to Kyoko, without whom I would not have been here
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Skyscrapers in Context

by

Kazuo Kobayashi

Submitted to the Department of Architecture on May 12, 1988
in partial fulfillment of the requirements for the Degree of
Master of Science in Architecture Studies

ABSTRACT

This thesis is a study of the expressive quality of a skyscraper. Because of their size and conspicuousness, skyscrapers are simultaneously exposed to several different levels of "contexts" which are mainly defined by the distance between the viewer and the tall buildings. Awareness of these contexts is important in understanding or evaluating skyscraper design.

Since the people are the judge of whether or not a building is "in context," the built form should be reflecting the things that they value, and peoples' value in turn change from time to time and from place to place. Five cities, Chicago, New York, Houston, Boston and San Francisco were chosen for case studies, mainly because of their diversity in different contexts for skyscrapers. By defining the various contexts in which the skyscrapers stand, in different cities and different times, and through examination and evaluation of the design solutions devised by the architects (and planners, entrepreneurs and the public), this study attempts to explain what it means for a skyscraper to be in context.

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May 12, 1988, Kazuo Kobayashi
Citroën, Metropolis, 1931
Introduction

“In the nineteenth century, paintings were seen as the ‘serious’ subject, sometimes criticized as ‘dangerous’ whereas the criticism of buildings was more the province of specialists and it tended to be carried out at much lower temperature. But today, by control, it seems to be architecture that upholds or challenges the morality of the public.”

The end of the nineteenth century saw emergence of a new breed of architecture; the skyscrapers. Man’s persistent ambition to build to the heavens ever since the Tower of Babel was suddenly unleashed through technological marvels, and people sought great promises in the tall buildings. This new architecture became an apt reflection of the burgeoning capitalism, and corporations that were housed inside increasingly regarded them as symbolic of their own economic potency. Even the cities which became the principal ground for the skyscrapers were perplexed by the symbolic power that they possessed.

“A city showed its might by how many buildings it had and how many people were in it, and, more to the point, by how big these buildings could be made to be. Our very notion of what cities were was changed forever.”

Fueled by economic justification, technological innovation and competition, skyscrapers quickly proliferated all over the American cities to become an ultimate symbol of urbanism.

Just as the enthusiasm toward the skyscrapers was great, so were the controversies. Partially from the fear of the unknown newcomer, the drastic changes in city life brought about by these tall buildings raised numerous debates against the skyscrapers. Health, safety and environmental issues are some of the never
changing arguments about the skyscrapers that existed from the earliest days of its history. Even though the society's standards concerning these issues changed through the course of time, their relatively quantifiable nature enabled the authorities to resolve them through more (or less) stringent regulations.

Apart from these continuous issues, the past decade saw growing concern from professionals and the general public alike about the expressive qualities of the skyscrapers. Not just massing or height of the tall buildings that determine the quality of the environment such as amount of sunlight or wind at street level, but factors such as shape, color, texture, or even detailing are beginning to be raised as something that should be closely controlled by the public under the name of design review. Renee Loth wrote that;

“Architecture is the perfect union of science and art. The science keeps the massive constructs of stone and steel from imploding into rubble, and the art makes us want to admire them, to walk into them, to make them part of our environment. Like all art, a good building has the power to transform us. Even more than a painting hanging on a museum wall, a good building can summon joy or serenity or provoke intimacy or exploration. A bad building is an assault not just on the eyes but on the spirit.”

If health, safety and the physical environmental issues may be included in the “science” in architecture, then it seems reasonable to conclude that it was only within this aspect that most past regulations and building codes were aimed to control, and it is the “art” aspect that is under scrutiny in the recent trend toward design control.

Looking at Boston in recent years, we see more cases in newspapers and magazines where people vote for the best and the worst buildings in town. Some of these are accompanied by reasons why the general public feel that way about a
particular building, and we find that common pretext for rating buildings highly is that they are considered to be “in context”, whereas the same for the worst buildings is that they are considered either “un-Boston like” or “generic.” This phenomenon is indicative of the people’s concerns on how well the buildings “fit” in the settings in which they stand rather than evaluating them as individual objects.

Not surprisingly, the skyscrapers are the strongest focal point in this debate, due to their size and conspicuousness. By virtue of their size, the skyscrapers are exposed to several different levels of context at the same time. Since the people are the judge of whether or not a building is “in context”, the built form should be reflecting the things that they value, and people’s values in turn change from time to time and from place to place. By defining the various contexts in which the skyscrapers stand, in different cities and different times, and through examination and evaluation of the design solutions devised by the architects (and planners, entrepreneurs and the public), this study attempts to explain what it means for a skyscraper to be in context.

There is no doubt that this debate is rapidly gaining importance in the future design of the tall buildings. We often hear about community and neighborhood groups being organized in various American cities to prevent yet more “insensitive” architecture being plotted in their urban centers. Court rulings on the inappropriateness of proposed buildings to their contexts prove that in some cities these protests are not mere demonstration, but a regulatory force imposing strong influence on the design of the tall buildings.⁴

Five cities (Chicago, New York, Houston, Boston and San Francisco) were chosen for case studies, mainly because of their diversity in different contexts for skyscrapers. The purpose of this study is not to suggest an universal set of criteria to design
a skyscraper in context but to illustrate the diversities in contexts that exist in different places and in different times, and how to look for things that people value in these settings.

Notes:


3 Loth, Renee, “From Backwater to Backlash; Buildings Bostonians Love to Hate”, the Boston Globe Magazine, September 6, 1987, p. 14

Chapter One
What is a Skyscraper?

Definition of a Skyscraper

Skyscraper is a term often used to address an extremely tall building. A traditional definition of a skyscraper might read: “Skyscraper: A multi story building constructed on a steel skeleton, provided with high speed electric elevators and combining extraordinary height with ordinary room spaces such as would be in low buildings.” The Home Insurance Building built in Chicago in 1885 by William Le Baron Jenney is commonly considered to be the first building utilizing the steel frame construction. But Paul Goldberger claims that it is only a “partial” skyscraper since it did not offer design advances in expressing its “extraordinary” height. The Equitable Life Assurance Building in New York (Gilman, Kendall and Post, 1870) was the first office building to be equipped with an electric elevator, and although only six stories high, it towered 130 feet above the street. This building is also considered to be a partial skyscraper because it does not have a steel frame. These debates by architectural
historians concerning the first skyscraper illustrate the elusive character of the definition of skyscrapers. Making the distinction according to the definition above seems even more difficult today, since a substantial number of buildings over five stories have steel frames and are equipped with elevators, and due to advancement in technologies, many tall buildings have reinforced concrete structures.

For the purpose of this study, I have set two criteria for skyscrapers. Height, obviously, is the most important factor. In this study, any building over 20 or 30 stories is unconditionally considered to be a skyscraper. Equally as important as absolute height is the relative height of a building to those structures that surround it. Therefore, buildings that are substantially higher than the height of the surrounding fabric, even if their own height does not meet the first criteria, are also considered as skyscrapers. The important aspect of these criteria is that they define a building type which is visible from many viewpoints, above and beyond the street on which a particular building may be located.

The Equitable Life Assurance Building, New York, Gilman, Kendall and Post, 1870
A Short History of Skyscrapers

Elevators

Several technologies and social conditions in the mid to the end of the nineteenth century made the time ripe for the emergence of buildings which meet the above definition. The most obvious factor in this emergence was the improvement of elevator technology. Elisha Otis presented the “safe” elevator at the New York World's Fair in 1853, and a commercial version was installed in a New York department store in 1857. Instantaneously the elevator made it economically feasible to build higher than four stories. Prior to this invention or the use of steel structures, it was technically possible to build extremely tall buildings. However, marketable rents drastically decreased for spaces higher than the third floor, and five to six stories were considered the practical maximum for construction. Otis’ cable elevator and the hydraulic technologies that followed, made buildings of greater heights a developable proposition.

Steel Skeleton Structure

The Bessemer process, invented in 1856, made steel production much more economical than cast or wrought iron, and steel eventually found its use in the construction industry in the form of skeleton structures. This method guaranteed over 15% savings in construction costs compared to the conventional methods, reduced the amount of floor area required for vertical support, and also drastically speeded up the construction time.
Perhaps even more important than the economic efficiency of the steel skeleton structure, was the profound impact it had on the building facade. Exterior walls, freed from the requirement to bear the weight of a structure, became a "skin," allowing manipulation of openings and expression (in terms of materials, shape, decorations, etc.) creating a stark contrast to earlier building types. The Reliance Building in Chicago (Burnham and Root, 1890, addition C.B. Atwood, 1894) was originally five stories high. Additional 10 floors were added five years later, after the death of the original architect. The exterior skin is a vertical stacking of similar floors with bands of glass area divided by slender mullions, and its detailing and overall appearance show a striking difference when compared to the surrounding buildings that existed before its completion. Its handsome "Chicago window" (placement of a pane of glass so that it fills an entire structural bay with the exception of smaller adjacent panes to each side containing a narrow operable sash), a device to capture space and light to increase the rental value of the offices, gives the building a overall light and airy impression.

Other technological innovations, such as fire protection, artificial lighting and ventilation, also contributed to making the time ripe for an age of skyscrapers. But
with respect to context, it is sufficient to note that conditions of the time enabled
taller and more massive structures to be built that were very different in expressive
qualities from the earlier buildings that surrounded them.

