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New York Art Deco Architecture and the rise of the Skyscraper during the 1920s and 30s.

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RADIO CITY
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1.0 INTRODUCTION

From its first sighting almost 500 years ago by Giovanni da Verrazano, New York's harbour was the prize that all Europe wanted to capture. The Dutch first sent fur traders to the area in 1621 but they lost the colony they called New Amsterdam to the English in 1664. The settlement was re-christened New York and the name stayed even after the English lost the colony in 1783 at the end of the Revolutionary War. Under British rule New York prospered and the population grew rapidly. As the city prospered during the colonial period, an elite emerged who could afford a refined way of life.

In the 19th Century, New York grew rapidly and became a major port. In 1898 Manhattan was joined with the four outer boroughs to form the world's second largest city. From 1800-1900 the population grew from 79,000 to 3 million people.

New York City became the country's cultural and entertainment Mecca, as well as its business centre. The city continued to grow as thousands of immigrants came seeking a better life. Over-population meant many at first lived in slums.

As New York grew even wealthier, the city entered into a gilded period during the 1880s and 1890s when many of its opulent buildings were built. These buildings were lavish in their arts orientation with the founding of the Metropolitan Museum, Public Library and Carnegie Hall during the 1880s. Luxurious Hotels like the Plaza and the original Waldrof Astoria were also built. Elegant department stores also arose to serve the wealthy and the Flatiron building (Fig 1) emerged, considered the city's first skyscraper.

Figure 1. The Flatiron Building

By 1900 New York was a hub of American industry; 70% of the country's co-operations were based there. This was a time of new beginning - the first crossing of the Staten Island Ferry, the first performance of the Ziegfield Follies, new fashion trends and Wilbur Wright's flight in the first plane over New York. The Woolworth building (Fig 25) was completed in 1913 and held the title of the world's tallest building for 17 years.

The 1920s were a time of high living for many New Yorkers, but the roaring twenties ended with the Wall Street stock market crash on October 29th 1929, which set off the Depression. New York was hard hit and one quarter of the city's population was left unemployed. New Yorkers wanted to pick up the pieces after the Wall Street crash as quickly as possible and from 1929-1939 New York saw a building boom with the creation of the Chrysler (Fig 37) and Empire State (Fig 50) building, and the completion of the Rockafeller Centre in 1939.

Since World War II New York has experienced both the best of times and the worst of times. Established as the financial capital of the world, the city almost went bankrupt in the 1970s. Wall Street reached its peak in the early 1980s but experienced its worst stock market crash since 1929 in the late 1980s. Recently the city has had to cope with an increase in crime, racial problems and homelessness, yet it always appears to bounce back and maintain its status as one of the world's most vital cities. Following trends and fashion, New York has given its own twist to the turns of architectural fashion. The style of its buildings is influenced by both geography and economy.

Manhattan can withstand the weight of its tall skyscrapers because it is an island of natural solid rock foundations. An island city with space at a minimum must look upwards to grow. This trend was reflected in the early years with tall, narrow tower houses and in later years, with the city's apartment buildings and skyscrapers. Building materials such as brownstone and cast iron were chosen for

their local availability and practical appeal. The result is a city that has developed by finding flamboyant answers to practical needs.

New York, like all of America, looked to Europe for architectural inspiration. None of the buildings from the Dutch colonial period survive in Manhattan today, most were lost in the Great Fire of 1776, or torn down to make way for new developments in the early 1800s although throughout the 18th and 19th centuries the city's major architectural trends followed those of Europe. Between the advent of cast iron architecture in the 1850s, the Art Deco period and the ever higher post-war rise of the skyscraper, New York came into its own style.

Plentiful and cheap, the brownstone (Fig 2) found in New York was the most common building material in the 1800s. It is found in buildings all over the city's residential neighbourhoods. Some of the best examples of brownstone buildings can be found in the Chelsea area of New York. Street space was limited, therefore these buildings are very narrow in width. A typical Brownstone has a flight of steps called a stoop, leading up to the first floor; separate stairs lead down to the basement door, which was originally the servants' entrance.

An American architectural innovation of the 19th century was the discovery of cast iron. This was cheaper than stone or brick and allowed ornate features to be pre-fabricated in foundries from moulds, and used as building facades. Today New York has the world's largest collection of full and partial cast iron facades (Fig 3). The best examples of these were built in the 1870s and can still be appreciated today in the Soho neighbourhood of downtown Manhattan.

As the city's population grew and space became more precious, family homes in Manhattan became much too expensive for most New Yorkers and even the wealthy joined the trend towards communal living. In 1884 the Dakota (Fig 4) one of the first luxury apartment buildings on 72nd Street started a spurt of turn-

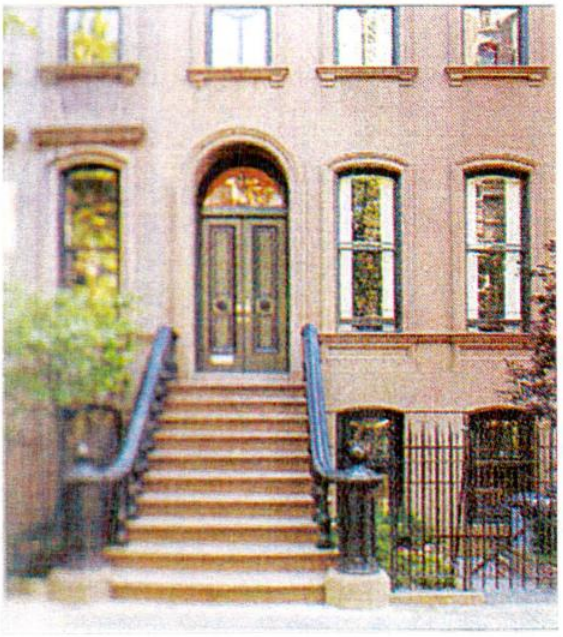


Figure 2. Brownstone Building

Figure 3. Cast Iron Facade

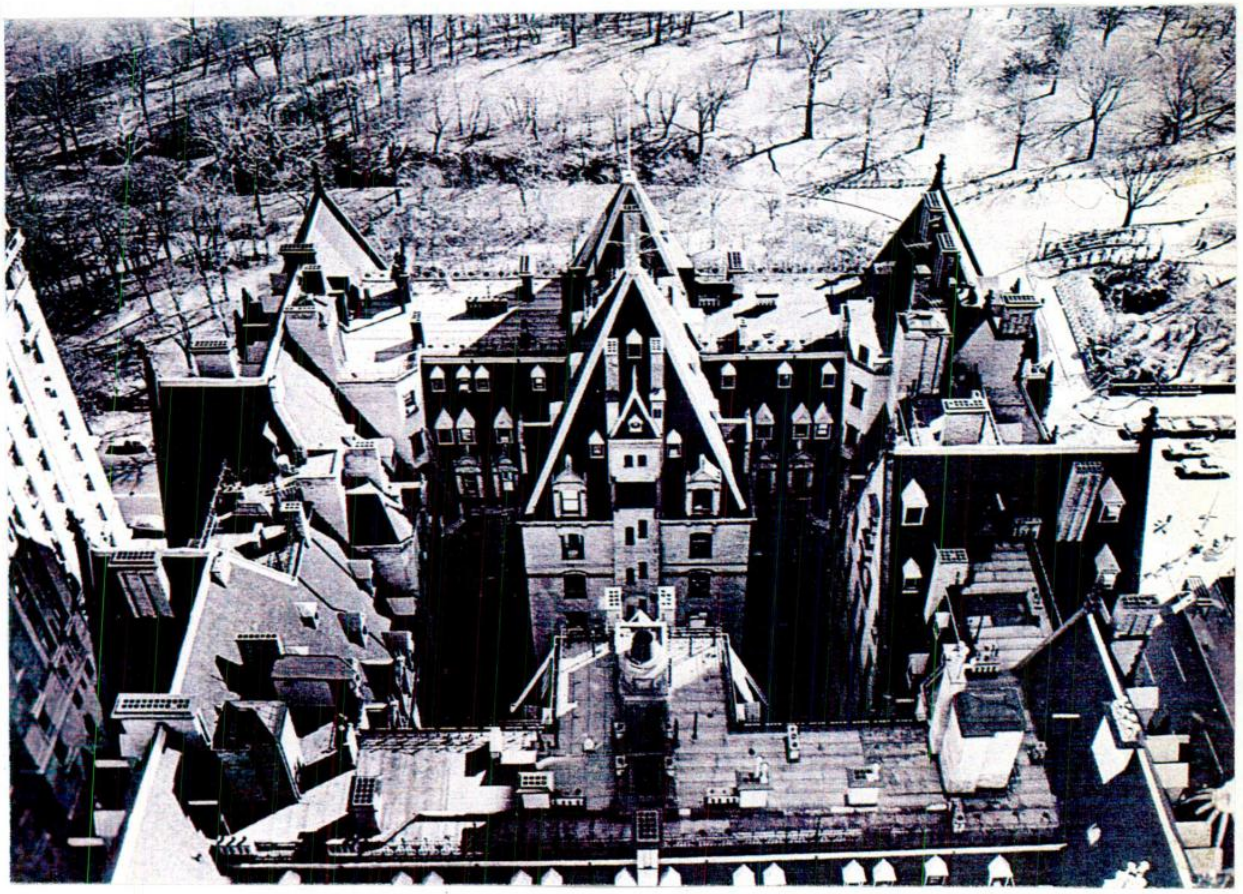


Figure 4. The Dakota Apt

of-the-century construction on the Upper West Side. Commissioned by Edward S. Clarke, heir to the Singer machine fortune and designed by Henry J. Harden, the architect responsible for the Plaza Hotel, it is one of the city's most prestigious addresses. Many of the buildings of the Upper West Side of Manhattan resemble castles and chateaux and were build around courtyards not visible from the street. A favourite landmark is the Four Twin Towers which arose on Central Park West during the peak of the Art Deco period. These are admired today for their grace and architectural detail. They were designed in response to the city's new zoning laws, allowing the towers to be used, if built, in a series of "set backs".

The four twin towers are The Eldorado, The Century (Fig **5**), The San Remo (Fig **6**) and The Majestic; together they create the distinctive skyline as seen from Central Park.

Although Chicago gave birth to the skyscraper, New York has seen some of the greatest innovations in this style. Daniel Burnham, a Chicago architect, built the Flatiron Building (Fig **1**), the tallest in the world when it was completed in 1902 (300 ft. 91m). One of the first buildings to use a steel frame, it heralded the era of the skyscraper. It got the name of The Flatiron Building for its unusual triangular shape.

By 1913 the Woolworth Building (Fig **25**) had risen to 792 ft., making it New York's tallest building until 1930. It was designed by Cass Gilbert (who also designed the Custom House and The New York Life Insurance Building) for Frank W. Woolworth, owner of a chain of Five & Ten Cent stores. Woolworth's Building set the standard for the great skyscrapers, and no office building is finer. The Chrysler Building (Fig **37**) was the world's tallest when it was completed in 1929 but was soon overtaken by the Empire State Building (Fig **50**) in 1931. Both

Figure 5. The Century Apt.

Figure 6. The San Remo Apt.

are Art Deco classics, displaying the increased technologically based architecture and design ethic, stepping forward into the 20th century.

The World Trade Centre and Twin Towers are currently the tallest buildings in Manhattan, at 1,350 ft (411m). The Twin Towers dominate the skyline of Lower Manhattan and are representative of the monotonous "glass box" modernist style. Although the Twin Towers have become a distinctive feature of the Manhattan skyline, I will always think of the classic structures of the Chrysler and the New York life Insurance Building when remembering my times spent in New York.

2.0 THE ORIGIN AND DEVELOPMENT OF ART DECO

The term Art Deco was popularised it the 1960s. It is used to describe a largely decorative style which is characterised by strong architectural and geometrical forms, striking colours and in the applied art of the 1920s and 1930s, graphic sharpness. It was named after the Paris Exposition Internationale des Arts Décoratifs et Industriels Modernes, staged in 1925. This exhibition provided the first large scale showcase of the decorative arts and architecture in what Americans term "Moderne" style. The exhibition was considered by most critics as a major showpiece of Modernism.

Architects had long talked of the need to design buildings that were true to the method of construction, and made good use of technological innovation. Modernism presented itself as being primarily concerned with these issues. Artists had to come to terms with the reshaping of society by industrialisation. The advent of factory production meant new materials, new working methods, new economies of scale and even new building types. It also severed the links between artist, architect and craft person.

The exhibition in Paris in 1925 was a major showpiece for Modernism, especially for the host nation France, whose lavish displays and avant-garde architecture dominated the event (Fig 7). These modernists included Francis Jourdain, Pierre Chareau, and Le Corbusier. The modernists argued that "The New Age required nothing less than excellent design for everyone, and that quality and mass production were not mutually exclusive". (A Duncan, Art Deco 19 p. 9). The artist and his handtools needed to be redefined to meet the dictates of the new machine age. The large body of buildings designed by Le Corbusier best illustrates the strengths and indeed the unhistorical nature of the Modernist style. Le Corbusier's L'Esprit Nouveau Pavilion (Fig 7) at the 1925 Paris Exposition

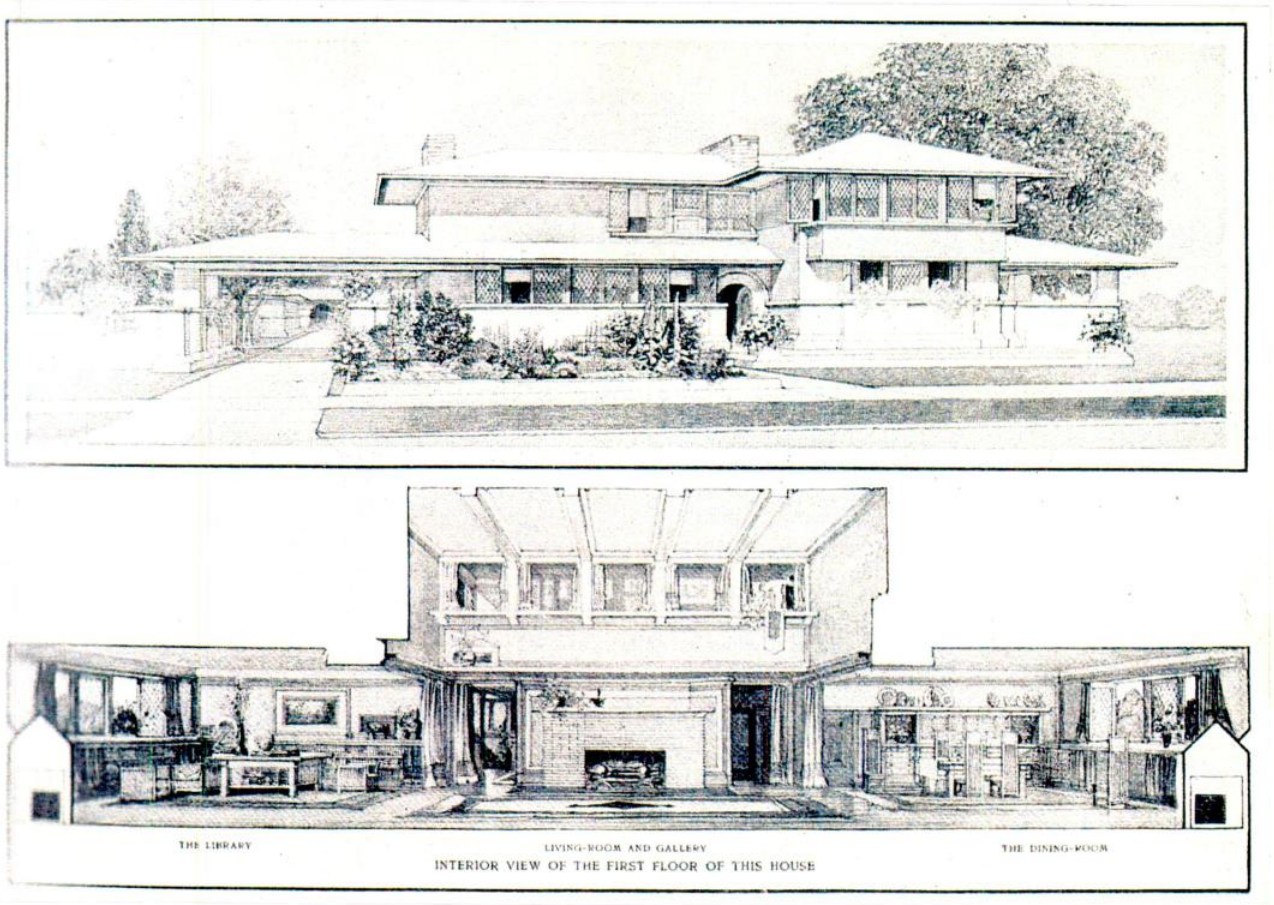


Figure 7. Le Corbusier, L'Esprit Nouveau Pavilion

was a prototype for a mass manufactured "Machine à habiter" (Patricia Boyer, Art Deco Architecture, 19 p 22).

The basic ingredients of Modernism were geometric forms, unadorned surfaces and exposed structures. Favourite materials were glass and metal and later nickel-plated or chromium-plated steel. Light and space were exploited, colour was used with great restraint: white, neutral, cream or beige, black, grey and the cold glint of white metal were considered sufficient ornamentation. Modernism used highly stylised motifs derived from machinery symbols of speed and energy.

As written by Stephen Bayley in his book 20th Century Style,

> "Modernism flourished on the idea that man could strive towards an ideal state of harmony with his created environment; on the dream of a perfect relationship between man, machine and product in which form would be determined simply by function and material". (S Bayley, 20th Century Style, 1986, p 117).

Modernist emancipation from traditional values was paralleled by the gradual emancipation of women after the First World War and by the cult of physical well being. The world was acting against the norm and was ready for a complete change. Modernism was difficult for even a progressive public, accustomed to more ornamental and traditional forms of architecture. Art Deco, on the other hand, combined the solid geometric shapes popularly considered at the time as decidedly modern, but tamed down with sculptural ornament, metal work and brightly coloured and more affordable materials.

