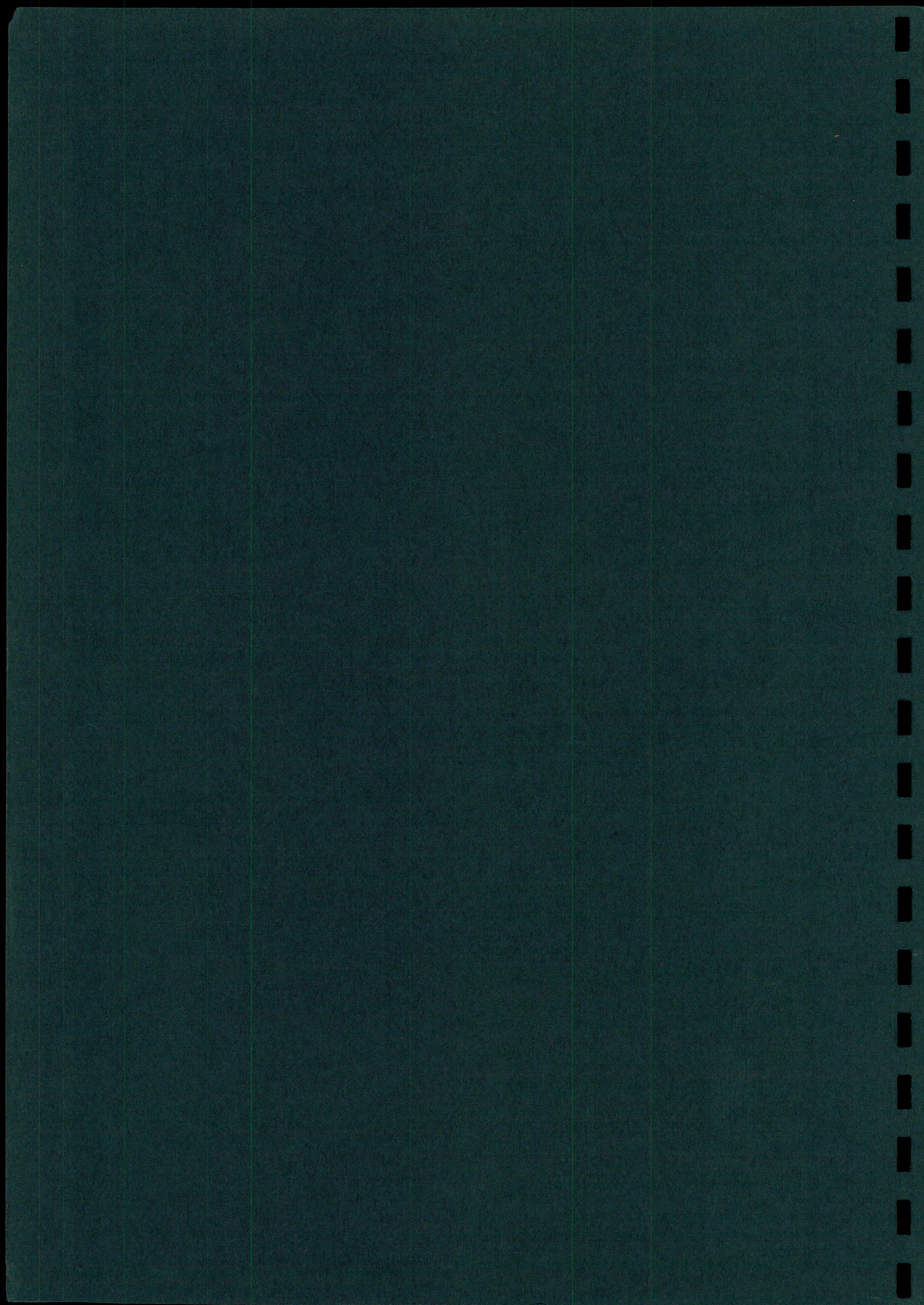
Chicago was one of the most important centres of the Arts and Crafts movement in America. The 'Great Fire' of 1871 caused tremendous damage to the city of Chicago, within a decade craftsmen were outdoing their contemporaries. Chicago provided Wright with the clientele, manufacturers and philosophy for developing his own style.

The founding of the Chicago Arts and Craft movement at Hull House marked a crystallisation rather than a beginning of the movement in the Mid-West. The culmination was the architecture and decorative arts of what is now known as the Prairie School.

The decorative designs of the Prairie School architect were an outgrowth of the Arts and Craft movement, ideologically and stylistically. Prairie architects derived an emphasis on unity of exterior and interior, a respect for natural materials, a desire for simplicity, an interest in Japanese art and in a geometric rectilinear style.



Fig. 1.5 Dining Room in Frank Lloyd Wright's Home



Wright strives for unity through the co-ordination of all parts of a work. By unifying his work he makes all its many parts appear as one coherent whole.

In an aesthetic consideration of Wright's work repetition, variety, rhythm, balance, emphasis, economy and proportion can be seen, all of which are present in music also.

Repetition is the use of similar design features again and again. Repetition tends to tie things together. It enables the mind of the viewer to understand what the eye is perceiving, the mind likes to categorise and perhaps count similar objects. Wright's repetition is handled subtly. He satisfies our desire for order without calling attention to itself.

Variety is another form creating interest. Wright engages our participation in comparing for example, light and dark areas, wide lines and thin line, heavy forms and lightweight forms, filled spaces and unfilled spaces. In music variety is used by composers as a vehicle of composition, for example "St. Anthony's variations" by Brahms.

Repetition and variety in art and architecture lend themselves to create a certain visual rhythm a more or less regular pattern created by the elements of the design as they seem to move and change through time and space. It is actually the eye that moves across the changing surfaces of the piece, this journey of the eye is an important aesthetic experience in Wright's architecture. Movements in and out, up and down, flowing and pausing and sudden changes in size, value or complexity create visual effects that can be compared to music. Rhythm exists as a substratum that usually does not call attention to itself, but nonetheless helps to unify the viewers or listeners perception of the piece.

The sense that a three dimensional work is visually balanced is another way in which a work may satisfy the mind in search of order. Each area of Wright's buildings suggest a certain visual weight, a certain degree of lightness or heaviness. Factors such as value, texture, form, size and colour effect our perception of visual weight. Texture is closely related to the rhythmic repetition of shape, it is tied to our sense of touch and refers to the apparent quality of surface. Frank Lloyd Wright's abstract non-representational works contain a expressive power of shapes and textures, their size and shape are sufficiently satisfying to the viewer. Like music expressionist architecture offers a form of creativity without the benefit of narrative or description.

Handwritten musical notation for the Suite for Orchestra in D Major by J. S. Bach, showing the Exposition and Counter Subject sections.

The notation is written on four staves. The first two staves are treble clefs, and the last two are bass clefs. The key signature is D major (two sharps: F# and C#). The time signature is 3/4.

The notation is divided into two main sections by a bracket labeled "EXPOSITION" and "COUNTERSUBJECT.".

The first section, labeled "EXPOSITION", contains the "SUBJECT" (first staff) and the "ANSWER" (second staff). The "SUBJECT" is a melodic line starting on D4, moving up stepwise to A4, then down to G4, and finally up to A4. The "ANSWER" is a melodic line starting on D4, moving up stepwise to A4, then down to G4, and finally up to A4.

The second section, labeled "COUNTERSUBJECT.", contains the "SUBJECT" (third staff) and the "ANSWER" (fourth staff). The "SUBJECT" is a melodic line starting on D4, moving up stepwise to A4, then down to G4, and finally up to A4. The "ANSWER" is a melodic line starting on D4, moving up stepwise to A4, then down to G4, and finally up to A4.

Fig. 1.6 Suite for Orchestra in D Major by J. S. Bach



Fig. 1.7 Sketch for Composition VII by Kandinsky

Emphasis in the form of beats may be quiet^{ly} distinct suggesting a series of dramatic single pulses, like heavy individual beats played on a drum a rapid staccato beat may indicate any abrupt shift in direction.

Economy in Wright's work is shown by the use of natural materials and it's natural surroundings.

Wright's use of proportion is related to the overall unity in his architecture, furnishings and decorative arts.

Wright considered his furnishings and architecture as one and was determined to create a new style of architecture, aimed towards a complete and wholly integrated environment. In a musical context the composer of a fugue 6 (fig. 1.6) must know its intricate rules but the test is in the total composition. The art work, basically has to be greater than the sum of its parts. In viewing art we should be like the good sight-reader in music who must learn not to read every note. Appreciation of such great organising principles as rhythm and balance can become quite unconscious in application, permitting instant and effortless awareness and enjoyment.

The abstract painter Kandinsky (1866-1944) made much of the analogy between abstract form in painting and music. His theory is that music has a dimension of time and development an essential use of silence and an extremely complex set of structures which may have loose analogies with abstract forms.

Kandinsky wrote more extensively than any other major artist of the twentieth century and his writings have been as influential as his paintings (fig. 1.7). His paintings evolved towards an absence of representational subject matter. He believed that painting should be 'an exact replica of some inner emotion'. 7 In freeing his paintings he sought a visual expression comparable to Wright's architecture in his freeing of space by eliminating box-like forms. Music is free in that it does not have to represent something to be enjoyed, we enjoy it because of the rhythms, melodies and harmonies it contains.

Between 1909 and 1913, Kandinsky focussed on the idea of a Gesamtkunst Werk (total art work). He believed he could incorporate the multiple stimuli of the stage compositions into his painting. It was through abstractions that he believed he could communicate the spiritual to his audience. Wright had very much the same philosophical ideas about his work. Like Kandinsky, using his canvasses, Wright portrayed the power of colour, line, movement, and space in his architecture. Painting, architecture and music have each got their own specific resources. Music by its very nature is abstract and can serve as a model or guide.

Musical experience which consists of sound taking place in time can be described in words but not fully or accurately as the composer Felix Mendelssohn wrote in 1842: 'The thoughts expressed by music are not too vague for words but too precise'. 8

All words can do is describe what we have seen or heard or thought and even still words explaining music will only make sense to those who either have experienced it or who are educated to understand it.

For example an analysis 9 of Brahms's A Minor String Quartet, Op. 51 No. 2 states that A major Andante contains exclusively motive forms which can be explained as derivatives of the interval of a second, marked by brackets a:b then is the inversion upward of a:b then is the inversion upward of a;

c is a+b

d is part of c;

e is b+b, descending seconds,
comprising a fourth;

f is the interval of a fourth, abstracted
from e, in inversion.

This sort of description is a burden for someone who has no experience of written music.

Purely factual information may help the listener in his subsequent understanding. Information about the composer, his age, origins, state of mind, the social and political background against which he worked and his relationship with other artists.

Music is intended to be listened to, not read like a book, the written score is only the blue print for performance. The score performed and heard is the complete work of art.

The Austrian composer Schoenberg (1874-1951) wrote in 1947

when people have learned to love music for itself, when they listen with others ears, their enjoyment will of a far higher and more a potent order, and they will be able to judge it on a higher plan and realise its intrinsic value. 10

The cognitive value of music derives from the high level of abstraction.

Much of our enjoyment of music as well as the visual art, is the satisfaction of finding order and meaning in seemingly complex patterns of stimuli. The mind can appreciate auditory and visual patterns. Great art frequently requires some degree of mental work on the part of the viewer or listener.

This is not our only enjoyment of music, music plays on our emotions, this is experienced particularly in vocal music, songs and opera. Grand opera, considered the highest form of musical art provides us with pleasure, emotional solace and inspiration. Its complex origins are rooted in our instincts to imitate, play, explore and to imagine worlds beyond our own.

The emotional reactions are deliberately triggered and magnified by the musical treatment of the composer. The expressive quality of the human voice is part of our instinctual system for communicating emotion, and operatic music makes much use of this very fundamental process.

Many musical passages are arranged so that they first relate to the normal heart rate, then accelerate progressively, thus raising the heart rate of the listener along with them. This rhythmical functions as a kind of auditory pacemaker. This heart beat treatment can also be compared to the rhythmical lines within Wright's buildings.

Music and vision therefore require a decoding system to enable us to comprehend what we are perceiving. In relation to Wright's work the range is from intricate complexities, repetition and pattern to quieter forms and space.

1. COLLINS, England. 1982. P.182
2. HANKS, London. 1979. P. 176
3. GREEN, Kentucky, U.S.A. 1976. P.124
4. CURTIS, Oxford. 1982. P.80
5. HENDERSON, Chicago. 1990. P.22
6. WRIGHT, Chicago. 1987. P.179
7. FLEMING, London. 1984. P.24
8. HENDIES, England. 1978. P.11
9. HENDIES, England. 1978. P.11
10. HENDIES, England. 1978. P.13

Music and Architectural Decoration in the Work of Frank Lloyd Wright

When observing the architecture of Frank Lloyd Wright we explore the shapes inch by inch, our vision must laboriously build up some notion of the total three-dimensional space which the eye comprehends in one sweep. Our eyes are like instruments which measure and identify.

In looking at an object we reach out for it. With an invisible finger we move through the space around it, go out to distant places, when things are found, touch them, catch the^m, scan their surfaces, trace their borders, explore their texture. It is an eminently active occupation. 1

The arousal function of sights is not confined to definite images or shapes. Configurations of lines and colours have the potential to influence our emotions.

Line is an important element of the visual arts. It is the visible link between two or more points in space. Line is sometimes called 'expressionistic' because it conveys a strong sense of emotional experience. Like lines, shapes also have certain qualities which the visual artist may use to present his ideas and emotions. For example, lines and shapes which are vertical give a feeling of strength upward movement and stability. We see this for example in certain trees and plants and the columns of church and temples. Horizontal lines and shapes indicate calmness. Our eyes move uninterrupted and undisturbed along the line of the horizon. Diagonals express vitality and movement. Movement is expressed in the arrangement of lines and shapes. Squares and rectangles are associated with stability and permanences curved lines and forms suggest smoothness and gently flowing movement. While circles are symbols of continuity ^{and} eternity. This journey of the eye assists our aesthetic experience in architecture.