**Fear of New Technology**

One of the early controversies that tall structures raised was rooted in the fear
that the new technologies that made them possible had not been sufficiently tested.
It is safe to conclude that any structure which provokes fear in peoples’ minds is
beyond the realm of contexts and the way buildings
fit into them. Gustav Eiffel, in designing his famous
Tower in Paris (1889), not only took care about the
soundness of his structure, but also made sure that
it *looked* sound to observers.

> "The arches that connect the four supports are
> purely decorative; though reminiscent of Eiffel’s
> original intention of supporting the tower on
gigantic bridge arches, they carry no load at all,
> perhaps a gesture on Eiffel’s part to a public who
> would feel more convinced of the stability by a
> conventional arched form rather than one nest-
ing on curved pylons."^{4}

Even today when people have more confidence
in technology, buildings such as the Rainier Na-
tional Bank in Seattle (Minoru Yamasaki, with
Naramore, Bain, Brady and Johnson, 1978) or the
Bank of Boston Building in Boston (Campbell,
Aldrich, Nulty, 1971) raise a similar sense of insecurity. These buildings, which carry heavier masses on top of a smaller base, seem always about to fall; a disturbing presence. The Bank of Boston is slightly more acceptable, since the overhanging mass is close to the ground and the building slims down toward the top, giving it a toy top–like appearance. The claim of the designer that the building provides more space and light at the street level without sacrificing maximum floor area is a weak one compared to the apparent threat that people perceive.

Density and Health

During the age which Lewis Mumford called the “Brown Decades” (between 1865 and 1895), various technological achievements were made that had severe impacts on the role of cities. The skyscraper was but one of these technological achievements. The telephone played an important part in the transforming role of the cities. Cities, especially financial centers, became an ideal place for national and international corporations.
to locate a central office to manage remote and dispersed plants via the telephone. Skyscrapers, in turn, became the perfect home for these corporations that were expanding rapidly due to the increased production and efficient distribution system of goods, fueled by market economies in later stages of the industrial revolution. The highly visible and modern skyscraper soon became the symbol of prestige and economic potency for these corporations. Densities in financial centers drastically increased as more and more skyscrapers were built, providing more opportunities for face-to-face meetings deemed important in businesses, which in turn encouraged greater development.

The consequences of this increase in density were profound. An infrastructure designed to support a streetscape of four to five story buildings was suddenly required to service up to five times the population. It is no wonder that skyscrapers raised so many controversies from their inception. Issues of health were among the first to emerge from increases in density. The skyscraper came to be seen as the cause of dark and unsanitary streets, reminding people of urban health problems that proliferated in the mid nineteenth century, when the poor and working class citizens were pouring into the cities. It was during this time that the curative powers of the sun were beginning to be raised as an important issue by physicians, and darkness was viewed a hazard to health.

The early height limitations adopted by cities like Boston, Chicago and New York were in most part due to the outcry to preserve sunlight in the streets, although precautions against fire hazards played a role as well. As early as 1891, the Massachusetts state legislature established a 125 foot city-wide height limit for Boston. The height limitation in Boston changed several times in the following decade, and in 1904 it evolved into a statute that separated the city into two districts, each with
a different maximum allowable heights. This statute was first challenged in court in the case of Welch vs. Swasey over a 125 foot project facing the Boston Public Garden. This case went to Massachusetts Supreme Court in 1907, and eventually to the U.S. Supreme Court in 1909. The Massachusetts Supreme Court’s opinion noted that tall buildings on narrow streets can affect public health.

"The erection of very high buildings in cities, especially upon narrow streets, may be carried so far as materially to exclude sunshine, light and air, and thus to affect public health. It may also increase the danger to persons and property from fire, and be subject for legislation in that ground. These are proper subject for consideration in determining whether, in a given case, rights of property in the use of land should be interfered with for public good."

The significance of this court ruling is that the public authorities, under the name of “guardian of the public good” could now legally control the built environment by means of intervention.

**New York City: 1916 Zoning Ordinance**

Perhaps the most important event in the history of policing skyscrapers was the famous 1916 zoning ordinance enacted by the city of New York. It was adopted mainly in response to buildings such as the Equitable Building on 120 Broadway (Ernest Graham, 1915) which rose to 39 stories without setbacks and covered a whole city block. The building housed 1.2 million square feet of rentable space, by far the largest building in the world at the time, and its great mass, running east to west, cast shadows for blocks around the project. Although the building itself, due to its extremely high density and with the aid of advancement in artificial lighting, was guaranteed to be always alive with energy and activities, the environmental and economic damage it did to the surrounding area was awesome. Other structures
similar to the Equitable Building in plans were being proposed, not the least of which was the 100 story building proposed by the futurist-draftsman Theodore Starrett in 1906. Architect George B. Post complained as far back as 1894 that streets lined with tall buildings would seem like canyons: dark, gloomy and damp.\textsuperscript{7} Drawings in “the King’s View of New York” (1908–1909) by Harry M. Pettit projected how it might be if tall buildings continued to be constructed. The city was forced to act to prevent other projects of this magnitude from being implanted in Manhattan.

The 1916 zoning ordinance, considered to be the first comprehensive zoning code in the nation, was not a measure to control the absolute density or height of buildings, but rather, to guarantee that certain amounts of sunlight would reach the streets. The emphasis was placed on controlling the “bulkiness” of the skyscrapers at street level, and limiting the height of buildings in proportion to the width of the streets they fronted. Tall buildings could rise directly from the street to a defined
height, but were then required to set back according to a rise–and–setback ratio depending on its height district. A tower rule permitted a portion of any building (up to 25 percent of the lot area) to rise without setbacks and without limitation in height. While the zoning ordinance demanded more sunlight, it did little to control density (or total floor area) which was the main cause of congestion. But the tower provision was important since it did not make the existing skyscrapers like the Singer Building (Ernest Flagg, 1908) or the Woolworth Building (Cass Gilbert, 1913) inconsistent with the ordinance. Rem Koolhaas, in his book “Delirious New York” stated that; “In fact, the 1916 Zoning Law is a back–dated birth certificate that lends retroactive legitimacy to the Skyscraper.”

1. New York City's pioneering 1916 zoning resolution, the first in the nation, was in large part a response to such new buildings as the Equitable Building, 120 Broadway, which rose 540 feet straight up from its lot without setback.

2. To protect the streets and avenues from being turned into dark canyons, the 1916 regulations established height districts. These limited the height a building could rise, in proportion to the width of the street it fronted on, until it had to set back. For each foot it set back it could rise "x" additional feet, the ratio depending on its height district. The two most commonly mapped height districts in Midtown had rise-to-setback ratios of 2 1/2:1 and 3:1, equal to sky angle planes of 68.3° and 71.6° or an average of 70°. A tower rule permitted a portion of the building, up to 25 percent of the lot area, to rise without setbacks provided it was a distance from the street. There were no other limitations on height or bulk.

The 1916 Zoning Ordinance, from Midtown Development

It may be said that the 1916 zoning ordinance was the first attempt in "design control" that determined the overall shape of a building. The city authorities and their consultants saw prototypes of a future skyscraper style in the precedents that existed in Manhattan. At the time, the skyscraper style was entering an era which the architecture critic Ada Louise Huxtable calls the second skyscraper age or the eclectic phase. The skyscrapers of New York in this period sought design solutions through academic sources and historical precedents, strongly influenced by the teaching of the Beaux-Arts of France, where many of the prominent young architects of America received their training. Whereas the first skyscraper age was rep-
Chapter One: What is a Skyscraper?

Presented by buildings that were “servants of engineering” (technology such as fire proofing, elevators, metal frames, lighting, etc.), and had forms that may be considered an honest expression of structures, the second age was more of a quest for a true skyscraper style. The architects experimented with Gothic, Greek, Italian Campanili, Renaissance Palazzi, Chateaux, etc., and tried to incorporate them in their buildings. Benjamin de Casseres, in Mirror of New York, expressed this extensive borrowing from European historic precedent into skyscraper style.

“We take from you what we need and hurl back in your face what we do not need. Stone by stone we shall remove the Alhambra, the Kremlin and the Louvre and build them anew on the banks of the Hudson.”

Although criticism was directed toward this eclectic style of skyscrapers, it is also true that many monuments were born in this period, and these were what the 1916 zoning ordinance tried to preserve and promote.

Wedding Cakes

In time, however, the shape of the skyscrapers in New York began to take a peculiar form. Some buildings, especially those on smaller lots, simply reflected
the envelope created by the 1916 zoning ordinance and were built to the maximum allowable floor area with little regard for their appearance. The buildings had arbitrary setbacks, sometimes as often as each floor and, without a tower, this gave them a jagged appearance that people referred to as “wedding cakes.” The proportions of a skyscraper are often a product of economic imperatives, restricting various dimensions in quest for highest financial return. For example, the distance from the elevator core (which was usually located in the center of the building at the time) to the exterior wall was often optimized at around 25 to 30 feet due to the clients’ preferences and mailset condition at the time. The height, in turn was restricted by the rentable space in the lower floors, since increased height required increased numbers of elevators, severely diminishing the useful space. Therefore for a building to have form such as the Woolworth Building or the Singer Building (or later the Chrysler Building or the Empire State Building) under the 1916 zoning ordinance with its tower provision, a sufficiently large lot was essential. These “wedding cake” forms were products of the rapidly increasing land values that required maximum development of the lot
(that was in turn difficult to assemble because of high land prices) under the regulations as imposed by the ordinance. New York, to a certain extent, was being plotted with buildings that were far away from the intent of the ordinance, as romanticized by the drawings of Hugh Ferris.