Art Deco responded to the popular novelty appeal of the exotic in non-European civilisations. The discovery of Tutenkamun's tomb by Howard Carter 1922 inspired a fashion for things Egyptian. An Egyptian style Art Deco building could

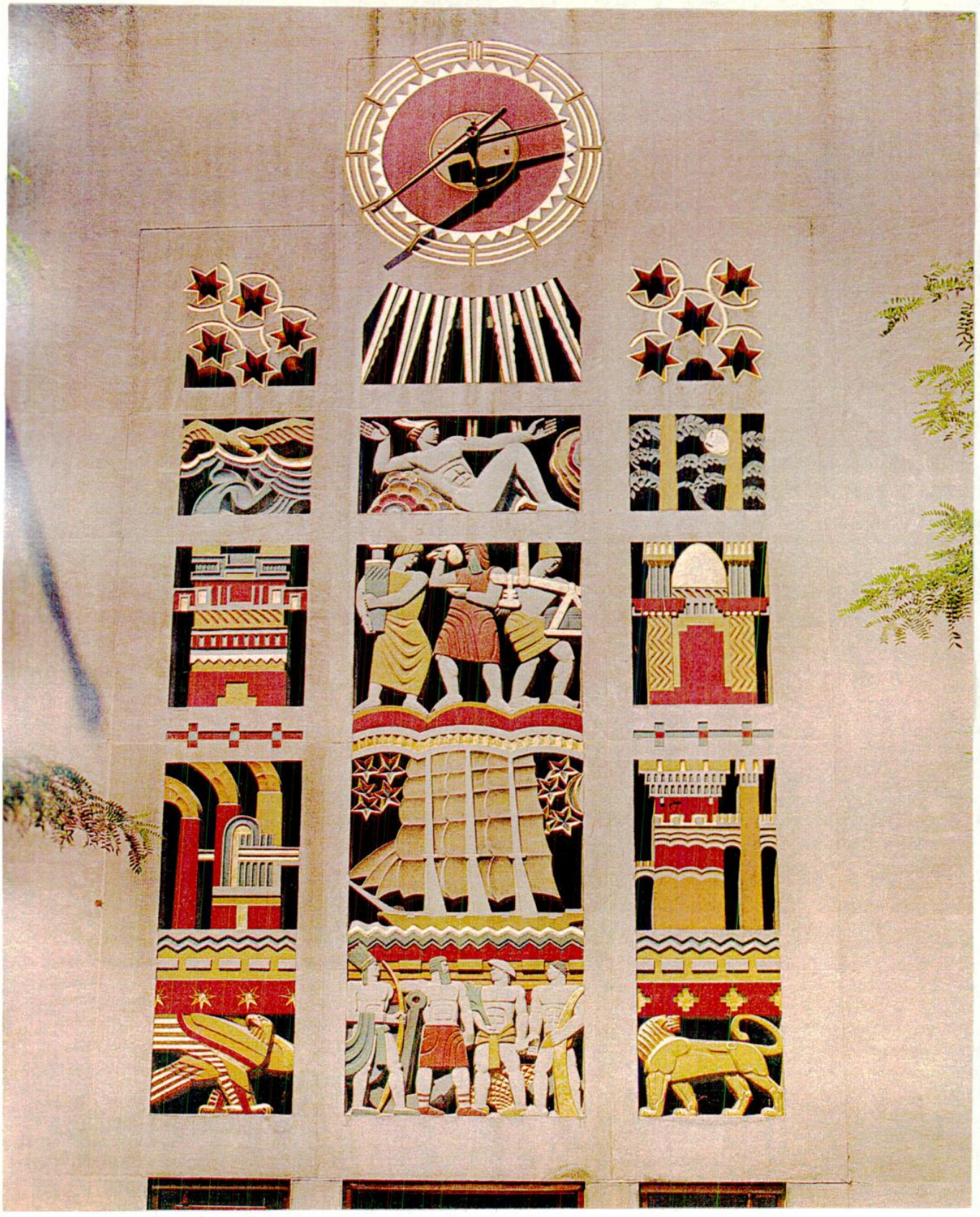


Figure 8. The International Building, Rockafeller Center, New York. 1935

Figure 9. National Radiator Building, London.

be topped by a pyramid or its facade assume the look of an Egyptian temple, like The International Building, Rockafeller Center, New York (Fig **8**), or London's National Radiator building designed by Raymond Hood and Gordon Jeeves (Fig **9**).

For centuries, the classical structures and sculpture of Greece and Rome had inspired design. The early 20th century was no different. Art Deco architects and designers like Frank Lloyd Wright were reacting against what had become the norm, hence they added distinctively modern elements to their classically based creations. Cubist, Abstract and Expressionist art, the architecture and design of the Arts and Crafts movement in England, Louis Sullivan, Frank Lloyd Wright, and the Vienna Secessionists, all had an influence on Art Deco and the new modernist thinking.

The Vienna Secessionist designers retained clear classically inspired forms where richness was achieved in the use of precious materials like marble. Lush colours and architecturally ornamented geometric forms were also used (Fig **10**). A major figure was Josef Hoffman, under whose leadership The Weiner Werkstatte (Vienna Workshop) had been founded in 1903. Hoffman lived in the Austrian capital at a time when the city was one of the foremost cultural centres of Europe and he trained at the Vienna Academy of Fine Art. He was a great admirer of the English idea "of architecture working together with craftsmanship", as expounded in the writings of John Ruskin and William Morris (Hoffman, 20th Century Designers, 19, p 161).

The Weiner Werkstatte produced Arts and Crafts objects designed and produced by artists and architects in their own workshops. In 1905 Hoffman was invited to design the Palais Stoclet (Fig **11**), a luxurious three storey mansion in Brussels for a wealthy Belgian financier who had lived in Vienna. He was undoubtedly

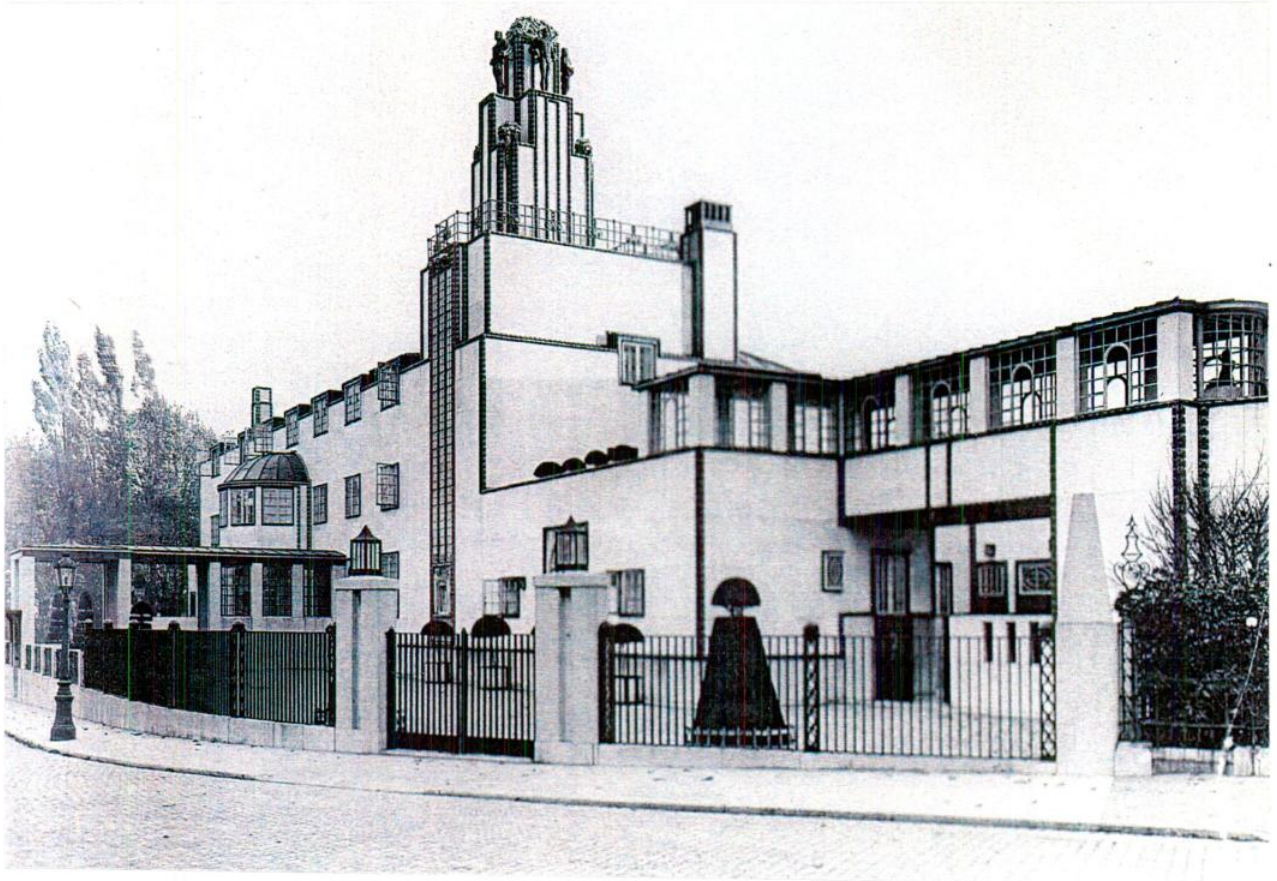


Figure 10. Weiner Werkstatte, Josef Hoffman

Figure 11. Palais Stoclet

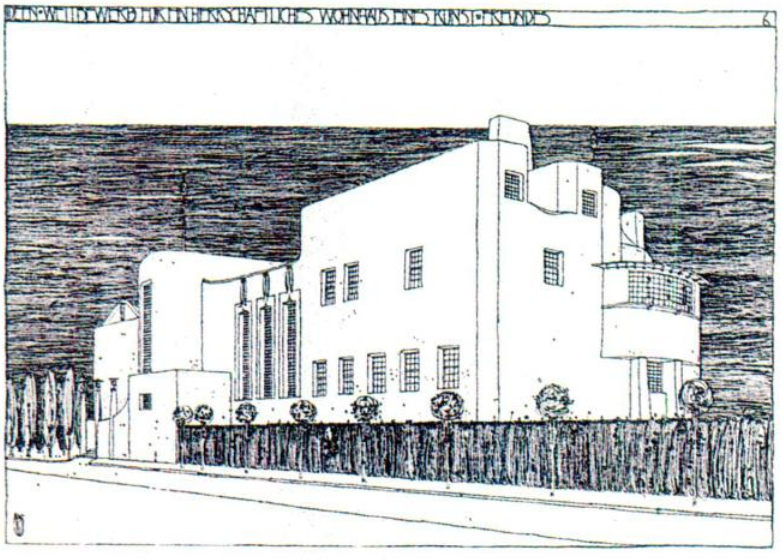


Figure 12. Drawing from Hans-enies Kunstfreundes

Charlse Rennie Mackintosh.

influenced by Charlse Rennie Mackintosh's style of design (Fig12): the smooth-faced, cubic-shaped, asymmetrical Stoclit building was given minimal decoration. It was elegant and simple with its interior decorated with marble, mosaics, glass and murals by Gustar Klimt. Hoffman designed all the furniture, china, glass and cutlery which were then made at the Werkstatte. By 1921 the Weiner Werkstatte had opened up a branch in New York on 5th Avenue (Fig **13**). The shop became a showpiece for stylish avant-garde design, its influence on New York architecture and interior decoration being of great importance; the American public for the first time were able to appreciate quality European work and styles.

Within the American tradition the work of Chicago architects Louis Sullivan and Frank Lloyd Wright had an undoubted effect during the 1920s and 30s on modernist trends. Wright was one of the world's most original architects. He began his career in 1888 when he entered the practice of Louis Sullivan in Chicago. Both Sullivan and Wright were seeking a form of decoration and architecture which would be appropriate for the New Civilisation of America. Wright was an architect and designer of great vision.

> "He avoided any current style, while still appreciating the need for decoration and he persued a personal ideal of harmonious, low key interiors which satisfied both functional and spiritual requirements" S. Bayley 20th Century Style and Design, 19, p. 60).

From as early as 1904, Wright's buildings, in particular the Larkin building in Buffalo (Fig**14**), The Unity Temple in Oak Park and the Prairie Houses exhibit (Fig**15**) manifested an architectural approach which, in its planning and handling of space, can only be called modern.

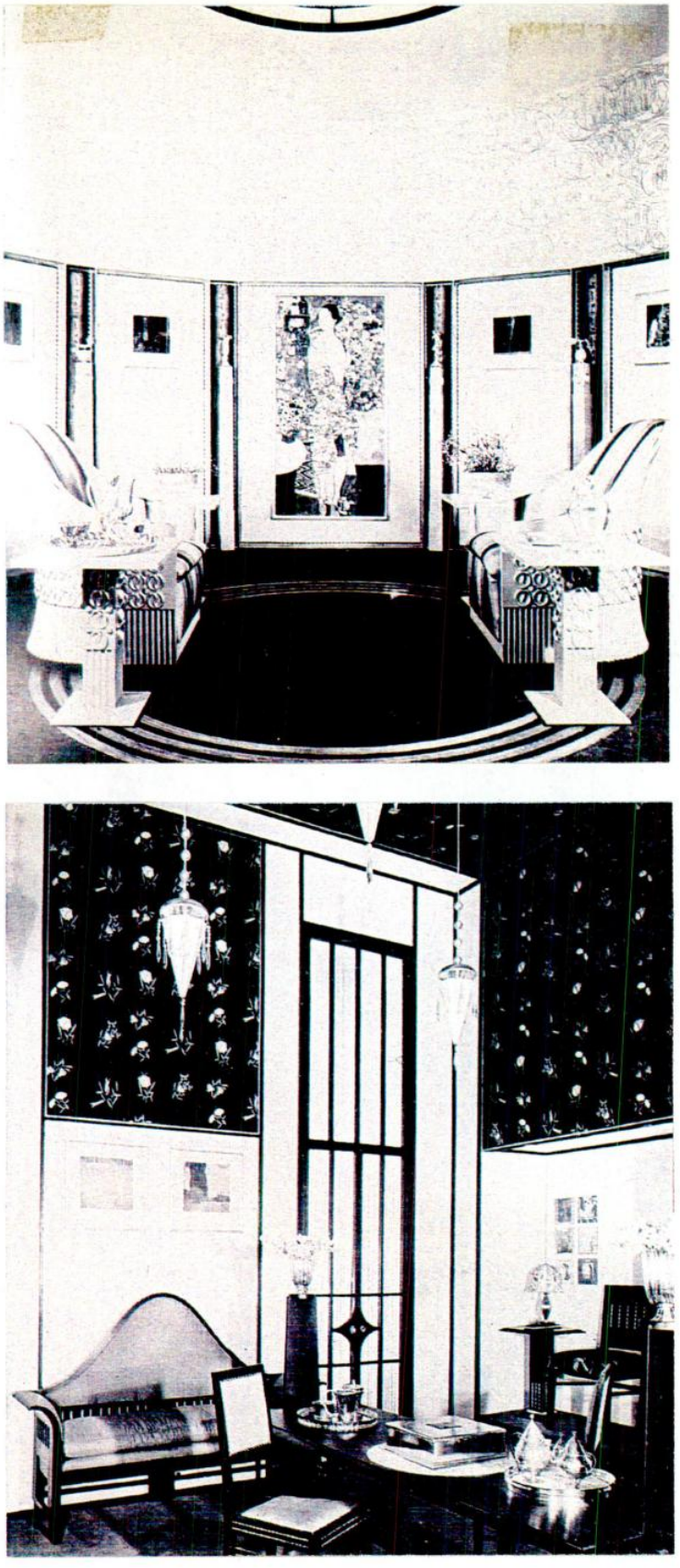


Figure13. Weiner Werkstatte Showrooms, 5th Avenue, N.Y.