Many artists and aestheticians claim that colour and colour harmony evoke (or at least suggest) various emotional states or moods. They imply that the emotional effect of colour somehow arises from a musical harmony which in some way moves us, a kind of 'platonic' vibration of the soul. Synesthesia is when people experience sensations of taste, sound, touch and smell when they see colours. These visual sensations fail to make music more enjoyable or more understandable, even when the tones evoke the same colours somewhat consistently.



Fig. 2.1 Library in Frank Lloyd Wright's Home in Oak Park



Fig. 2.2 Louis Sullivan, detail of facade on the Sullivan Carson Prairie
Scott Store
Clark. (1972) P.272

Kandinsky in his book 'Concerning the Spiritual in Art', draws parallels between the primary colours and shapes. Generally sharp colours are well suited to sharp forms, yellow and the triangle, soft deep colours to rounded forms, blue and the circle and strong colours in strong forms as red in a square. The Greeks (including Plato) concentrated on the effects of music on the emotions which ranged from magic efficacy to the creation of moods.

Eyes and ears are the more important sense organs for aesthetic pleasure. We can not exercise our senses of smell and taste in a work of art, they are unable to become 'an organ of artistic enjoyment' 2. We can indulge in smells and tastes but we cannot think in them. Texture is related to our sense of touch but despite its feel it has a visual quality of surface.

Vision is a highly articulate medium. It offers an inexhaustible range of information about the objects and events around us. In the universe of audible sounds, each tone can be given a definite place and function.

Musical thinking takes place entirely within the formal resources of the medium itself. There are many measurements of duration intricate patterns of pitch relations, the variety of rhythms, the relation between melody and harmony, the ranges and sequences of intensity and dynamics 3 and the different timbres 4 of instruments. To distinguish these intricate compositions or forms it calls for understanding and appreciation of music.

Wright tried to express himself through a language of forms and images. His aim always was to create a totally cohesive environment for his client: no detail was too small for his attention, for all the many elements, furniture, curtains, rugs, decorative window glass, lighting fixtures, vases etc - were so designed that each contributed to the total aesthetic impact of the individual space or building.

A collection of objects designed by Wright calls ones senses to work. We focus our attention on a particular play of forms (fig. 2.1).

It was crucial to Wright that his ornament be integral, meaningful and not applied. True ornament said Wright was 'the inherent melody of structure' It should 'exist as the manifest abstract pattern of the structure itself'. 5 In other words he wanted his ornament to be integrated with the fabric of the building itself. His ornament was 'of the surface not on the surface'.



Fig. 2.3 The Sullivan-Wainwright Building St. Louis (1890-91)
Sullivan Clark 1972 P.271

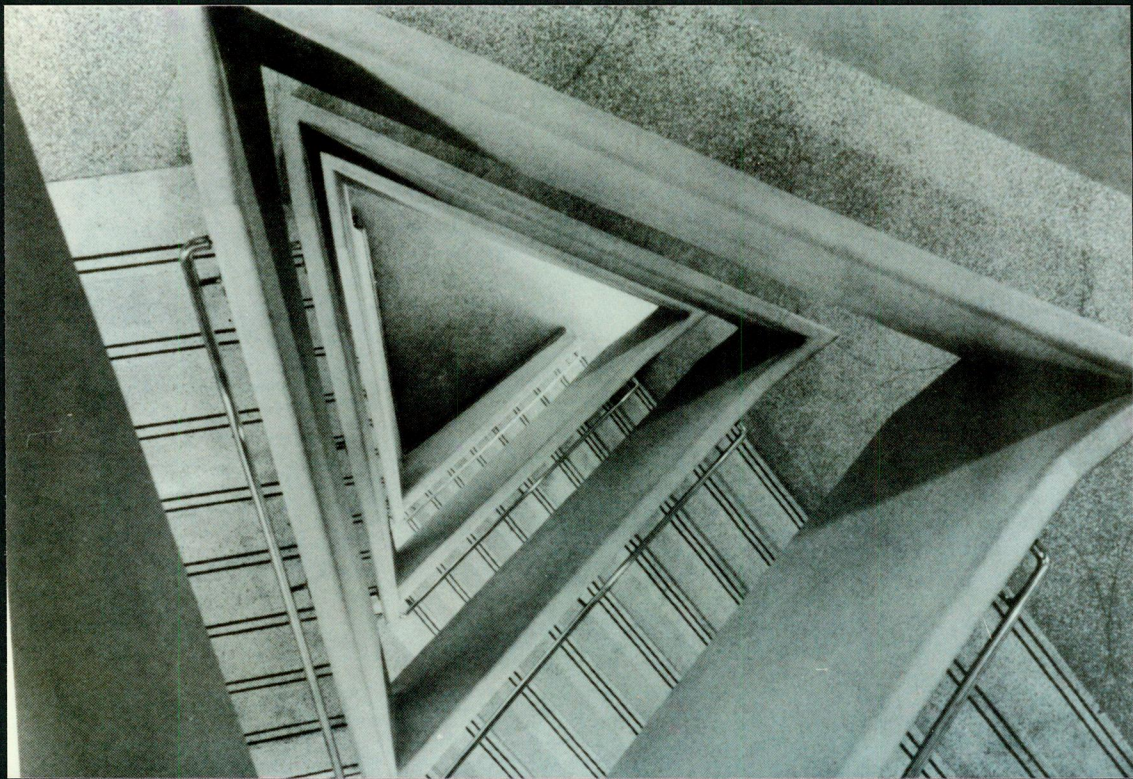


Fig. 2.4 Looking down the Stair well, at the Guggenheim Museum, New York.
Zelanski. 1987 P.61

Wright was in the office of Louis Sullivan from 1887 to 1893. Both employed abstraction from nature in their designs. Sullivan used a 'synthetic' approach beginning with simple geometric shapes and adding to them until he arrived at a form that was distinctly his own. Wright reversed this process, he took an actual flower and broke it down analytically into basic abstract shapes arriving at geometric designs.

Both were fascinated with botany. It was not the visible surface of the plant life that Sullivan wanted, but it's anatomy and growth (fig 2.2). Terra cotta was his material the one he loved most and worked with the best. It is a very manible material lending itself to be shaped into every conceivable delicacy and variety of form and movement. When fired his forms and delicacies become everlasting. It was an ideal medium in which to express the fluidity of Sullivan's ornament. His ornament is rich and full of expression (fig. 2.3).

Wright had a passion for angular abstract ornament and fanciful detail. He used the repetition of similar design features again and again. This device gives the mind of the viewer an obvious way to understand what the eye is perceiving. Looking down the stairwell at the Guggenheim Museum (1956-59) you are immediately struck by the repetition of similar lines, creating what appears to be a series of nested triangles (fig. 2.4). We do not perceive one line in isolation instead we read from one to the next, to the next, grouping them logically into a pattern. There is an analogy between reading patterns and listening to music if we look at a pattern whether it is simple or complicated we have read it, we do not take in at one go.

Another important use of rhythm is in the repetition of motif or shape often running through Wright's buildings. The repetition of this sameness of size creates a unifying rhythm, a kind of beat, which underlies the huge scale of the major shape and gives it energy (fig. 2.5).

It is interesting to note that although in his earlier designs, Wright caught the mind of the viewer by an intricate formal complexity, he developed on to creating a subtle variation of a simpler design which proved to be as engaging.



Fig. 2.5

A window detail from Frank Lloyd Wright's Arthur Heurtley House (1909).

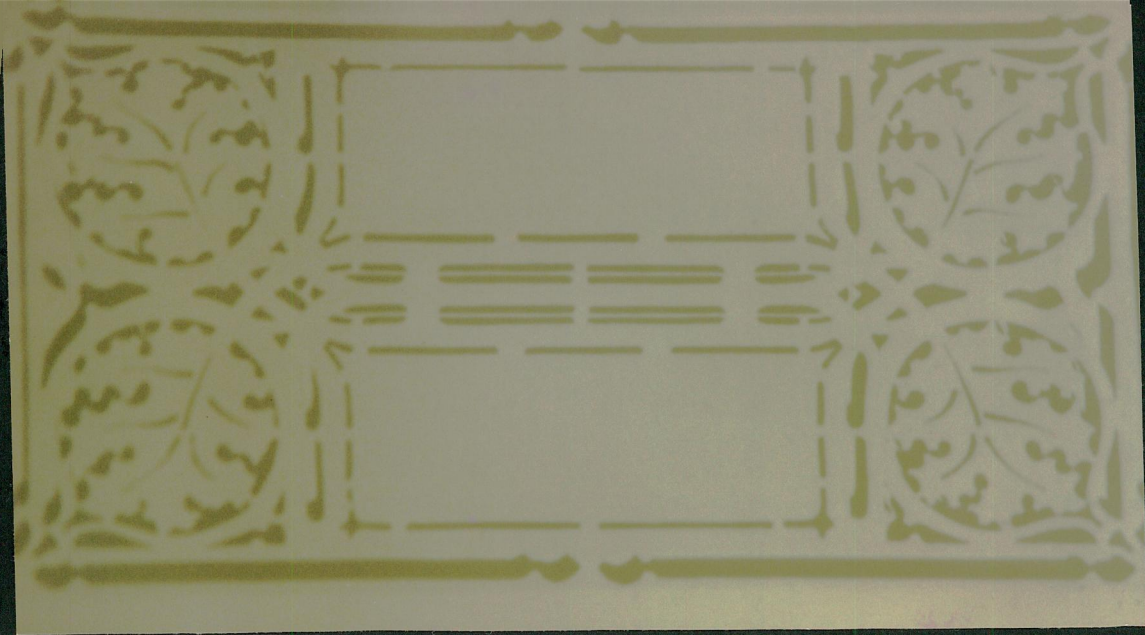


Fig. 2.6 Frank Lloyd Wright's cut-out panel from the Allison W. Harlan House, Chicago (1892).
Hanks, London 1979. P.10



Fig 2.7 Detail from William Winslow's Door showing a stylised oak tree.
(1894)
Hanks, London 1979. P.12

Wright's early use of organic ornament was seen in his first commission, the Dr. Allison W. Harlan House (1891). Wright used cut-out panels (fig 2.6) derived from a plant motif, in his case the oak leaf and its intertwining stems (fig. 2.4). Although detailed more simply than most of Sullivan's ornament, important design elements learned from Sullivan were used so that the ornament was internal to the building.

The William Winslow House (fig. 1.3) designed in June of 1894 also provided Wright with a great opportunity to display his virtuoso skills. Winslow was the first client of Wright's independent practice. The house is in style, its decorative plaster frieze emphasising the house's horizontal lines. However the symmetrical facade, the centered entrance door, double-hung windows and wooden arches do not appear in Wright's maturer Prairie style. One enters the Winslow House by a central hallway, dividing the library and a living room. Behind the hallway is a concealed staircase and the dining room which also divides a pantry, a kitchen and porch. The entrance hall is strikingly beautiful with an arcade before the fireplace, which faces the entrance and is reached by three stairs. The spandrels of the arcade are decorated with carved cutout Sullivanesque foliage. The carved design can be seen as a conventionalised flower when considered part of the column which serves as the stem. The front door is also a prime example of beautifully executed woodwork here (fig. 2.7). The stylised oak tree has a very thin trunk which grows into a wealth of foliage that is confined to the rectangular panel at the top, the carving is extremely fine.

The Ward. W. Willits House (1902-03) (fig. 2.8) is a masterpiece of the Prairie Period. It contains several consistent themes that run through Wright's houses, shelter, family and landscape.

Similar to the Winslow House the Ward Willits House has strong horizontal emphasis with an overhanging roof and deep eaves. The detail is crisp, the lines are sharp and the joints are clearly expressed. The form is dignified but has vitality. Wright constantly makes analogies with nature. 6 The metaphor of the tree was often used by Wright. The implications of order and rootedness and yet a capacity for growth and change. The tripartite scheme of roots, trunk and branches was in turn to infiltrate his formal arrangements. At Willits house the triple division of base, middle and over-hanging roof is clear. Windows are simple vertical screens. The walls are plastered and smooth and there are slats of wood which bring down the scale of the building so that it is not overwhelming.

