The Early History of the Tall Building in the South African City

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Introduction

From the 1970s until recently overseas visitors to South Africa invariably commented on how 'American' the country's major cities appeared to be. Most had arrived by air at Johannesburg and thus viewed the city at the end of what will probably turn out to have been its final cycle of building skyscrapers, for these - set in strongly defined cluster in the central business district - were the most superficial and possibly significant aspect of the Americanism detected by a knowledgeable arrival.[1]

The qualification (recently) used above is prompted by the present ubiquitous nature of the skyscraper core; very few cities are now without it and it has thus become commonplace in the late twentieth century. The skyscraper has been universally acknowledged as an American invention, perhaps that country's prime contribution to modern architecture, and also to shaping the form of the early modern city.[2] Within the South African context little has been published which traces the early growth and development of the building type[3] within the urban matrix. If that same knowledgeable recent arrival had spent some time looking at the core of skyscrapers, he or she would have noted that although most (and the tallest) were clearly post World War II, a few dated from the 1930s and some - very few - even earlier. A visitor of a more scholarly mind might then even have looked for earlier photographic panoramas or aerial views to help visualize the early evolution of the core. This phase will be the substance of this article.

It is not appropriate here to review at any length the fairly formidable body of scholarship, particularly American, that the skyscraper as a building type has attracted over the last thirty years or so.[4] However, for purposes of comparison some aspects of the current debate does need to be outlined.

Giedeon was probably the first historian to emphasize the initial growth of the skyscraper as a pragmatic, primarily technological, solution to central Chicago's need, after the great fire of 1873, for more office space and also, it seems, to realize the maximum return on expensive land.[5] For him this evolution was a linear cause and effect, the skyscraper being primarily seen as a harbinger of the 'form follows function' formula beloved of the early proponents of the Modern Movement.[6] This explanation has been recently questioned by people such as Koolhaas[7] and van Leeuwen[8] who see much more complex physiological forces at work varying from a 'culture of congestion' to metaphysical ones.

Whatever its origins there is little doubt that the skyscraper came to symbolize during the 1920's - its zenith in New York - the idea of progress, especially within the urban context. A tall building was seen as an unmistakable symbol of prestige whatever the rational reasons for its existence, something put very eloquently put by Alfred Bossom in 1934 who wrote the following:

"The ambition of every growing town in Canada and the United States is still to have a taller building than any of its neighbours and rivals. Nothing so ministers to its pride or so fires the imagination of its citizens as that. For three hundred and sixty-five days in every year they stand out as the inescapable proof of well being and achievement."[9]

This particular attitude, it will be shown, also manifested itself in the major South African cities.

A major theme of this article will be that though undoubtedly having been influenced by imported, primarily American, technology in its initial stages the local version of the tall building fairly quickly developed a more appropriate technical solution. In addition, it will be demonstrated that the building type evolved within a complex and continually changing web of social, economic and regulatory factors.

The Local Background

Of the three cities being dealt with here Cape Town is by far the oldest, being founded in 1652[10] and it remained the largest until the mid 1890s. Durban was founded in 1839[11] and, like Cape Town, it is a port. Through the whole of the period studied here it was third in size. Johannesburg, last of the trio, was founded on the newly discovered goldfields of the Witwatersrand in 1886[12] and by the mid-1890s had quickly outstripped both the other cities in size and still retains that position today. It is about 400 miles (600 km) inland from its nearest port, Durban.

The population figures make for interesting reading. In 1896[13] Cape Town stood at 82,000, Durban at 45,000 and Johannesburg at 105,000. In 1910[14] the figures were 120,000, 87,000 and 230,000 respectively while in 1936[15] they had increased to 334,223, 264,557 and 526,036. As can be seen they all, especially Johannesburg, enjoyed strong growth during this half century . The centres of all these cities were laid out in orthogonal blocks. Cape Town's measure 200 x 200 feet (60 x 60 metres) with slight variations, while those of Johannesburg also measure 200 x 200 feet, the basic lot being 50 x 50 feet (15 x 15 metres) - or 50 x 100 feet (15 x 30 metres). Durban is slightly different having a long series of 300 feet (90 metre) wide blocks, with lots originally 100 feet x 150 feet (30x45 metres). All three also have sets of planned open spaces or squares.[16]

By the 1890s both Cape Town and Durban had clearly identifiable 'cores', that is, areas primarily given over to commercial activities.[17] In both cases these clustered around a single street, Adderley Street in Cape Town and West Street in Durban. Johannesburg's core was initially around the large market square but post-1900 two specialized cores, one financial and the other commercial evolved on either side of this space.[18]

During the second half of the nineteenth century South Africa was divided into two spheres of influence. The two British Colonies of the Cape and Natal with their protectorates and the two semi-independent Boer republics of the Orange Free State and the Transvaal.[19] Most development, particularly of the urban kind had, prior to the 1870s, taken place in the colonies and on the eastern seaboard. With the discovery of firstly diamonds then gold in the interior the hinterland opened up at a rapid rate. Friction between Britain and the Republics, the Transvaal in particular where the richest goldfields were, led to the South African war of 1899 - 1902. The result was conquest of the two countries and their incorporation into the empire as colonies.

In 1910 all four joined together to form the Union of South Africa. South Africa was involved in the First World War both locally, in the invasion of the German colonies of South West Africa (Namibia) and German East Africa (Tanzania), and in the war in Europe. In 1931 the country achieved dominion status within the British Empire in accordance with the Statute of Westminster. Prior to this however, the country, had enjoyed a fair degree of autonomy.

