TOPIC 8: REACHING FOR THE SKY: THE MODERN OFFICE BUILDING Louis Sullivan in 'The tall office building artistically considered' wrote: 'Problem: How shall we impart to this sterile pile [the modern office building] ... This stark stony exclamation of external strife, the graciousness of these higher forms of sensibility and culture that rest on the lower and fiercer passions? Argue your case through three significant skyscrapers (beginning with Sullivan and concluding with Mies). What were the architects' principal considerations? How successful in your opinion were the various resolutions? Carefully consider the relationship between design and structure; between new ideas and historicism.

Following the industrial revolution new technologies such as aluminium and electric elevators were made available. This allowed architects to think in new ways and to create new design concepts which would revolutionise modernism and span most of the 20th century. These new technologies paved the way for skyscraper design which would drastically alter the way people work and live. Between 1890 and 1930 architects and engineers became highly competitive in an effort to design the tallest skyscraper. This preoccupation with height lead to the creation of the "glass box"[1] tall office building (a high rise box like structure). The glass box concept provided architects with more creative opportunities for design. However it also created greater challenges to find a balance between design and structure and between modernism and historicism. This essay discusses these issues in relation to three buildings; the Wainwright building by Louis Sullivan, the Chrysler building by William Van Alen and the Seagram building by Mies van der Rohe.

The Wainwright building in St Louis, Illinios, was designed by the father of the modern skyscrapers Louis Henri Sullivan and his associate Dankmar Adler in 1891. In terms of decorative effect, the Wainwright building has a verticality that is emphasised by the repetition of the piers. It utilises terra cotta to create intricate ornamentations. It also emphasises the cube, typical of a Louis Sullivan building. The Wainwright building is one of the first expressions of the tall office building before the architectural world began a race for the tallest building.
The principle considerations of the Wainwright building and Sullivan in general are its verticality and ornamentation that combine together to give form to skyscrapers.

Although the Wainwright was not designed as a tower unlike later skyscrapers, it has a very monolithic verticality. Supported by a thin steel skeletal structure called "Chicago" or "skyscraper" construction[2], the Wainwright utilises an even grid pattern, described by Van Zanten as "a

---

[1] Roth, L. M., 2001, Page 419
[2] Robinson, C., 2000, Page 3

cell in honeycomb"[3]. This is evident in the equally spaced piers which highlight the window openings.

Sullivan communicates verticality and ornamentation in the closely placed smooth red brick piers, half of which serve no structural purpose[4]. These piers draw the eye upward and imply, through the optical illusion of vertical lines, that the structure is taller than it is.

The building's verticality is also demonstrated in the horizontal spandrels which are recessed giving more emphasis to the vertical piers, while allowing the grid patterning to be visible without cutting or discontinuing the piers. The ornamentation of the spandrels also allows them to become less noticeable, again adding emphasis to the piers.

The Wainwright building has intricate ornamentation all around its façades. The most noticeable of these is the cornice which hides the parapet and is decorated with complex swirls of tendrils and leaves, thin and curling, surrounding circular openings.[5] Lavish embellishments are created using terra-cotta which can be moulded very easily and then backed and glazed. The embellished ornamentations are set against "The sober, structural implications of the brick…"[6]

In the Wainwright building Sullivan, attempts to mediate between design and structure, but his focus is more on design. When Sullivan uses ornamentation to cover structural elements, he is reinforcing his main ideal that form always follows function by leaving the structural elements visible. One such example is the understated nature of the red brick piers.

The Wainwright building expresses harmony between historicism and new ideas. The historical components of the Wainwright is a resemblance to the renaissance palaces through its box-like form and its modest height which inspired the name "Commercial Palace"[7]. However there is more emphasis on new ideas. Sullivan's breakthrough expression of the metal framed office building, with its weightiness, density and cubic emphasis, may have been inspired by Henry Hobson Richardson's blocky designs.[8] The other school of thought is that Sullivan made a conscious reference to Richardson as he emphasised the cube and developed a new benchmark for skyscrapers in the future.[9] This benchmark inspired new ideas about how the next tall office building would look both structurally and aesthetically.