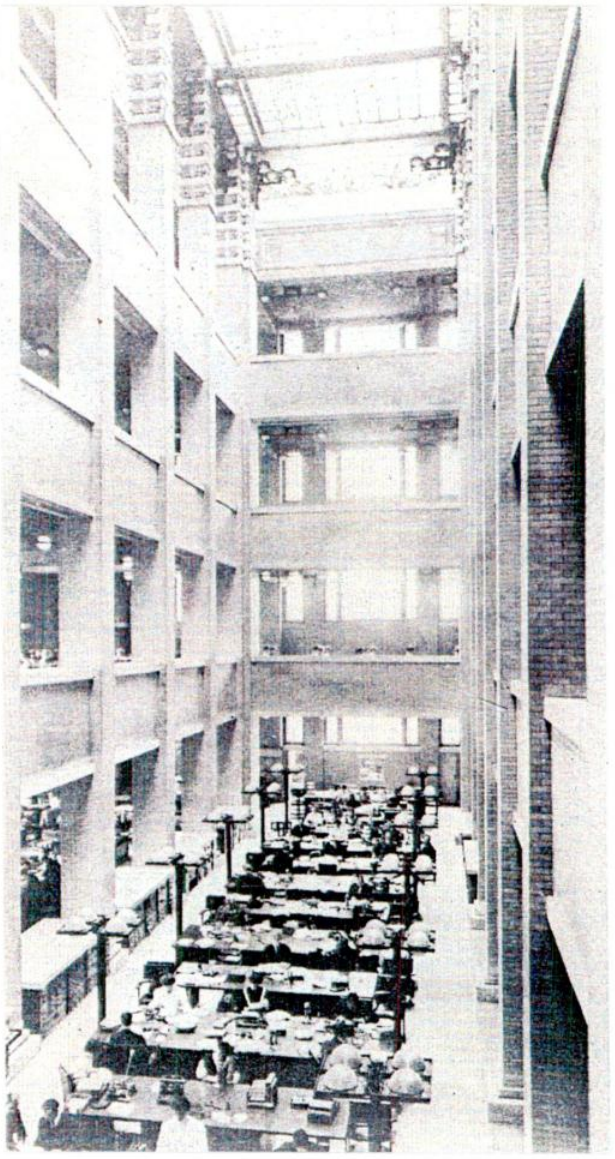


Figure 14. Larkin Building, Buffalo

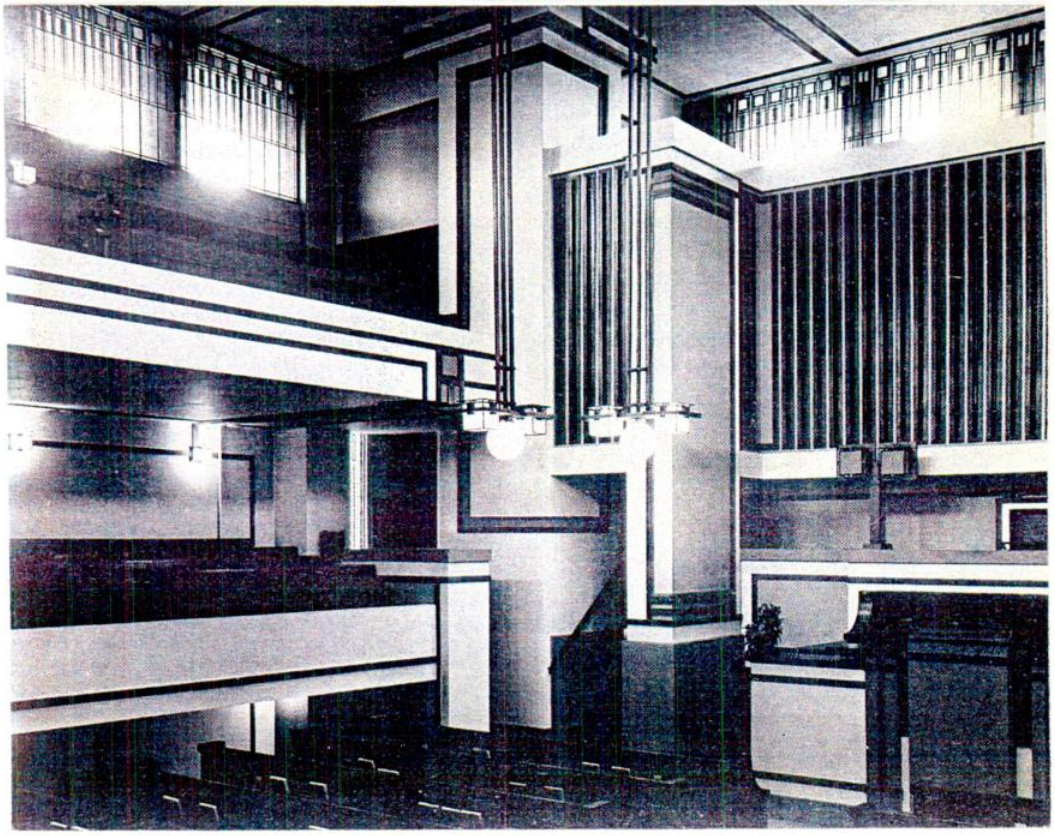
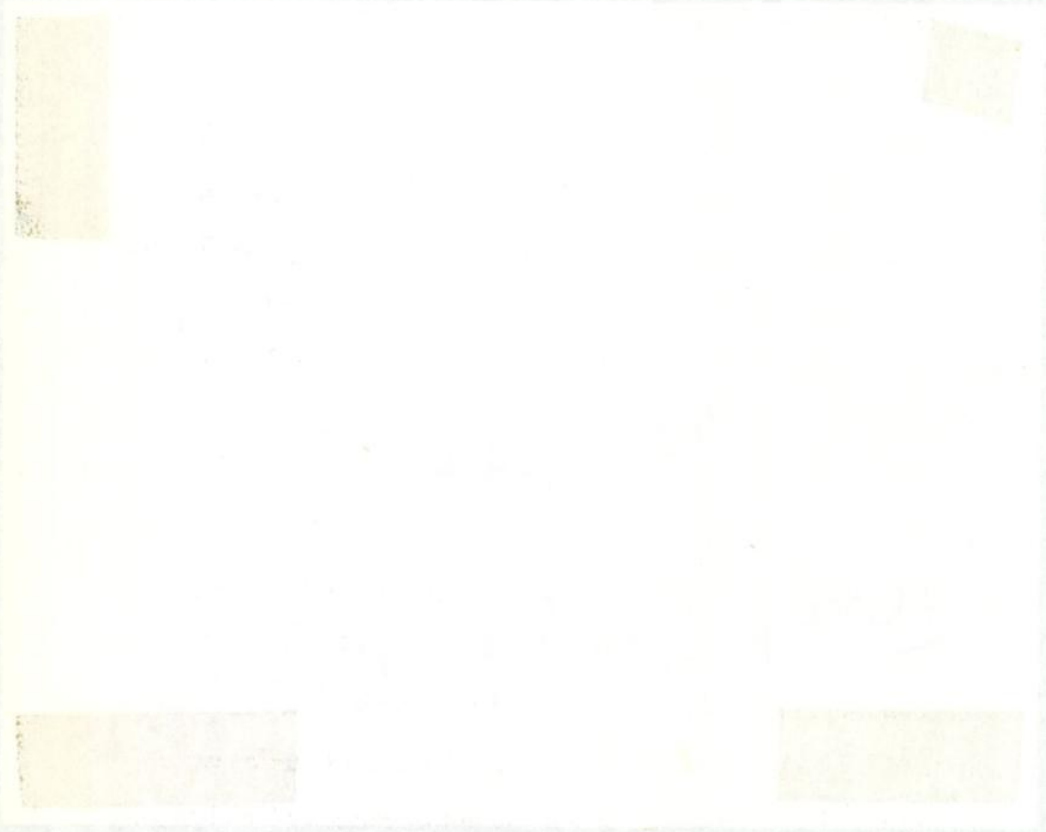


Figure 15. Prairie House



Louis Sullivan studied at Massachusetts Institute of Technology, briefly at the Ecole des Beaux-Arts, Paris and in Philadelphia. He moved to Chicago in 1875, at a time when the city was being reconstructed after the disastrous fire of 1871.

Sullivan became assistant to Dankman Adler and then became his partner in 1881. He had been a pupil of Le Baron Jenny who had taken the first steps in the development of skyscrapers, made possible by the invention of the elevator in the 1850s and 1860s in new York. In his essay entitled *"The Tall Office Building Artistically Considered"* (1896), Sullivan wrote of the need to emphasise the verticality of a building. One of Sullivan's greatest designs was the Pirie Scott department store in Chicago , 1899-1904 (Fig 16), a prime example of the verticality of building which created a distinctive streamline and powerful style. His work was enriched by highly personal decorative detail. Free from historical references, Sullivan used to set off the clarity and simplicity of the structural frames of his buildings.

Art Deco and modern architecture really blossomed in the United States during the 1920s-1930s. America was generously fed on home grown Modernism and the ideas of Frank Lloyd Wright and his compatriots. America adapted styles of architecture, abandoning historical and cultural associations. They took to the new modern thinking in Art Deco enthusiastically. By 1920 America was in advance of Europe in its technology, particularly in those areas which had a direct bearing on architecture and interior design. Electric lighting was pioneered in the States as was central heating. The first building to incorporate steel as a structural element was New York's Home Insurance Co. office, built in Chicago by William Le Baron Jenny in 1885. America was the perfect arena for the new styles of modernism and deco. The geometric forms, patterns and ornamental motifs of Art Deco began to feature right across the design spectrum in the United States during the late 1920s. The development of the new American vision in progressive design owed much to the Detroit newspaper magnate George C.

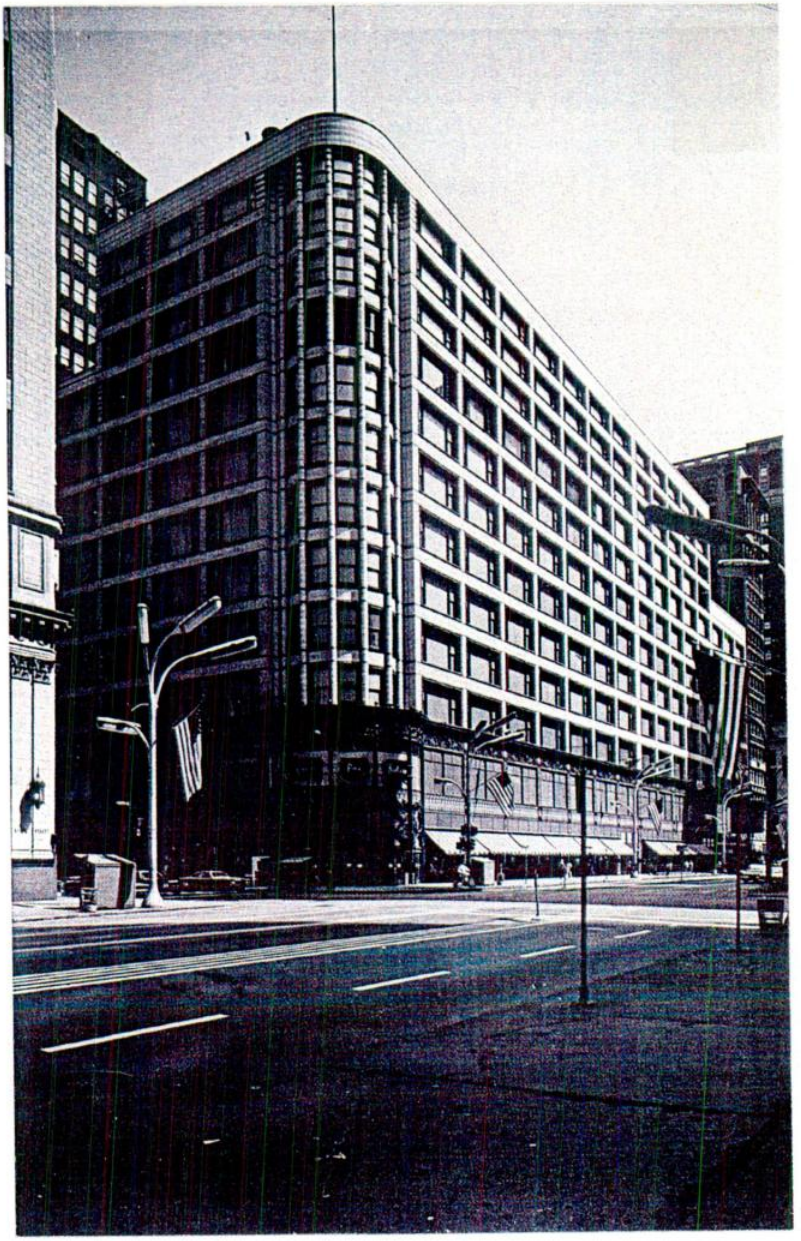


Figure 16. Pirie Scott Department Store Booth.

In the early and mid twenties, Booth built the Cranbrook Academy which represented the new wave of design rooted in the Arts and Crafts tradition. He enlisted the support of Finnish architect and designer Eliel Saarinen. In 1914 Saarinen, after completing the Helsinki main railway station (Fig17), moved to America on the strength of winning second place in the competition to design a new Chicago Tribune building.

Another reason why the new progressive design flourished in America was due to it being one of the richest countries in the world. There was a burst of high style in the dramatic decorations of the new skyscrapers then transforming Manhattan's skyline. Leaping gazelles, flat stylised garlands of flowers, stylised animals, ziggurat and purely abstract motifs appeared in many different guises. This style was applied to the exterior detailing and public interior spaces of skyscrapers in New York during the 1920s and 1930s; after the 1925 Paris Exposition, which had begun as the European style of Art Deco was gradually transformed into the first unified American design movement.

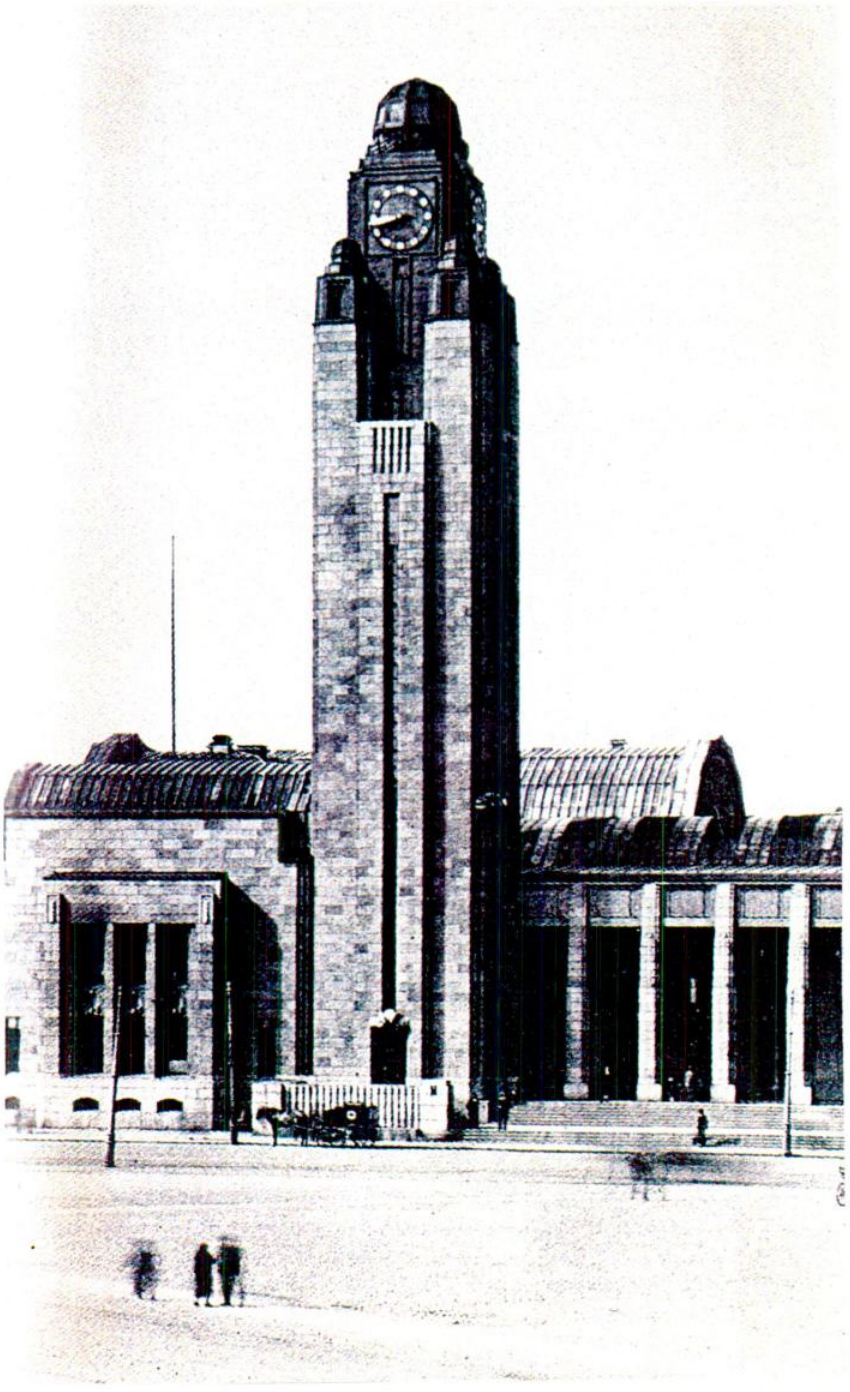


Figure 17. Helsinki Railroad Station

3.0 SKYSCRAPER FORM

American Art Deco architecture is most strongly associated with the skyscraper, and the city with the greatest examples is New York, which is studded with buildings in this style.

The incentive to build high came from the need to maximise floor space for the growth in industry and commercial activity during the late 1900s. Three technological developments made this possible; the first was a more sophisticated understanding of the behaviour of materials in structures, developed from engineering and bridge design. The second was the separation of the basic structure, or form of the building from its outside skin by using steel or iron framing. The third development was the introduction of the passenger elevator by Elisha Otis, whose invention of a safety device in 1893 prevented the elevator from falling.

The change from masonry to steel-cut construction reduced building weight by two-thirds, and lightweight construction allowed bigger windows, more internal space and inevitably taller buildings. New York builders were quick to exploit the new technology, with new Bissemer steel replacing cast and wrought iron, thus enabling them to work to great heights.

The skyscraper was not born in the New York of the 1920s and 1930s but in Chicago of the 1890s, following the famous fire which decimated the city in 1871. Skyscraper design offered Chicago speed, efficiency and economy in rebuilding, and over the next two decades produced virtually a new city of steel and stone. The Chicago School of Architecture flourished, creating large scale office buildings and other commercial steel-skeleton structures.

Louis Sullivan, the great theorist on the skyscraper, contributed in the drive to rebuild the city of Chicago. Sullivan has been described as one of the pioneers of the Modern movement in American architecture. He took a stand against the use of historical elements in the new tall buildings and called for a "reflection in architecture of what they took to be American impulse". (Duncan, Art Deco, 1988, p 146).

In 1916 New York's city authorities introduced zoning laws in an attempt to control the ever-upward growth. The zoning laws were also to ensure adequate light and air for the working population of the city. These laws inevitably had a significant influence on the basic shape and future of tall building. They allowed a structure to rise only to a height determined by the width of the street on which it faced; beyond that height it had to step backwards and hold to a line drawn from the centre of the street through the predetermined limiting height on the street line. (Robinson, Cervin. Skyscraper Style 1975, p 8) A pyramid could therefore be superimposed on top of a cube.

Architects developed a design around this law so that a series of "setbacks" or terraces were built which kept the building line. There were some provisions of the zoning laws which allowed for variations; for example, a building could be carried to an unlimited height if it was constructed on a maximum 25 per cent of the plot of land allocated. Soon after the zoning laws were passed, Hugh Ferriss from the firm of Hemle and Corbett, drew up professionally rendered drawings, giving his interpretation of the laws (Fig**18**) and his realisation of how they would change the structure of building in the future. Ferriss did a four stage visualisation of the evolution of a building under these new laws. They presented a pure shape, devoid of decoration but illustrated the basic form of buildings of the future. Due to the zoning laws, the "setback" skyscraper was soon seen as a style in itself. One example of a "setback" skyscraper is Raymond Hood's Art Deco style

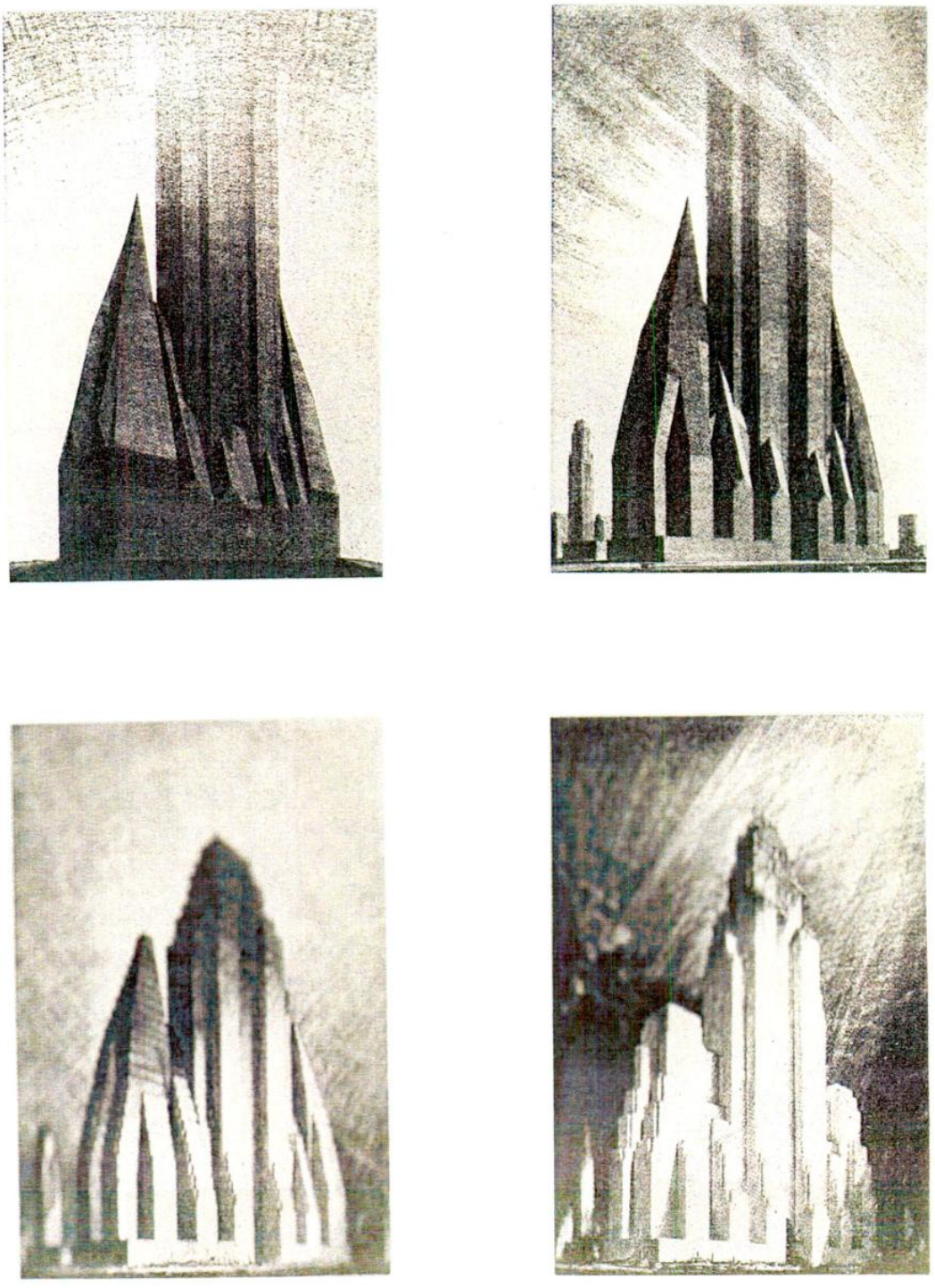


Figure 18. Hugh Ferris, four stages of the zoning laws.