Congestion

Congestion affects the quality of urban life, and from their inception this was a major cause of debate concerning skyscrapers. As noted earlier in this chapter, a certain degree of population concentration is beneficial for business contacts, but too much density has more serious implications. Early in the twentieth century, vehicular and pedestrian congestion became a condition that began to plague the Midtown section of Manhattan. Subways were built to meet the growing demand for public transportation, but as soon as a new line was completed, speculation induced even greater development their capacity soon became obsolete. Rapid developments, especially after World War II, focused concerns on the issue of diminishing open space in the city. New York's 1961 zoning ordinance, the first major revision of the zoning ordinance since first enacted in 1916, was aimed at controlling the problems mentioned above: the "wedding cake" forms, densities and open space.
New York City: 1961 Zoning Ordinance

To cope with these problems, the “sky exposure plane” was introduced as one concept replacing height districts to govern setbacks. The tower rule allowing unlimited height to penetrate this plane was increased from 25% in the 1916 ordinance to 40% in the 1961 ordinance. Together these may be seen as attempts to dissuade the “wedding cake” form. In order to control density, a new tool called floor area ratio (FAR—ratio of total floor area in relation to the site area) was introduced with the floor area permitted for the largest office building set at 15 times the lot area. Finally, in order to get more open space, the ordinance provided an innovative device called incentive zoning which granted developers bonus floor areas in return for providing public plazas or gardens.

Like its 1916 counterpart, the 1961 zoning ordinance was based on a specific prototype: the Seagram Building (Mies van der Rohe with Philip Johnson, 1958). Although conforming to the 1916 ordinance (25% tower area in relation to its site), the building rose its full 38 stories without setback except for a small low rise portion in the rear, yielding a “tower in a plaza.”

The two decades before the 1961 zoning ordinance saw an increasing number of skyscrapers built under the influence of International Style—a radical, reductive and reformist movement from Europe that landed in America in the early 1930’s. The early example of these modern skyscraper was the Philadelphia Saving Fund Society Building (Philadelphia, Howe and Lescaze, 1932), and its totally different expressive form—characterized by horizontal emphasis of strip windows and clear expression of the structural difference between the vertical service core and the horizontal office areas—certainly made it controversial, especially since it was built
3. In reaction to the “wedding cake” shape of much of New York’s skyline built to the 1916 zoning envelope, and to meet other needs, zoning was completely revised in 1961. A “sky exposure plane” replaced height districts to govern setbacks. To meet the need for larger office floors, the tower that could penetrate the plane was increased from 25 to 40 percent. A new tool to govern bulk was introduced, the floor area ratio (FAR). The basic floor area for the largest office building was set at 15 times the lot area, or FAR 15.

4. and 5. Another major goal of the 1961 zoning was to get more open space around new buildings. The “tower in a plaza” epitomized by the elegant new Seagram Building—actually a 25 percent tower conforming to the 1916 regulations—was the model. A 20 percent floor area bonus was offered to a building with a plaza, raising the largest building to FAR 18. It was the start of incentive zoning.

1916 Zoning Ordinance, from Midtown Development

The Seagram Building, New York, Mies van der Rohe with Philip Johnson, 1958
in a conservative city such as Philadelphia. Its completion time also coincided with the decline of the Art Deco skyscrapers; a richly decorative style attached to both conservative and hedonistic values that were inspired by the *Paris Exposition des Arts Decorative et Industrielles* of 1925, after reaching its peak with the completion of such notable skyscrapers such as the Chrysler Building (William Van Alen, 1930) and the Empire State Building (Shreve, Lamb and Harmon, 1931). The Great Depression and the sagging economy that followed made extravagant detailings and their associated costs impractical.

By 1950 in New York, about a decade before the new zoning ordinance, revivalism (or the eclectic skyscrapers) had all but died out, and so had Art Deco. Of course Art Deco was far newer a style than revivalism (which is why Ada Louise Huxtable classifies them under the third skyscraper age together with skyscrapers of the modern movement as the *modernistic*) but according to Paul Goldberger, it did not match the spirit of the period following World War II.
Chapter One: What is a Skyscraper?

The Empire State Building, New York, Shreve, Lamb and Harmon, 1931
Drawing by David Macaulay
"...perhaps it [Art Deco] seemed too characteristic of the energy and spirit of the prewar years; a society christened by World War II could not give in so easily to Art Deco’s naive romanticism.”

This was an age of pragmatism. The economics and technology of large scale construction were changed by the introduction of more and more machine–made and standardized parts and systems. These in turn made architects more sympathetic to the principle of the modern movement which called for simple forms and decoration–free surfaces. Therefore the “less–is–more” modern movement became an economic necessity, riding the wave of business boom, quickly proliferating around the nation and especially in New York where it was in fact promoted by the 1961 zoning ordinance.

The Historical Preservation Movement

As more of these glass and steel boxes filled in the American cities, the original power that the International Style held in its initial phase started to disintegrate. The historical preservation movement that emerged in the early 1970’s made people more aware of what they were giving up in place of these glass and steel boxes. The criticisms against these skyscrapers were in part due to the demolition of existing buildings that accompanied these developments. Simple “modern” boxes deprived the public of understood images. The architecture critics of this transitional era argued that the “modern architects”, in a naive attempt to avoid conventional symbolic meaning, deprived their architecture of elements that were readily understood by the public, and that it architects were to avoid alienation entirely they needed to find a way to recover some of the legibility architecture once had."
Postmodernism

These arguments eventually led to what Ada Louise Huxtable calls the fourth skyscraper age, which is where we stand now. It is represented by those buildings classified today as postmodern, roughly characterized by the rediscovery of the past and in continuity and context of the city.\textsuperscript{15}

However, as this study explores in the following chapters, a "skyscraper in context" is not limited to recovery of legibility by reinstallment of readily understood elements back to the tall buildings. Skyscrapers, by the virtue of their size, are exposed to several different levels of contexts at the same time. The skyscraper's physical context is not limited to its immediate surrounding, but extends to several blocks or even to the whole city, depending on one's viewpoint on the building. This notion is clarified in the next chapter, in a search to understand the many contexts of skyscrapers.
Notes:


2 Goldberger, Paul, *The Skyscraper*, p. 23


7 Goldberger, Paul, *The Skyscraper*, p. 13


10 Koolhaas, Rem, *Delirious New York*, p. 65

11 Goldberger, Paul, *The Skyscraper*, p. 96

12 Huxtable, Ada Louise, *The Tall Buildings Artistically Reconsidered: The Search For Skyscraper Style*

13 Goldberger, Paul, *The Skyscraper*, p. 103


15 Huxtable, Ada Louise, *The Tall Buildings Artistically Reconsidered: The Search For Skyscraper Style*
Chapter Two
Skyscraper and Context

Context as People’s Values

According to the book “Architecture in Context” by Brent Brolin, an architecture is generally considered to be “in context” when it succeeds in achieving a coherent and sympathetic visual relationship with existing buildings.¹ This is achieved by respecting the existing fabric in factors such as setback from streets, massing, height, shape, proportion, detailing, materials, colors, scale, etc.² These criteria may be appropriate for promoting a sense of continuity in a situation where the surrounding buildings are about the same height, but are troublesome when a substantially taller building is implanted into the existing fabric. Relatively few examples of skyscrapers were given in Brolin’s book which is indicative of the difficulty in applying the above criteria for the tall buildings.

In the same book, the John Hancock Tower in Boston (I. M. Pei and Partners, 1975) is commended for being a relatively successful case because of its unobtrusiveness to the historic site of Copley Square, due to its trapezoid shape (which relieves the view from the square of the building’s heavy mass) and its precise mirror-glass curtain wall (which almost makes the building disappear when you look up the

John Hancock Tower, Boston, I.M. Pei and Henry Cobb, 1975
In other words, the building is considered successful because it is virtually non-existent.

Another successful example given in the book is the famous Torre Valasca in Milan, Italy (Belgiojoso, Peressatti, Rogers, 1958). According to Brolin, the tower "successfully captures the character of the historical buildings around it despite its modern materials and exaggerated form," and indeed the building looks as if it is few centuries old. But the main reason for the building's "success" lies in the fact that it captured the characteristic of the existing towers that are found typically around Italy (a good example is the tower of Palazzo Vecchio in Firenze, completed in 1323), instead of the existing fabric surrounding the building itself.

As stated earlier, some skyscrapers, by definition, are substantially taller than the surrounding buildings, and due to the abrupt change in height, there are certain limits as to seek "coherent and sympathetic visual relationship" with the existing
buildings. Skyscrapers must also respond to different “audiences” because they are not only seen from nearby but may be seen from afar, therefore being or not being “in context” with the immediate surrounding is neither a sufficient nor adequate definition of how skyscrapers relate to their environment. If seeking the “coherent and sympathetic visual relationship” with the existing buildings is the only criteria for the skyscrapers to be “in context,” then in cases where tall buildings are implanted in a low-rise fabric the question may become not how to design a “skyscraper in context,” but whether they should be implanted at all.