The 77 storey Chrysler building was part of the height race of the 1920s and 30s and became the tallest building in the world at the time. Designed

---

[3] Robinson, C., 2000, Page 3

[4] Schmitt, R. E., 2002, Page 4

[5] Sullivan, L., Zanten, D. V., Twombly, R., ed Wit, D. W., 1986, Page 76

[6] Sullivan, L., Zanten, D. V., Twombly, R., ed Wit, D. W., 1986, Page 76

[7] Sullivan, L., Zanten, D. V., Twombly, R., ed Wit, D. W., 1986, Page 77

[8] Sullivan, L., Zanten, D. V., Twombly, R., ed Wit, D. W., 1986, Page 76

[9] Sullivan, L., Zanten, D. V., Twombly, R., ed Wit, D. W., 1986, Page 76

by William Van Alen for the Chrysler automotive company and completed in August 1930, the Chrysler building stands at 1048 feet and was the first man made structure to surpass the Eiffel tower. The awe inspiring height was due to Van Alen's secret weapon, the "vertex"[10]. The vertex was a 123 foot chrome spire which was kept secret by constructing it inside the lift shaft. This gave the Chrysler a greater height advantage over its competitors and earned the reputation as New York's most extravagant building[11].

Through an analysis of the details of Van Alen's work on the Chrysler building his principle design considerations appear to be aimed at, (1) being consistent in the application of a popular design genre (in this case Art-Deco); (2) incorporating themes and symbolism that reflect the purpose of the building (the headquarters for the automotive manufacturer Chrysler); and (3), surpassing other skyscrapers in terms of technical and structural achievements such as height and visual impact.

The Art-Deco style in the Chrysler building is illustrated by the lavish chrome crown that sits on the peak of the building just before the spire. The style also follows through to the highly embellished interior which is reminiscent of Art-Deco cinemas of the 1920s and 30s. The lobby has a similar style to a stage set for a German expressionist film with the heavy use of black granite and chrome zigzag patterns to create a bizarre and dark cavernous feeling[12]. The Art-Deco interior is described eloquently by Nash (1999), "faceted ceiling, walls painted to resemble stars emerging in an evening sky, and Saturn shaped lighting fixtures. The double storied cloud club features unobstructed four sided views of New York, below the Chryslers distinctive triangular windows".[13] The doors are described as "Art-Deco masterpieces richly inlaid with cherry wood"[14]. Another example of Art-Deco design is the streamlined eagles appearing on the corners at each step back on the exterior. Streamlining takes a form and then recreates it in a more streamlined or aerodynamic way. Nash (1999) refers to this as "the unified symbolism of automobile with flying machine."[15]

Nash (1999) also describes the unusual use of materials and lighting as creating "the kind of place to encounter a Val Kyrie than make a business appointment".[16] Nash is referring here to Van Alen's portrayal of the power and authority of the automotive industry and perhaps of Walter P. Chrysler himself. Nash (1999) eloquently describes the power related images in the interior, "In the cigar room, prohibition-era millionaires stashed their liquor in special caches below tobacco coloured upholstery, Walter P. Chrysler slept in baronial splendour in a Tudor style bedroom

---

[10] Nash, E. P., 1999, Page 63
[11] Charles, S., 1996, Page 38
[12] Nash, E. P., 1999, Page 63
[13] Nash, E. P., 1999, Page 63
[14] Charles, S., 1996, Page 41
[15] Nash, E. P., 1999, Page 63
[16] Nash, E. P., 1999, Page 63

complete with a walk in fire place."[17] This provides an insight into Van Alen's intention to portray the purpose of the building (Chrysler's headquarters) using symbols of power and leadership. This is extended further to symbols that specifically related to automobile motifs, Such as chrome gargoyles which resemble Chrysler vehicle's hood ornaments. The interior is another representation of the automobile with wood inlay throughout which could be seen as representing the wooden dashboards and trim of automobiles at the time.[18]

This power theme appears again with the symbolism of the streamlined eagle on the building's exterior. Throughout history the 'eagle' has always been a symbol of power. The eagle serves to illustrate all three of Van Alen's design principles; the streamlined Art-Deco style (the gargoyles), automotive themes (representing hood ornaments) and visual impact (the use of chrome steel.)