Figure 19. American Radiator Building, N.Y. 1924

American Radiator building 1924 (Fig**19**), which stepped up and back in even increments, displaying a pyramidal profile.

An event which contributed to architectural change was the competition announced by the Chicago Tribune in 1922; its brief was for a tall modern building to symbolise the power and authority of the newspaper as one of the great American papers of the time. Its location was to be on Michigan Avenue, the site of a new printing plant, the location of the building to reflect the prestige of the paper and the architecture to provide the workers with inspiration. The competition attracted 260 entries from 23 countries, providing something of a World's Fair of skyscraper design. (Figs **20,21**). The entries were judged by a panel of Chicago politicians, journalists and architects representing popular American taste. The first prize was awarded to John M. Howells and Raymond Hood (Fig.**22**) of New York, for a building which evoked the past rather than the future: Gothic ornamentation with pinnacles and ornamental flying buttresses crowned the structure which was built in downtown Chicago. Second place was awarded to Eliel Saarinen; his design (Fig **23**) quickly became the prototype for a host of truly modern skyscrapers which rose up across America within the next decade.

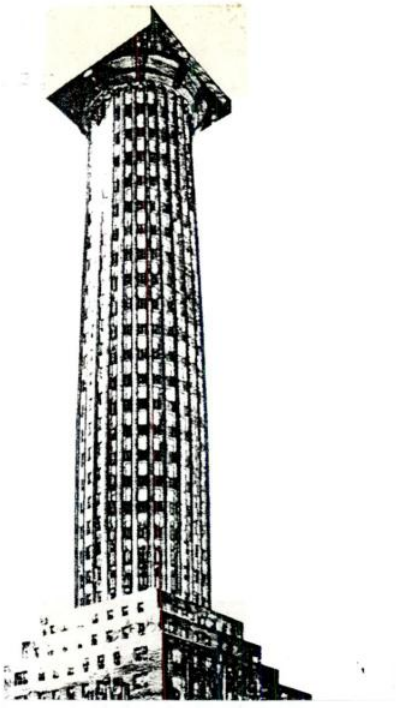


Figure 20. Adolf Loos, Chicago.
Tribune Competion entry.

Figure 21. Entry to the Chicago Tribune Competition

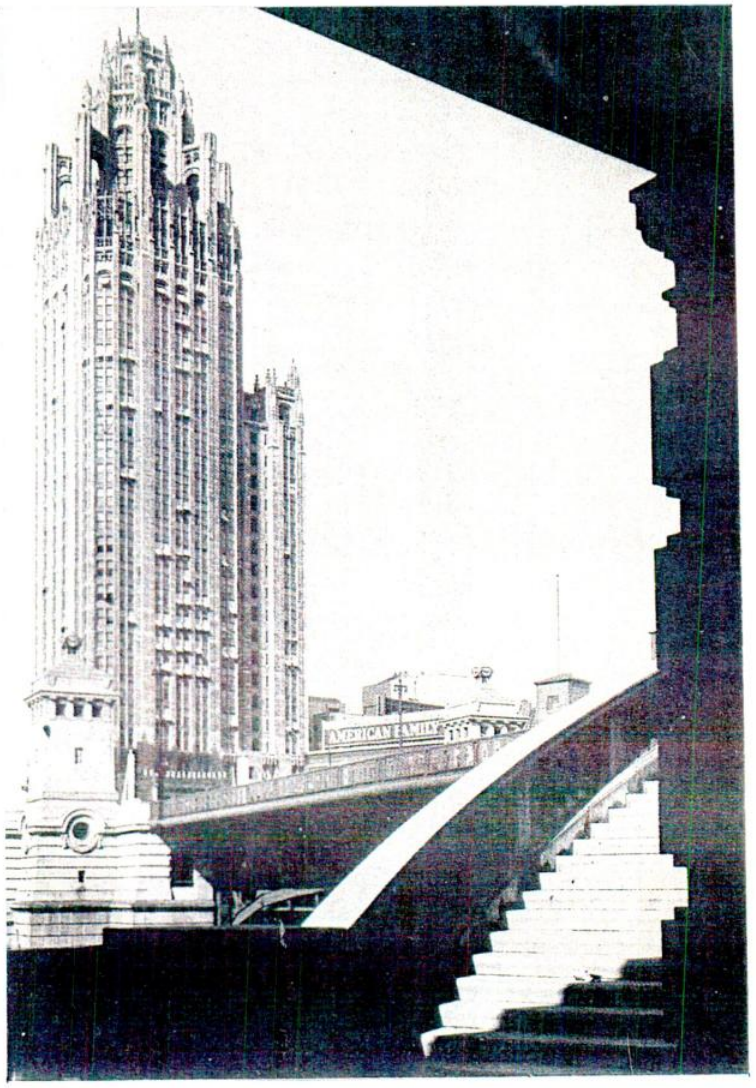


Figure 22. Raymond Hood, Chicago Tribune Competition Winner

Figure 23. Eliel Saarinen, Chicago Tribune Competition 2nd Place

4.0 THE HIGH RISE OF THE SKYSCRAPER IN MANHATTAN.

As previously stated, the skyscraper, although born in Chicago where the technology of steel frame construction was first developed, grew up in New York. Even if the tallest building in America is now in Chicago (The Sears Tower) and high-rise buildings have mushroomed all over the world, Manhattan still reigns as the true home of the sky-scraper. This is due to the city's evergrowing importance as a world trade centre, where corporate firms still build their headquarters. Freed from height limitations by the elevator and the steel frame, the New York property boom took off during the late 1800s.

Early examples of this new architecture innovation were the Flatiron Building (Fig 1), and the Metropolitan Life Insurance Company building. The twenty-one storey Flatiron building was one of New York's first skyscrapers, built in 1902. It was one of the first buildings to use steel frame and heralded the era of the skyscraper. The Metropolitan Life Insurance Co. Building (Fig 24) rose above the Flatiron building, after a 700 ft. tower was added to the original building in 1909. Higher structures increased density, which generated higher real estate values, which in turn dictated even higher buildings. Manhattan's formal grid layout and the space restrictions of the island added further incentive to build high.

4.1 WOOLWORTH BUILDING

From the early 1900s there was a race for the skies and the Woolworth Building (Fig 25) held the highest building title for 17 years after its completion in 1913. The Woolworth building situated in lower Manhattan is the headquarters of Frank W. Woolworth's empire chain of Five and Ten Cents stores. It set the standard for the great skyscrapers.

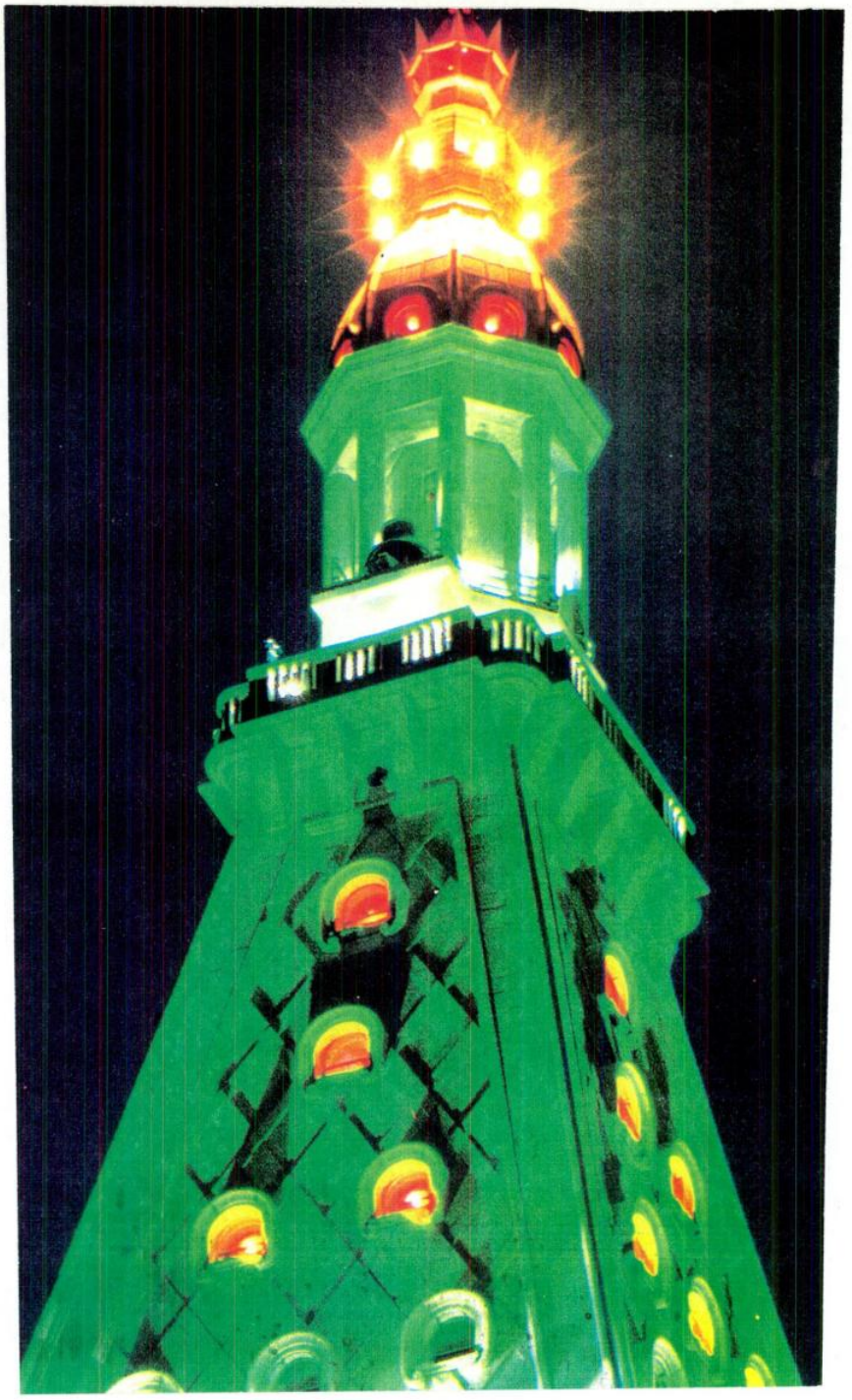


Figure 24. Metropolitan Life Insurance Co. Building, NY, 1909.

Woolworth wanted a gothic building with a tower and lots of windows, of which there are 5,000, arranged so that the interior spaces could be sub-divided into offices having adequate natural light. As architect he chose Cass Gilbert, with an outstanding reputation for building modern architecture in the historical mode. Previously, in 1907, Gilbert had designed the United States Custom House, Bowling Green St., N.Y. (Fig26). Gilbert's soaring two-tiered design, the Woolworth Building, is adorned with gargoyles of bats and other widlife (Fig27) and is topped with a pyramid roof, flying buttresses, pinnacles and four small towers. The marble interior is rich with filigre sculptured reliefs and highly detailed decoration. In order to achieve the desired sculptural and tactile effects, Gilbert chose flamboyant gothic tracery and decoration of the late fifteenth and sixteenth centuries, which allowed great flexibility with almost limitless ornamental possibilities. Combined with appropriate colour this allowed the architect to accent and enrich the shadows and to define the main lines of the building, satisfying both Woolworth and Gilbert. Ten years after the building was completed, Gilbert professed:

> It was an honest endeavour to express in exterior form the functions of the building and the fact that it was a steel structure not a masonry structure." (Donald Martin Reynolds, The Architecutre of New York City 1994 p.216).

Its lower 27 floors support a 30 storey tower, which becomes narrower as it rises in a series of "setbacks". The roof rises 125 feet and is sheathed in ornamental copper in a late gothic style (Fig28). When the rooftop was new it was gilded by a new process in which rolls of gold leaf were applied to ornamental copper sheet. The gilded apex and the colours Gilbert selected for the exterior were carefully calculated to lend the illusion of even greater heights to the building.

One of the many praises that have been sung in honour of Cass Gilbert's achievement is that the Woolworth building is still a particuarly suitable piece of architecture even today. A reporter of the London Times wrote:

> "The Woolworth building will be New York's fame ..... A growing city built on a narrow peninsula is unable to expand laterally and must, therefore, soar. The problem was how to make it soar with dignity and the problem has been solved...." (Donald Martin Reynolds, Architecture of New York City 1994 p 225).

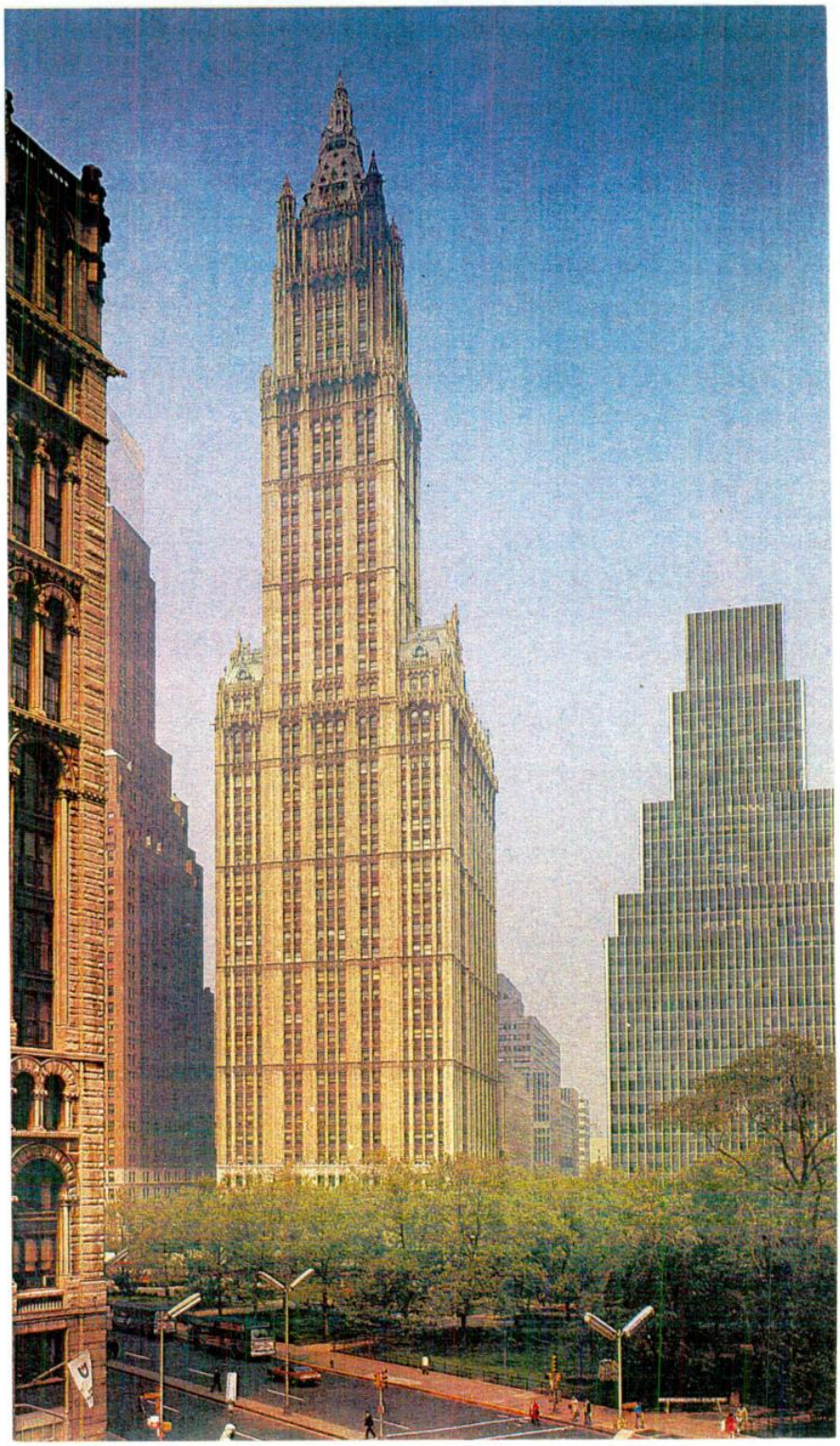


Figure 25. The Woolworth Building, N.Y., 1913

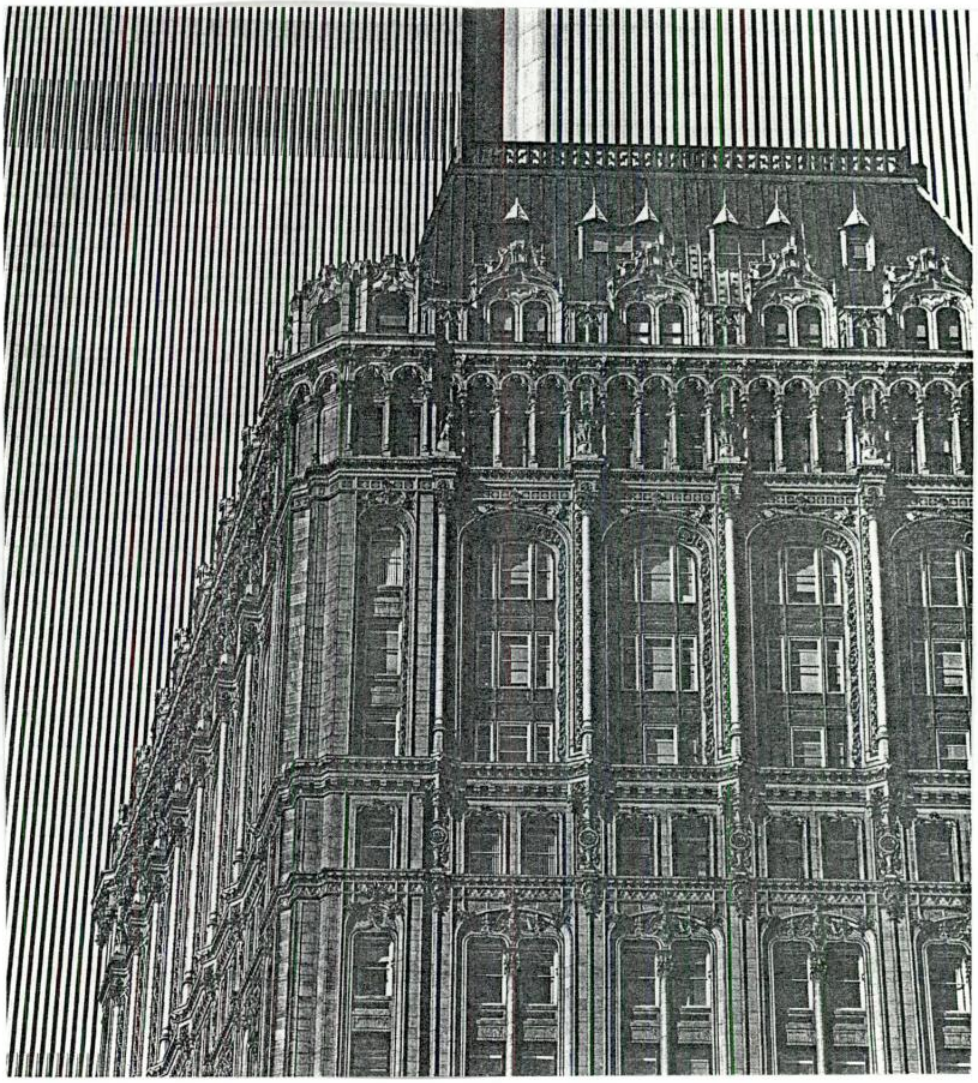


Figure 26. US Customs House, NY.