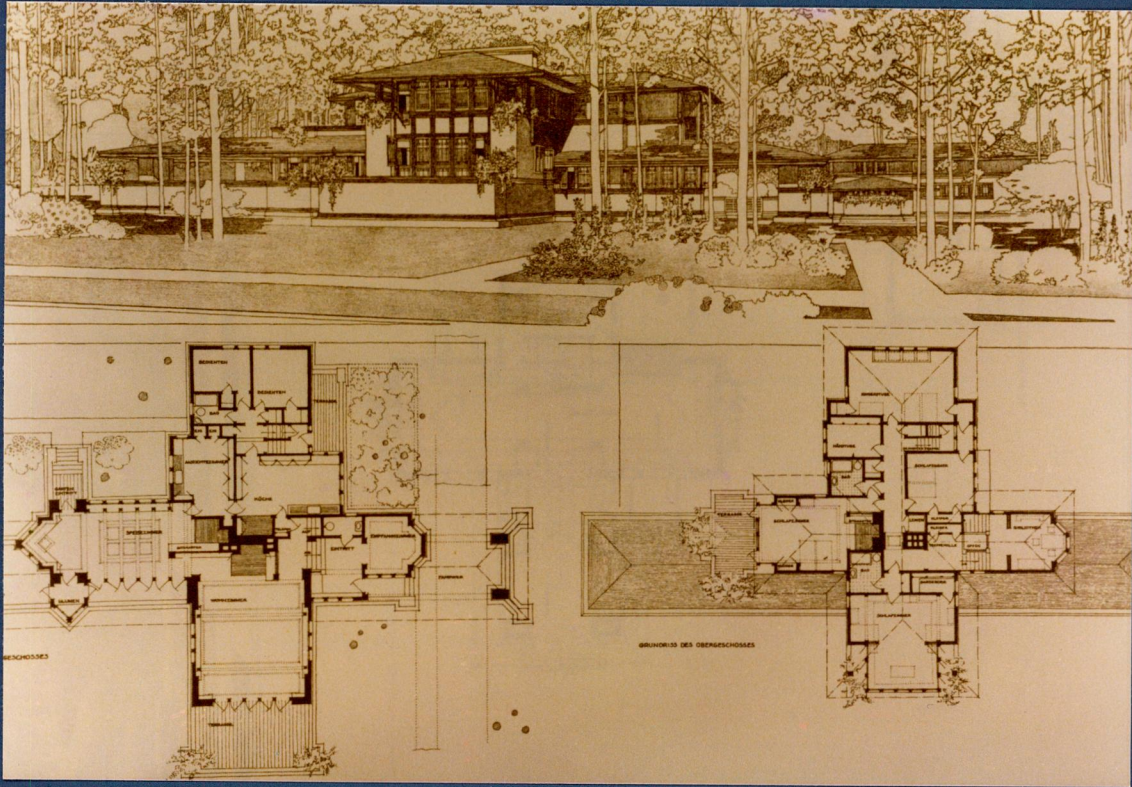


Fig. 2.8 Ward W. Willits, Oak Park (1902-03)
Clark, New Jersey. 1972. P.17



Fig. 2.9 Art Glass Lamp - Frank Lloyd Wright (1903)
Executed by Linden Glass Company.



Fig. 2.10 Dining room in the Dana House (1900)

Perhaps the most important and brilliant of Wright's architectural decoration is his designs for art glass used for windows, doors, lamps and ceiling lighting in his Prairie houses and buildings. Wright used glass as a structural and ornamental material. The designs of many of Wright's windows were based on nature. Plant forms were highly conventionalised usually to such a degree that the design became abstract. They were planned to thoroughly integrate with his organic architecture. Stripped of the windows, Wright's Prairie houses lack one of their most beautiful and important component. Although Wright's windows can be appreciated in single units owned by major museums, including Chicago's Art Institute, they are best seen intact. Buildings such as the Robie house and Unity Temple where it is shown how carefully Wright planned his designs to create an integrated environment.

Wright preferred clear glass set with small pieces of coloured glass to permit unobstructed nature views. Arranged in continuous horizontal banks across entire walls, the windows were structural elements of his architecture and at the same time shimmering glass curtain screens providing privacy. Even the colours he used were complimentary and muted, in keeping with the warm brown palette of an interior furnished in wood and leather. In some Prairie houses windows vary from room to room. By changing the windows, Wright changes the rooms, the colour, quality and play of light were important considerations.

Wright's use of windows and lighting fixtures was almost invariably connected with specific houses. For the Dana house in Springfield (1902) he designed a glass table lamp (fig. 2.9) of which variations occur within the house. The house contains both the largest and finest selection of Wright's glass. The lamp reflects the art and architecture of Japan which Wright was inspired by. It's form evolves from the flat overhanging shape of the countries pagoda roofs and parasols.

The Dana house involved an extensive integrated decorative scheme consisting of stained glass, furniture, lighting fixtures, textiles, wall murals, sculpture and even fountains, it was his largest project to that date (fig. 2.10). Susan Lawrence Dana's wealth, cosmopolitan taste, interest in collecting art, and social prominence provided him with the means to perfect his ideas. Wright sought to link the site and the house by means of earthy autumn colours. He consistently uses the local plant, the sumac throughout the house and in his stained glass windows. The earth colours he uses are amber, green and gold, he also uses clear glass (fig. 2.11). Other inspirations for his windows were butterflies, wheat and other midwestern flora. They extended the house outward and brought the outside in, the windows functioned more as light screens than as walls.

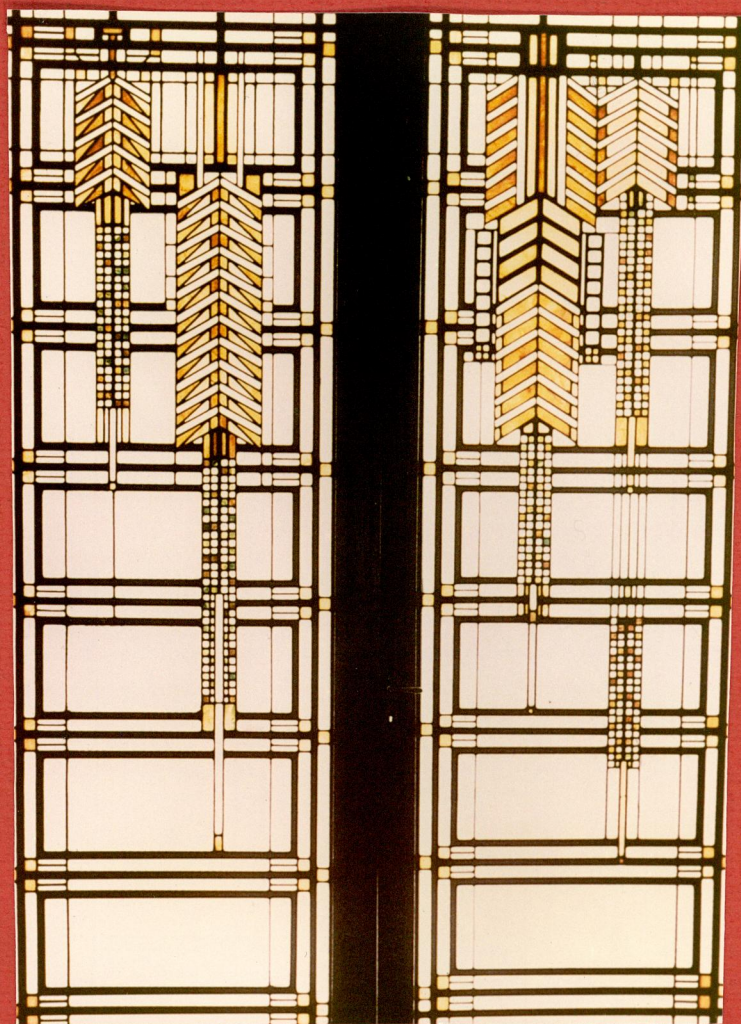


Fig. 2.11 Pair of Reception Hall Doors - Frank Lloyd Wright
for the Dana House (1900) showing an Abstract Geometric
Design of the Sumac Blossom
Valpe London 1988 P.155

Fig. 2.12 Window, designed by Wright for the Avery Cooney Playhouse (1912)
Valpe, London 1988. P.156

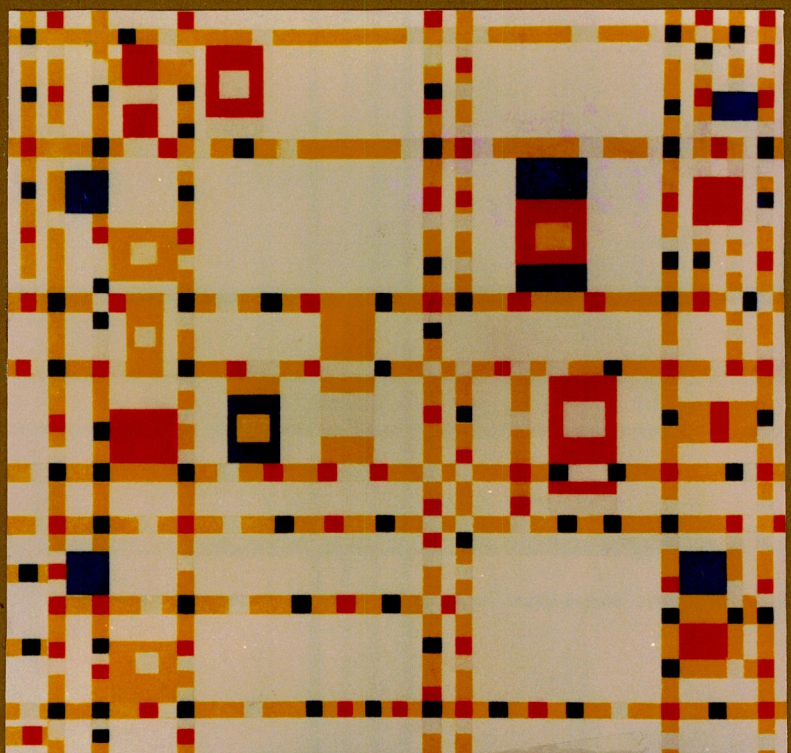
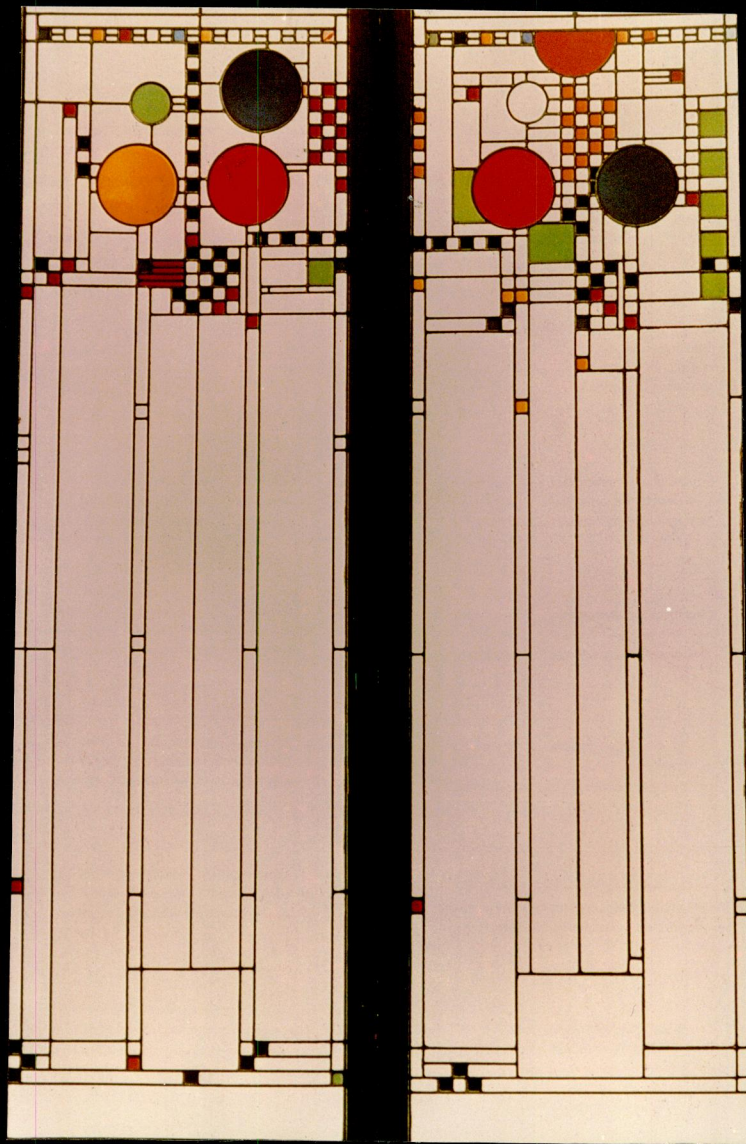


Fig. 2.13 'Broadway Boogie Woogie' Lemoine, Hazan 1989. P.124

In the designing of windows, both the glass and the leaded part had to be considered. Until the twentieth century, the lead was regarded as ugly and was kept as small and unobtrusive as possible. Wright utilised the comes in a variety of widths to hold the glass and define the simple geometric shapes. Unlike many of his contemporaries, Wright believed that machine technology when used correctly does not undermine craftsmanship. The Dana house windows were all crafted by machinery.

Wright's most important single decorative design was for the windows of the Avery Cooney Playhouse (1912) (fig. 2.12), for they related to non-objective experiments in European painting at that time, and hold their own well with Art Deco schemes of the next decade. They are contemporary with some of the first abstract painters, in particular Piet Mondrian. As early as 1907 Mondrian had already been tending towards abstraction in his painting of trees and natural scenes. With the help of Cubism, he simplified the language of painting to the point where he used combinations of vertical and horizontal lines. The elements of his paintings achieved their own autonomy as Mondrian began to sense that a pure language of form, colour and rhythm created a visual music in touch with the emotions (fig. 2.13).

However, Wright's windows were not paintings, they were functional and integral to the structure, an integral ornament, a necessary part of an architectural whole, creating a symphony with all its other parts.

Wright also designed lighting fixtures and skylights. Although he designed freestanding lamps for his houses, he preferred that the light, like the furniture be integral to the room. Recessed lighting with art glass was first used in the ceiling of the reception hall of Wright's own studio (1898) (fig. 1.5) it was used also in the dining room ceilings of the Willits and other houses, as well as Unity Temple (fig. 2.14). This became a trademark for Wright and was used in most of the Prairie interiors. The design of the ceiling grille in Oak Park is rich and complexed. It combines conventionalised oak leaves (seen also in the Harlow panel) (fig. 2.6) and geometric elements similar to those seen in the House Beautiful (fig. 1.2). This idea of the cut-out panel was to continue throughout Wright's career.



Fig. 2.14 Unity Temple, Oak Park, Illinois designed by Wright (1905)



Fig. 2.15 Glass Windows in Passage Way in the Unity Temple (1905)

Unity Temple, a massive block-like structure, scarcely suggests the wealth of interior lighting. Twenty leaded windows stretch in a horizontal bank around the room. Each repeats a highly abstract floral design of small pieces of subtly tinted yellow glass. Through these one sees trees, sun and sky. The yellow, orange and light brown glass on the twenty-five deeply recessed panels of the skylight, each containing the same blocky geometric pattern, cast a warm amber glow throughout the same room (fig. 2.15). In each of the stairwell towers, Wright decorates with long spotted apertures, a solution to diffuse light into what otherwise would be dark areas.