South African building activity followed a boom/slump cycle strongly influenced by local and international events. The late 1890s saw a major boom fuelled by the initial exploitation of the Transvaal goldfields. This continued even during the South African War in Durban and Cape Town, both being far enough away from the theatre of war.[20] In Johannesburg on the other hand building activity stopped completely, but resumed with a vengeance in 1902.[21] This boom peaked in 1905, slumping drastically shortly afterwards with a small recovery c.1910, the year of the union of the four colonies.[22] Building then seems to have remained in the doldrums until the early 1920s when it regained its vigour until 1930-1 when the effects of the Wall Street crash reached the country. In 1933 a large scale recovery started which peaked in 1937,[23] slumping dramatically after 'Black Friday' on the Stock Exchange that year. Johannesburg in particular was the beneficiary of this boom; in 1936 more than four times as much money was spent on building in that city than in Cape Town, the next busiest.[24]

Most studies of Victorian and Edwardian architecture in South Africa have tended, with some justification, to emphasize the essentially British origins of the architecture[25] although some acknowledgement of probable influences from further afield has been made.[26] These however have mostly concerned themselves with other European countries or British colonies.[27] Little serious research with regard to influences from the United States has been published although some of the studies which extend into the 1920s and 1930s tacitly acknowledge these.

As will be demonstrated in this article these influences made themselves felt far earlier than might have been imagined and were more sustained than has been surmised. This was against a background where up until World War II the vast majority of architects were British or of British stock and were either British trained or educated in a variant of British methods.[28] A similar observation could be made of the local building industry and those officials within the municipalities who were concerned with the built environment.[29]

The Early Buildings

Almost certainly the first tall building if it can be termed that, was the Colonial Mutual Building of 1889 designed by George Ransome.[30] (Fig 1) Situated in Adderley Street it stood a modest four floors high, but with a prominent corner tower, the first in Cape Town, it achieved

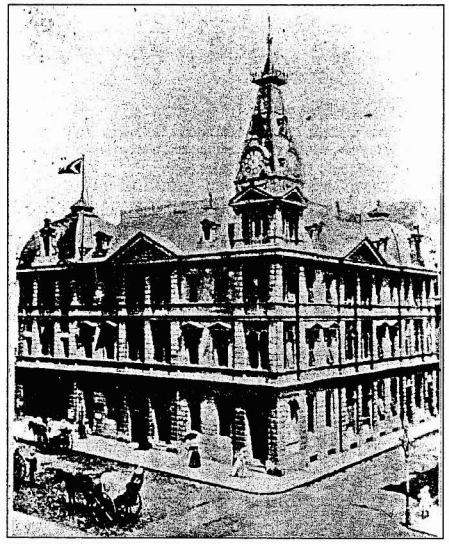

Fig. 1 Colonial Mutual Building, Cape Town (1889), designed by G. Ransome (Cape Archives).

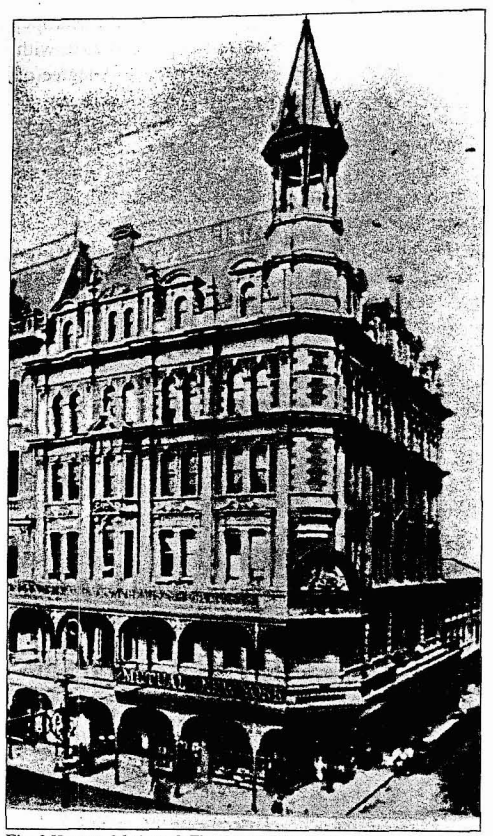

Fig. 2 Heynes, Mathew & Fletcher and Cartwright Buildings, Cape Town, 1894 and 1899 (Cape Archives).