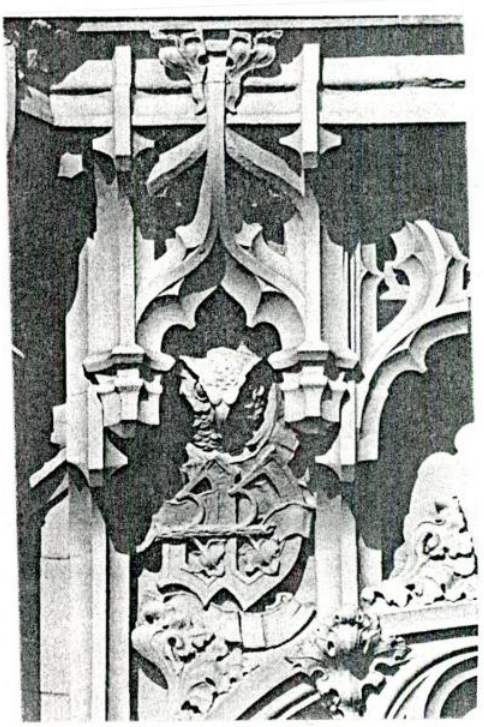


Figure 27. The Woolworth Building, The Owl

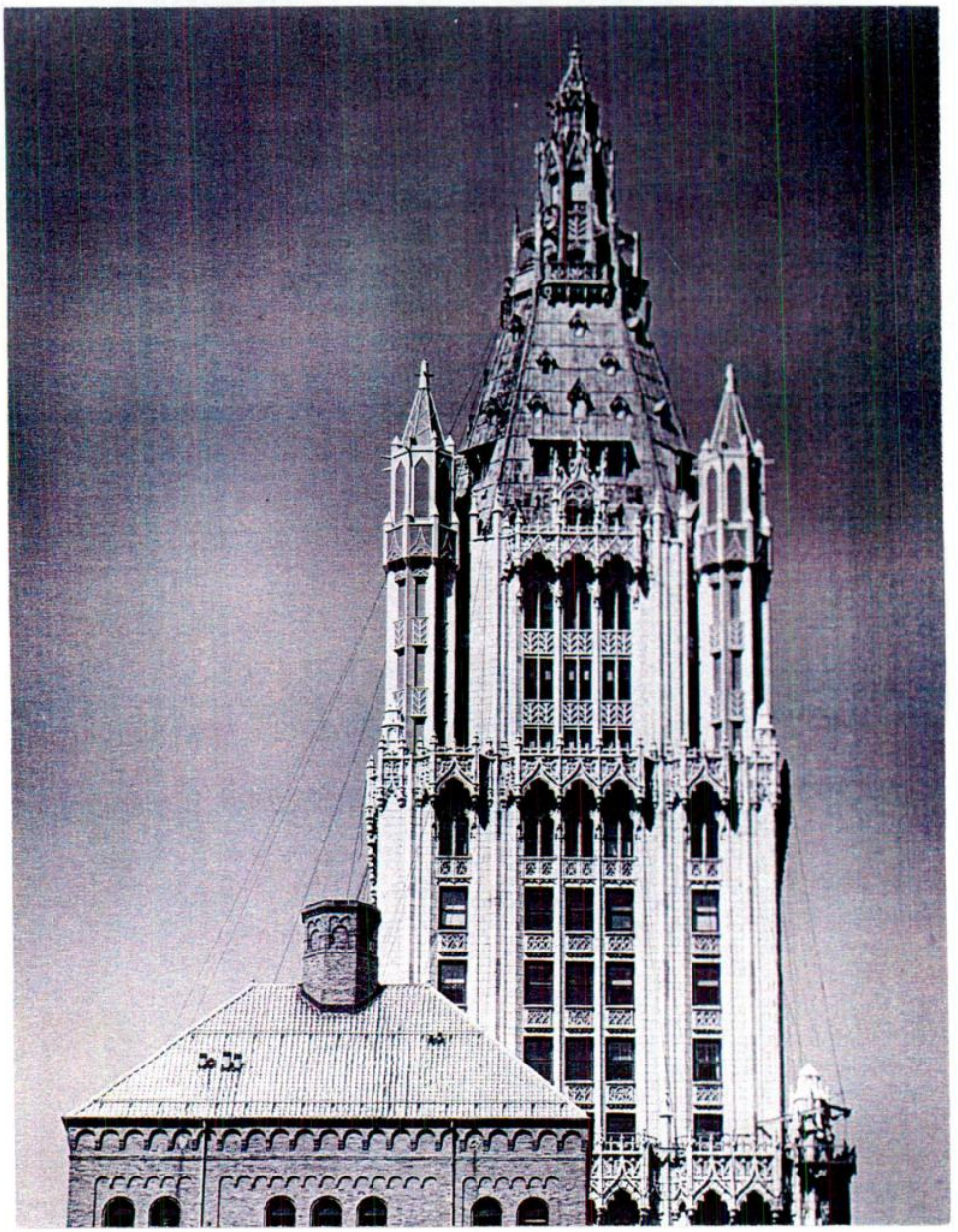


Figure 28. The rooftop of the Woolworth Building

5.0 ART DECO SKYSCRAPERS OF MANHATTAN.

Almost two decades after the Woolworth building opened, three major Art Deco skyscrapers rose practically side by side, and almost at the same time: The Chanin Building (Fig**29**) of 1929 was located on the south west corner of Lexington Avenue and 42nd Street; the Chrysler Building (Fig**37**) of 1930 is on the north east corner of the same avenue; and, only blocks away, the Empire State Building of 1931 (Fig**50**). They were built as monuments to the American dream, symbolising America's economic might.

5.1 THE CHAININ BUILDING

One of the first real skyscrapers to be started in the twenties was the Chanin building, by Sloan and Robertson, begun in 1927. This stepped fifty-six storey structure was headquarters to Irwin S. Chanin, one of New York's leading real estate developers. The Chanin Building is one of the best examples of the Art Deco period. Chanin's staff headed by Jacques Delamarre, worked with architects Sloan & Robertson in designing the building. Its design was based on Eliel Saarinen's competition design for the Chicago Tribune Building in 1922 (Fig**23**). The Chanin Building is composed of a rectangular tower of brick, trimmed with terracotta, and limestone, rising from a series of "setbacks" between the fourth and thirteenth storeys (Fig**29**). Chanin built a skyscraper that offered people speed and efficiency, with the most up-to-date facilities and services, which he promoted as a "city within a city".(Donald Martin Reynolds, Architecture of New York, 1994, p 277). It was the last word in efficiency with twenty-one Otis elevators, lifting people to their offices without delay. Besides being the most efficient and appealing office building in town, Chanin intended his skyscraper to be a work of art, expressing the

Figure 29. The Chanin Building, New York.

modern American age of style. Inspiration was derived from the prevailing Art Deco style which is evident in the use of strident, active shapes (Fig 30) and energetic compositions. Three storeys above the ground is a rich ten foot high band of floral and foliate bas-reliefs (Fig 30) which spans the full length of the facade. The terracotta base is decorated with a luxuriant tangle of stylised leaves, flowers and birds (Fig 31).

In the lobby of the building, Chanin wanted to convey the message he had learned early on in life: that any individual in New York city may rise from humble beginnings to wealth and influence, through the use of his mind and hands. For Chanin the building itself embodied these principles, but he had them translated into a narrative, and symbolic language through a program of sculptured and decorative detail that enriched the building throughout. Sculptor Rene Chamberlain and Jacques Delamarre, head of Chanin's architectural department, designed and executed the sculpture programme. The formal inspiration was derived from the prevailing Art Deco style evident in the translation of three dimensional forms into flattened images (Fig 32). A series of eight plaster reliefs, painted with a dark bronze patina, showing powerful animated figures above polished bronze convector grilles, greet visitors at the three entrances. Each is set against geometric patterns of coils, rays or blocks that repeat in the grille below it and each is a different design (Fig 33). As with all skyscrapers, aspects of modern technology; electric lights and radiator grilles, were incorporated into the decorative scheme. Six of the eight plaster reliefs represent the physical (Effort, Activity, Endurance) and mental (Enlightenment, Vision, Courage) means by which the other two (Achievement, Success) are gained. The metalwork reflects the variety of moods of the different spaces. For example, "the spirit of modern industry" is expressed in the wrought iron gates at the entrance to the

Figure 30. The facade of the Chanin Building, New York.

Figure 31. Detail From the Terracotta base on the facade of the Chanin Building, New York

general reception room on the fifty seventh floor. Its cog wheels signify the interdependence of component parts necessary to any smooth-running machine, and its stacks of coins symbolise the financial rewards of hard work; one of the foundations of industry (Fig 36) (Donald Martin Reynolds, Architecture of New York City 1994).

Figure 32. Plaster relief above convector grille in the lobby of the Chanin Building, symbolising the spirit of modern industry.

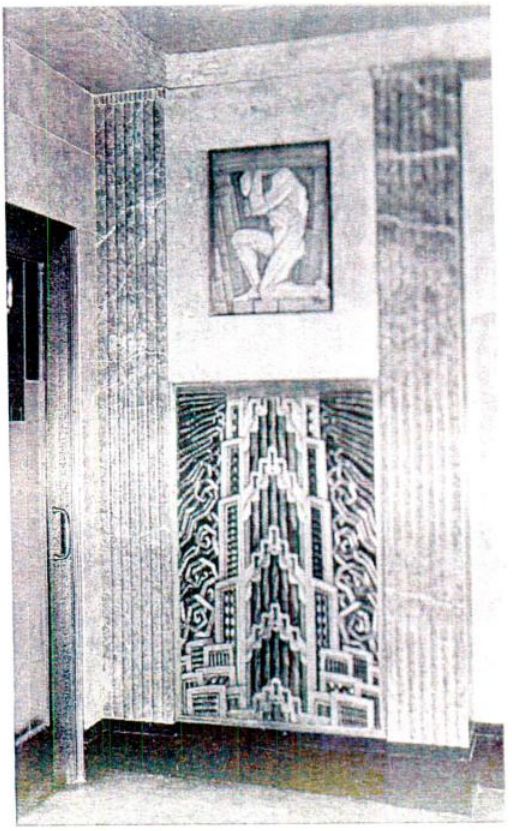


Figure 33. "Endurance

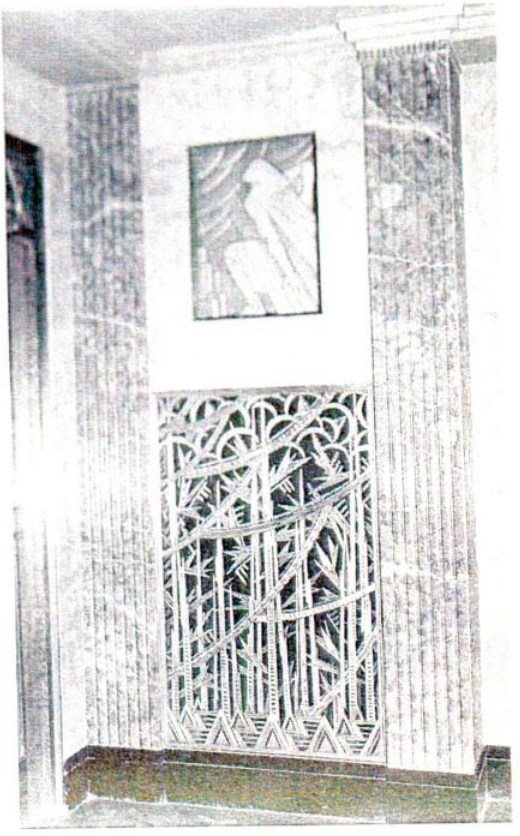


Figure 34. "Enlightenment"

Figure 35. Above radiator grille, Chanin Building, New York.

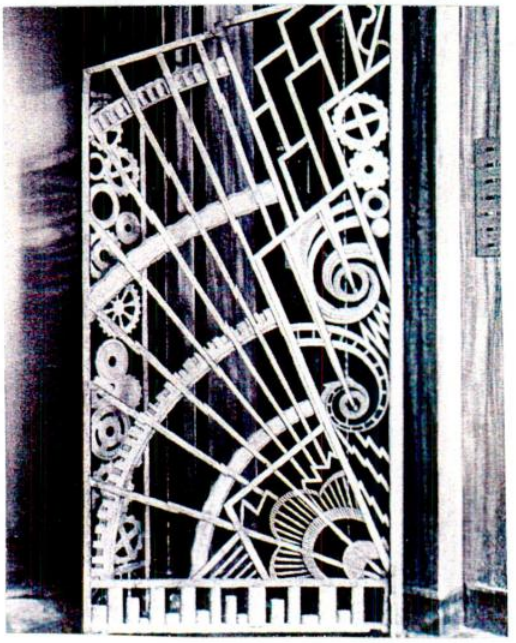


Figure 36. Wrought iron gate, Chanin Building, New York.

5.2 THE CHRYSLER BUILDING

In 1928 while the finishing touches were being added to the Chanin Building, William Van Allen was commissioned to build the Reynold's Building which was to have a great glass dome, lit from within a tall tower. In the same year Walter Percy Chrysler bought the lease to the Reynolds Building as a real estate investment and retained Van Allen to build the tower. The building was renamed the Chrysler building (Fig **37**) and was to have a peak instead of a dome.

Walter Chrysler began his career in a Union Pacific Railroad machine shop, but his passion for the motor car helped him rise swiftly to the top of the new industry. Chrysler became a key executive officer with General Motors, and finally the Maxwell Motor Company, which became the Chrysler Corporation in 1925, the year after the Chrysler automobile (Fig **40**) was introduced. As a fitting monument to his own achievement and to world commerce and industry, Chrysler decided to erect a building resembling the design of his automobile.

William Van Allen had studied architecture at Pratt Institute, the Beaux Art Institute of Design in New York and at the Ecole des Beaux-Arts, Paris. He worked first for the builder Clarence True, then as a designer for Clints & Russell architects and later as an associate of H. Craig Severance. Van Allen was previously known for his innovative use of metal on the exterior structures of his buildings. He had built many diners displaying a flamboyant Deco style (Fig **39**) and the public were looking forward with anticipation to what his skyscraper creation would be.

Figure 37. The Chrysler Building, New York, William Van Alen.

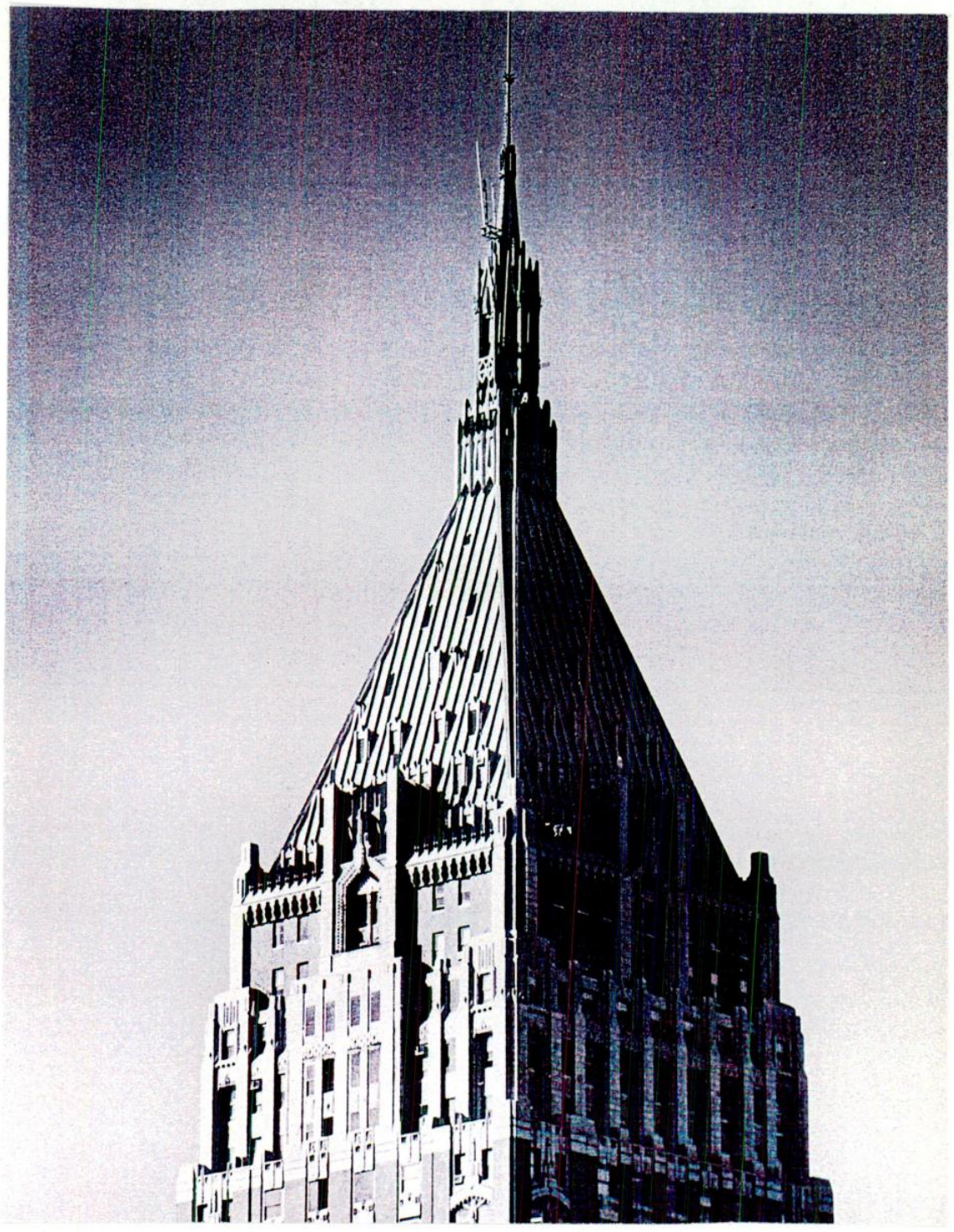


Figure 38. The Bank of Manhattan, New York.
H. Craig Severance.