Wright's glass in it's architectural setting is a moving experience.

1. ARNHEIM, London. 1956. P.19
2. BLOOMER, New Haven. 1977. P.61
- 3/4. HENDIES, England. 1978. P.75
5. HOFFMAN, New York. 1978. P.16
6. HANKS, London. 1979. P.59

Wright's Approach Towards A New Architecture And Contemporary Trends

Frank Lloyd Wright began his architectural career just when the classical tradition in architecture was being questioned and designers were looking for other sources of inspiration. The problem of architectural style was related to deeper currents of thought concerning the possibility of creating forms which were not a mixture of past styles but genuine expressions of the present.

Wright's work provides a bridge between the old and the new at the turn of the century. His search for a new and appropriate architecture was informed both by personal analysis of organic and vernacular form and by his involvement in the day to day practice of architecture at a time of great social change and continuing technical ^{technological} innovation.

Wright explained in 1954:

Architecture isn't something that you get of magazines and books, or even learn about from architects themselves. It's something that is a living spirit all the while present in you and everything you do. 1

The idea of an entirely new architecture was simply illusory. Architects of the modern movement relied on tradition in a more universal sense of abstracting the essential lessons learned from earlier architecture. Immediately one is struck by the confidence of Le Corbusier and Mies Van ~~Der~~ ^{der Rohe} Rhoe that they abstracted the values of architecture itself. They had created not so much a new style, but the quality of style in general, a quality central to all outstanding works in the past. Wright felt the need to produce an appropriate total environment for modern life, which accepted current innovation in hygiene and technology, and utilise the potential of the machine as an inevitable replacement for handicraft.

The architects of the 1890s and the first decade of the twentieth century looked to tradition and nature in their formulation of a new style. While they certainly hoped to create vocabularies entirely in tune with modern circumstances and means, they also wished to endow their results with a certain universality: they sought to create architectural language and the depth, rigour and range of application of the great styles of the past.

Wright believed that designers must learn not only to accept the machine but also to embrace it. He declared that the art of the future must be determined by the machine's superior capabilities 'my god is machinery' 2 but always under the artist's creative control.

Wright explains 'conceive the building in the imagination not on paper ... let it live there - gradually taking more definite form before committing it to the drafting board'. 3

Wright was inspired by music. He listened to music as a kind of building. He could 'see' Beethoven construct and design his sonatas.

He explains that music and architecture require the same mind

A Beethoven's mind would be that of a great architect's mind. His thinking process was building process. It was a proceeding from generals to particulars along a specific scheme with a particular idea, and then building, building, building a great edifice of sound. 4

This relates to Wright's interest in the organic. He 'sees' Beethoven's music grow (and perhaps take over). He compares his buildings to 'living organisms' 5 in which all was unified in an architectural whole. He tended to see his ornament and furniture as a close extension of the form of the house itself.

The beginnings of modern architecture cannot be traced to a single time, place or personality, it is interesting how many movements professing the value of the 'new' came into being in the 1890s. The reaction against tired social, philosophical and aesthetic values were rumbling into life in centres as diverse as Paris, Berlin, Vienna, Brussels and Chicago. 6

Since talking about architecture the emphasis is on forms and not just ideas or techniques, Art Nouveau was the first stage of modern architecture in Europe. The most creative phase was from 1893 to about 1905. It first emerged in graphics and then the decorative arts.

Art Nouveau brought a new form into existence. It was a decorative rather than architectural movement, although it showed itself in buildings, especially in the early years of the twentieth century. It was short-lived but important historically in architecture as the first attempt to break away from 'eclecticicism'. 7



Fig. 3.1 Gaudi's Casa Batllo (1904-06)

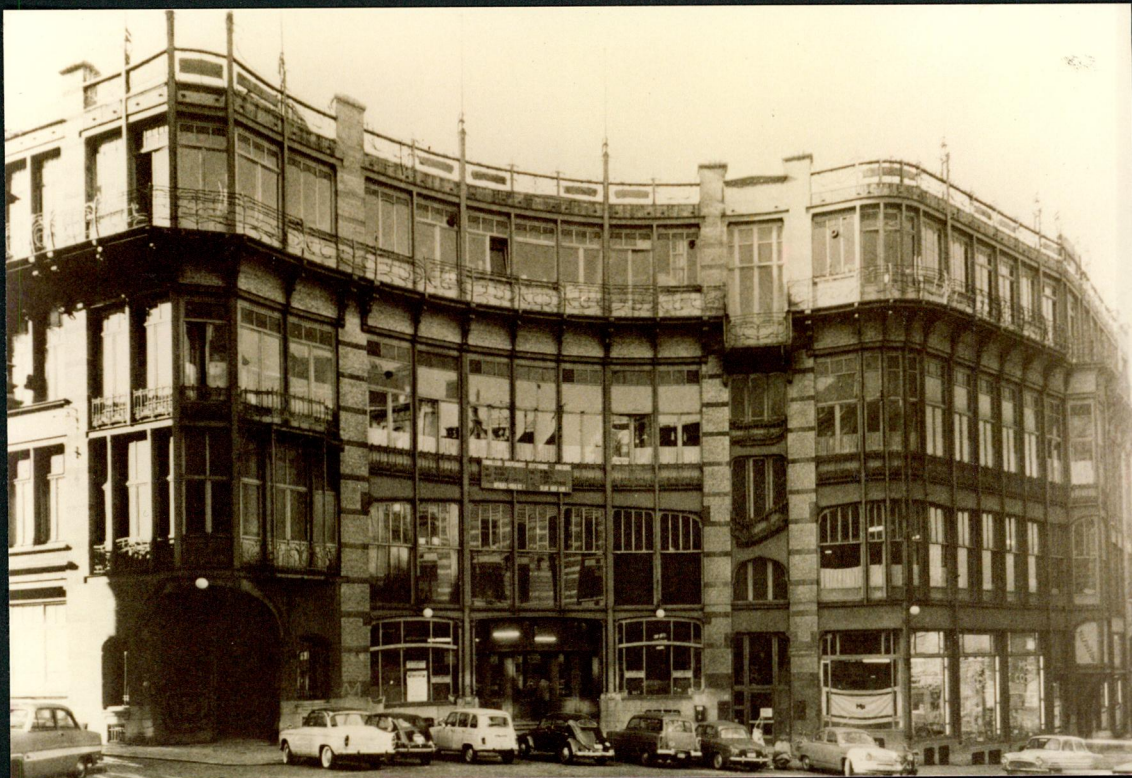


Fig. 3.2 Maison du Peuple in Brussels designed by Horta
Jencks, London (1984). P.93

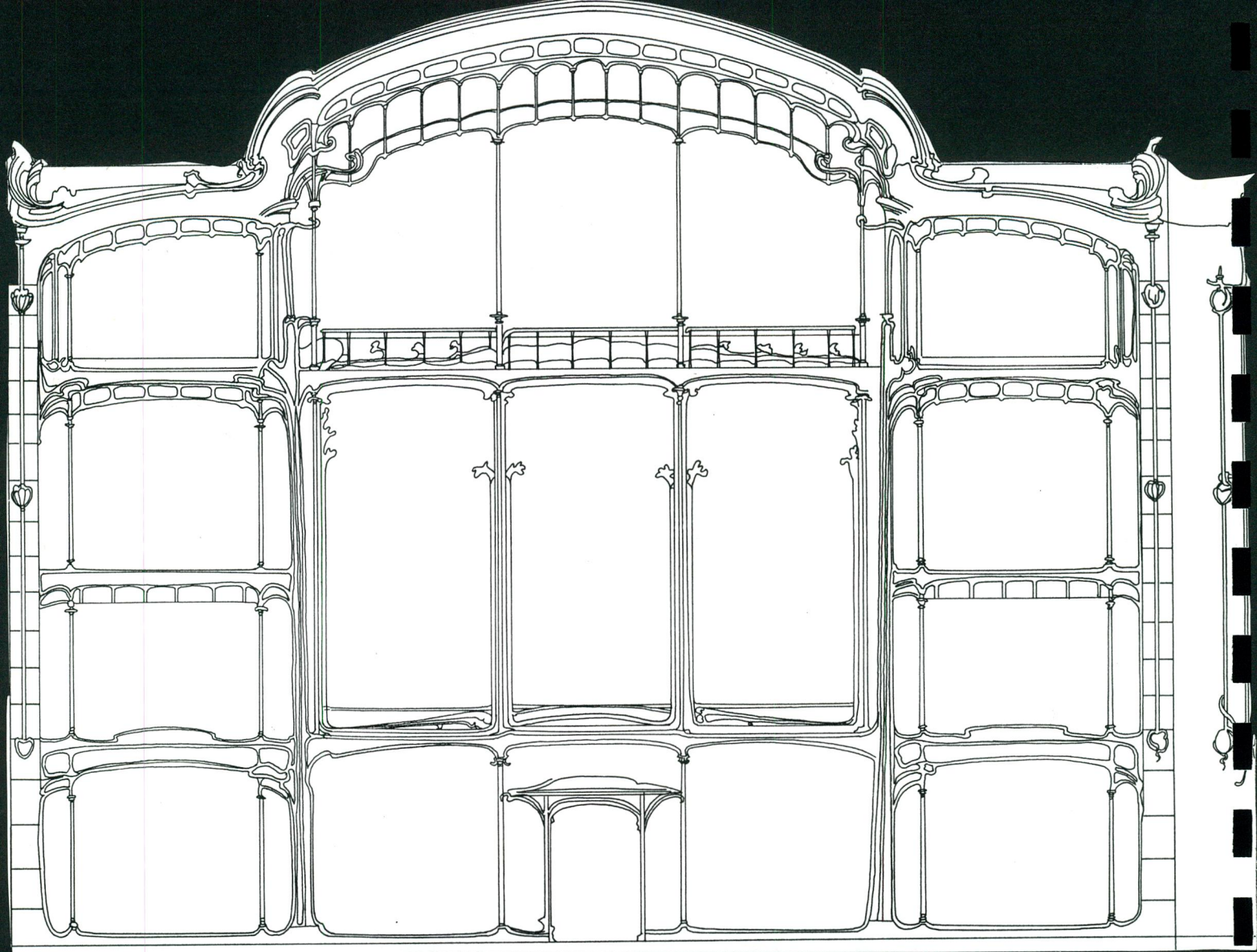


Fig. 3.3 A l'Innovation Department, Horta

Art Nouveau manifested itself in a number of countries, and was known by different names in many of them. England and the U.S.A termed it as above, Belgium the Coup de Jouet or style Guimard, Austria the Sezessionstil, Italy Lo Stile Liberty and Spain Modernismo. These names referred either to architects, journals or were descriptions.

The chief materials used in Art Nouveau were iron and glass, first employed ornamentally and later three-dimensionally. The characteristics were decorative, curved lines, floral and geometric. Further developments included faience, stained glass, terra cotta and veneers. In Gaudi's twentieth century work the whole facades of his buildings become plastic and moulded (fig 3.1).

In Belgium, an important exponent was Victor Horta (1861-1947). His chief contribution was in the Maison du Peuple in the city (1896) (fig 3.2).

This building occupies an unusually formed site within an irregularly shaped open square. The facades are curved and generally concave. Horta's most famous building was the Innovation Department Store (1901) (fig 3.3). The front was entirely of glass and iron, set in a granite frame. Victor Hortas, Door Handle (fig 3.4) from the Hotel Solvoy is a highly dynamic form, it appears to be in a state of constant motion. Although it is made of metal, it has a flowing quality of a plant form as do many similar Art Nouveau pieces.

Antonio Gaudi (1852-1926) is an outstanding figure in the nineteenth century. Like Hortas he created dynamic forms, characterised by motion, change and energy through his curves and three-dimensional plasticity. His two chief buildings showing these characteristics are the apartment blocks in Barcelona, the Casa Battlo (fig 3.1) at Paseo de Gracia, and the Casa Mila (fig 3.5) at number 92. Both were built 1905-07. The former is a tall and narrow block of six storeys, the latter much larger. It occupies a corner site and contains two courts. The facades are undulating like waves. There are no horizontal or vertical lines or planes; all is movement. The chief motif is the sea, not only in wave but in fronds of plant life, seaweed and rocks. This maritime element is seen mainly in the iron work balconies on each floor.



Fig. 3.4 Door Handle from the Hotel Solvay, Belgium
Kelanski, New York. (1987) P.93



Fig. 3.5 Casa Mila by Gaudí (1906-10)
Martienssen, Oxford 1976. P. 73



Fig. 3.6 Walter Gropius, Fagus Shoe Factory (1914)
Curtis, Oxford (1982) P.65

In contrast to Art Nouveau is the architecture being experimented in Germany in the early 1900s. One of Walter Gropius early works was the Fagus Factory, at Alfeld-an-der-Leine. Although to-day this building appears ordinary, in 1911 it was a revolutionary prototype, heralding the glass curtain walling system (fig 3.6).

In 1919 Gropius was appointed at Weimar to head the Art College. Here Gropius offered artists and students the choice to free themselves from the straitjacket of designing in Medieval or classical idiom. Paul Klee from Switzerland and Vassily Kandinsky from Russia were prominent staff members.

Gropius' idea was to set up an institution where students in all the Arts and Crafts could study and learn one from another. He abhorred the artificial barriers which existed between artists and craftsmen and between artists in different media. So, every Bauhaus student, whatever his field of work or talent, took the same workshop training.

Architecture from this period is very mechanical. It's plainness is very obvious. It lacks warmth and colour. These qualities were far from the aims of the builders, but they were held in the grip of an intensity of desire to build something new, something functional, clean and stripped of unnecessary decoration.