A more obvious example of visual impact is the chrome crown that caps the Chrysler building. The crown and also the spire heighten the verticality of the building. The chrome crown reflects the sky achieving a transparent effect. The spire then allows the building to gradually merge with the sky blurring the line between structure and sky.
Van Alen's Approach to design and structure is that the building should have more emphasis on the aesthetic nature of the structure rather than the structure overwhelming the aesthetics

Van Alen focused on new ideas and technology rather than historicism. His only reference to historicism was in the use of palace-like interiors. However, these interiors were more Art-Deco 'palace' themes rather than Classical or Renaissance styles.

The new ideas that Van Alen expressed are evident in the use of Chrome steel alloys and streamlined motifs and through the parallel between his lobby and German expressionist films such as Fritz Lang's Metropolis,[19] which was at the forefront of new design at the time.

Van Alen achieved a wondrous architectural masterpiece in the Chrysler building, with great examples of the Art-Deco style through streamlining and composition. He created harmony between architecture and automotive motif through his exquisite use of literal parallels. Van Alen also achieved a benchmark for visual impact through his seemingly luminescent chrome crown, which, it could be argued, overshadows the empire state building in aesthetic wonder.

The Seagram Building was built as the New York headquarters for Joseph E. Bronfman and sons, a Canadian based company most commonly known for its Seagram Whisky brand. After twenty five years Mies, was finally

---

[17] Nash, E. P., 1999, Page 65
[18] Nash, E. P., 1999, Page 65
[19] Nash, E. P., 1999, Page 63

commissioned to realise his dream design for the tall office block.[20] The Seagram Building completed in 1958, is a classic example of the 'glass box', designed in 1954 by Mies Van der Rohe in collaboration with Philip Johnson. The term glass box refers to a metal framed skyscraper encased in glass, creating a svelte and reflective monument to verticality. The Seagram building and its glass box design "immediately became the symbol of American business"[21]

Mies's main idea and the basis of all his works is derived from his own words "less is more". This ideal is evident in the Seagram building

To obtain absolute geometric clarity, Mies pushed the Seagram back on the site. His reasoning for this was due to the New York zoning laws which regulated the amount of shadow that could be cast on the street[22]. This meant that if the Seagram was built on the street edge it would have to step back every 10 storeys or so, ruining it's geometric clarity. When Mies pushed the Seagram back he opened the site up creating a large travertine paved plaza. This satisfied the regulations and allowed private corporations to include plazas, which, before Mies, were only reserved for major public buildings like town halls and churches.[23] Literally defining "less is more" as having less site usage and more visual impact.

Mies reflected the elegance and solidity of the business world through the use of elegant materials. Leland M. Roth, poetically states, "the elegantly uniform fenestration is of dark amber glass set in mullions of oiled bronze extrusions so that the building is a dense opaque brown mass by day" [24] and a shimmering glow at night.

Roth (2001) states that the Seagram building "is similar to the Lake Shore apartments [Mies's earlier work] but with several differences."[25] Unlike the Lake Shore apartments however, the Seagram building was in need of additional space for a large service block at the rear or the "frigid hauteur"[26]. In other words, a utilities spine that extended upward containing, stairs elevators and bathrooms[27]. Similarities between the Lake Shore apartments and the Seagram building is that both buildings sit upon columns raising them far enough off the ground to achieve adequate clearance for a glass enclosed lobby.