Figure 39. Art Deco Style Diner

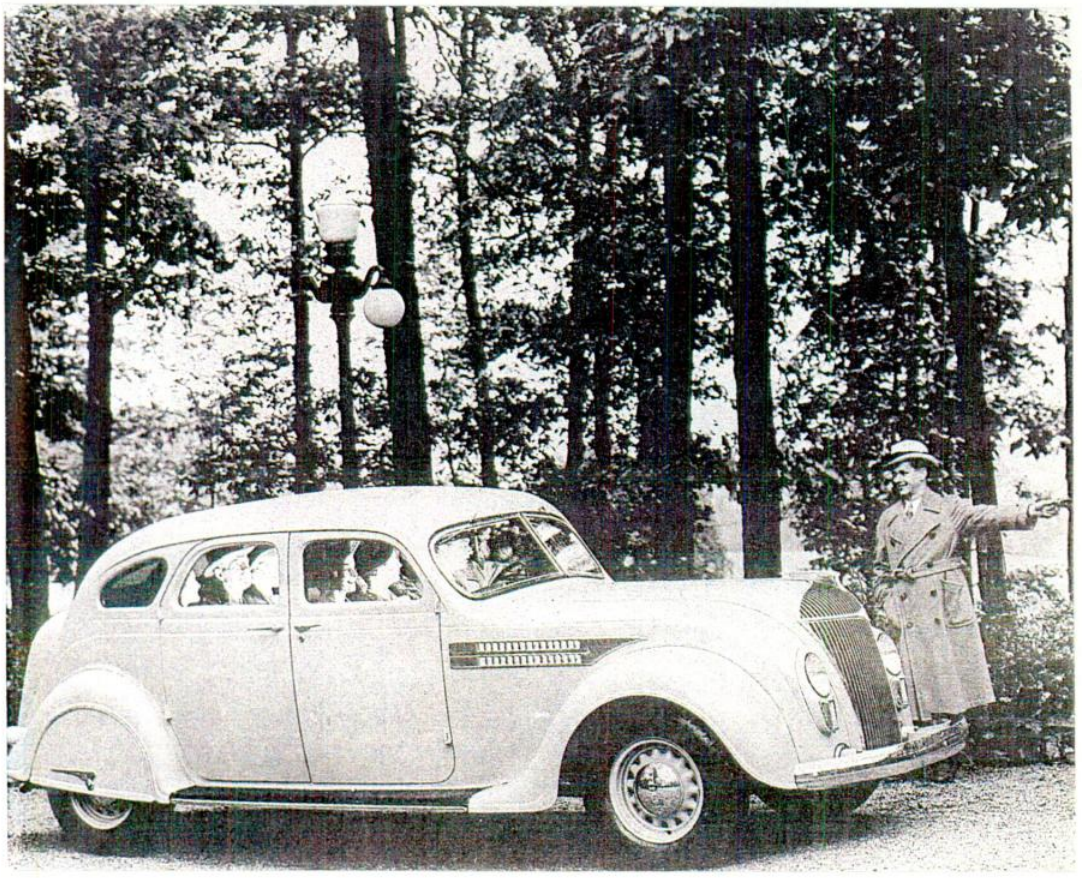


Figure 40. The Chrysler Automobile

At the time Van Allen was building the Chrysler building, Severance was no longer associated with him and was building the Bank of Manhattan (Fig **38**). Both had the same aim, to build the tallest skyscraper in the world. The Chrysler Building followed the highest standards of efficiency and convenience set by the Chanin Building, and it became the centre of attention when it soared above the Woolworth building - the world's tallest building since 1913, and even the Eiffel Tower, the world's tallest metal skeleton. The race to build to unprecedented heights gained excitement when the Bank of the Manhattan Co. building entered the competition and challenged Chrysler's race for dominance of the skies. Severance added a flagpole to his building, making it 927 feet high, two feet taller than the Chrysler building was originally planned. William Van Allen matched the flag pole with a crowning spire which was kept secret until the last moment. The spire was built in the fire shaft and was raised into position through the roof, ensuring the building would be higher than the Bank of Manhattan. The Chrysler Building became the tallest in the world. However this victory was short lived when only a year later The Empire State Building beat all records.

Following Chrysler's wishes, the stainless radiator grille, and the building's series of "set-backs" are decorated with winged radiator caps, wheels, and stylised automobiles (Fig **41**). The adorning gargoyles are modelled on car bonnet ornaments from the 1929 Chrysler Plymouth (Fig **40**). The ornamentation of the Chrysler building makes it an Art Deco classic. The excitement lies primarily in the seven floors which make up the elongated dome (Fig **37**) each of tiered arched forms with triangular dormer windows encased in shimmering nickel-chromed steel. The dome attracts the eye whether it is glistening in the light of day (Fig **43**) or illuminated by night (Fig **44**). The eagle gargoyles at the corners of the "setbacks" on the 59th floor and the winged radiator caps at the 31st level give the building

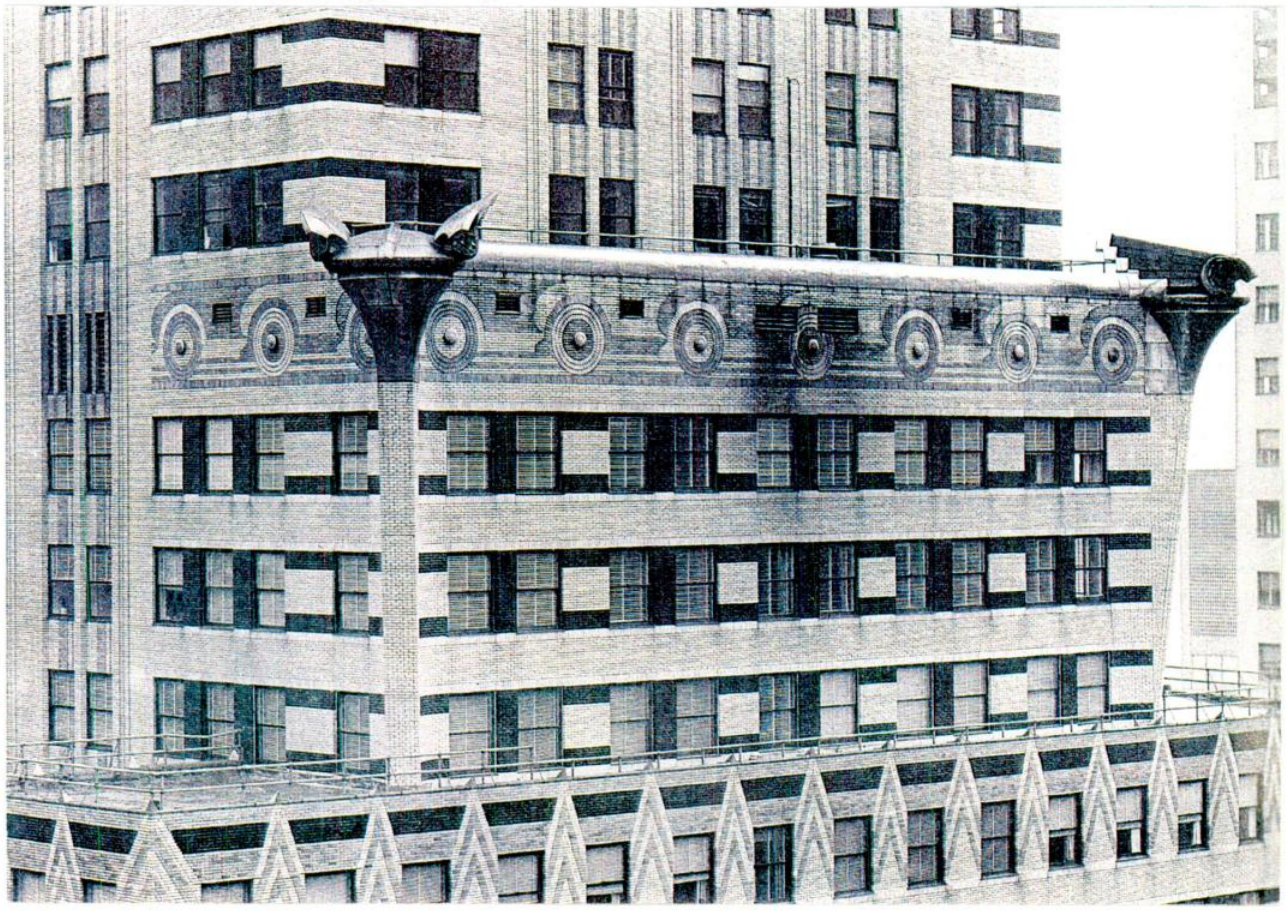


Figure 41. Stainless steel winged radiator caps, wheels and stylised automobiles on the 31st floor.

Figure 42. Adorning Gargoyles, 59th Floor

Figure 43. 7 Floors of the Elongated Dome

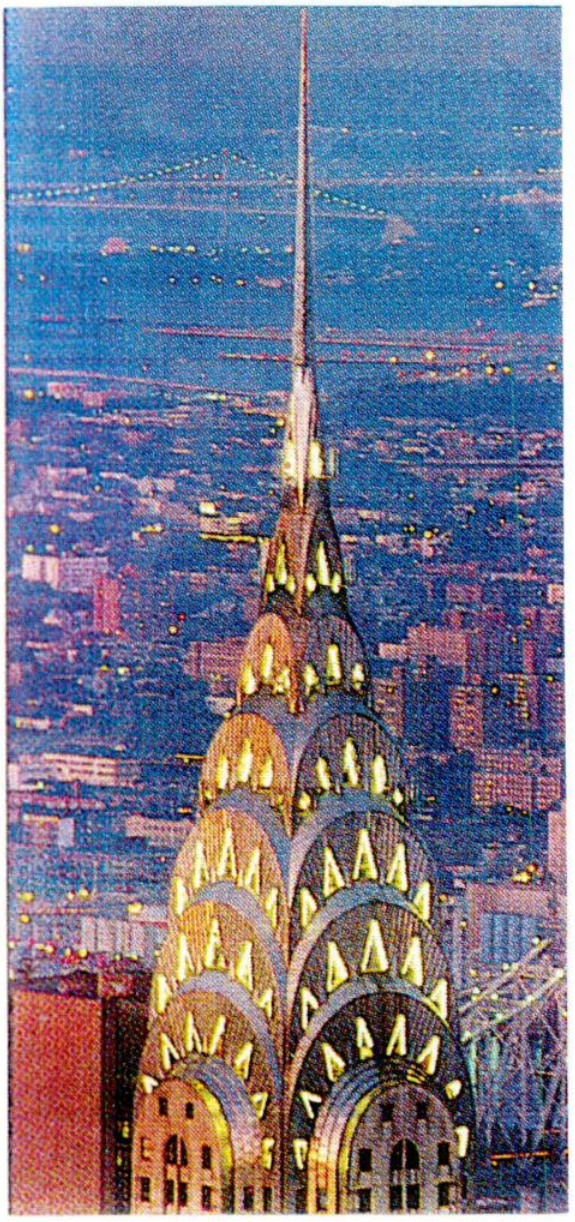


Figure 44. Chrysler Building illuminated by night.