Since 1920 French architecture has been dominated by the world famous Swiss architect Le Corbusier (1888-1965). He was one of the world leaders in modern architecture in the first half of the twentieth century, along with Wright, Gropius and Mies van der Rohe.

Le Corbusier became established as an architect with advanced and original ideas. He specialised in house design, low cost housing and planning of flats and estates. He worked out many projects but most of his actual buildings were outside France. He worked in South America, North Africa, India and did designs for the Ministry of Education Building in Rio de Janeiro (1936-45) and the Centrosoyus in Moscow (1930).

On the outskirts of Marseilles Le Corbusier built Unite d'Habitation (1947-52) (fig 3.7). This was his answer to the problem of successfully accommodating large numbers of people in a small space at a low cost. This scheme comprises of one immense rectangular block, carried on a double row of massive central supports. It contains 350 flats in eight double storeys, with a storey for shops half way up and communal facilities on the roof.



Fig. 3.7 The Marseilles Apartment Block Unite d'Habitation (1945-52)
designed by Le Corbusier
Curtis. Oxford (1982) P.116



Fig. 3.8 Ronchamp. Le Corbusier
Jencks. London (1984) P.48



In the 1950s Le Corbusier turned to 'ecclesiastical' architecture. He built his world famous, highly personal and original pilgrimage 'Church of Notre Dame du Haut' at Ronchamp. The church is massive, rough-cast and plastic looking. The interior is also unusual looking. The surfaces are all of rough-cast concrete. The lighting is carefully arranged to shine through the tiny windows set in the thick walling. These are of irregular shapes and sizes and are filled with coloured glass. The whole interior is curved or sloped at differently designed angles all dominated by the massiveness of the curved tent-like roof.

Le Corbusier's chapel at Ronchamp has been compared to all sorts of things, a ship, a piece of Swiss cheese or a duck (fig 3.8). The power of the shape suggests many things, but this working on the mind is on an unconscious level. People invariably see one building in terms of another or in terms of a similar object, in short as a metaphor. The more unfamiliar a modern building the more they will compare it metaphorically to what they know. It is quite normal to match up one experience with another. When pre-cast concrete grills were first used in buildings in the late fifties, they were seen as 'cheese graters' (fig 3.9) while ten years later they were seen in functional terms.

This perception is the influence of the past. New images get into contact with the memory and trace the shape that has been perceived in the past. These traces of shapes interfere with each other on the basis of their similarity and the new image cannot escape this influence. Both in hearing a melody and in seeing a representation our minds scan backwards and forwards, this appropriate serial of orders alone, gives coherence to sound/music and image.

The abstract view of the history of architecture, the idea that the important features of past buildings lay in their proportions, their arrangement, their articulation of formal themes rather than in their use of columns or pointed arches may itself have had some basis in late eighteenth and early nineteenth century tendencies towards simplification. It is no accident that this way of perceiving the past should have coincided so closely with the emergence of abstract art.

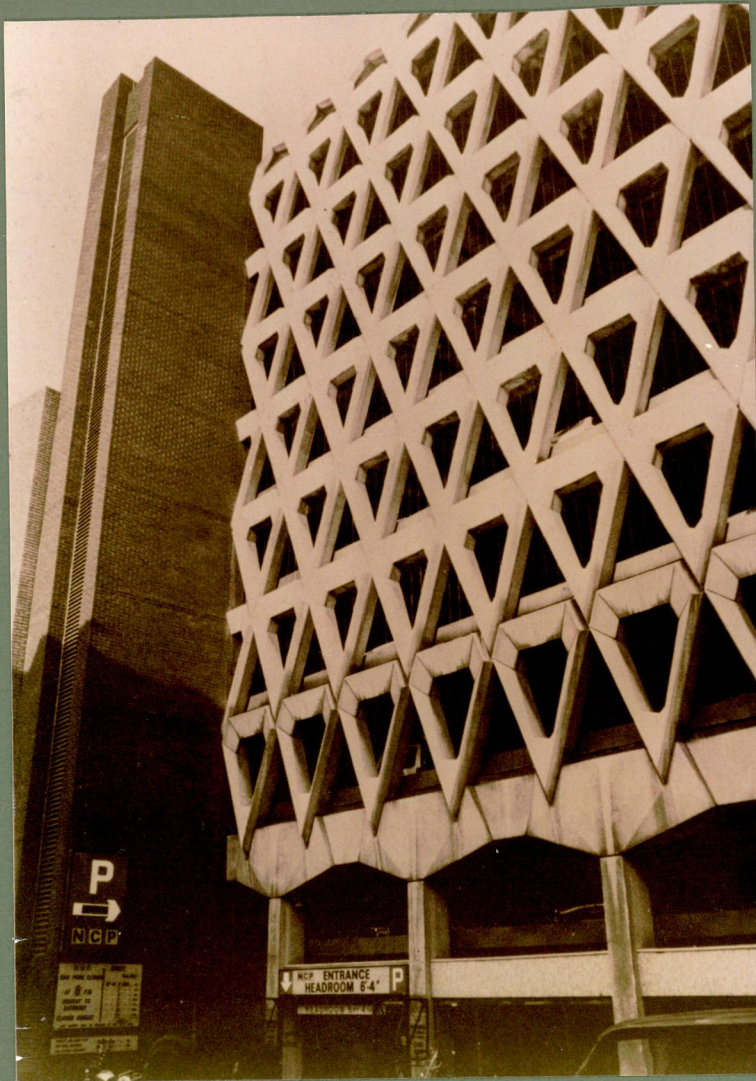


Fig. 3.9 'Cheese Graters'
Jencks, London (1984) P.38

The Group of De Stijl in Holland were fond of pointing out similarities between painters, sculptors and architects, here the horizontal and vertical lines characteristic of the painting of Mondrian or the sculptures of Van Doesburg or the plans of the architect, Vantongerloo, look like each other. Before this time similarities in architecture and the visual arts had been largely a question of a sympathetic ambience and mutual completion for example, a classical statue for a classical niche. But now for perhaps the first time in history the shapes became in some sense almost interchangeable and formal abstraction united the two spheres of architecture and the visual arts.

The 'De Stijl' magazine was first published in 1917, it's focus was wide ranging. It's principle was absolute abstraction, that is the complete elimination of any reference to objects in nature. It's means of visual expression were limited to the straight line and the right angle, to the horizontal and the vertical and the three primary colours - red, yellow and blue with the addition of black, white and grey.

In rejecting perceptible subject matter, the artists of the movement did not abandon content or meaning in their work. The essential content of De Stijl work is harmony, a harmony that for these artists could only be rendered by abstract means, through compositions unhampered by associations with objects in the external world. Modrian simplified his paintings into a language based solely on combinations of vertical and horizontal lines. These theories, are similar to Kandinsky's non-objective art. This search for harmony was the constant goal of De Stijl. Yet De Stijl artists were not solely concerned with aesthetics. The movement was an effort to renew the links between life and art.

Their abstraction required the precision similar to that required in music to create and render harmony. A purification of the vocabulary and grammar of the arts seemed necessary. The movement brought together painters, sculptors, furniture-makers and architects in a loose affiliation of beliefs, and a broadly shared style of abstraction and rectangular emphasis especially among the painters Theo Van Doesburg and Piet Modrian.

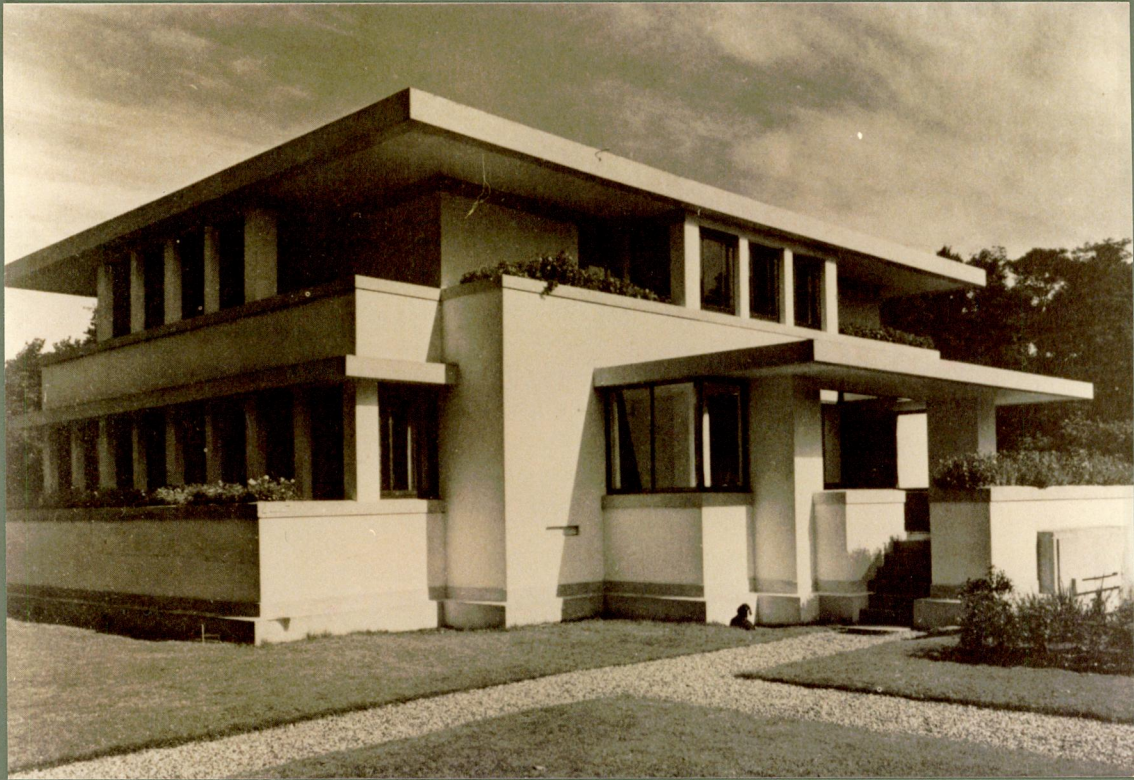


Fig. 3.12 R. van t'Hoff: Huis ter Heide near Utrecht built of Concrete (1915).
Curtis. Oxford (1982) P.50

All of Modrian's American paintings are strongly suggestive of spatial relief, not only in the terms of their illusory depth, but also with respect to the way in which they were actually conceived and constructed, the use of coloured adhesive tape. His canvasses were virtual three dimensional reliefs, for example, *Broadway Boogie-Woogie* (1942-3) (fig 2.13). Both Wright and Modrian adapted a vocabulary in which simple geometrical forms, rectilinear grids and intersecting planes were indeed part of a shared style.

In the Martin House in Buffalo, New York (1904) Wright had to accommodate all the functions of a luxurious estate, stables, a guest house, a conservatory etc. (fig 3.10). Wright's method of organising a plan with the help of a geometric grid helped him to maintain uniform dimensions and to locate axes and directions. The plan of the Martin House is a most sophisticated abstract pattern, not unlike a Modrian painting (fig 3.11) in which interior and exterior spaces, figure and ground have equal value.

We tend to underestimate the role played by American culture in Europe avant-garde art during the first quarter of the twentieth century. This influence was never so intense than with the work of Wright. His architecture and philosophical ideas were absorbed in Europe. His work was known in Holland by 1910-11 through the Wasmuth Volumes, published in these years and through the praise lavished on Wright by Hendrik Petrus Berlage, a sort of father figure of modern architecture in Holland. Berlage was deeply concerned with the problem of a genuine modern style, which he spoke in terms of clear proportions, planar walls and the primacy of space. Berlage found in Wright qualities which corroborated his own ideals.

Wright manifested most clearly in the work of Robert Van t'Hoff and Jan Wils. Van t'Hoff had worked for Wright in the States in 1913 and who on returning to Holland immediately built a Wrightian summer house in Huis-ter-Heide, (fig 3.12), near Utrecht. The house strongly resembles the forms used by Wright particularly in his Prairie Houses. Also the same is true of the large planters at the front door, underneath the window and along the terrace. It was Wright's aim to create an organic entity of a building and it's surroundings of architecture and nature.

After returning from a visit to the United States in 1911, Berlage lectured about his trip and published a book entitled 'Amerikaansche Reisherinneringen' (American Travel Reminiscences). He paid a surprising amount of attention to Wright, and soon several Dutch architectural journals published well-illustrated articles on the American architect.

Wright worked out quite independently an original architectural philosophy of his own, going only to the Japanese for foreign inspiration. Wright's architecture can contrive some spiritual extension by it's own device: the relations of surface, or space. With Wright's 'free' planning there is no sitting-room but a sitting zone, from which we experience the totality and variousness of the whole space at our disposal, and act and react visually to the intricate possibilities of movement and changing viewpoint. All this can be sympathetically foreseen by the architect and provided for with infinite diversity. The eye is more alert than the body, and much in architecture provides for it's activity.

1. WRIGHT, Chicago. 1987. P.41
2. HANKS, London. 1979. P.67
3. HOFFMAN, New York. 1978. P.15
4. WRIGHT, Chicago. 1987. P.170
5. HANKS, London. 1979. P.7
6. CURTIS, Oxford. 1982. P.19
7. CURTIS, Oxford. 1982. P.16

Frank Lloyd Wright, Nature and Other Influences

Towards the end of the nineteenth century, reformers in the United States as well as in Great Britain worshipped the virtues of handcrafted objects, simple, straight-forward design, solid materials of good quality and sound enduring construction techniques. These criteria were interpreted in a variety of styles, ranging from rational and geometric to romantic or naturalistic. Whether abstract, stylised or realistically treated, the consistent theme in virtually all arts and crafts design is nature. They could range from ornamental motifs such as the vines and leaves of Louis Sullivan to the entire building as a reflection of the landscape as with Wright. He acquired his buildings to disappear in its natural background.