a overall height of 90 feet (27 metres). This was a good local example of what has characterized in the first phase New York skyscrapers as 'stretched' versions of the then more normally proportioned commercial buildings of the city.[31] It was an office block. On the two adjoining sites almost opposite the Colonial Mutual were built the first proto-skyscrapers of the mid 1890s (Fig 2). The first, and slightly shorter, was the Heynes, Mathew premises (Adderley Chambers) of 1894 and then came the Fletcher, Cartwright Building (Mansion House) completed in 1899. The Heynes, Mathew building (six floors) was mostly a warehouse for the firm of chemists who built it, having office accommodation on the first floor only. Mansion House (six floors) was much more typical with offices on all floors but the ground. Included amongst the tenants was the office of the building's architect, C.H. Smith[32] a seeming characteristic of these large buildings. The architect of Heynes, Mathew was John Parker.[33] Both architects were British born and trained and both buildings were of composite construction, that is of brick load bearing outer walls with cast-iron columns, rolled steel beams, or bressummers, as they were called, and wooden floors.[34] Fairly complicated concrete foundations reinforced with steel 'I' beams also marked the necessarily increased technical sophistication required for this type of building.[35] Both buildings had lifts. The honour of introducing the first steel framed building to Cape Town and South Africa goes to another architect, Anthony de Witt, who strangely enough was Dutch born and trained.[36] This building, a warehouse for J.W. Jagger & Co., prominent local merchants, was started in 1898. It was eight storeys high and it seems that the chief interest in the steel frame was its fire proof qualities and that it allowed for cast concrete floors, thus doing away with the usual wooden sub-structures. The frame was of course completely hidden by an elaborate classical facade of a fairly pedestrian nature. The designers and suppliers of the steel frame were Milliken Bros. of New York City, of whom more below.

In 1902, Garlick and Co. built the next steel frame building, an eight storey warehouse adjacent to their existing department store on Adderley Street.[37] This building still exists and

Fig. 3 An architect's perspective of the New York Mutual Life Building, Cape Town, 1904 (Jagger Libary, University of Cape Town).

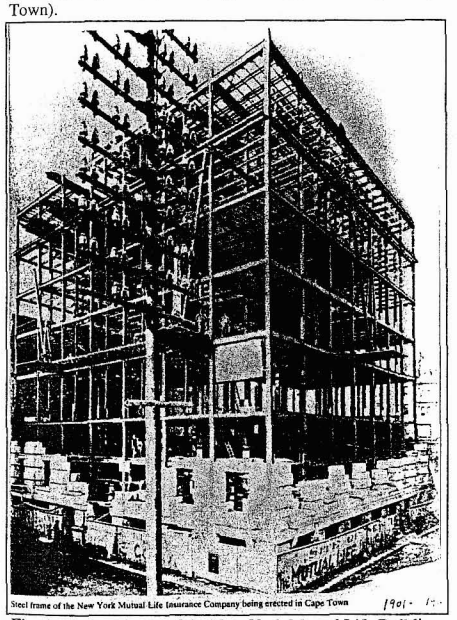

Fig. 4 The steel frame of the New York Mutual Life Building, Cape Town (South African Library).

its brick facade with coupled windows, lunettes and attic storey seems to have been directly inspired by its Chicago forebears of c.1890.[38]

However, the most interesting building of this period for our purposes must be the seven floored New York Mutual Life Building (1901-4) in St. George's Street.[39] (Fig 3) Although designed by a local architect, William Black,[40] there was considerable direct American involvement in its design and construction. Firstly the client's head office, as its name implies was in New York and a comparison of that building and the Cape Town one shows some strong similarities.[41] The designers and suppliers of the steel framework (Fig 4) were the above mentioned Milliken Bros. who also provided the ornamental ironwork such as the lift shaft outerwork. Their New York address was 11 Broadway and the local representative was A.C. Armstrong. The designer and supplier of the elaborate heating and ventilation machinery was also from New York[42] and there is also evidence of the involvement of a New York architectural firm[43] in the detailing. Finally above its local granite plinth the building is clad in a creamy terra-cotta, yet another obvious American link.[44] The supplier's name is not given.

The building, aside from the first floor banking hall, was specially designed for letting as prestige offices. Appropriately among its early tenants was the United States Consulate.[45] All in all it is a pretty thorough-going early example of an American commercial building transplanted to South Africa.

The final Cape example from this early stage is Parker's Building (completed in 1906) formerly in Strand Street (Fig 5). This building was divided vertically into part offices and part warehouse. At nine storeys and 130 feet (39 metres) to the ridge line it was then the tallest building

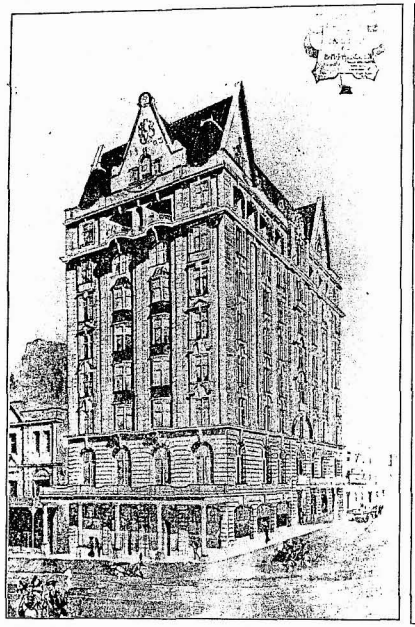

Fig. 5 Perspective of Parker's Building, Cape Town, 1906 (from the *South African Clayworker and Builder*).