Louis Sullivan, the master architect of the Chicago School, noted that architecture was conditioned by the type of technical, social and economic organization on which it was based:

“Architecture is not just an art to be exercised with a greater or lesser degree of success. It is a social manifestation. If we want to know why certain things are as they are, in our architecture, we must look to the people; for our buildings as a whole are an image of a people as a whole, although specifically they are the individual image of those whom, as a class, the public has delegated and entrusted its power to build. Therefore by this light, the critical study of our architecture becomes, not a study of art, .... but in reality a study of the social conditions producing it ...”

In other words, it is the people’s values that eventually shape the condition for architecture. For example, the basic attitude of the Modernists, for whom the traditional styles were considered to be inferior and should be disregarded, would never have led to a “coherent and sympathetic visual relationship.” But when the works of the Modernists are seen in light of a larger framework—a building’s contribution to the city, for example—and when the people’s values at the time were to cherish things that suggested newness, then these buildings that promised new and better society may be considered to have been “in context.”
The word "context," according to several dictionaries refers to the "circumstance that surround an event, situation, etc." In this case, the event or the situation are the skyscrapers; and for the purpose of the study, circumstance shall not be limited to existing physical characteristics, but include various factors such as economic conditions, technological standards, and most importantly, the peoples' values.

Streetscape, Cityscape, Skyscape

In the Introduction, I stated that the skyscrapers are subject to several different levels of context due to their height. I have classified them into three levels—Streetscape, Cityscape and Skyscape—where each describe different settings in which the skyscrapers stand, defined mainly by the distance between the building and the viewer. Streetscape, as the name implies, defines the characteristics and the atmosphere of the streets which are the immediate surrounding of the building. The viewers are standing at ground level looking at the building from across or down the street, and typically identified by cornice line in lower buildings. Cityscape is a larger setting in which a skyscraper stands, and defines how the building is seen from one of the following three view points. First is when the viewers are standing at ground level and looking up at the building; second is when they are looking at the building over more than one block; and third is when they are looking at the building from other buildings, above street level. Skyscape is the largest setting in which a skyscraper stands, and defines how the building is seen from a distance where the viewers' peripheral vision encompass the overall shape of the city. There are no clear cut boundaries between the categories, and depending on the existing fabric, any two of the three settings (streetscape–cityscape–skyscape) may overlap.
In response to the three settings, various portions of the building play different roles to different audiences. In turn, the three different settings impose different requirements upon the design of the skyscrapers. If we take two factors, detail and shape as an example, the streetscape demands them to be humanly scaled so that pedestrians can relate to them at street level. The cityscape demands bolder details in a building so that they are cohesive from a distance (as in the large ornaments on the shaft of the Chrysler Building). A recent example is the office towers of the World Financial Center (Cesar Pelli, 1988) in Battery Park City, New York, where the window sizes increase in three steps toward higher floors. In case of the skyscape, detailing is almost negligible (since they cannot be

*Detail of the Chrysler Building*

**Bold details make them visible from a distance.**

The tapered corners were provided to compensate for visual distortion when looking up at the building.

*World Financial Center, New York, Cesar Pelli, 1988*

The window sizes increase in three steps toward the top.
- Defines the characteristics and the atmosphere of the streets
- Humanly scaled details

**Cityscape**
- Viewed from ground level looking up
- Viewed from a distance over one block
- Viewed from other buildings above ground level
- Bolder details
- How the buildings scrape the sky

**Skyscape**
- Seen from a distance where the viewers' peripheral vision encompass the overall shape of the city
Streetscape

Streetscape of John Hancock Tower as seen from Copley Square

Cityscape

Cityscape of John Hancock with Copley Plaza Hotel in the foreground

Skyscape

Skyscape of John Hancock as seen from M.I.T. across the Charles River
seen from great distance anyway), but the shape of the building, which determines
the role that it plays in the skyline, becomes a major design concern.

At different times and in different places, people had different understanding of
the streetscape, cityscape and skyscape. The evaluation and design of the tall
buildings can be understood largely in the framework of designers trying to resolve
the meaning of the three notions.

At the time when the first skyscrapers emerged in
Chicago and New York, the existing settings were all
principally streetscapes. It was an age when the word
“skyline” equalled horizon: the boundary of the sky and
the ground. The design of the first skyscrapers such as
the Reliance Building were essentially a piling up of one
streetscape on top of another. It was this approach that
was the major point of criticism by the early modernists. In the quest for a new architectural expression for
the skyscrapers, Louis Sullivan wrote in his
now–classic essay “the Tall Office Buildings Artistically Considered” that;

“[the skyscrapers] must be tall, every inch of it tall.
The force and power of the altitude must be in it, the
glory and pride of exaltation must be in it. It must be
every inch a proud and soaring thing, rising in sheer
exaltation that from the bottom to top it is a unit
without a single dissenting line.”

But his “proud and soaring thing” such as the
Wainwright Building (St. Louis, 1891) was still very
rooted to the ground and to the street. In essence, Sullivan's skyscrapers were products of taking the streetscape and “stretching” it vertically, by providing a base, an elongated shaft and exaggerated cornice. Most of the nineteenth century skyscrapers, therefore, may be considered as “streetscape skyscrapers.” Their height, along with the lack of awareness of the sky, may be attributable to this phenomenon. To quote Paul Goldberger;

“The skyscrapers of the 1880’s and 1890’s were buildings that fit reasonably, if not fully, into the urban context; the newness of most of them lay in their technology rather than in their size or their style, and they did not appear to shatter their age's sense of what a city—or, indeed, what a building—was. They were taller than what had come before, but they were not tall enough to rule the skyline.”

The height of the buildings grew as we entered the twentieth century, but it was not until the emergence of towers like the Singer Building or the Woolworth Building that the skyscrapers start to make “gestures” on the skyline. In the 1920’s and 1930’s, with the transatlantic flights by the dirigibles and the production of
"Stacked" Streetscape Skyscrapers
Early skyscrapers – Reliance Building

"Stretched" Streetscape Skyscrapers
Chicago School skyscrapers – Wainright Building

"Street–Skyscape” Skyscrapers
Eclectic skyscrapers – Chrysler Building

“City–Skyscape” Skyscrapers
Modern, late-modern and early postmodern skyscrapers – Seagram Building, A.T. & T. Building

"Street–City–Skyscape” Skyscrapers
Façadism, postmodern skyscrapers

Notion of Streetscape–Cityscape–Skyscape and Skyscraper Design
airplanes, people increasingly became aware of the sky. These were readily reflected in the design of the skyscrapers. While they still maintained the streetscape at the base, the tops of the buildings blossomed as if to compete against each other in the sky.

When the Modernist skyscrapers landed full force into the American cities in late 1940’s to 1950’s, the culture of skyscape had matured so that it could not be disregarded in the design of tall buildings. The pure and honest forms of the modernist towers maybe described as result of pulling the skyscape or the cityscape all the way down to the ground. This enabled building forms that were seen as one object, consistent from the sky down to street level, but created problems where the objects met the ground. Scale destined for the sky was difficult for the pedestrians at street level to relate to.

Postmodernism, in general may be defined as an attempt to rediscover the various levels of contexts. In respect to streetscape, some postmodern skyscrapers incorporate such things as the height of cornice lines, scale and detail of the neighbors in their design. But the same problem that plagued the modernist towers are found in some of the early postmodernist skyscrapers. A.T. & T. Building (Philip Johnson and John Burgee, 1983) in New York has a top that is reminiscent of the
The ultimate form of skyscape brought down to the ground.

Above: El International Restaurant in New York City
Right: Drawing from David Macaulay's book "Unbuilding." Empire State Monument Park is created after the demolition of the building around its original "crown."

Chippendale furniture design, and exerts a strong presence in the skyline. But in an attempt to balance its base with the overblown scale of the top for a unified overall composition, arches and arcades of extreme height are provided which people at street level find difficult to relate to. Although visually more interesting than the bases of modernist towers, here again the scale of the sky is brought down to the ground in unsatisfactory results.

Today, increasing number of tall buildings are going back to the eclectic skyscrapers of the 1920's and 1930's. But there is another trend that may be seen in some American cities, where the roles that each portion of the building play to different contexts are so diverse that they start losing a firm relationship with each other, thereby losing a sense as an unified building. Examples of these may be seen in recent skyscrapers being built in Boston such as One Franklin Place, where the streetscape is the preserved facade of the existing building, and a tower is “added” to rise by itself, setback from the street. These “fragmented” skyscrapers will be covered more in detail in Chapter Three.
Monuments

According to Brent Brolin, a monument is exempt from being “in context” because of its nature;

“The monument—whether civic, religious, corporate, academic or otherwise—presents the one clear situation in which contrasting with the existing architectural context is always an acceptable choice.”

Some skyscrapers are destined to become monuments in the course of time due to their size and conspicuousness. Rem Koolhaas, in his book “Delirious New York,” defined the skyscrapers as “Automonuments”;
"Beyond a certain critical mass each structure becomes a monument, or at least raises the expectation through its size alone, even if the sum or the nature of the individual activities it accommodates does not deserve a monumental expression... This monument of the twentieth century is the Automonument, and its purest manifestation is the skyscraper."