Mies's believed that design and structure are equally important and cannot be separated. Mies's focus on structure is evident in the vertical spanning columns that rise to the sky. These columns emphasis the verticality of the building. It is made more apparent by "hanging the glass wall in front of

---

[20] Safran, Y., ed Trigueiros, L., Barata, P. M., 2000, Page 127
[21] Roth, L. M., 2001, Page 419
[22] Gelernter, M., 1999, page 267
[23] Gelernter, M., 1999, page 267
[24] Roth, L. M., 2001, Page 419
[25] Roth, L. M., 2001, Page 419
[26] Roth, L. M., 2001, Page 419
[27] Roth, L. M., 2001, Page 419

the structural columns so that there is none of the complexity varying rhythm of columns and mullions seen in the Chicago towers."[28] When Mies focused on structure he also exacted attention on to aesthetics. Aesthetics such as colour and textural composition manifested themselves into a highly determined artistic energy.[29] This artistic energy becomes evident at dusk when the Seagram Building becomes "utterly transparent to solar radiation"[30] and a brilliant "golden crystal"[31] contrasting with the greyness of New York.

Mies's priority was new ideas and he was inspired by Le Corbusier. Like Le Corbusier Mies lifted the Seagram building off the ground onto a granite podium, which achieved a sense of 'outdoors' flowing through the building. Sitting the Building on a podium allowed it to mediate the different levels between 52nd and 53rd street.[32] The Seagram building created a design contrast surrounding buildings[33] such as the Renaissance Revival style Racquet Club to with its vertically challenging Modernist style, and the Lever House which is composed of the same glass box format as the Seagram building. However, the Seagram building takes the idea of the glass box further in height, composition and texture.

Unlike Mies's previous commissions of government or religious buildings, the Seagram building allowed Mies to fulfil his ideal of the tall office block. He achieved this by enclosing the entrance of the building in glass which affirmed a sense of transparency and purity. He also achieved this through the use of elegant materials in the façade and uniquely placing the utilities spine at the rear of the building, in a hidden 'T' shape[34] to avoid interrupting the building's geometric clarity. The Seagram building highlights, not only that Mies was able to achieve his own rendition of the tall office block, but that he was also attempting to answer "a higher philosophical or aesthetic urge."[35]

All Three buildings discussed have an emphasis on verticality. The Wainwright building highlights its verticality using large red brick piers. The Chrysler building uses its spire to accentuate verticality. Like the Wainwright, the Seagram building's verticality comes from its vertically spanning columns. The three buildings all meet the sky in different ways; the Chrysler building's spire and reflective crown blurs the line between structure and sky. This contrasts with the Wainwright building's parapet which simply stops, accentuating the difference rather than the co-existence of structure and sky. Like the Wainwright, The Seagram building abruptly stops to form a barrier between structure and sky. The three buildings all use elegant materials which are evident in their visual impact; the Wainwright's use of terra cotta ornamentation, the Chryslers

---

[28] Roth, L. M., 2001, Page 419
[29] Roth, L. M., 2001, Page 420
[30] Roth, L. M., 2001, Page 420
[31] Roth, L. M., 2001, Page 419
[32] Safran, Y., ed Trigueiros, L., Barata, P. M., 2000, Page 127
[33] Gelernter, M., 1999, page 267
[34] Roth, L. M., 2001, Page 419
[35] Gelernter, M., 1999, page 267

use of wood inlay and chrome steel, and the Seagram's use of oiled bronze and dark amber glass.

Sullivan's Wainwright building mediates between design and structure through the use of large piers and ornamentation. Sullivan tries to achieve a harmony between Historicism and New ideas by using new technologies on a renaissance like palace format. The Chrysler building has more emphasis on the aesthetic nature of structure. Van Alen's adoption of new ideas is apparent in his use of a chrome steel alloy and streamlined motifs. In the Seagram building we see an approach to design and structure that comes directly from 'less is more'. The contrast with the older Renaissance revival buildings neighbouring the Seagram building affirms Mies's priority on new ideas rather than historicism.

The progression of skyscraper designs can be seen from the first expression by Sullivan through to Van Alen's iconic Art-Deco embellishment, and Mies van der Rohe's Modernist Seagram building. This progression can be attributed to technological advances and social and economical changes. During the turn of the 20th century, skyscrapers became symbols of decadence and elegance. As the famous pop artist Andy Warhol once said, "[Skyscrapers]… They look like money".[36]

---

[36] Nash, E. P., 1999, Page 63