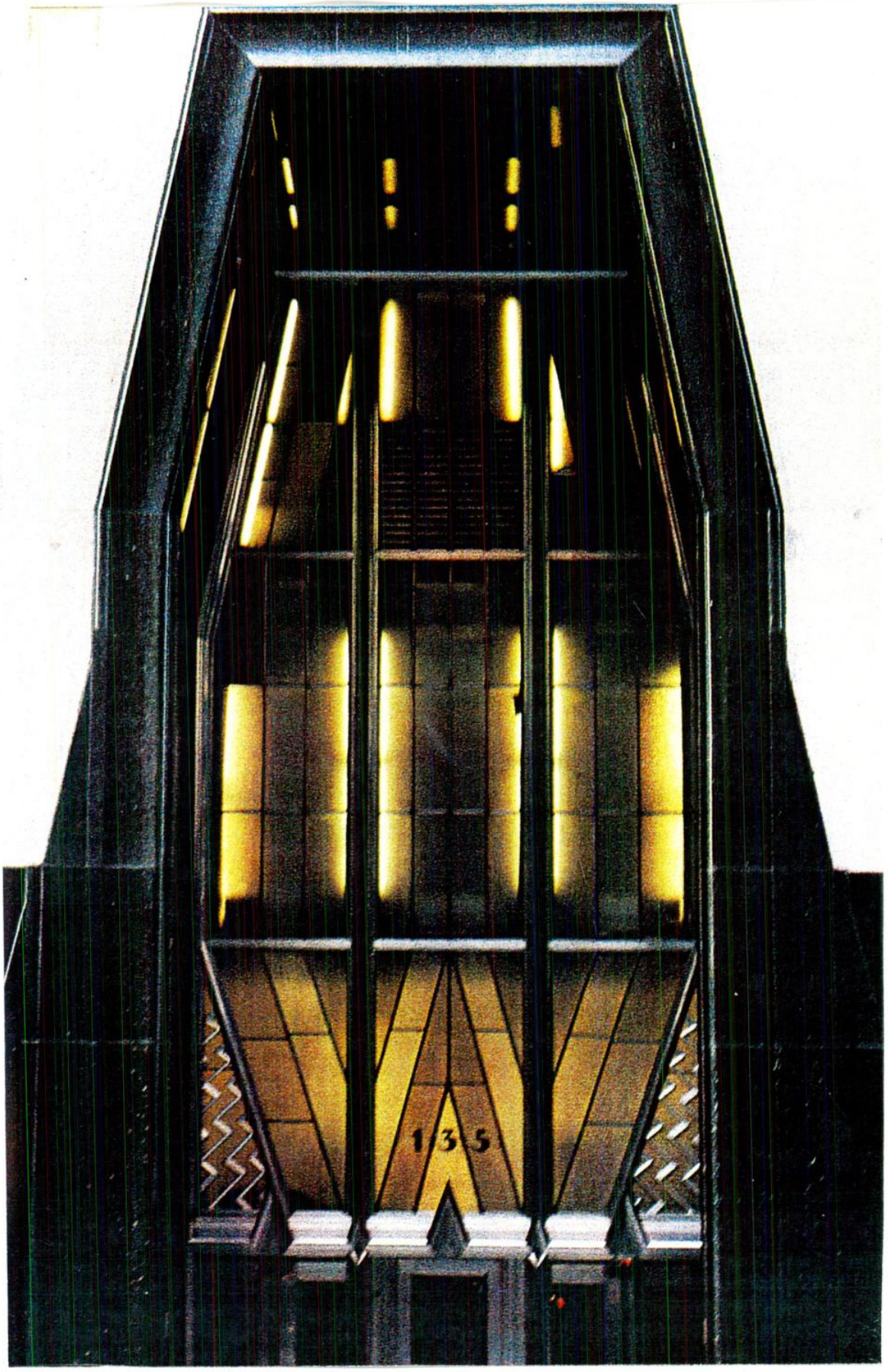


Figure 45. Entrance to the Chrysler Building

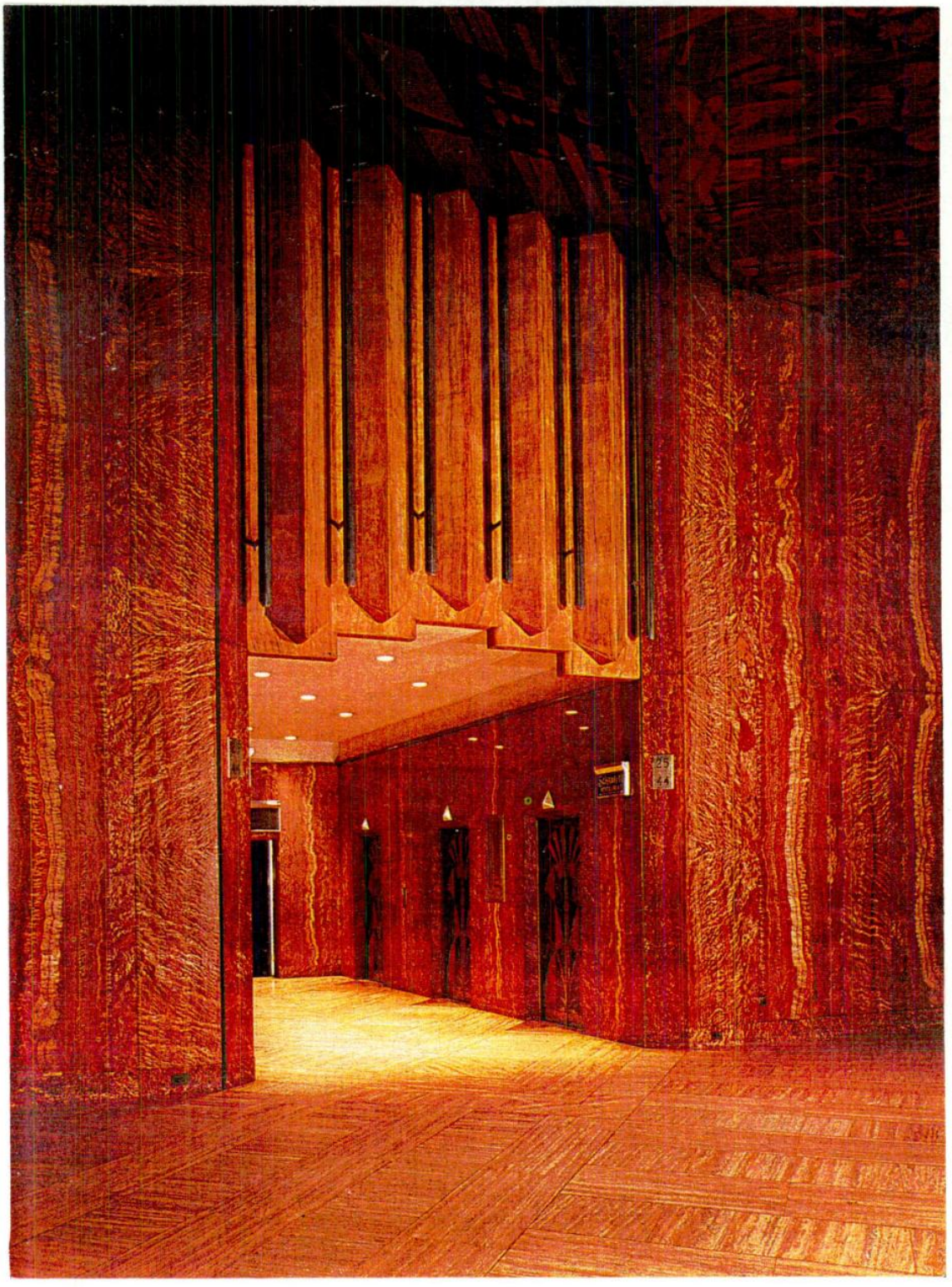


Figure 46. Elevator Lobby

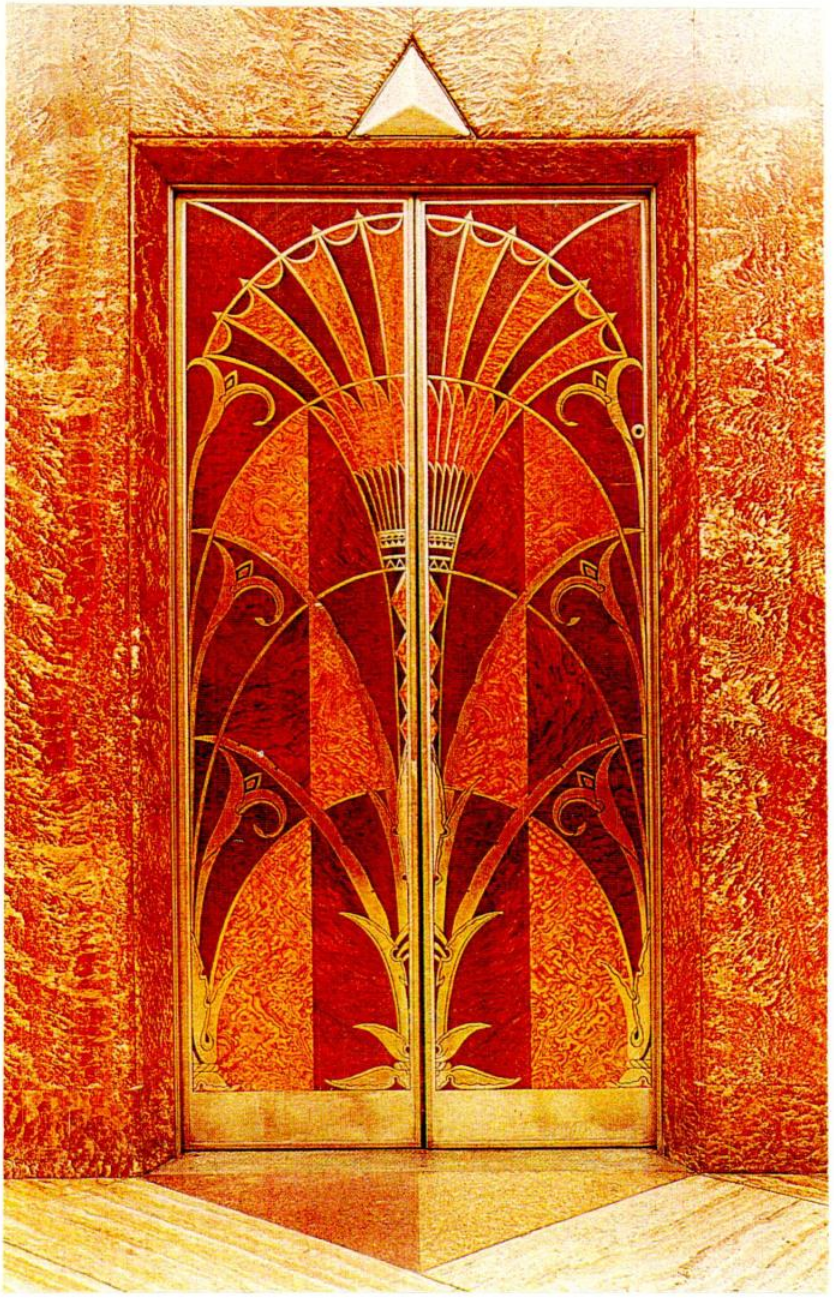


Figure 47. Elevator doors

an impressive profile. The most striking feature of Van Allen's buildings is still the 27 ton steel spire which pushed its height to 1046 feet. The arched front entrance (Fig**46**) holds glass and metal screens, lit from behind to display Art Deco geometric patterns. Within the triangular concourse, coved lighting over the exits and elevator lobbies appears in the form of raised curtains (Fig **46**). The lobby of the Chrysler Building is shaped in an enormous Y. Van Alen created a theatrical illusion with his use of dramatic lighting and rich materials. Natural light pours into the lobby through the glass panels above the three entrances. Cove lighting from fixtures on the walls and pillars illuminates the lobby. The large floor space is paved in patterns of chevrons with large red marble slabs. The elevator doors in the lobby are highly decorative in their use of inlaid woods (Fig **47**). Each elevator door has a stylised lotus pattern and over the entrances to the four elevators are vertical panels of polished Mexican onyx in an overlapping ziggurat pattern.

The ziggurat pattern is continued throughout the building; for example, it appears in the stainless steel railing and levelled brackets supporting the tubular handrails on the stairway (Fig**48**) opposite which a wall of highly polished marble mirrors the soft form of the stairway. The lobby also features murals on the theme of transportation and human endeavour with such figures as construction workers and aeroplanes representing modern society and technology.

Van Alen was a perfectionist for detail. He designed a mailbox displaying flat, decorative, abstract forms, typical of the attention to detail throughout the public spaces of his renowned building (Fig **49**). Eagles were used as Chrysler radiator ornaments and are found as decorative devices throughout the buildings interior and exterior. William Van Alen's

use of a modern Deco style in the Chrysler building is a prime example of the highly stylised decoration of the roaring 20s.

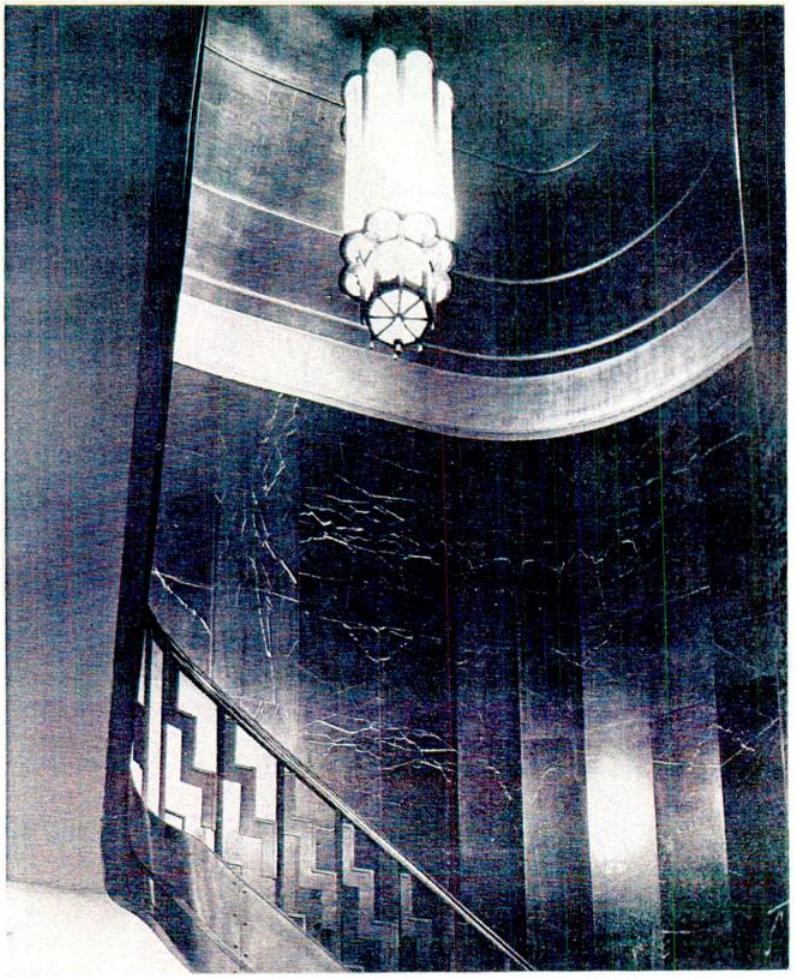


Figure 48. Staircase to the 2nd Floor

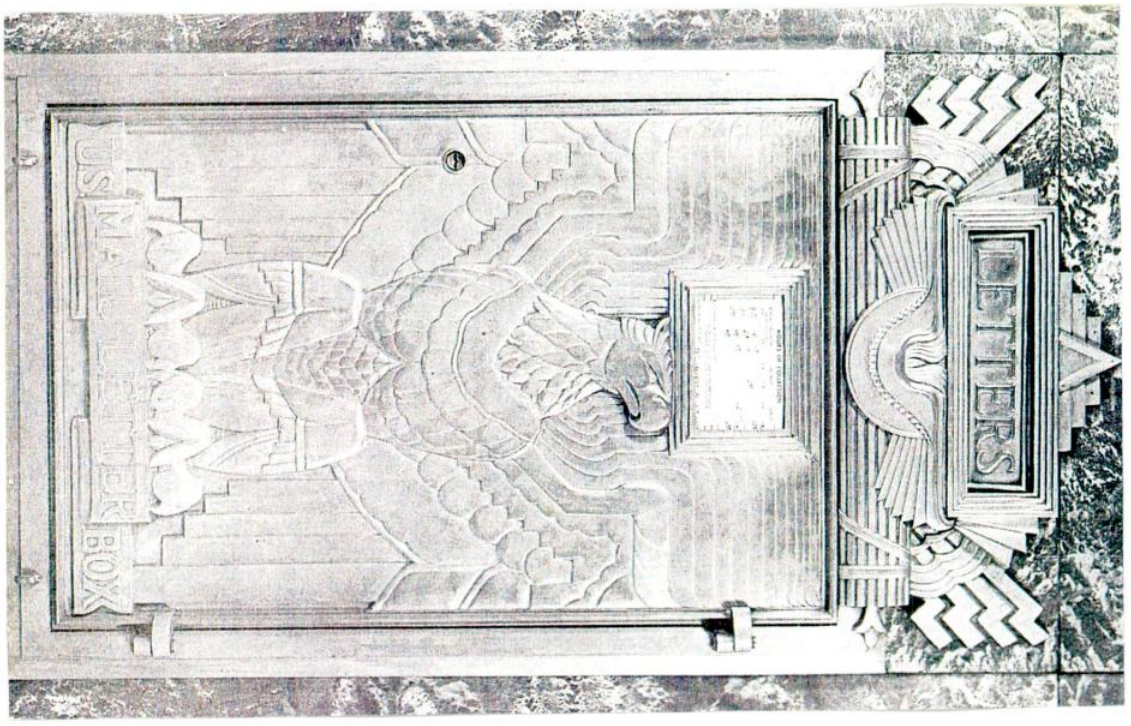


Figure 49. Mailbox

5.3 THE EMPIRE STATE BUILDING.

The Chrysler building briefly enjoyed the reputation of being the tallest building in the world, but rivalry for the skies continued among business men and architects so that in 1931 The Empire State Building (Fig50), the inspiration of John Jacob Roskob, became the embodiment of height and a nationally recognised symbol.

The Empire State building, located on 34th Street and 5th Avenue, displayed achievement, wealth and power and became symbolically identified with New York. It soon became a legend at a time when New York and the nation needed legends, while trying to cope with the Wall Street crash and the Great Depression.

John Jacob Roskob was a self-made man who by a series of ventures had become enormously wealthy and a shareholder and officer in the General Motor Company. To produce a superior structure of height and symbolism, Roskob selected architects Shreve, Lamb and Harmond; William Fredrick lamb was the designer of the building. The son of a New York builder, he had studied architecture at Columbia University in New York and later at the Ecole des Beaux-Arts in Paris. Both Shreve and Harmond studied architecture in America.

Built on the site of the old Waldorf Astoria Hotel, the Empire State Building was the world's tallest building for 40 years, until it was surpassed in the 1970s by the World trade Centre. The Empire State was the epitome of mechanical and technological discovery and thus the modern aesthetic. Lamb's natural inclination was towards simplicity, which was why the architect Raymond Hood's Daily News Building

Figure 50. The Empire State Building, New York, Shreve, Lamb, Harmond.

Figure 51. Daily News Building, N.Y., Raymond Hood

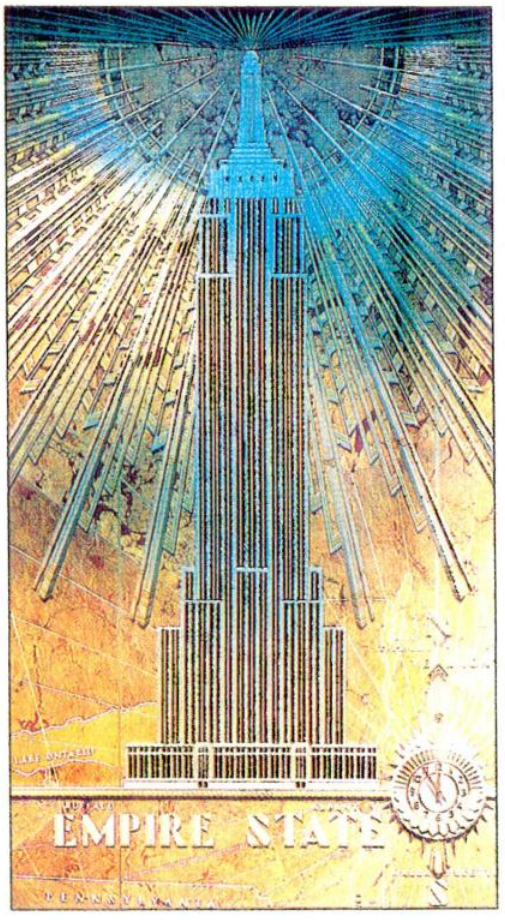


Figure 52. Entrance Hall, 5th Avenue, N.Y.

Figure 53. Relief image of the Empire State Building in the Entrance Lobby.

(Fig)built a year before the Empire State, appealed to and influenced him. (David P. Handlin, American Architecture, 1985 p 188). Lamb based the design of his building on the practical factors of budget, due to the Depression, the 1916 zoning regulations and technological necessities. Designed in six months and built in twelve months, the Empire State Building grew at approximately four and a half storeys per week. This rapid construction was a result of the Depression, when a day's labour cost more money. The Empire State was restrained, compared to many previously constructed ornamented buildings, its decorative touches restricted by the financial constraints of the time.

The enormous building rises in a series of gentle "setback". The limestone tower rises from a 5 storey base to the 86th floor observatory, and is capped by a monumental spire, a "mooring mast" (Donald Martin Reynolds, Architecture of New York City, 1994, p 290). The mast is made of metal and glass. The gentle setbacks fulfil the zoning requirements and emphasises the tower and its unprecedented height of 1,250 feet - 102 storeys.

The main entrance on 5th Avenue echoes the buildings tripartite design. Grand columns flank the entrance door and great black stone bases at the ground level support reeded shafts which end with American eagles, forming the engraved words "Empire State". The design and ornamentation of the Empire State building is a unique expression of New York's Art Deco skyscrapers, the enhancing decorative features being geometric and carry almost no narrative content. The grand entrance hall (Fig 52) in grey marble, stainless steel and glass, extends from the main entrance to a portrait of the building on the wall behind the information desk. This aluminium image is superimposed over a map of New York. Natural light pours into the great hall through three glazed and traceried

roof panels over the main entrance. Beneath each panel and above the three doors is an Art Deco style, bronze, round medallion (Fig 54) with a stylised figurative representation of Electricity, Masonry and Heating. These are only three of the medallions placed throughout the lobby that identify the industries involved in producing the building. The grey marbled corridors of the lobby roam in all directions leading to the elevators in the central core of the building.

Unlike the Chanin and Chrysler buildings, the Empire State building is not heavily ornamented, yet it is New York's most famous skyscraper, and a symbol of the city throughout the world.

Figure 54. Medallion

6.0 AFTER THE WALL STREET CRASH

A second phase in the development of Art Deco in America was initiated by the Wall Street Crash of 1929 and the coinciding Depression, during which the style spread and popularised throughout the country and finally appeared in mass production. In architecture the richly decorated style of buildings, like the Chanin and Chrysler during the twenties was too expensive, but the basic forms of Deco were so adaptable to mass production that the style became the official style of the thirties.

The great stylistic innovation of the Depression era was that of "streamlining". Streamlining was not exclusively an American idea; it had been discussed in Europe by designers like Gropius and Van der Rohe, who had fled to the United States as a result of the Second World War, but what was surely a theory of the Europeans became reality to post-war America. The Americans had the technology and the manufacturing processes to realise the streamlining interior decoration and architecture.

In architecture streamlining was the perfect solution to the economic problems of the 1930s. Unlike the lavish and ultimately expensive first phase of Art Deco, the nature of streamlining enabled it to work on an economic level. The materials from which streamline architecture was constructed were modern, baked enamel panels, plastics and aluminium. Their modernity allowed them to be used on buildings such as the Empire State and Rockafeller Centre despite the fact that they were inexpensive. This sub-style of Art Deco in the 1930s represented everything that was modern, efficient and clean.

Artists were touched by the modern spirit in the 1930s and Manhattan skyline served as inspiration. New York was home to a new wave of artists known as industrial designers, many of whom had offices in Manhattan. This group of pioneers included Donald Deskey and Raymond Loewy. Many of their contributions to the decoscape of New York during the 1930s were store fronts and building and theatre lobbies.

6.1 DONALD DESKEY.

Donald Deskey was born in Blue Earth, Minnesota on November 23, 1894. He lived in San Francisco and Los Angeles before studying at the University of California in 1915. Deskey travel to Paris in 1923; studied at the Academie Colarossi and Atelier Leger where he first began to experiment with abstraction. He returned to America for a period of two years but went back to Paris in time for the Exposition Internationale des Arts Decoratifs et Industriels Modernes which was to influence his entire career. Returning to New York in 1926 he worked as an illustrator and created modern window displays for Saks Department Store of Fifth Avenue. This led to an important commission in 1929 to design an interior for Abby Aldrich Rockafeller. During the 20s and 30s he designed some innovative luxurious apartments for prominent New Yorkers. Throughout his career, Deskey met prominent architects like Raymond Hood and Eliel Saarinen. While occupied with apartment commissions in the late 1920s, Deskey designed inexpensive furniture that could be mass produced and was appropriate to the Depression era and design mode of the 1930s.

By the early 30s Donald Deskey's reputation was firmly established and in the Spring of 1932 he received his best known commission, that of designing the interior of Radio City Music hall in New York city's

Figure 55. Radio City Music Hall, New York.

Rockafeller Centre (Fig 55). The Project was a tremendous challenge, to be completed by December 1932. (David A. Hanks, Donald Deskey, p 103). The work included thirty lobby areas, smoking rooms, retiring rooms, foyers and lounges. Deskey gathered together some of the foremost artists, painters and craftsmen of the day. Despite the financial constraints of the 1930s, Deskey persuaded project managers to retain these artists for their skills and expertise.

In decorative designs for Radio City Music Hall he developed industrial materials in a novel way. The elaborate gilt and damask typically found in theatres of the 1920s were replaced with an elegant and subdued colour scheme of beige and rose. New concepts in lighting effects such as bakelite and aluminium were introduced. He designed the women's powder room with curved walls. The room had sixteen panels sheathed with mirrors and lights thus making it appear much larger (Fig 56). The carpet was custom designed and displayed geometric circular forms. The stools were made from aluminium and leather, reflecting the circular motif throughout the room. The interior furnishing of the Radio City Music Hall were all machine-made for speed and efficiency yet there is no repetition in design, each room has its own individuality.

The men's smoking room on the second floor called the Nicotine Room (Fig 57) has walls covered in aluminium foil block print with motifs showing the stages in production of the tobacco industry. The floor is terracotta and the sofa is red leather.

The Roxy Apartment designed for Samuel L. Rothafel, project manager of Radio City Music Hall for public entertainment is a surviving example of Deskey's private work. The reception room (Fig 58) remains virtually intact and is maintained in its original remarkable state. The walls are

Figure 56. Ladies' Powder Room.

Figure 57. Nicotine Room

Figure 58. Roxy Apartment, Reception Room

covered in panels of golden coloured veneered wood. A main feature which emphasises the height of the ceiling and the size of the room is a large mirror in an unadorned aluminium frame. The furnishing of the reception room are a perfect example of the machine manufactured Art Deco style of the 1930s. They again display Deskey's use of inexpensive material such as wood, aluminium and plastic in the production of innovative modern designs. The floor is covered in cork which Deskey had previously used in his window displays in Saks of Fifth Avenue. Unlike the roaring decorative 1920s, the style of the thirties became more streamlined and obvious of the machine aesthetic of the 30s which is evident in Donald Deskey's Roxy Apartment of 1932.