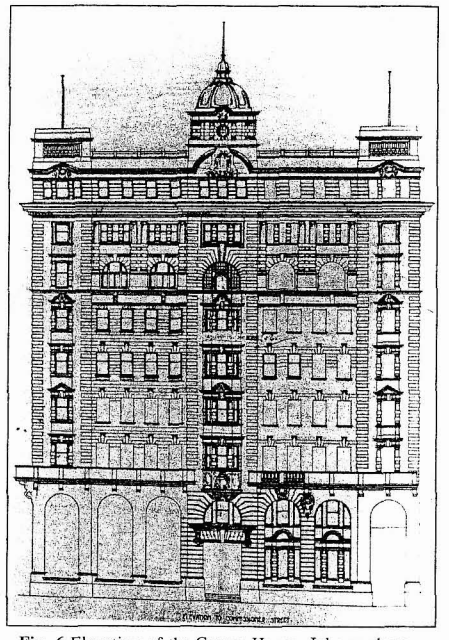

Fig. 6 Elevation of the Corner House, Johannesburg, 1902-3 (from C. M. Chipkin, *Johannesburg Style*, 1993).

in the city[46] and remained so for some time. The steel work designers were the ubiquitous Milliken Bros, but aesthetically its architects seem to have been more influenced by British than American models.[47]

To continue this narrative we must look at Johannesburg where the end of the South African War in 1902 produced a large scale building boom. Prior to 1902 there had been one or two buildings above the three or four storey level[48] however it was only when the young city - it was hardly sixteen years old then - was put firmly within the British orbit that the mining houses, banks, etc. felt confident enough to invest heavily in new, more substantial buildings.[49] One of the first of these was the Corner House, the headquarters of a large mining corporation and the third building on the site (Fig 6). Built in 1902-4, it was designed by Frank Emley who was to design at least two other steel framed local buildings at the same time.[50]

The Corner House is nine storeys and 125 feet (37.5 metres) high. Situated on a consolidated corner lot of 100 x 100 feet (30 x 30 metres) it was then, with about 200 offices, one of the largest buildings in Johannesburg. Again Milliken Bros. designed and provided the steelwork. To remind us of the extraordinary sophistication of this building and the still primitive conditions of the city it should be noted that a complete private sewerage system was provided.[51] Other pertinent factors which must have facilitated the emergence of the tall building were a mains water supply, electricity and a telephone system, all very recently arrived in the major city centres. The Corner House was not, however, the tallest building of this period, for this honour belongs to Stuttafords (1902-3) with ten floors. This building was a composite one with a department store on the first two levels

Fig. 7 Thorne and Stuttaford's, Johannesburg, 1903-3 (Africana Museum).

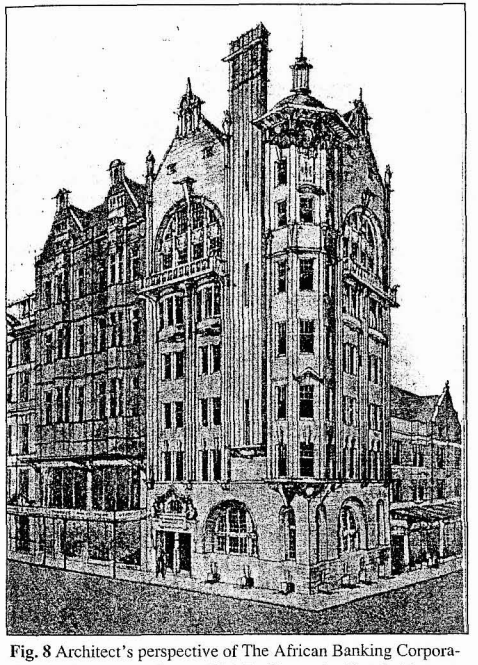

Fig. 8 Architect's perspective of The African Banking Corporation Building, Durban, 1906-7 (from the *Natal Mercury Pictorial*).

and offices above (Fig 7). Perhaps the most interesting of this group was the Carlton Hotel (1903-6) built along the lines of an American super hotel, which occupied virtually an entire block, having some 300 bedrooms and being six storeys high. Strangely enough here the architect (T.H. Smith) was from London and the steel suppliers German (Burbacker Hütte Werke).[52] Thus by 1910 Johannesburg possessed some eight or nine tall buildings in two loose clusters on either side of the market square.

In Durban the enthusiasm for tall buildings was not manifested before 1900, although the city had very much benefitted by the building boom of the 1890s. This, it appears, had turned a core of mainly two storied commercial buildings into one composed of mainly four storied ones with the occasional small tower pushing up beyond this.[53] However, between 1902 and 1906, three modest exceptions to this were built. They were the National Bank Chambers, (five storeys), the Cuthberts Building 1903 (six storeys) and finally, the tallest, the African Banking Corporation building 1906-7 (eight storeys).[54] Built separately but in a group together on West Street, the main commercial street, these buildings (Fig 8) constituted the advance guard of the skyscraper in the city. The first two used the same composite structure as in the Heynes, Mathew building and Mansion House in Cape Town. They also had lifts. The ABC building designed by the same architects as Parker's Building in Cape Town had a steel frame clad with brickwork.[55] It stood 120 feet (36 metres) at the apex of its gables. Aesthetically, like Parker's Building, it was related to contemporary British architecture.[56] The building as completed omitted the prominent chimneys, a concession to Durban's

Table 1: Number of Tall Buildings

No. of floors	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	Total
Johannesburg																	
1973	1	1	1	-	1	-	1	1	1-	8	14	9	15	25	16	22	124
Cape Town																	
1925												2	-	5	8	4	19
1937					1*	-	-	-	-	-	3	2	3	10	9	4	32
Durban																	
1931													1	2	2	7	12
1939							2	2	1	1	3	-	3	2	3	8	25

sub-tropical climate. Interestingly there was no lift although the upper five floors were tenanted offices.