The Custom House Tower addition in Boston (Peabody and Stearns, 1915) is an example where a building that was initially criticized for its lack of compatibility with the existing building over which it was built, became a landmark of the city in the course of time. Another example is the Transamerica Pyramid that despite the initial public outcry, became a symbol of San Francisco for many people, especially for out of towners. This inherent quality of the skyscrapers is not to be taken lightly, since it explains why many skyscrapers that were once considered not to be “in context” become more than acceptable as time goes by.

Cities and Context

I stated in this chapter that the context for skyscrapers, be it the streetscape, cityscape or the skyscape, is shaped by the peoples’ values, and that these values change from place to place and from time to time. But over the years, there has been a change in the mood of cities concerning their skyscrapers: from the nineteenth century, when cities competed for the greatest number of or the tallest of tall buildings (see Introduction), to a quest by cities for skyscrapers that are distinctly characteristic of the place. Why has this happened? The answer may lie in an article written by Robert Campbell.

“Probably the biggest problem in architecture today is ... the issue of how we are going to keep one place looking different from another in a world that is rapidly becoming a single world-wide culture ... Nothing architecture does is more important than the role in helping to differentiate the world. It does that by creat-
ing a sense of place that grows out of local climate, local tradition, local living patterns, local materials, and local crafts ... To save ourselves from being engulfed [by "the disastrous monotony of the single world culture"], we will have to become very sensitive to what is special about each place on earth and learn to nurture that specialness in our architecture.”

The next chapter deals with the context in five cities, Chicago, New York, Houston, Boston and San Francisco, and the “specialness” that is required in skyscraper design in each of these cities.

Notes:

1 Brolin, Brent C., Architecture in Context, p. 6

2 Ibid., p. 153

3 Ibid., p. 135

4 Ibid., p. 132


6 Quoted in Goldberger, Paul, the Skyscraper, p. 18

7 Goldberger, Paul, the Skyscraper, p. 4

8 Brolin, Brent C., Architecture in Context, p. 137


10 Campbell, Robert, “Architecture,” the Boston Globe, December 9, 1986
Cities have different cultures of skyscraper. They are shaped by the cities' characteristics with respect to such things as history, tradition, climate and topography. Skyscrapers mean different things to people in each of the cities described in this chapter. Before going into a detailed study of the cities, a brief summary may be helpful in understanding the differences in the notion of “skyscraper in context.”

Chicago is the birthplace of the skyscrapers. It is a city proud of its architectural heritage, from which many important events on the design of skyscrapers emerged. Skyscrapers of Chicago are characterized by their “honest” expression based on function and logic, and honor technical innovation more than pure visual pleasure. Skyscrapers in Chicago are also responsive to the role they play in the uninterrupted skyscape seen from Lake Michigan. The result of this is seen in the almost “linear” development of the skyscrapers along the water edge.

New York (Manhattan) is a city where skyscrapers are glorified to the extent that theatrical qualities are required of them. High concentration of tall buildings makes it hard to see the cityscape down the street. Together with the fact that each block strive to differentiate one from another, the skyscape of Manhattan becomes several layers deep unlike the linear development of Chicago. It is also a city where the skyscrapers are the urban context.
Houston is a relatively young city which is trying to mimic New York or Chicago, but in a different way since it has no streetscape in the traditional sense. Its small downtown blocks only allow single development for each block, and with wide streets that surround them make Houston easier to generate a “skyscraper as theater.” But the difference with Manhattan is that the whole block is seen as one object: the cityscape overlaps the streetscape. Houston is also a city where skyscrapers are judged by their imagery rather than their detailing; to symbolize the growth and stability of the city.

Boston never had a culture of skyscraper, partly due to its oldness and partly due to the long economic depression that it experienced. Now in economic boom unrivaled in its history, Boston is trying to accommodate the “inevitable form” (the skyscrapers) into its established fabric. Generally the city is “anti-skyscraper” in nature, and compromise in design such as “facadism” which preserves the streetscape but gives up the skyscape is often made. Each portion of a skyscraper responds to different contexts in such a diverse way that they appear “fragmented.”

San Francisco had a distinct cityscape and skyscape as well as a coherent streetscape. The difference with respect to the attitude toward the skyscrapers compared to Boston lies in the fact that San Francisco really considered accommodating the tall buildings into its context. San Francisco tried to actively use the skyscrapers as landscape: to depict a “man-made” mountain that contribute to the skyscape. But the intent is not followed through due to the annual quota on the amount of skyscrapers that may be developed each year.
Chicago

Skyscraper as Innovation

Chicago’s population was 300,000 and growing strong when the city was almost totally destroyed by the great fire of 1871. Although rebuilding was slow at first due to the fear of repeated disasters, the forces behind the city’s growth prior to the fire—its nodal position in the emerging railroad network, its access to water-bound transportation and its role as the service and processing center for agricultural produce from the vast Midwestern farms—soon transformed what had been a large village into a modern business metropolis. Intense construction of offices, warehouses, shops, hotels, etc. took place in the last two decades of the nineteenth century. This advanced degree of economic development, better understanding of new technologies in architecture, and the lack of any preexisting physical form due to the fire all contributed to the favorable climate for innovation that existed in Chicago in the 1880’s. It was in this context that innovative building approaches were tested with unusual boldness; a boldness which shaped the Chicago tradition that still influences the skyscraper design today.

The skyscrapers of Chicago at the time were an economic phenomenon in which business was the engine that drove innovation. Aesthetics was a subordinate function of the profitable development of urban land that was steadily increasing in value. The priorities of the men who put up these buildings were economy, efficiency, size and speed. Many of the design
considerations were born from these pragmatic requirements. The simple handsomeness of the Monadnock Building (Burnham and Root, 1891) with its smooth and flat surfaces, its monumental silhouette and the subtly battered and color-graded walls that substitute for ornament were the architects’ response to the developers’ desire to have everything flush with the walls, avoiding dirt from pigeons and sparrows that were often associated with unnecessary projections. The Chicago window, as mentioned in Chapter One, was also a device to capture as much light as possible for the purpose of increasing the rental value of office space.

The architects of the skyscrapers devised satisfactory aesthetic solutions under these economic restrictions. The exceptional simplification of the outer covering, or the more honest expression of the structure were at first the result of the insistence of the developers as stated above, but they were later adopted by architects such as John Root for purely aesthetic reasons. In fact, this quest for simplicity was pursued so much that Root’s building forced unnatural use of brickwork, and necessitated hundreds of molds for special bricks to be made. Leonard Benevolo, in his book History of Modern Architecture, declared the Reliance Building (Burnham and Root, 1890, addition C.B. Atwood, 1894) the finest skyscraper in Chicago. As mentioned
in Chapter One, the building was built in two phases, where the top ten floors were added on to the original five story building by repeating the existing motif without any variation. According to Benevolo, the reason why we (the modern observers) are charmed by the Reliance Building lies precisely in this accident of construction, i.e. in the fact that the whole was not designed as such, but was a result of the same motif repeated thirteen times over above the base of the first two floors, and no attempt was made at gradation toward the top.2

It was during this time, the last two decades of the nineteenth century, that skyscrapers began to appear all over America, but steel skeleton buildings were still concentrated in Chicago. An observer wrote in 1895 that “...the city [Chicago] has at the present time more buildings of the steel skeleton type than have all other American cities combined.” Chicago, in this sense is truly the birthplace of skyscrapers. Other major cities, especially New York, were keen to build more of this building type. However, the skyscrapers in New York at the time had a very different look to them compared to those in Chicago. Paul Goldberger, comparing the skyscrapers of the two cities at the turn of the twentieth century wrote that;

“The notion of structural ‘honesty,’ or the frank expressions of physical structure that was so important to Chicagoans, had little equivalent in New York, where pure visual pleasure was more the goal.”4

But the quest for a true style of skyscrapers, a new architecture that lacked precedents for forms, brought a cultural dilemma to the architects in Chicago, where there were only two ways of escape: either a return to the conformity of historical styles (as in skyscrapers of New York) or individual avant-garde experiment (the way taken by Louis Sullivan, and later by Frank Lloyd Wright).5
The Columbian Exposition of 1893 was the turning point of this eclecticism versus avant-garde debate. Burnham, then the most authoritative of the Chicago architects was persuaded by the East coast architects who participated in the exhibition to give the Exposition complex a classical bias. With the great success of the Exposition, the tastes of clients and the public gradually veered toward classicism, while the original innovations of the Chicago school were regarded as old fashioned.

In 1922, Chicago Tribune held an international competition for their new headquarter. The program called for “the most beautiful skyscraper” in the world. The first place was won by Raymond Hood with a design in the Gothic style which was built in 1925. The second prize was awarded to Eliel Saarinen from Finland. His scheme was a Romantic tiered tower with strong vertical emphasis that took the “proud and soaring thing” as envisioned by Louis Sullivan one step further. Although Saarinen’s design, with its innovative character (in skyscraper design) and feel for constructional honesty would have been more consistent with the Chicago tradition, the shifting tastes of clients and the public

*Chicago Tribune Competition, 1922*

*Above left: Second prize design by Eliel Saarinen*

*Left: First prize design by Raymond Hood, completed, 1925*
chose Hood's design with a theatrical quality that was more representative of the skyscrapers in New York.