6.2 RAYMOND LOEWY

Raymond Loewy was trained as an engineer in Paris and served in the First World War. After the war, he set out for America and an engineering career. His talents for sketching led to graphics for Vogue and Harper's Bazaar magazines, window displays for Macys and Saks of Fifth Avenue. Loewy opened his New York industrial design office in 1930. One of his Saks' advertisements publicised a high-heeled shoe called the "Metropolis". (Jeffrey L Meikle, Twentieth Century Limited, 1979 p. 62). A stack of abstract blocks rose to form an image on a skyscraper, superimposed on a dark sky with bursts of starlight and spotlight beams. At the top of the skyscraper image is a nude figure, supporting on outstretched hands the heel and toe of a gigantic shoe. Loewy softened the abstract forms of the blocks by using shading. His advertisements of the 1920s display a warm often flashy elegance, preference for soft tones, light-hearted wit, concern for detail and ornate printing; a truly modernist style.(**Fig 59**)

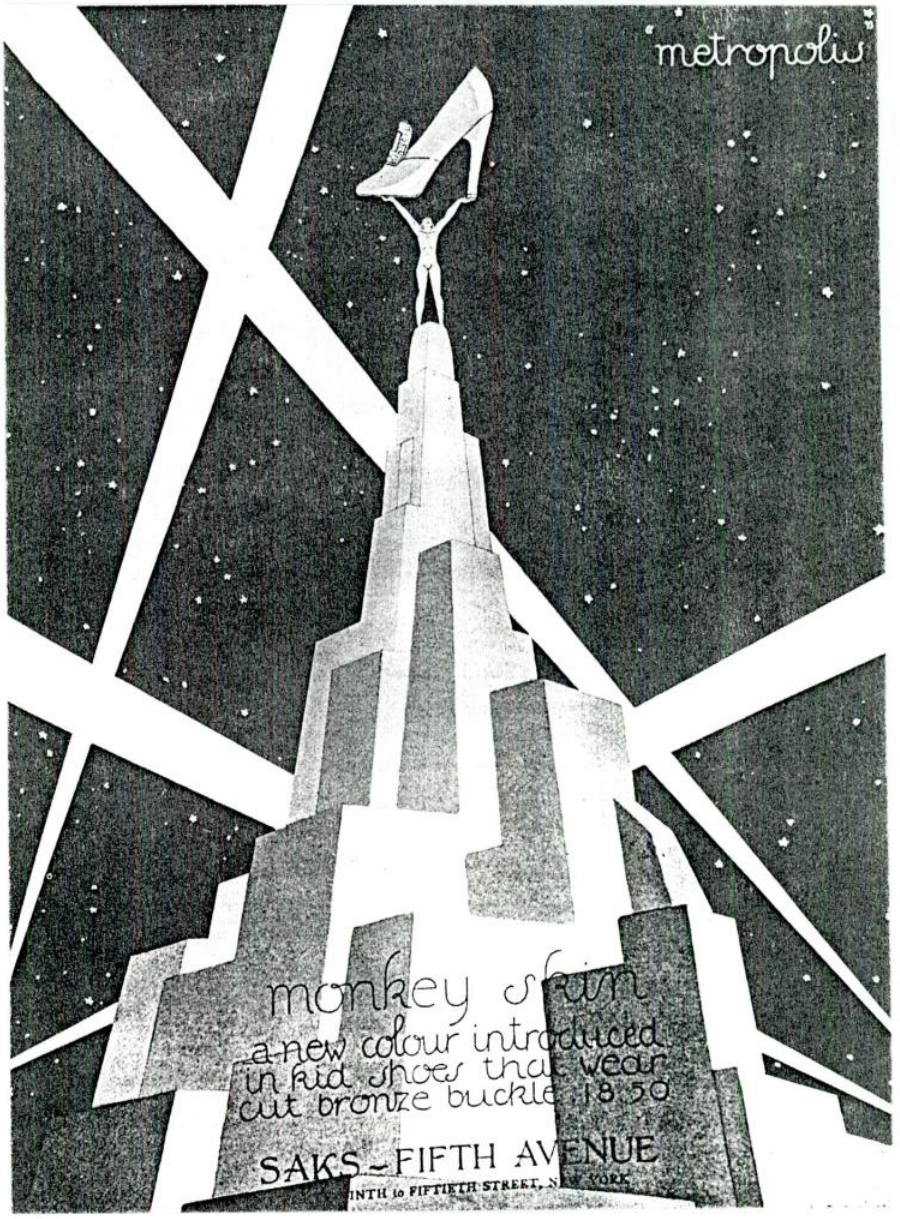


Figure 59. Raymond Loewy, Saks, Fifth Avenue, New York.

Loewy became restless and wanted to do something "more meaningful". He wished to "return to engineering". (Meikle, Twentieth Century Limited, 1979 p. 64). He met Sigmund Gestetner who wanted a duplicating machine modernised and he took the commission. Using the machine itself as a prototype, Loewy redesigned the duplicator,(**Fig 60,61**) eliminating the machine's print-shop aura, replacing a boxy cabinet of lacquered sheet metal with a sleek wooden cabinet, rounded at the edges. His goal was to simplify the machine, both visually and functionally.

The Gestetner job gave Loewy experience in designing products and convinced him of an industrial design career, giving him confidence to seek other design commissions.

Responding to a love for transport, Loewy thought about automobile design. In 1928 he was employed by the Hupmobile Company and it was not until 1931 that Loewy received recognition for his designs. This association opened to him the field of transportation design (**Fig 62**).

Raymond Loewy's career in the late 20s and early 30s looked grim due to the Depression and he lost most of the few design accounts he had managed to attract. He and other designers could not foresee that in a few years manufactures would be crying out for assistance in reversing declining sales curves. Hence, they responded with a gleaming streamlined style and technological innovation.

Loewy became involved in renovating old stores and planning new ones. In 1937 his office remodelled a bakery operated in New York City by Cushman's Sons (Fig **63**). The streamlined facade displays windows ending in a half circle. The exterior front is covered in white sheets of

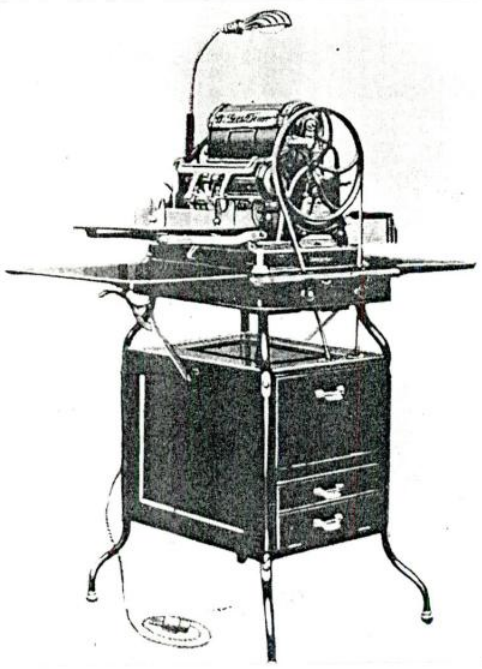


Figure 60. Duplicator before redesign.
Raymond Loewy.

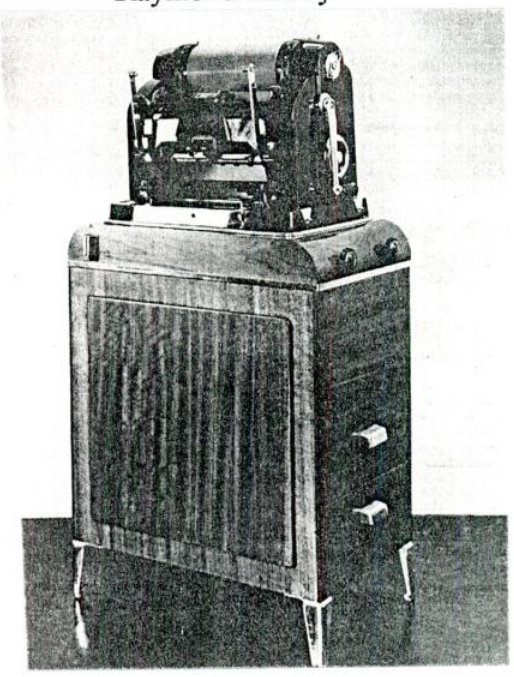


Figure 61. Duplicator after redesign by Loewy. 1929

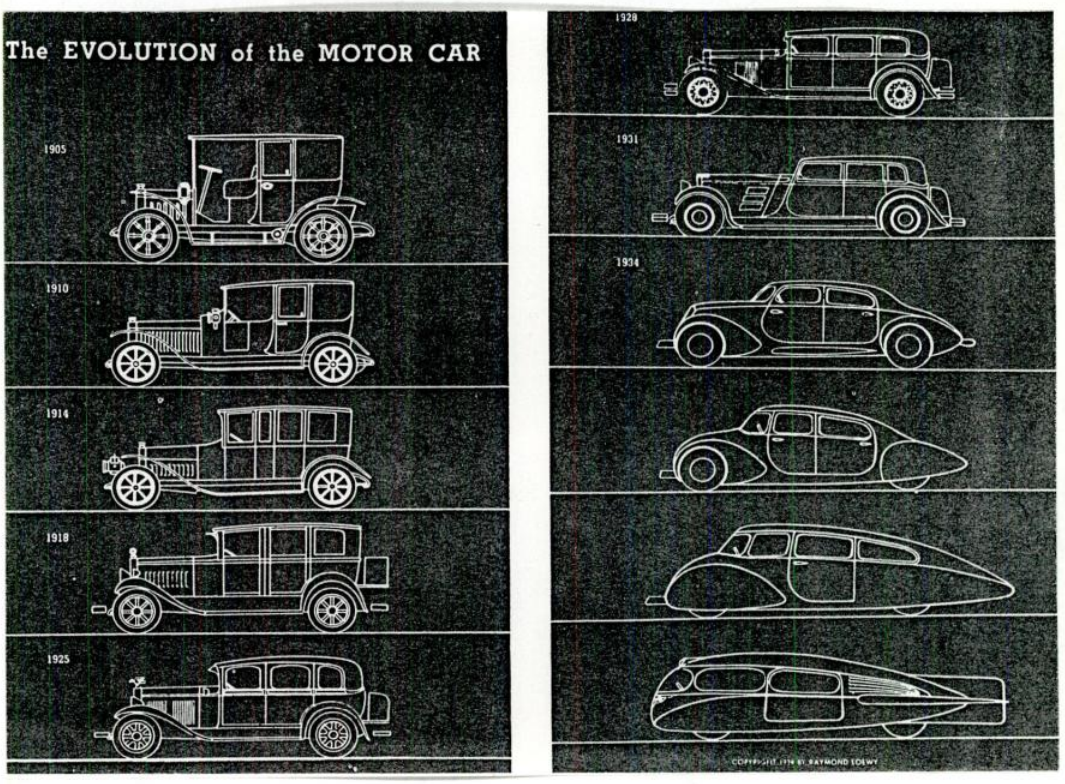


Figure 62. Raymond Loewy. The evolution of the motor car.

porcelain-covered steel and dark wooden fixtures provide contrasting horizontal lines. Within the interior Loewy changed the usual rectangular wooden display cases to decorative moulding (Fig **64**). His motifs then emerging as hallmarks of streamlined architecture-curved fixtures and flow lines intended to lead consumers to the point of purchase. The bakery portrayed the highly stylised streamline aesthetic of the 1930s. Raymond Loewy claimed a "conception of aesthetic consists of a beautiful sales curve shooting upwards". (Meikle, Twentieth Century Limited, 1979 p. 134). The thriving industrial design mode of the late 1930s was welcomed after the grim sales history of the earlier part of the decade and these designers were quick to respond to the economic rise.

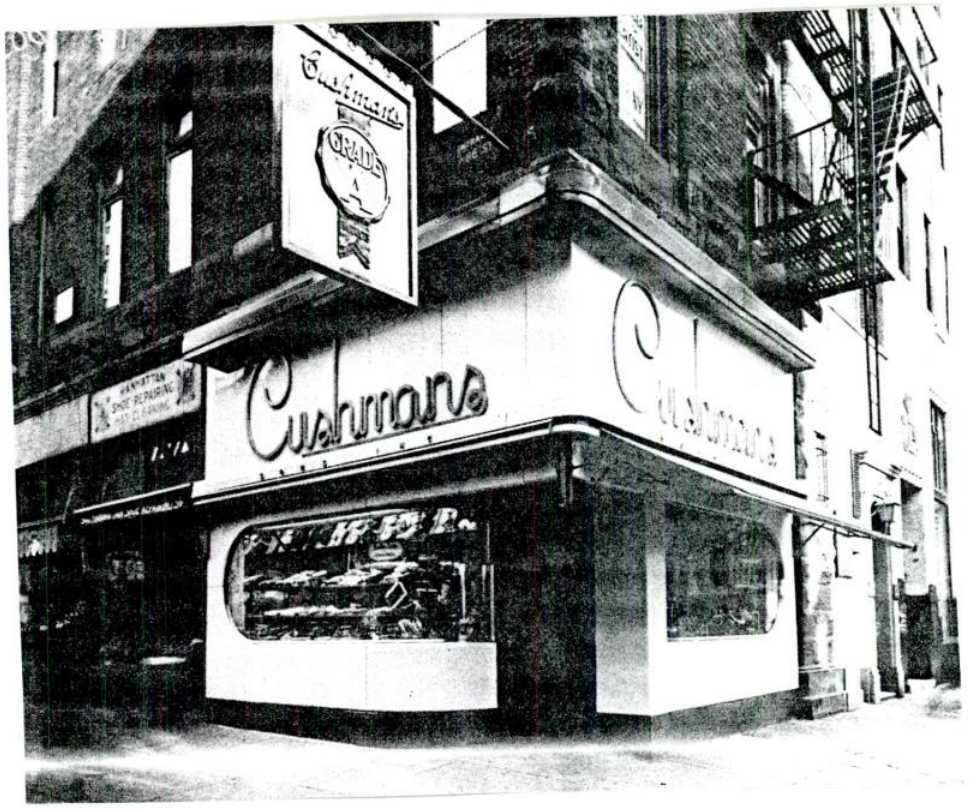


Figure 63. Exterior of Cushmans Sons Bakery, New York, 1937.

Raymond Loewy.

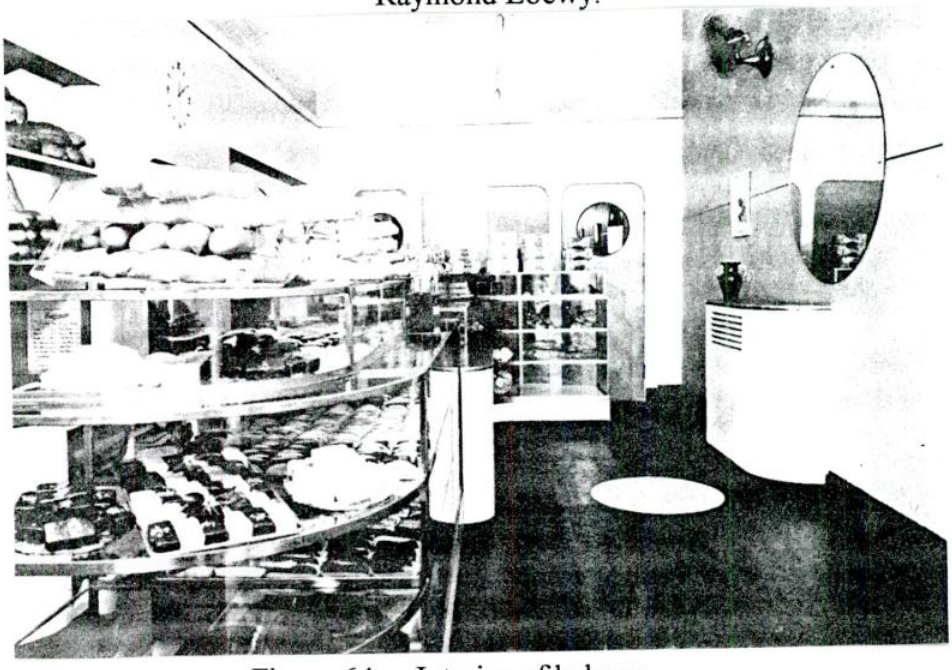


Figure 64. Interior of bakery.

6.3 END OF AN ERA

New York's Art Deco legacy cannot be completed with-out mentioning the 1939 World's Fair. The Fair occupied some 1216 acres in Flushing Queens and was an ambitious undertaking considering the impending war. A host of significant architects and industrial designers took part including Raymond Loewy, Norman Bel Geddes, Donald Deskey, Ely Jacques Kahn and Shreve, Lamb and Harmon. The World's Fair introduced the world to the new march of progress, the streamline Art Deco style was captured in the products and graphic displays. The central motif of the fair was a trylon and perisphere which bridged "the disciplines of architecture and sculpture". (Klein, Art Deco Style, 1987. p. 186) (Fig 65).

Several of the major pavilions had strong modern aspects. The Ford Motor Company display was a sprawling complex of curves, cylinders and arcs, its entrance was dominated by a free-standing sculpture of Mercury hovering above the doors (Fig 66).

If the 1925 Paris Exposition launched Art Deco, then the 1939 New York World's Fair marked the end of Art Deco's stylistic dominance. Due to the priorities imposed by the Second World War, the style soon became out of date.

Figure 65. Trylon and Perisphere, New York.

World Fair 1939

Figure 66. Ford Pavilion.

7.0 CONCLUSION

The development of the Manhattan skyline during the 1920s and the 1930s was the result of a number of social and economic changes. As previously stated the growth in population and growing wealth of America led to this change. The incentive to build high came from the need to maximise floor space for the growth in industry and commercial activity. The need for a total change after World War I in 1918 led to the devotion of architects to the new modern Art Deco style. Zoning regulations preserving the sunlit streets, enforcing architectural "setbacks" left architects with little choice but to devise artistic solutions to their problems. Due to these changes the skyline of mid-town Manhattan is graced with some of the city's most spectacular towers and spires; from the familiar beauty of the Chrysler Building rooftop, glinting in the sun by day or illuminated by night, to the towering power of the Empire State building, is for many the ultimate New York. The Empire State building is a soaring centrepiece for the New York Art Deco style. It is difficult to imagine the original 30 storey Waldorf Astoria once stood where the now 86 storey building stands. New York's undisputed landmarks, The Empire State, Chrysler, Radiator and Chanin buildings continue to define its spectacular cityscape, an associational value which could not be replaced by post modernist buildings like the City Corp, building or the monotonous shafts of the twin towers.

The early thirties were overshadowed by the effects of the depression and saw a great demise in Art Deco architecture. One quarter of the city's population was out of work and almost all architects were unemployed. The great boom in construction of the skyscraper during the roaring 20s came to a complete standstill during the austere 1930s, and we only saw the rise of civic or municipal Art Deco structures.

Manhattan's skyscrapers served as inspiration for artists touched by the modern spirit. The new breed of industrial designers often drew their imagery from Manhattan. It was these machine age artists, who worked to raise America out of its Depression by promoting consumerism. They developed the streamline style that was captured it the products and graphics of the 1930s. The great success of Deco in America lies in its adaptability on every level. It could and did become a truly popular style in the thirties because within the basic language of the style there was sufficient flexibility to make the transition between the extravagant style of the Chrysler Building, the unadorned interiors and exterior of The Radio City Music Hall and the streamlined Deco style of the industrial designers.

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