It was only in the 1920s that any further tall buildings were constructed in the city and none of these exceeded the ABC Building. However by 1931[57] there was a total of twelve exceeding four stories, (Table 1) ten of which clustered in the core, most being offices, but one was a department store (Stuttafords, seven floors) one a warehouse (five floors) and another, an apartment building (five floors). Most were steel framed but at least one was concrete framed.[58]

As far as can be ascertained in all these buildings the steel frame came as a package. This means that the specialist firm designed the complete structure, supplied all the necessary elements and possibly even erected it. The advantage to the architects, most of whom would not have been that technically proficient, is obvious. In addition local civil engineering skills were almost certainly in short supply. A corresponding lack of sophistication was to be found in the building industry. Thus this particular bundle of skills enabled the construction process to leapfrog over all these potential difficulties.

In 1933 Durban suddenly came to the fore in local skyscraper design when it built the then tallest building in the country, the Colonial Mutual Life Building, situated in West Street. It is 14 storeys high and 170 feet (51 metres) tall overall, and was designed by an Australian firm of architects.[59] (Fig 9) It remained the zenith of pre-World War II skyscraper design in the city as a height restriction was then imposed. By 1939 there was a total of 25 tall buildings in the centre but not all were business premises.(Table 1)

The Pre-Second World War Phase

It is to Johannesburg that we must return to complete the final phase for it is undoubtedly here during the twenties and thirties that the most considerable efforts were devoted to building the core of the city upwards.

It has been maintained that the first fully-framed reinforced concrete structure was erected in Johannesburg in 1920.[60] However, at least one,[61] and possibly more, fully framed structures were erected in Durban as early as 1915.[62] There is also evidence to suggest that C.H. Smith, the architect of the Mansion House, was using a part concrete frame as early as 1906 in Cape Town.[63] In the South African situation the advantages of the concrete frame over steel were numerous. Firstly until 1934 (the establishment of the first South African steel works) all the steel elements had to be imported, not that difficult at the ports, but with greatly added cost to an inland city like Johannesburg. The steel frame also had to be clad to make it fire resisting and then concrete floors cast into place. In a concrete frame all this is taken care of as part of the construction process. In addition much less steel is used and with the local (Pretoria) production of good quality Portland cement (From c.1897 onwards) the bulk of material required was close to hand. The one great advantage of steel was speed of erection. However, with the introduction of rapid hardening cement this was greatly

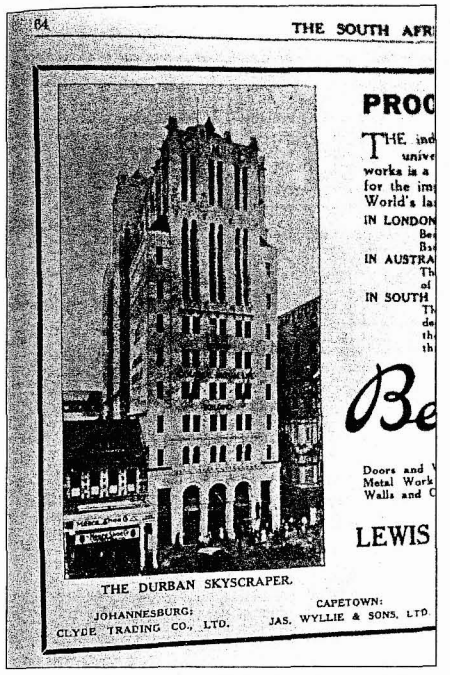

Fig. 9 The Colonial Mutual Life Building, Durban, 1933 (from the *South African Builder*).

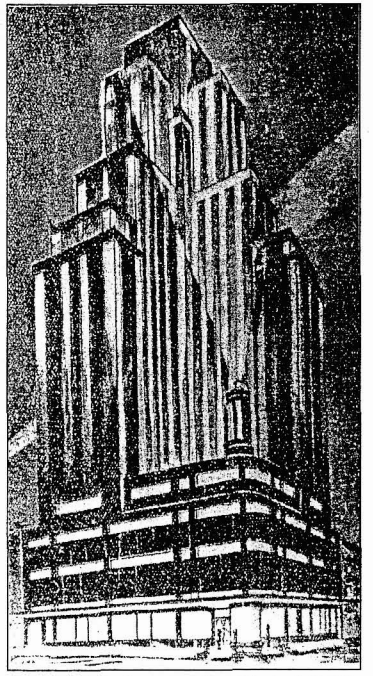

Fig. 10 Architect's perspective of Anstey's Building, Johannesburg, 1935 (from the *Rand Daily Mail*).

reduced; advertisements of 1930[64] gave a typical time of between seven and nine days per floor which means that the usual ten storeyed building of this era could be framed and floored in about three months, a fairly respectable time.

Thus from the late 1920s concrete frames quickly displaced steel frames in Johannesburg and then throughout the country. When the S.A. Mutual Building was designed c.1936 in Cape Town both systems were designed and costed out for it. The concrete frame was much cheaper and there was held to be no appreciable difference in time of construction.[65]

It was in the mid-1930s that Johannesburg finally and convincingly established its pre-eminence as the skyscraper capital of South Africa. This was chiefly with the erection of four real skyscrapers.[66] These were Anstey's (20 storeys), Lewis & Marks (14 storeys), Escom House (19 storeys) and Chrysler House (16 storeys), of which the first three were begun in 1935 and completed in 1937. Chrysler House, whose name is obviously derived from its New York counterpart, was started in 1936 and completed in 1938.