But the Chicago tradition, as established by the Chicago school architects such as Louis Sullivan, John W. Root, Le Baron Jenney, William Holabird, Daniel Burnham and others, lived on. It was in this context that the modernist masters from Europe landed in Chicago in the 1930's. Mies van der Rohe, in his design for a glass skyscraper (1927) tackled boldly for the first time the problems concerning true style for skyscrapers that were touched upon thirty years earlier by the masters of the Chicago school. He first realized it in his Lake Shore Drive apartments (Mies van der Rohe, 1946). His works were soon to be seen around the country, but it was here, in Chicago, that the original intent of the International Style was preserved.
intact for a long time. Followed by other modernist architects/firms such as S.O.M. or C.F. Murphy, Chicago's glass and steel towers are still considered to be each and every one of them as handsome as the Seagram Building (Mies van der Rohe and Philip Johnson, 1958) in New York City. Even today amidst the upsurge of post modernism, a long time follower of Mies, Joseph Fujikawa and his firm Fujikawa, Johnson and Associates, are planning a Miesian glass box in the heart of the Loop.

In the light of this honest expression of structure, height becomes an important element of the skyscrapers' expressive qualities. In 1923, after several "ups" and "downs" in the height limitation cap, the city adopted a zoning ordinance that designated properties by allowable use and volume. Although the ordinance attempted to control the intensity and the height of developments, more than 5,000 amendments were granted in the first ten years of its existence, and developers had no trouble getting higher and better uses approved if they so desired, and desire they did.6

The drive for height was further escalated in the 1970's, as new innovations in the structure of tall buildings facilitated 100–plus story towers to be built. The John Hancock Center (S.O.M., 1969) boasted of having the highest residential unit in the world, and the building had an external X–shaped bracing that became its main

Plan for a skyscraper, Chicago, Fujikawa, Johnson and Associates, 1986
expressive character. Although this X-shaped bracing is often considered “arrogant” and intimidating (to the pedestrian), the honest expression of the structure is “in context” with the Chicago tradition, especially when compared with the way Citicorp Center in New York (Hugh Stubbins and Associates, 1977) covered its similar structure with smooth aluminum skin.

The Sears Tower, at 1,454 feet, is the tallest building in the world today. The building has an unusual structure. It is a set of square tubes, virtually separate towers
bundled together in one. Each of the square tubes stop at different heights, giving the tower a stepped down image allusive of the elaborate tops of old buildings, but here again as in the Chicago tradition, it emerges directly and logically out of structural expression.

In certain aspects, even the recent controversial works by Helmut Jahn of Murphy/Jahn Associates seem like an extension of the Chicago tradition laid out 100 years ago. Jahn's Chicago Board of Trade addition (1984), where a building clad in reflective glass mimics the shape of the existing tower, is an effort to merge historical form with modernist sleekness by means of modern technology, materials and detailing.

Despite some concerns over congestion associated with the skyscrapers, tall buildings are more or less accepted in Chicago. Even the residential units are different. The famous Magnificent Mile facing Lake Michigan is comprised of twenty to thirty story residential towers, and to live there is regarded as prestigious as living, for example, in a Frank Lloyd Wright designed house in
the Oak Park region. Perhaps the most significant of residential tower is the 70 story Lake Point Tower (Schipporeit and Heinrich, 1968) which is reminiscent of the original plans for a glass tower by Mies van der Rohe.

Chicago is built on flat land facing the vast open body of Lake Michigan. The aforementioned Lake Shore Drive apartments (Mies van der Rohe) was made possible because of this topography, where the openness provided by the lake and the parks guaranteed the building to be seen in isolation, cut off from existing built fabric. The “linear” development of the Magnificent Mile along the edge of the lake is a product of this topography, where the residents enjoy spectacular views from their highrise units. But the lake also provides another important factor: an uninterrupted cityscape and skyscape from the lake. The skyscrapers of Chicago are very conscious of this setting, and they all make gestures to respond to this cityscape and skyscape.

Chicago is a city where its citizens take pride in its architectural heritage, a city of passionate architectural interests. “Ask the citizens about their architecture,” states one guide book on Chicago, “they tend to know the name of the architects and their buildings, and they are more equipped as architecture guides than in any other city in America, or even in the world.” It is in this context that the Chicago tradition
is maintained, and becomes the ground for innovation: and the expression of these innovations are the skyscrapers.

Notes:

1 Huxtable, Ada Louise, *the Tall Buildings Artistically Reconsidered*, p. 24


3 Ibid., p. 229

4 Goldberger, Paul, *The Skyscraper*, p. 26

5 Benevolo, Leonard, *History of Modern Architecture*, p. 228


Skyscrapers are America's greatest architectural achievement. The American cities and skyscrapers are synonymous; as Notre Dame equals Paris and Big Ben equals London, the Empire State Building equals New York. When foreigners (and many urban Americans as well) are asked to describe their image of a typical American city, they often describe crowded streets and super high rise buildings. In most cases, they are describing the images of postcards or photographs that they may have seen in the past. More than likely, the described images are those of Manhattan's, where the concentration of skyscrapers is the highest in the world. For many immigrants and visitors, the skyline of Manhattan is the symbol of America itself, and of the promise and hopes that their new home has to offer. Even for most New Yorkers, the iconic image of New York is without doubt the Manhattan skyline seen from the harbor or from the window of an airplane descending into La Guardia.
Airport. It is one of the few places in the world where the skyscrapers are the urban context.

Everything that makes the physical character of Manhattan what it is may be attributed to two key factors: the fact that it is an island and its street layout, the Manhattan grid. Even from the time of its inception in the early nineteenth century, the Manhattan grid was a device to facilitate the “buying, selling and improving” of real estate. In fact, it was laid out at the time when only the southern most portion of the island was occupied. Rem Koolhaas described this feat as a conceptual speculation.

“In fact, it [the grid] is the most courageous act of prediction in Western civilization: the land it divides, unoccupied; the population it describes, conjectural; the building it locates, phantoms; the activities it frames, non-existent.”

The grid’s significance in shaping the physical form of Manhattan boils down to the creation of homogenous rectilinear plots, which basically restricted the maximum intervention that each development could inflict upon the city to a single block. Therefore, it is within the confines of the block that each architectural ideology must be realized. The skyscrapers implanted in this context had been conceived as isolated units, towers standing alone that did not need or demand connections to other buildings. It is in this sense that each block becomes an individual player in the New York theater. To quote Koolhaas again;

“All blocks are the same; their equivalence invalidates, at once, all the systems of articulation and differentiation that have guided the design of traditional cities. The Grid makes the history of architecture and all previous lessons of urbanism irrelevant. It forces Manhattan’s builders to develop a new system of formal values, to invent strategies for the distinction of one block from another.”
The nature of the grid also enhanced the importance of the role that skyscrapers played in response to the cityscape. In Manhattan, where skyscrapers are juxtaposed next to each other separated only by the streets, most tall buildings are difficult to see from nearby. Ever since its completion, the Empire State Building has been criticised as difficult to see from nearby street level. But once seen from a distance, its tower commands the skyline and becomes a dominating form. A more recent example is the A.T. & T. Building (Philip Johnson and John Burgee, 1983) whose extremely tight setting makes it almost impossible to see the building as a whole from street level. It is best seen from other buildings; in short they are buildings geared toward the sky.

Recently, there was a special article on New York in Architecture magazine. Out of sixteen photographs used for the article, more than half of them were taken from another building, far above the ground level. In New York, where the skyscrapers are the urban context, and people spend most of their time these tall buildings, cityscape becomes increasingly important in shaping the image of the city.

The fact that Manhattan is an island is a further stimulus for the skyscrapers to be increasingly responsive to cityscape and skyscape in two aspects. First is its lack of open space within the city grid. The large arms of the Harlem and Hudson Rivers that embrace Manhattan...
Precedents of the skyline of Manhattan in Coney Island

Above: Beacon Tower in Dreamland and the Chrysler Building

Left: Luna Park

Below: Beacon Tower at night
island made the provision of vacant spaces for the benefit of fresh air, health, pleasure, etc. unimportant to the eyes of the commissioners who made the plan for Manhattan in the early nineteenth century. This lack of open space further reduced the opportunities for the towers to be seen as a unified whole. The second aspect is the limitation on lateral expansion, which left Manhattan with no other choice than to extend the grid toward the sky.

The precedent of the skyline of Manhattan may be seen in the theme parks that proliferated in Coney Island as antidote for the grimness of the city in the early twentieth century. Luna Park, conceptualized and designed by Frederic Thompson in 1903, had over 1,000 single towers built at random in order to "create an architectural spectacle out of the drama of their frenzied scramble for individuality." Another example, the Beacon Tower in Dreamland (1905) had on its top an extremely strong light that at night made the building visible for thirty miles. When these theme parks burned down one after the other within a decade of their completion, Manhattan itself became the theater of architectural invention, and it was the skyscraper that played the major role. Senator Reynolds, who was responsible for the development of Dreamland and its Beacon Tower, later would insist on the silver crown of the Chrysler Building over the objection of his architect.

Through their distinct way of evolution as described above, the skyscrapers acquired meanings that were not found in traditional European cities or even other American cities. They were not merely symbols of technological or economic progress, but a marker of "fantasy," where they indicated acute breaks in everyday life. The first Manhattan skyscraper of this kind was the Flatiron (Fuller) Building (Daniel H. Burnham, 1902). Despite the fact that the building was nothing more than an extension of its triangular site twenty two floors above ground, its acute
angled edge gave the elevation an almost unreal profile. Together with its French Renaissance facade, from a certain vantage point the building appeared to be one gigantic but thin curtain shimmering in the sky. It was to be known as the "most famous building in the world" for seven years. Then in 1908 came the Singer Building addition (Ernest Flagg) which truly replicated the spirit of the Beacon Tower of Dreamland. Its slender profile with ornate mansard top soon became an icon in the Manhattan skyline.