In creating a relationship to nature distinctions between the house and the garden are often blurred. Devices to extend the house to such as, piazzas, porches, terraces, patios, lattice work, planters, window boxes and pergolas bring nature and the occupants into close contact and harmony.

Wright refers to the role of plants in his architecture as follows:

The use of natural foliage and flowers for decoration is carried to quite an extent in all the designs and although the buildings are complete without this efflorescence they may be said to blossom with the season. 1

Natural forms, leaves, buds, stems, seed pods etc (fig 4) have a simplicity and charm. There are similarities between forms developed by nature and that produced by man. This variety of forms is recognisable in man's use of shape and structure in architecture. In Wright's work they are so intimately related that it is impossible to think of one without the other.

As well as Wright's interest in plants he also looked to sea shells as models for architecture. He calls these 'nature's housing'. In a lecture in 1953 Wright brings along shells.

Boys, look now carefully, critically, at these exquisite, infinitely varied little creature-houses... - sea homes... this humble work of this lower form of life which you see here is a marvellous manifestation of the beauty of organic process. 2

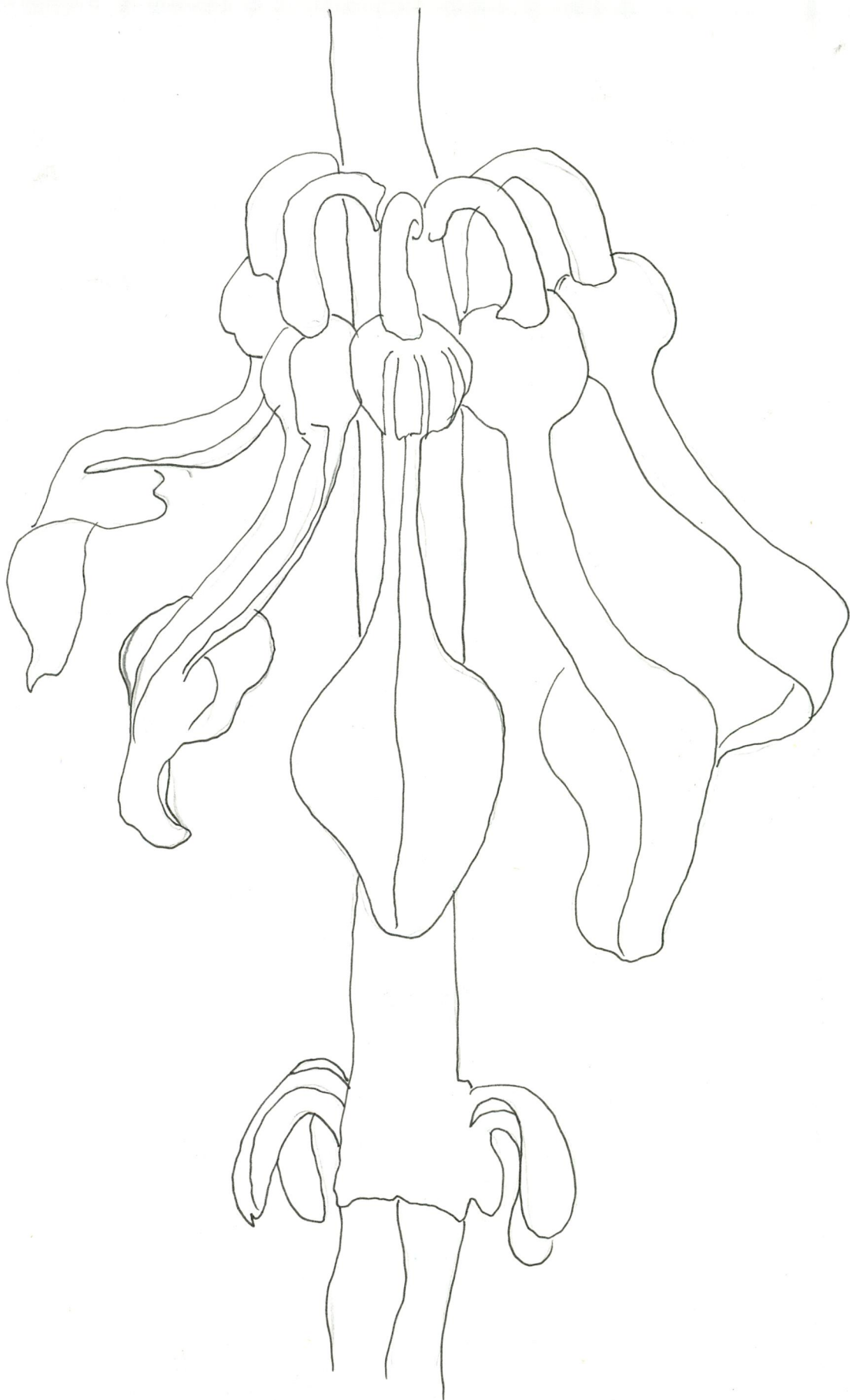


Fig. 4

Withered Stem

Wright makes many comparisons between the shells and an architect's quality of invention. 'Nature's most beloved asset - individuality - asserts itself here and always succeeds'. 3. This lends support to Wright's view, on the patterns and variety in nature.

The world we perceive through our senses seems to be best understood as systems of pure pattern, or as geometric structures of form and proportion (fig. 4.1). Many ancient cultures chose to examine reality through the metaphors of geometry by using music's proportional laws of sound frequency. Thus they were very close to contemporary science.

Geometry is the study of spatial order through the measure and relationships of forms. When two notes are sounded simultaneously, some combine easily and harmoniously to produce consonant chords, while others clash causing dissonance. The frequency of a pair of notes is based on mathematical ratios. Thus mathematics becomes the basis for musical harmony. Goethe said 'Geometry is frozen music'.

Of all the Prairie School architects, Wright was the most geometric in his approach. His designs for furniture, glass and metalwork are boldly conceived of planes, spindles, cubes, circles and triangles (fig 4.2). Still the organic theme of the Arts and Crafts Movement prevades his work. His geometric constructions are abstractions from local flora or landscape. In the Dana House doors (fig 2.11) Wright used an abstraction of the sumac leaf. Organic design sources were central to his philosophy.

In contrast with Stickley and other Eastern arts and craft designers, Wright and the Prairie School architects placed more importance on the unified environment than on construction and handcraftmanship. At the Craftsman or Roycroft shops, the supreme design factor was the objects construction and handcrafted appearance. Stickley and Hubbard catered to a middle class clientele and encouraged harmonious design through the use of simply designed handcrafted, home furnishings 4.

Wright's designs exemplify the arts and Crafts principles of simple style, natural materials and integrated design. He conceived of decorative arts as interior architecture, forms which contributed to a unified design scheme:

the 'grammar' of the house, is it's manifest articulation of all its parts - the 'speech' it uses ... Everything has a related articulation in relation to the whole and all belongs together because all are speaking the same language. 5

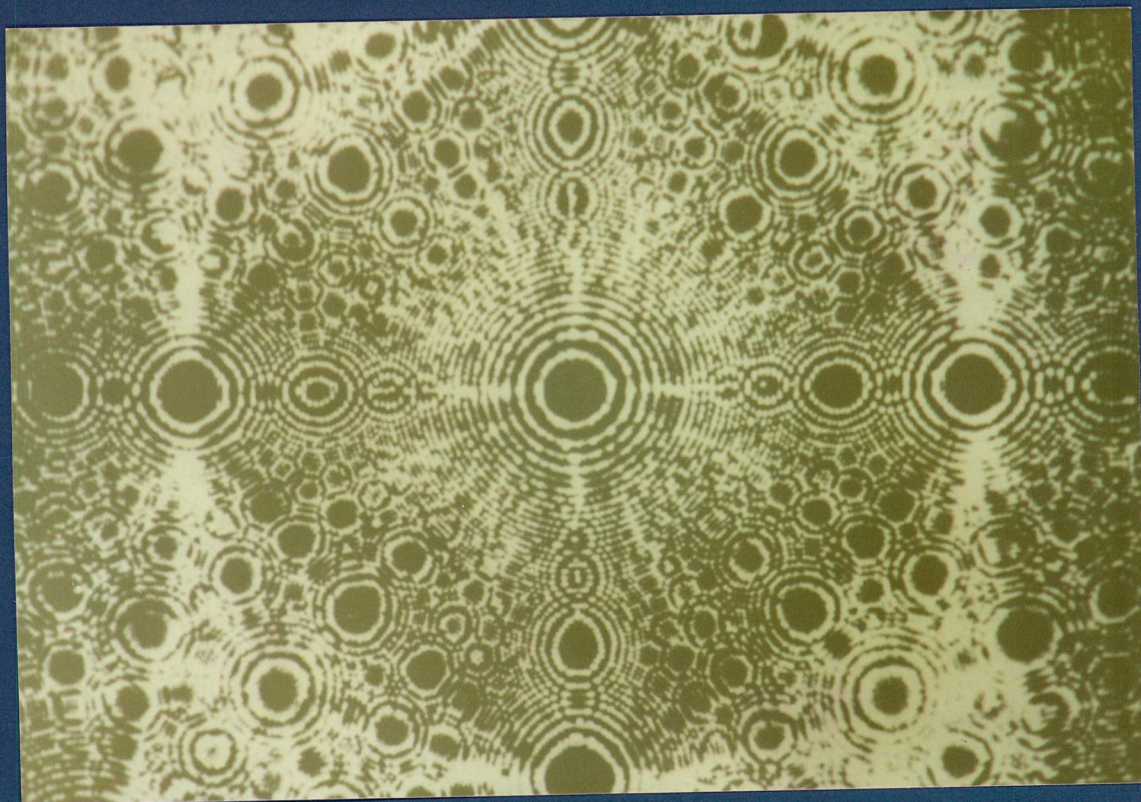


Fig. 4.1 A Refraction Photo, showing the Closest Visualisation that Science can give of Atomic Substance, which appears to be Patterns of Geometric Light-energy.
Franz. London (1978) P.79

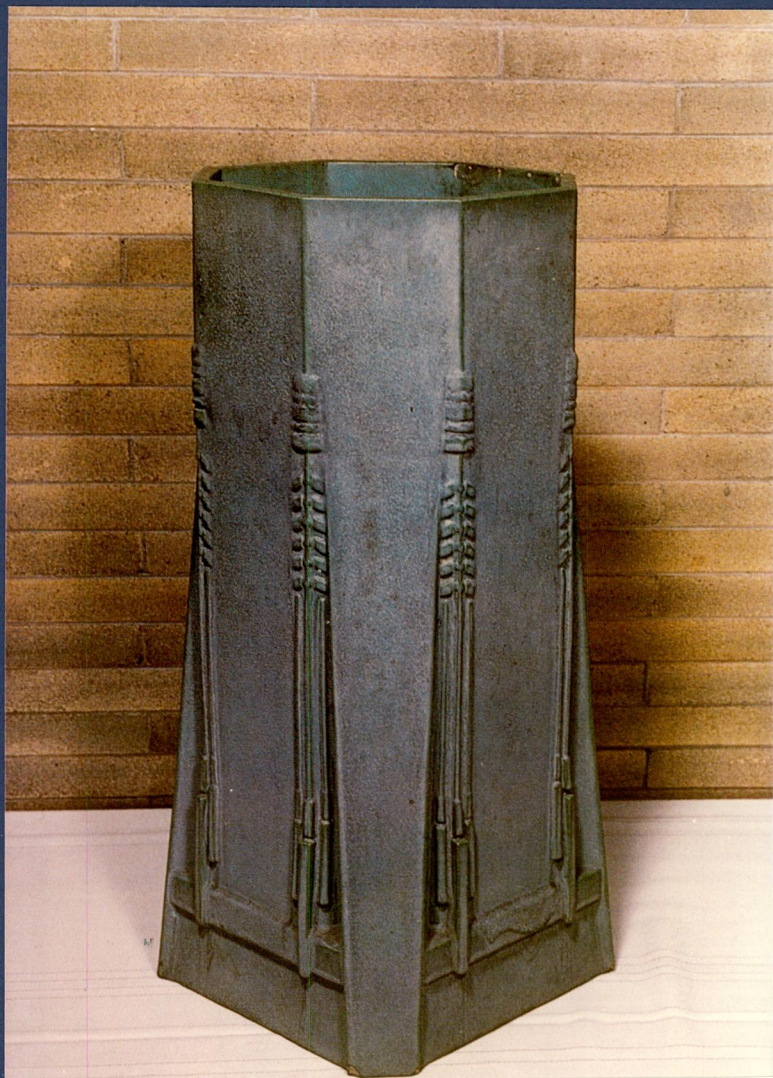


Fig. 4.2 Vase designed by Frank Lloyd Wright for the Dana House
The Corners are moulded with vertical abstract floral motifs
depicting sumac sprays (1903)
Valpe. London (1988)