Anstey's occupies a corner site and consists of a stepped back 'L' shaped office block above a four storeyed base which contained a department store. The architect's perspective is very reminiscent of Hugh Ferris' well known New York skyscraper studies.[67] (Fig 10) Lewis and Marks[68] on the other hand was, in its stepped back forms and vertical strips of windows, much more obviously inspired by the Rockefeller Centre (1929-1934).

The tallest of these, (Fig 11) Escom House,[69] occupied half a block on a particularly commanding position in the city centre grid. It was also the most complex in terms of

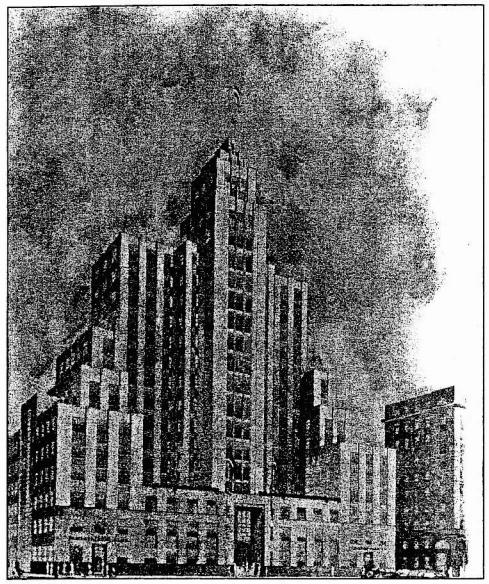

Fig. 11 Architect's perspective of Escom House, Johannesburg, 1935.

variety of accommodation and the subsequent structural solutions used to 'package' these. For example a storey high Vierendeel truss spanning 60 feet (18 metres) was used to carry the upper 13 office floors over a ground floor movie house. The exterior took the form of a ziggurat with multiple set backs terminating in a modernist flag pole which pushed it skywards a few more precious feet. Chrysler House[70] occupies an entire block and like Escom House makes sophisticated use of the reinforced concrete frame. Its fairly dramatic use of the set back regulations also makes it a very sculptural building. All the detailing (strip windows and plain bands) is determinedly Modern Movement.

A possible fifth building is His Majesty's Building, designed in 1937[71] but only completed in 1945 as the war intervened in 1939. Like its Chicago predecessors it incorporated a major theatre but it also had chambers for the legal profession and provided lettable commercial accommodation. The symmetrical massing built up into two 18 storey towers.

Aside from these prima donnas, so to speak, a number of less spectacular buildings rose in the late 1930s in the financial district, all with heights in the region of 10 to 12 floors[72] thus pushing up the vertical emphasis substantially. This has been described as follows:

> *"At the same time the verticality and rectangularity of the building masses shifted the attention in the large measure from the material to the general. It seemed as if the buildings, by their very height and emphasis on simple stereometry, broke away from the earthbound sentiments which marked the early periods."*[73]

Nevertheless, although Johannesburg had achieved a position of dominance we need to return to Cape Town to find both the tallest and second tallest buildings of this era. These are the S.A. Mutual Building 276 feet (83 metres) and the Central Post Office 230 feet (69 metres) situated in Darling Street, just back from Adderley Street.[74] Both were started in 1936 and completed in 1940. Similar in appearance they achieve their pre-eminent heights via small towers capped with pyramidal roofs which push up well above their general envelopes. The Mutual Building (Fig 12) has a stepped back form which starts at ten storeys while the base of the Post Office is even lower. However they maintained their primary positions until the early 1950s.

To complete this review a very brief history of an important variant is required, this is the apartment building. In Johannesburg these appeared shortly after 1900, usually termed

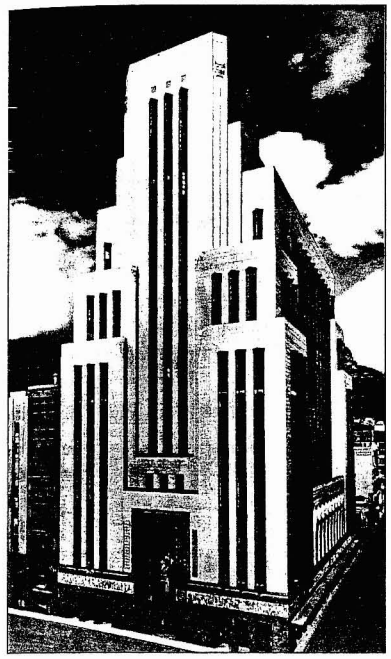

Fig. 12 South African Mutual Building, Cape Town, 1937-40 (from the *South African Architect*, January 1940).

'mansions' or 'court' as in Victoria Mansions or Manhattan Court. These early buildings had commercial space at street level with a maximum of three floors of apartments above.[75] Most of them formed a subgroup to the north of the financial and shopping districts.[76]

In 1925 the first five storey building appeared[77] followed in 1929 by an eight storey one,[78] then the tallest such building in South Africa. It had a reinforced concrete frame . The next year the first ten storey block appeared,[79] quickly followed by a host of others,[80] of which one, Astor Mansions (completed 1932), was briefly the tallest building in the city.[81] Most of these buildings were actually 'composite' in that they usually had two to three floors of offices or professional suites above the ground level shops while apartments occupied the rest of the building. By 1939 at least one[82] had reached 14 floors in height.