Many travelers came to New York just to see and admire the building, and took the elevator ride to the observation balcony to experience a different view of the world.¹

The quest for this other worldliness, or "theatrical" character in a building led architects and developers to search for different motifs from around the world. The first "Campanile" was implanted in Manhattan in 1909 as the Metropolitan Life Tower (Napoleon LeBrun and Sons). The tower was a virtual replica of the Campanile in St. Mark's Square (Venice), but the scale was blown up more than two-fold. Paul Goldberger wrote that;
“To the Metropolitan Life Insurance Company, the tower confirmed its stability and suggested that the qualities of the past cultures had somehow been passed along to it, that the twentieth century corporation was not merely a guardian of culture, it was possessor of it, controller of it, as its ability to replicate the tower at a larger scale than the original proved.”

In Manhattan, pure visual pleasure was the primary goal for the expressive qualities of skyscrapers, and this context brought various types of eclectic skyscrapers. Most of the tall buildings classified under the “second skyscraper age” as denoted by Ada Louise Huxtable may be found in Manhattan.

“...the Gothic reached for the heavens as never before; mega–Greek temples and neo–Italian campanili, stretch–Renaissance palazzi and zoom–châteaux were adapted with ingenuity and skill, bringing occasional beauty to the twentieth century city.”

Having blown up the scale of the details borrowed from the past in order to fit the size of the buildings, the real design challenge for architects during this eclectic phase became the ability to assemble the pieces into a coherent, well proportioned whole.
However, as mentioned in Chapter 1, the 1916 zoning ordinance made many skyscrapers erected on small sites difficult to express the quality of pure visual pleasure due to the “wedding cake” form necessitated by economic factors. The Art Deco details, inspired by the 1925 Paris Exposition des Arts Decoratives et Industrielles, gave architects new means to relieve the huge mass of these skyscrapers with lively, tense arrays of brightly colored ornaments, and succeeded in retrieving some theatrical qualities back to the tall buildings; Art Deco style quickly proliferated in Manhattan.

The notion of “skyscraper as theater” is not limited to the visual aspect of the tall buildings in Manhattan, but may also be extended to their uses as well. As the skyscrapers grew in height and volume, it became difficult to house only office use in the buildings. When the Equitable Building was completed, the true implication of having over one million square feet of rentable space stunned even its own builders. “For a while our 1,200,000 square feet of rentable area seemed almost like a new continent, so vast and vacant were its many floors.”

The aforementioned 100 story building by Theodore Starrett was in fact a proposal to build a “city within a city.” Public plazas were provided every twentieth floor that separated the four functional sectors; industry, business, living and hotel. Markets, theaters, amusement park, roof garden, swimming pool and shopping arcade were planned in these public plazas in an attempt to squeeze in virtually all cultural and service functions of the city into the building.

The Waldorf–Astoria Building (Schultze & Weaver, 1931) had within a dazzling array of ballrooms, shops, restaurants and nightclubs; more varied activity than any single skyscraper had ever contained. Goldberger wrote on the Waldorf–Astoria Hotel that;
The Waldorf-Astoria Hotel, New York, Schultze and Weaver, 1931

Rockefeller Center, New York, Morris, Reinhard & Hofmeister; Corbett, Harrison and MacMurray; Hood and Fouilhoux, 1932–1940

“Suddenly it seemed that the whole world—or at least the whole world of fantasy—could be contained in a single tower.”

But perhaps the ultimate “theatrical” skyscraper complex was the Rockefeller Center (Morris, Reinhard & Hofmeister; Corbett, Harrison and MacMurray; Hood and Fouilhoux, 1932–1940). The role that each building played in the cityscape and the skyscape as source of visual pleasure, and the rational organization of the various urban functions compressed within the facility made the Rockefeller Center a project truly representative of Manhattan.

Height became the next ground in the quest for theatrical skyscrapers in the 1930’s. The drive for height led to some of the most notable monuments in Manhattan such as the Chrysler Building or the Empire State Building. The notion that these skyscrapers were meant for the sky is supported by the frequency in which only
their top and the shaft portion were photographed or rendered: their romanticized
tops brought the theater of New York 100 stories up in the sky.

The combined effect of the Great Depression and World War II almost killed off
all “conventional” means to display these qualities in skyscrapers. The Seagram
Building and the 1961 zoning ordinance that followed represented another way of
expressing the theatrical qualities of skyscrapers in Manhattan. Lacking the
openness and isolation that the site for Mies van der Rohe’s masterpiece in Chicago
(Lake Shore Drive Apartments) enjoyed, the Seagram Building sat in a context that
was provided by itself. The building was off from the surrounding fabric by means
of a large plaza. The Seagram Building was symbolic of an age that saw itself
unbound by the constraints of the past. But in the context of Manhattan where each
block had always tried to distinguish itself from the other, the new intellectual
dogma of the Modernists was reduced to a mere alternative in achieving this
differentiation of the blocks. Most recent buildings lack one important factor to be
considered a true Manhattan skyscraper, like the Empire State Building or the
Seagram Building: their sites cover only portions of a block. These skyscrapers are
more vulnerable since they are on just one of the many plots on the same block, and
the others are poised to steal away their dominance.

Paul Goldberger described the characteristic of the Modernist skyscrapers in
New York by comparing the Lever House (New York, 1952) and the Inland Steel
Building (Chicago, 1957), two buildings designed by the same firm;

“Lever House, for all its modernist credentials, still seem somewhat theatrical
in comparison with Inland Steel; its abstractions are more those of pure visual
pleasure, of pure composition, while Inland Steel’s abstractions are based more
directly on an expression of use and structure.”\textsuperscript{13}
The disparity between structure and exterior skin had always been the characteristic of skyscrapers in Manhattan. Hugh Ferris, who left Cass Gilbert’s office after the completion of the Woolworth Building because of his doubts about this disparity, described the design process of architectural firms of the era in his book “the Power in Buildings.”

“I seem to remember that when a new job came into the office the head designers would disappear into the library for a week; when they emerged it would be with sketches for façades that were decidedly handsome, even if somewhat familiar; and later on a famous firm of engineers would be called in to provide the steel to hold up the handsome façades.”

The nature of this eclecticism made another disparity inevitable; between the use of a building and its exterior skin.
"There were banks pretending to be temples, skyscrapers pretending to be cathedrals, and Madison Square office buildings pretending to be Venetian campaniles—and all were getting gold medals for the pretense."\textsuperscript{15}

It seems only natural that after the Modernist tower lost its theatrical quality due to overabundance in numbers, the architects of skyscrapers in Manhattan jumped at the new ideas and forms presented by the Postmodernist intellectuals. But unlike some postmodern skyscrapers emerging elsewhere that are considered truly "contextual" by the critics, the new towers in Manhattan merely borrow motifs from surrounding buildings and exaggerate them, often by enlarging several times. It just provided architects with means to bring theatrical quality back to the skyscrapers by mere manipulation of the exterior skin.

A high urban street wall maintains the streetscape of Manhattan, but at the same time, its tightness makes the cityscape difficult to see. The contest for differentiating the blocks is brought up to the cityscape and the skyscape, where theatrical qualities are required of the skyscrapers.
Notes:


2 Koolhaas, Rem, *Delirious New York*, p. 13

3 Ibid, p. 15


6 Koolhaas, Rem, *Delirious New York*, p. 33

7 Ibid, p. 64

8 Koolhaas, Rem, *Delirious New York*, p. 76

9 Goldberger, Paul, *The Skyscraper*, p. 39

10 Huxtable, Ada Louise, *The Tall Buildings Artistically Reconsidered*, p. 16

11 Koolhaas, Rem, *Delirious New York*, p. 73

12 Goldberger, Paul, *The Skyscraper*, p. 98

13 Ibid., p. 107


15 Ibid, p. 9
The symbol of growth and prosperity was the American city and its icon was the skyscraper.¹ In no other city, except maybe New York, does this sentence hold more true than Houston. For the people who develop and design buildings, Houston is a city known for its lack of zoning codes; a city where the height limit of a building is restricted only by the Federal Aviation Agency (FAA) regulations, and a city where gigantic skyscrapers are juxtaposed next to low rise buildings or sometimes even single story residential houses.

“It is a city that roamed over the prairie like a mirage, an unreal city built on hot air, on hype and bravado amid the heat and humidity. It is a city without limits, spreading like an oil spill oozing out over the flat alluvial plain.”² In the middle of this vast city limit, visible for miles around, stands the downtown skyscrapers symbolizing the progress and prosperity of Houston.

The plan of downtown Houston is divided into a square grid measuring 250 feet by 250 feet, separated by
streets of the same width that are laid out without any sense of hierarchy (the streets and avenues are equal). The small size of the block almost limits development of skyscrapers to one for each block. Almost all skyscrapers that occupy these sites are randomly and arbitrarily set back from their boundary lines, giving a totally different impression from the streetscapes in much older cities such as Boston or even New York where some sense of a “street wall,” established by buildings being built up to the street, is present. Houston’s urban fabric is one of buildings acting as autonomous objects with little or no apparent concern for the street facade, resulting in a ragged and undefined street condition and abundance of plazas and other open spaces which are mostly unusable in the heat and humidity of its long summers. In this setting, skyscrapers are seen in their entirety, resulting in the streetscape overlapping with the cityscape. It is one of the easiest cities in America to take photographs of each skyscraper in isolation, thanks to the plentiful space provided by wide roads and vast plazas.