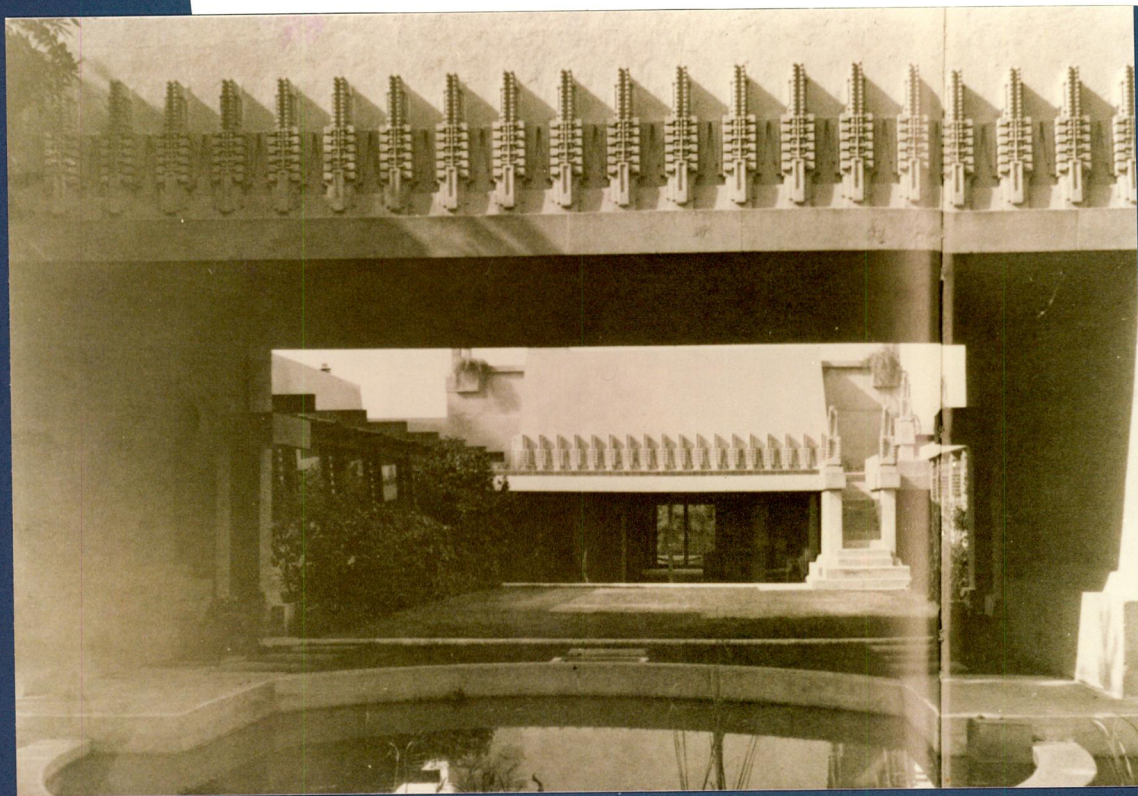


Fig. 4.3 Hollyhock House Motif (1919-21)
Curtis, Oxford 1982 P.103

Musical language is a living affair and undergoes change. The growth of a musical style tends to follow a pattern whereby the 'grammar' is first of all established. This is similar to the 'grammar' Wright uses in his architecture.

Each one of Wright's decorative elements can be compared to a musical instrument which when combined together in harmony they create a orchestral symphony.

Igor Stravinsky's (1882-1971), method of composing was writing short passages or block's of music which he combines into a large whole. This is rather like Wright in that with many small pieces he arranges them to make a large-scale overall pattern. Also with both certain short themes or motives crop up from time to time. Both have structural principles of repetition, contrast and variation.

Making an analogy between Stravinsky's work and architecture is a useful exercise. For instance, in a contrapuntal piece such as Stravinsky's 'Firebird Suite' the actual theme is short, a 'brick', 6 as he says. He handles the theme in such a way that each brick fits into a whole. The repetitions of the theme balance one another - like the pieces in Wright's work they fit together. Stravinsky emphasises the role that structure plays in providing his music with expressiveness.

Throughout his career Wright was fond of organic metaphors, particularly the comparison of the building and a tree or plant. In his early work this metaphor was primarily in the ornament as in the sumac tree decorations (fig. 2.10) (fig. 4.3) and the recurring hollyhock motif in the Barnsdall House. In Wright's later work the natural metaphor occurs in the structure rather than in the ornament. For example the columns of the Johnson Wax Building imitate the form of the tree, they are almost literally concrete trees (fig. 4.5). This is the most obvious example. Both the idea of a building as a metaphor of an organism and the idea of form being inherent in the nature of the materials had also been present in Sullivan's work but mainly in the ornament.

Hollyhock House

*Designed by
Frank Lloyd Wright for
Aline Barnsdall*

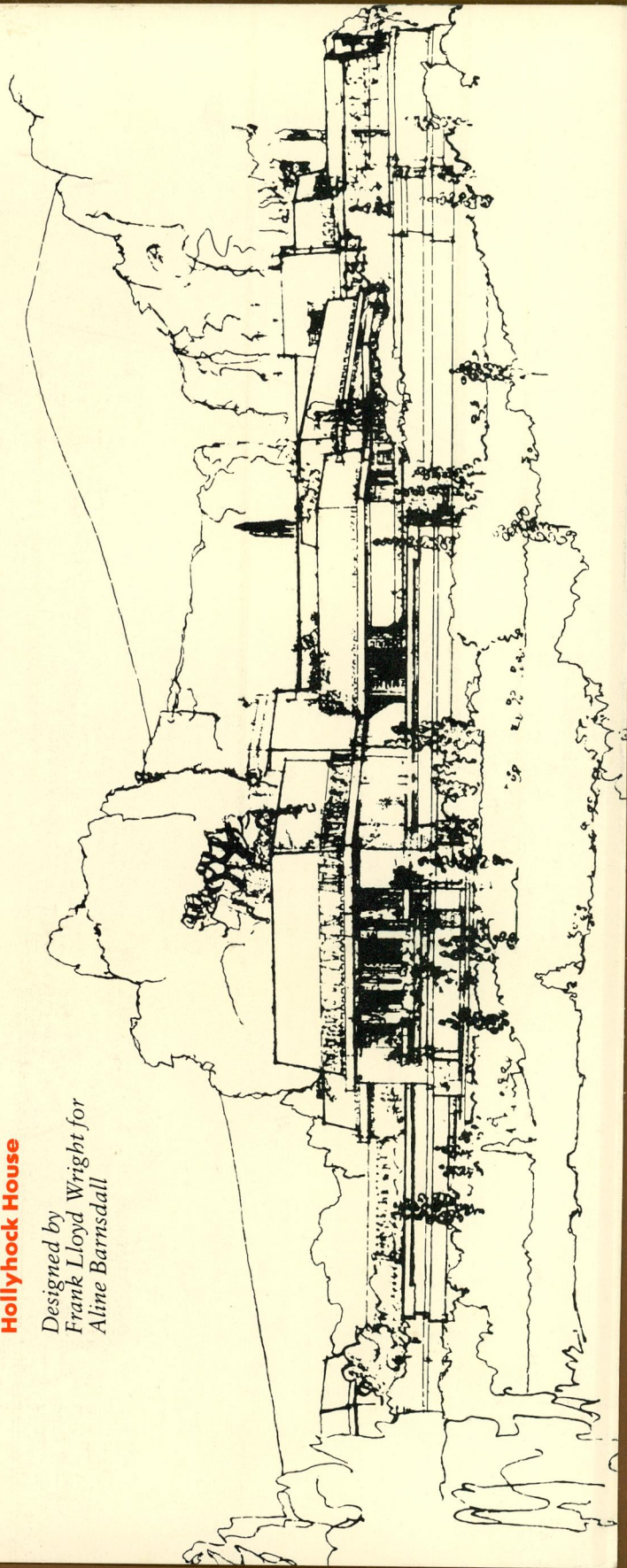


Fig. 4.4 Leaflet from Hollyhock House

Fig. 4.5 Johnson Wax Administration Building
Green. U.S.A. (1976) P.69



Fig. 4.6 Admission Ticket showing a Design by Wright for a Mural

The primary rule of truth to materials required that they be used as they occur in nature. After 1930, Wright used stone set in it's natural bed, with few arches or lintels. Wood, although never used in a rustic, is cantilevered, just as the branches of a tree are cantilevered. Artificial materials were to be used as the natural materials they most resembled. Thus, brick which resembles stone in it's inability to take stress, is also used with only occasional lintels or arches. Reinforced concrete and wood can sustain tensile stress so they are appropriate materials used as cantilevers. Wright designed his decorative glass with the flatness of the material in mind. Wright wrote 'the nature of the glass is taken into account in the designs as is also the metal bar used in their construction, and most of them are treated as metal 'grilles' with glass inserted forming a simple rhythm arrangement of straight lines and squares'. 7

Taliesin, Spring Green, Wisconsin was built in 1913 (fig 4.7). Built of sandstone and native oak, Taliesin blends into the gently sloping landscape. It demonstrates Wright's philosophy that land, nature, building and furnishing should be treated as one organic whole. The use of natural colour has the effect of linking the work to it's natural surroundings. Similar to musical harmony this colour harmony unifies Taliesin and the landscape, this natural house appears one with the environment (fig. 4.8). The sandstone exterior echoes the pale earth tones of the hill in the background. The wood shingles weather naturally to a pale warm grey. Sand from the river has been mixed with the plaster of the wall to tie in their colour and texture with the earth tones. Even the red-brown colour in the window framing fall into the palette of hues (fig. 4.9). The green shrubbery on the patio further blurs the boundary between the house and it's surroundings. Both seem to flow together as an organic whole (fig. 4.10).

In 1932, Wright established the Taliesin Fellowship, this was and still is a training programme for young architects.

One of the most profound impacts on the character of Wright's work were the contributions of the educator Friedrich Froebel (1782-1852). Around 1800 he attended the University of Jena, which was then the focal point in Germany for the early study of scientific biology and nature. Froebel translated his love of nature into a revolutionary educational system that was tested in 1837 when he opened his first kindergarten in Germany.



Fig. 4.7-4.10 Taliesin, Wisconsin





In his 'occupations' and 'gifts' - lessons developed as play activities, children were encouraged to perform tasks often to the accompaniment of music. One task would be to work out nature patterns with geometric shapes of smooth cardboard on four inch grids or unit lines, in order to understand the harmonies and proportions of natural objects. Wright's mother had a intense interest in the Froebel system. She learned that Frederick Froebel thought that children should not be allowed to draw from casual appearances of nature until they had first mastered the basic forms lying hidden behind appearances. Cosmic, geometric elements were what should first be made visible to the child's mind.

These simple elemental blocks were the basis for design and the elementary geometry behind all natural birth of form.

I soon became susceptible to constructive pattern evolving in everything I saw. I learned to 'see' this way and when I did, I did not care to draw casual incidentals of nature. I wanted to design. 7

Wright's concept of unity of exterior and interior and his incomparable sense of space required corresponding innovations in interior design.

Wright designed in terms of an 'organic' spatial flow based on Japanese traditional architecture, with the least possible interference from boxy walls and alien furniture. It is quite impossible Wright declared in 1910 'to consider the building as one thing, it's furnishings as another ... the very chairs and tables, cabinets and even musical instruments where practical are of the building itself, never fixtures upon it' 8 (fig 4.11)

Within Japanese culture there is a close link between aesthetics, religious beliefs and very day life. In the Buddhist code of behaviour there is a call for simplicity and lack of ostentation. The only decorative effects within the objects is derived simply from the materials used - wood, bamboo, lacquer, clay and so on - rather than from any additions. In this way, the materials themselves, and the way they are used, become crucial and are highlighted. Wright's establishment of principals also stressed simplicity, propriety and the honest use of material.

The traditional Japanese house, for example are small with simple space and a minimal amount of low storage furniture within it. The floor area where eating and sleeping take place is emphasised. Movable paper screens called 'shoji' separate spaces from each other and provide a flexibility and openness with the space which is always multifunctional and kept clear of any unnecessary objects. The only decoration is provided by a selection of carefully arranged small objects exhibited in al alcove or 'tokonoma'. These are changed according to the season and, when not in use, are stored, as are the bedding, clothing and culinary utensils, well out of sight.

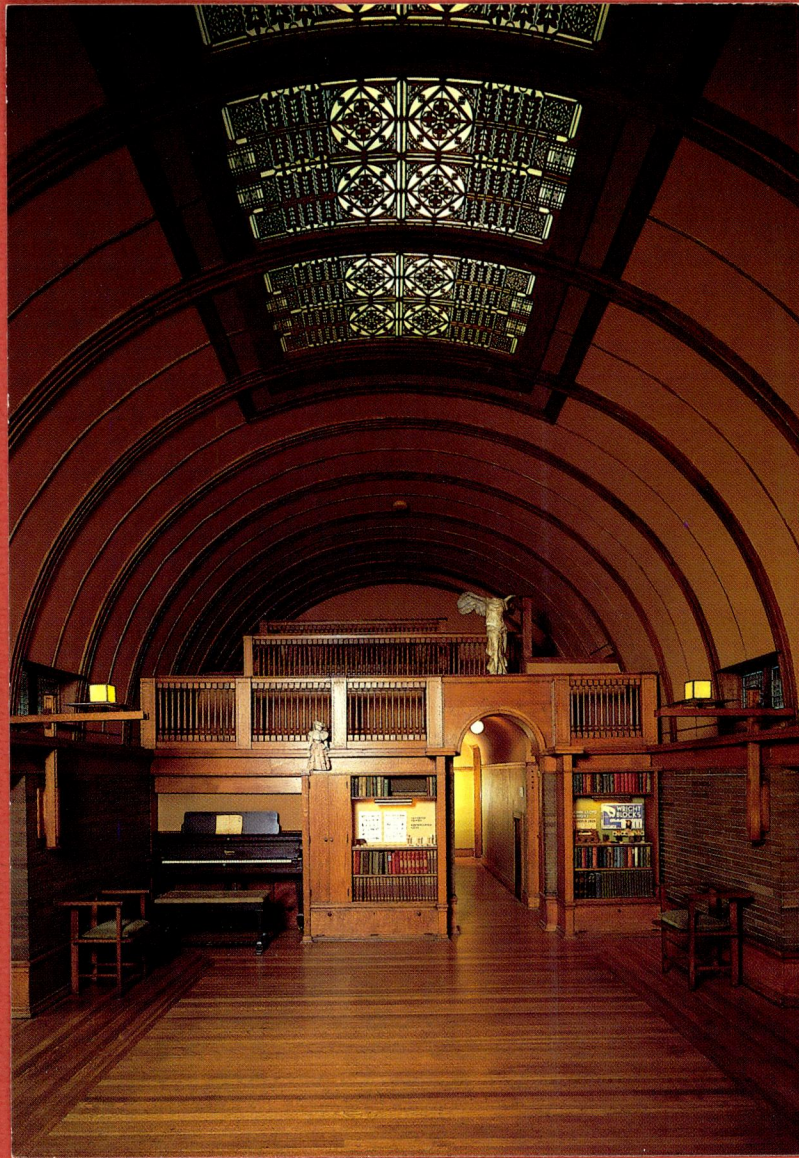


Fig. 4.11 Playroom (1895) Frank Lloyd Wright Home and Studio



Fig. 4.12 The Interior of a Japanese Villa showing the use of Moveable Screens 'shoji'
Seiberling, New York (1959) P.14



Fig. 4.13 Hiroshige

One Hundred Famous Views of Edo. Inside Akiba Shrine, Ukeji

It was this vision of freedom Wright wanted to achieve, leaving behind the tight, boxy shells of the early colonist houses. His interiors became more open to each other via wide archways. Wright saw typical American houses (mostly Queen Anne in the Midwest) as still being cramped and confining a box outside with little boxes inside. For him freedom meant breaking open the box to facilitate visual and physical movement both within and from inside to outside.