In Durban the popularity of apartment buildings reached its peak in the mid to late 1930s with at least half a dozen in the city centre in the eight to ten floor range and one, Hollywood Court (14 floors) which became in 1939 the tallest building in the city. Outside the centre two taller apartment blocks[83] appeared on the Berea in 1933 and 1935 which until then was a domestic scaled inner suburb. On the beach front the first tall building[84] was completed in 1935. These must have alarmed the city fathers for in early 1936 a height limit of 45 feet (13.5 metres) outside the centre was put in place.[85] Cape Town, for as yet unexplained reasons, did not have any tall apartment blocks at its core, with the one exception of an 11 floor structure[86] built in 1939 overlooking the Gardens.

Although the early history of the skyscraper in South Africa is contained within the three major cities it is worth noting that the highest structure in pre-war Pretoria, the administrative capital, stood at eight floors[87] while Port Elizabeth built its first tall building (nine floors) in 1933.[88]

Attitudes to the Tall Building

Public attitudes towards tall buildings seems to have moved from initial apprehension to qualified approval to a fair degree of enthusiasm across a thirty year time span. In 1905 in an article written in Cape Town[89] it was maintained that they were not intrinsically ugly, only when built in narrow streets thus blocking out light and air. It was also pointed that the new tall buildings in the city were nothing like the huge piles in American cities (for which they should be thankful). It was further maintained that there was plenty of ground available, that local conditions did not lend themselves to tall buildings and finally that Cape

Town was not New York. The writer also recommended that tall buildings should be set back and prohibited above a certain height. It was suggested that the building regulations needed revision to deal with this.

A more antagonistic attitude to the new tall buildings in Johannesburg was that voiced by W.C. Scully c.1909,[90] who wrote as follows:

> *"Exaggerated human ant-hill throbbing with energy. but is all a gloomy inferno of stone. A series of linked Babylon-Towers of masonry heaped menacingly against the almost obliterated heavens."*[91]

Elsewhere he commented that the occupants *"worship the capricious god of whom every one of these structures is a shrine"*,[92] a fairly direct recognition of the prestige seen to be emanating from the skyscraper. A more positive contemporary comment not necessarily derived from the appearance of the tall building and from a newly arrived young American[93] was that Johannesburg "is just like a thriving American town".

There is also some evidence that in at least one case, that of the Corner House, the proprietors themselves were quite cautious about over-building, that is putting up too much lettable space. As originally planned the building was only to have six floors[94] thus making it roughly comparable with the new London head office.[95] This was quickly abandoned but with some reservation which was voiced as follows:

> *"The building cannot be regarded as a very permanent investment owing to the uncertainty as to how much longer Johannesburg will remain a prosperous town."*[96]

This emphasis on investment again surfaces in another remark vis-a-vis the building that it is "utility not beauty that is required".[97] Alfred Bossom, the English architect who specialized in and built many skyscrapers in America up to 1924, also stressed this need to accurately gauge the market when deciding on the height of a skyscraper.[98]

By the late 1920s it seems that it was commonly accepted that tall buildings were becoming the norm in the major city centres. Thus an article entitled 'Skyscrapers in Durban' in 1928[99] commented that many of the buildings in the core now averaged six to seven storeys, attributing this to the increasing value of land. The final comment was that Durban will grow taller. Slightly earlier, in 1926, at the formal opening of the new branch of Stuttafords (three floors of commercial and four floors of offices), then a department store chain, the height of the building itself was unremarked upon but the high price of the land was.

In 1936 the "Star" newspaper ran a special sixtieth birthday issue on Johannesburg.[100] It is interesting in the light of the fact that the city was then in the midst of the previously-mentioned building boom to review some of the opinions then expressed. A particularly relevant section is that entitled "What is the future of the City".

The then mayor alluded to the lack of public spaces in the centre of the city and the need for zoning. The Anglican Bishop of Johannesburg expressed himself forcibly on "the menace of flat life" while Ernest Oppenheimer, chairman of probably the largest mining conglomerate[101] had the following to say; *"The great new buildings that are changing the face of Johannesburg attest the faith of our citizens in the future of the industry"*. Others were not so complimentary; Sarah Gertrude Millin, the author referred to the *"narrow crowded drabness"*. Another called the place *"a strange city of dumps and skyscrapers"* and went on to write that *"the new business architecture reflects this, for there is no warmth of heart, no spiritual quality of devotion and service in this cold clinical importation from*

America". Yet another claimed that the tall buildings and bustling streets were not attractive.

Not surprisingly, these ambivalent or mixed attitudes also seem to have manifested themselves in the official sphere. In this case it was at the level of the city councils who effectively had the mandate to control the locally built environments.

Cape Town and Durban, being British colonial cities, had developed by the late nineteenth century a fairly strong version of municipal government,[102] which included a core of officials such as a town clerk, medical officer, and more importantly for us, a town engineer. Most of these were British trained and so brought with them the concepts of "municipalisation" then current in the mother country[103] By the mid 1890s both cities had fairly comprehensive sets of by-laws covering a wide variety of areas.[104] These included some detailed building regulations based in the main on the British Model Building by-laws.[105] Early Johannesburg had a somewhat different local government but because of the predominantly British make up of its officials also derived its building regulations from current practice in the United Kingdom.[106] Post 1901 the city government fitted within British practice.