One of the most important features of the Japanese house is an emphasis on modularity which stems from the use of multiple 'tatami' floor mats, each one measuring six feet by three feet (fig. 4.12). The size of each room is described by the number of mats contained within it. In turn, the size and proportions of the house itself are determined by the repetition of this module in the wall panels. This emphasis in Japanese living of focussing on the single unit first, and then on the outer shell, has created a very particular Japanese way of understanding from which operates by moving from the inside to the outside, from the detail to the whole.

Wright's first experience of Japanese architecture was at the 'Century of Progress' exhibition of 1893 where he was much taken by the Ho-o-den Pavilion. The interior of the building was full of uyiko-e prints, and Wright began to collect them, travelling to Japan in 1906 to gather more. In a lecture given in 1954, Wright expresses how much the Japanese print has inspired him.

I never got over my first experience with it and I shall never probably recover. I hope I shan't. It was the great gospel of simplification that came over, the elimination of all that was insignificant. 9

Wright grasped the essence of space in the Japanese print (fig. 4.13), the use of interlocking ground and figure, rather than the line. The Europeans, Horta, Guimard, and H. C. Van de Velde stressed the value of the line in Art Nouveau and merely distorted the building form by producing a more whimsical personal ornament (fig. 3.2) and a short-lived architecture.

The Japanese prints and Froebel's ideas are similar in that the prints are clear forms, - rejecting realism and Froebel's anti-realism in training the young mind to see this lead to a new way of perceiving the landscape. Wright declares: 'You're continually seeing differently: you're seeing, eliminating. You're seeing, arranging'. 10

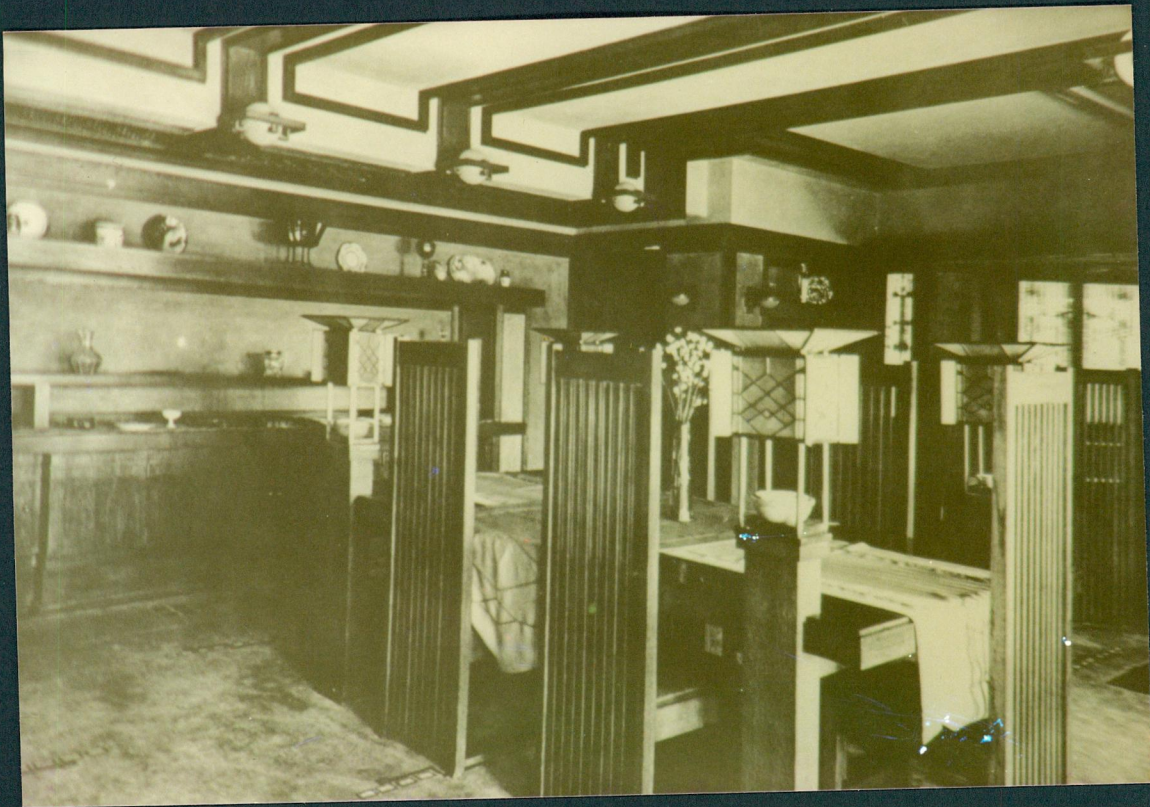


Fig. 4.14 The Dining Room in Wright's Robie House Home
Ford, Massachusetts (1990) P.193

Fig 4.15 Frank Lloyd Wright. Side Chair (1904)



Fig. 4.16 Rietveld's Red and Blue Chair (1917)
Lemoine Hazan (1989)

Virtually all of Wright's furniture was intended for use in the specific house for which it was designed. A great deal of cabinets, bookcases and benches were built in, but even the moveable pieces were carefully designed for a specific location to create a balanced and unified composition.

Built-ins helped to make the interior seem as if it had grown naturally ... he (Wright) skilfully knitted furniture into the fabric of his architecture 11

Like his architecture, the chairs and tables are rectilinear in form and the use of splats is characteristic of much of his furniture.

Wright's furniture was often criticised for it's lack of comfort 12. The furniture can be regarded as architectural sculpture rather than merely utilitarian objects - a part of a larger sculptured whole. The Robie House dining room furniture (fig. 4.14) is one of Wright's most famous ensembles, not only was it designed visually to create vertical and horizontal accents in the room, but also to express the idea of what it means to be a family gathered together at meals - a formal and significant occasion for Wright.

Spacial ideas of Wright and De Stijl group in Holland imply a formal language of tensely related, simple forms and shapes. Wright's side chair designed for the Larkin Administration Building (fig. 4.15) is very similar to Rietveld's (1884-1964) (fig. 4.16) chair design of 1917-1918, both are machine-cut wood with Japanese simplicity. Wright stressed the importance of the material, he felt that the markings, texture and colour of wood were intrinsic, artistic qualities and that carving 'tortured' the material stripping it of it's natural beauty (fig. 4.17)

C. R. Ashbee, a designer with the British Arts and Crafts wrote in 1909 about Wright 'the spell of Japan is on him. He feels the beauty and makes magic out of the horizontal line'. 13 (fig. 4.18)

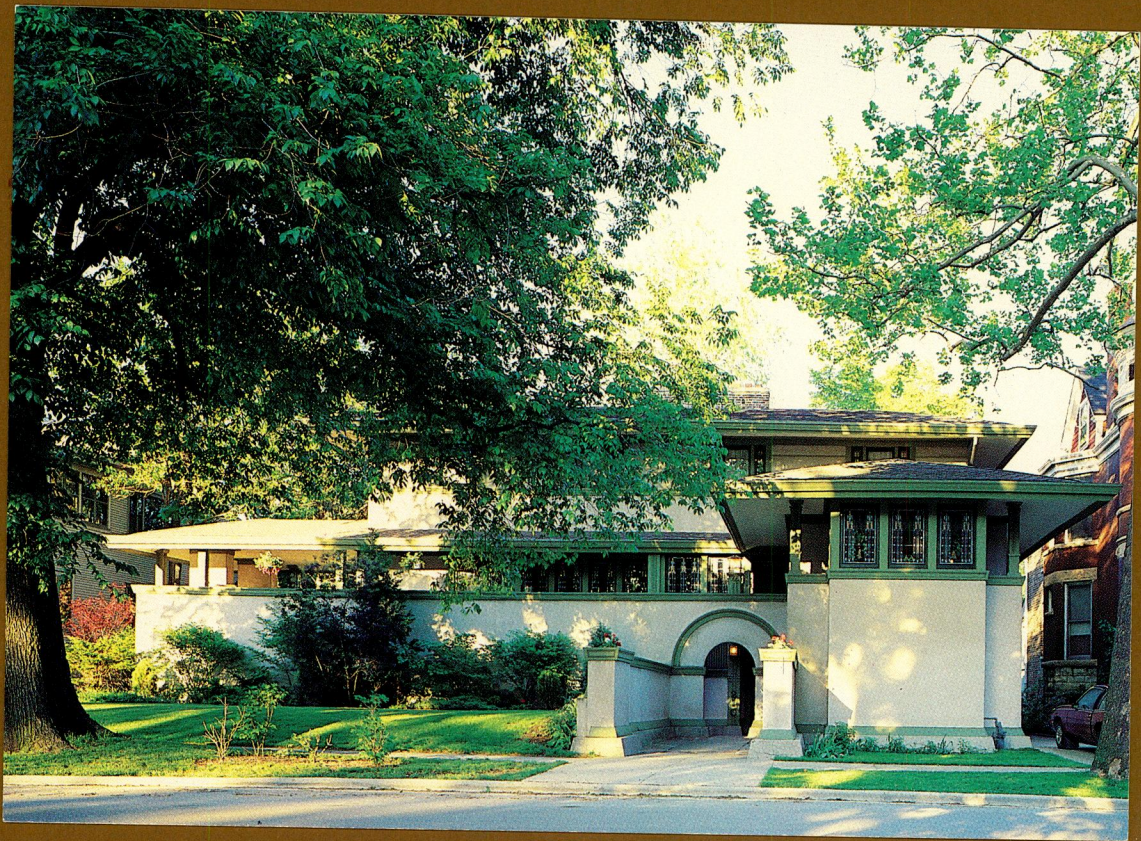


Fig. 4.18 Frank Thomas House (1901)

Wright evolved a theory of modern architecture based on a number of Japanese inspired principles. The central idea of elimination of the insignificant, the importance of horizontality, the relationship between the building and it's natural surroundings; the theory of modularity derived from the tatami mat: the flexibility of the buildings interior space: and the importance of a ritualistic centre for the home, which Wright expressed in the open fire-place and dining room in his Prairie houses. The Robie house (1908) (fig. 4.19) and Taliesin (1909) are two primary examples of his interpretation of Japanese principles.

Wright first opened up the box with long banks of continuous windows, which he called light screens. Later, Wright used corner windows, removing the most confining part of a room, where wall meets wall. He also designed banks of glazed doors which opened to broad terraces outside, dissolving whole walls so that inside living and outside living became one.

Interior box-like rooms disappeared when Wright used in place of walls, an arrangement of piers, fireplaces, mullions and built-in furniture to create a series of spaces which openly interlocked with each other. Visual freedom and movement was possible in every direction.

Many of the Prairie School artists used curtains of glass to diffuse natural light in their interiors. In 1902 dramatic technological changes were taking place as steam powered rolling machinery permitted the manufacture of larger panes. The increasing use of glass meant the more enjoyment out of nature, sunshine and greenery.

It is difficult to perceive the integration between 'Fallingwater' and it's surroundings (fig 4.20). 'Fallingwater' 1936, was placed above a waterfall in a deep ravine in Pennsylvania known as 'the Bear Run'. The building was formed from cantilevered concrete trays rooted to a core embedded in the boulders. Wright was opposed to box-like architecture but this I feel is box-like. This formal arrangement of strong white horizontals is similar to the 'International Style'. Recurrent motifs in this style include strip windows, flat roofs, grids of support and cantilevered horizontal planes these elements are all present in 'Fallingwater'.



Fig. 4.20-1 Falling Water (1936) Frank Lloyd Wright



The spaces around the waterfall and the screens of trees seem to have been forgotten in Wright's composition (fig. 4.21), here nature and art are not complementing each other. The colours, textures and forms do not derive from their surroundings. Unity within organic synthesis results from the expression in each part, Wright falls down on this one. There is no rhythmic pattern which is visible in his earlier work, that creates energy, action and growth. However, in Wright's Johnson Wax Building of the same year (1936) he revealed the structural essences of the materials which reflected the qualities found in nature. The technological innovations of the tubes, columns and continuous walls unite the soft light, human scale, warm colour and shimmering glass, which were faulty and leaked.

The windows and skylights of the Johnson Wax Building leaked badly for many years. Wright neglected this fundamental practice of construction, that to judge from his earlier works he understood very well. Wright has placed too much faith in the ability of the new materials used.

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3. WRIGHT, Chicago. 1987. P.85
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C O N C L U S I O N

Wright has had a tremendous influence on architecture in America, Europe and indeed throughout the world. Architects have accepted his philosophy and their designs reflect his ideas.

Wright lived at a time of change. Recognising this, he took full advantage of the situation and developed his ideas.

He adapted his buildings to the environment and blended his decorative arts and furnishings to his architecture. He saw a musical content and introduced it into his work.

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