In 1896, as part of a new set of building regulations[107] Cape Town set a height limit. This forbade all tall buildings on streets less than 50 feet (15 metres) in width and restricted those facing wider streets to a maximum height not exceeding 1½ times the width of the street. Thus a building 100 feet (30 metres) wide in Adderley Street could not exceed 150 feet (45 metres) in height. This regulation was almost certainly a reaction to the Heynes, Mathew Building of 1894. In 1920 a maximum of 120 feet (36 metres) irrespective of street width was established.[108]

Johannesburg was the next city to set a height limitation, that of 140 feet (42 metres) or 1⅔ the width of the street. This was in 1903 and again appears to be in reaction to the Corner House of the previous year. Both cities also regulated steel skeleton frames.[109] In contrast Durban had no height limitations until 1932,[110] when these were fixed at 1⅔ the width of the public street, with no building being allowed to exceed 140 feet (42 metres). By this time all three cities had promulgated codes of practice in connection with reinforced concrete construction.[111] Unlike the fairly nominal regulations (see 1903 Johannesburg Building By-laws) governing steel structures, these were lengthy and detailed. They appear to be based on the current British codes of practice. As might have been expected Johannesburg was the first to modify the absolute height restriction. This was done in 1934[112] by means of a relaxation derived almost certainly from the well known New York zoning law of 1916. Buildings were still not allowed to extend above the line drawn from the opposite side of the street through a point five-thirds of the width of street, measured above the building line of the buildings concerned. The cubic capacity of the building was also regulated.[113] Nevertheless this did allow taller buildings of the by then familiar "ziggurat" form to appear, as noted above. A further modification appeared in 1937.[114]

In the initial phase, that of imposing an absolute restriction on height, the civil authorities appear to have been preoccupied with the familiar Victorian concerns for light, air and congestion.[115] Public opinion with regard to the overpowering scale of the new buildings was probably also influential in setting these limits. In the late 1920s and early 1930s this concern changed its focus somewhat with the rise of modern town planning in South Africa.[116] The locally emerging profession saw height limitations, along with use zoning, floor area and site coverage ratios, as part of the basic regulatory mechanisms necessary to control and direct the growth of the modern city. These mechanisms were in turn derived from a more scientific theoretical basis.[117] To illustrate this it should be noted that a civic survey of Johannesburg was completed in 1936.[118]

Drawing from that survey a 1936 traffic study suggested that future building bulk be regulated in accordance with the traffic capacity of the existing streets.[119] At the time the average number of storeys in the centre was three-and-a-half and it was considered that traffic capacity was fully taxed at rush hours. It was assumed that with better management the capacity could be doubled. This would then limit the average building height to seven storeys. Reducing site coverage to 75 per cent would in turn allow eight floors. As it was not considered desirable that complete uniformity of height be enforced, the previous restriction of 1½ times the street width at the property line was left in place, but with a setback provision for any building going above that and also with overall bulk restrictions based on coverage multiplied by height (1½ times street width).

Yet another potential control mechanism in the hands of the city fathers was the valuation system. In Durban and Cape Town property rates were levied on the market value of both the land and improvements, a standard British practice.[120] The theory behind this was that a dual system curbed the excesses of both land and building speculation. Johannesburg abandoned this in 1919[121] and based its rates solely on land value. From 1933 onwards steep increases in valuation took place, apparently forcing many property owners to build to capacity in order to make a good return. In support of this view the fact that between 1930 and 1938 land values doubled is cited.[122] Interestingly, in Durban valuation doubled in the decade 1919-1929, but only increased by 20 per cent in the next decade[123] despite a large building boom between 1933 and 1938.[124] The situation in Cape Town is not yet known.

Conclusion

As we have seen, the tall building first appeared in Cape Town, then the largest city in South Africa, in the mid 1890s. While the first buildings were of composite construction (load bearing and frame) the steel frame itself arrived in 1898, only twelve years after its reputed invention in Chicago and before its first use in London.[125] After 1902 Johannesburg entered a brief period of rivalry with the mother city, both centres producing an embryonic vertical core composed of, at the most, half-a-dozen buildings. Durban was clearly not as active although erecting a smaller group of its own.

In this first phase, which seems to have ended c.1914, public and official opinion was not for an unqualified acceptance and led the local authorities in both Cape Town and Johannesburg to impose height restrictions which were however considerably in excess of those in force in most European cities.[126] Technologically these new buildings looked directly to American (chiefly New York) based expertise, but aesthetically mostly took their cue from British models, for example Parker's Building in Cape Town and the Corner House in Johannesburg.

During the 1920s the local development of the reinforced concrete frame allowed for a cheaper structure than the then imported steel one. Although the existing height restrictions remained in force until the mid 1930s the tall building increasingly became a fact of life in the centre of three major cities, Johannesburg in particular. As in America a certain pride was taken in this as a visible sign of "progress". This almost complete acceptance then paved the way for a relaxation of the rigid height limitations with a formula derived from the 1922 New York regional plan. This fixed the permissible cubic contents of any given site, but also allowed taller towers on a smaller portion. By this time the aesthetic basis of the building design was much more mixed, deriving from a variety of American and British sources, in turn reflecting the more cosmopolitan, Americanized nature of South African society at the time.[127]

Few of these buildings came near their American prototypes in height and none were even

in the same league as the great New York monsters of the late 1920s. However, the result was similar in that by the beginning of World War Two each of the major South African cities had a clearly defined central business district visually marked by a group of skyscrapers and in the case of Johannesburg at least two different cores. It was from this platform that the great post war boom was to expand both horizontally and vertically[128].

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