Pedestrian activity at street level is minimal, and most traffic is found either on roadways or in the extensive network of air conditioned underground tunnels that connect the major skyscrapers in the downtown area. It is undoubtedly a highly automobile-oriented city, where no prestigious residential area exists in or near downtown and most workers commute to offices by private cars from their houses located somewhere in the vast city limits. To quote from an article in the Boston Globe Magazine featuring Houston:

“Even during the day, downtown had a curiously deserted look to it, since people who worked there tended to escape the heat in the underground tunnels connecting all the skyscraper complexes and plazas. After dark, downtown Houston was a ghost town...”
Another reason besides heat and humidity for its “unfriendly” streetscape is the “newness” of the city. Unlike New York, there are but a handful of pre–World War II skyscrapers in Houston, and most of the tall buildings that dominate the skyline today were built one after the other in the 1970’s and the early 1980’s. So intense was this building rush that in 1979, Houston became the first city in America ever to issue more than $1 billion in building permits. As stated in the previous chapter, this period coincided with the rising criticism against the International Style, and architects were experimenting with variations on the basic box. Therefore, although Houston has its share of glass and steel cigar boxes, a large proportion of the skyscrapers attempt to render picturesqueness using modern materials.

The first picturesque skyscraper that came was Pennzoil Place (Philip Johnson with John Burgee, 1976), a black, twin trapezoid building developed by Gerald Hines who later built numerous post modern skyscrapers in and out of Houston. Its shape was pure abstraction, but it was dazzling and recognizable, a character that is very important for designing skyscrapers in Houston be-
cause they are expected to exert a strong imagery, symbolizing growth and prosperity which are the basis for the city's existence.

Houston is a city where growth is close to a religion. The city had been growing in leaps and gulps since 1836, when two New York land speculators incorporated a tract of land on the Buffalo Bayou, 50 miles from the Gulf of Mexico. They named it after general Sam Houston who led the war of independence against Mexico, gambling on favor from he who was certain to become the first president of the republic of Texas. Since the beginning, people came to Houston not for the scenery or the culture, but to make money, and they made their own culture of money. Rich in natural resources of oil, salt and sulphur, Houston became an international energy crossroads, and it grew rapidly to become one of the largest cities in America.

Extravagance and grandiosity were the way of life for people who “made it” in Houston; taking pride in having built the first covered stadium (the Astrodome), financing for ultramodern cultural facilities like the famous Alley Theater (Urlich Franzen) or the gigantic Wortham Theater Center, and filling them with world class symphonies, ballet and opera companies. The fact that the city could be a home to this highly rated culture was one means to express the success of the citizens. The city’s new and gleaming image was further enhanced when the NASA facility was attracted with the help of President L. B. Johnson. It was a booming city riding into the space age.
Allied Bank Plaza, Houston, Skidmore, Owings and Merrill

Transco Tower, Houston, Philip Johnson and John Burgee, 1983

Republic Bank Center, Houston, Philip Johnson and John Burgee, 1984
These images and values were readily reflected in the design of the tall buildings. Pennzoil Place fit into this context by providing an eye-catching form with a certain dignity to a place that wanted to make its mark, yet desirous of appearing strong and stable at the same time. Each skyscraper built during the construction boom strived to make its mark in the crowd of other tall buildings, to speak a louder architectural statement than the one before. Some buildings such as the Republic Bank Center (Philip Johnson with John Burgee, 1984) achieve this by having heavily sculptured tops that are immediately recognizable. Others, like the Allied Bank Plaza (Skidmore, Owings and Merrill) have much subtler forms, but with their extensive use of curved and sculptured blue mirror glass, they constantly reflect the sky and the surrounding buildings in a distorted way. In order to make the building the dominant presence in the skyline, Transco Tower (Philip Johnson with John Burgee, 1983) chose to stand in total isolation in the Post Oak area, the commercial retail center located several miles away from downtown Houston.

Building owners' obsession in creating a skyscraper with distinctive forms were well represented in the program for the Southwest Center competition held in 1982;

"The bank's identity should be established more through the building's importance as an overall architectural statement than through its public banking facility within the building."
Furthermore, the chairmen of the boards of developer/owners stated in the preface of the same document that they sought a timeless building which would symbolize Houston’s strength, progress and prosperity, and be a prominent architectural profile on the skyline.

Three architectural firms were invited for this competition, of which Helmut Jahn’s design was awarded the winning entry. All three entrants (the others being Richard Keating of S.O.M.’s Houston office and William Pedersen of Kohn, Pedersen and Fox) appear to have shown concern for pedestrian activities at street level, reflecting the importance of the site being centrally located in the downtown area. Pedersen’s scheme attempts to reintroduce a “street wall” in order to retrieve the past that is long forgotten in Houston. However, the main flow of the pedestrians in

Southwest Center Competition, 1982, entry schemes by William Pedersen of Kohn Pedersen and Fox (left) and by Richard Keating of Skidmore, Owings and Merrill’s Houston office
all three schemes is geared toward the underground tunnel system, and their grossly overscaled arches and arcades seem to act merely as symbolic gateways to lure people down toward this system. The decisive factor seems to lie in the overall unity of the tower design. In this sense, Jahn’s scheme with his romantic imagery reminiscent of the landmarks in New York fared very well by having an appearance of being whole, complete and resolved. It provides a very dominant profile amidst the downtown skyscrapers not just by the virtue of its height but with its instantly recognizable form, which reflects what it means for a skyscraper to be “in context” in Houston. The aforementioned developer Gerald Hines found that this identity also makes sense economically. Ada Louise Huxtable wrote that;

“He [Gerald Hines] has found that rental response relates directly to a building’s recognition factor on the skyline. Identity and novelty give a builder a different product and a competitive edge.”

Lacking streetscape in a traditional sense (where cityscape is the streetscape), Houston is a city where skyscrapers are judged by their imagery as a whole rather than their detailing, because they are expected to be a symbol of growth and stability. When the oil industry bottomed out a few years ago that brought serious recession and Houston was experiencing perhaps the darkest period of its economic troubles, a decision was made to light the tops of the buildings downtown. Despite the fact that the streets were empty and office vacancy rate was reaching its highest level ever, these lights, seen from miles around became the symbol of optimism.
Notes:

1 Arnell, Peter and Bickford, Ted, Editors, *Southwest Center: the Houston Competition*, New York, Rizzoli International Publications, 1983, p. 8


3 Ibid.

4 Ibid.

5 Goldberger, Paul, *The Skyscrapers*, p. 125

6 Arnell, Peter and Bickford, Ted, Editors, *Southwest Center: the Houston Competition*, p. 8

7 Ibid. p. 7

8 Huxtable, Ada Louise, *the Tall Buildings Artistically Reconsidered*, p. 68
Boston is a city known for its mix of the old and the new. Founded in 1630, only ten years after the Pilgrims landed in Plymouth, it is one of the oldest cities in America. The city is rich in history, and the citizens are proud of their heritage which differentiates Boston from other American cities. The history of Boston is not a mere phantom of the past, but is accompanied with reality in the form of numerous surviving old structures and neighborhoods.

In Boston, the old means low rise and the new generally means high rise. Several factors are attributable to this phenomenon, not the least of which is the 125 feet height restriction that Boston enforced until 1928. Even the advancement in technologies that gave birth to skyscrapers in cities like Chicago or New York had no profound impact on the skyline of Boston except that many buildings in downtown were able to build up to the ten or so stories that the statute allowed. The

*Custom House Tower and downtown Boston, seen from the waterfront*
sole exception was the Custom House Tower built in 1915 which was exempt from the restriction because it was a federally-owned building.

The height provision was amended in 1928 which allowed stepped back buildings of greater height to be built resulting in Art Deco skyscrapers like the United Shoe Machinery Building (Parker, Thomas and Rice, 1930) and the Post Office Building (Cram and Ferguson with James A. Wetmore, 1931). But these “old” skyscrapers were very few in number due to a protracted depression that hit Boston at the time. The office market in Boston was so bad that only one major building, the old John Hancock Tower (Cram and Ferguson, 1947) was built for the next three decades until the completion of the Prudential Tower (Charles Luckman and Assoc. and Hoyle, Doran and Berry, 1965). Therefore Boston, for a major American city, lacks a “culture of skyscrapers.” The depression ensured the dominance of the Custom House Tower in the skyline of Boston through the first half of the twentieth century.

Renee Loth, in her article on the skyscraper explained how this long economic slump helped Boston grow into a more human-scaled city while other American cities were being infested with skyscrapers;

“Because it [Boston] languished in an economic slump from the Depression through the 1960’s, Boston was spared the more egregious architectural excesses of the mid-20th century and allowed to ripen into the walkable, livable, homey place immortalized on wall calendars.”

But the reality of the time was that the economic conditions were so bad, and the city’s unemployment rate so high that something had to be done in order to change the economics of the city to save it from catastrophe. The city leaders sought an image that could symbolize the rebirth or change that was desperately needed, and
offered huge incentives such as tax abatements to bring major developments to Boston. Prudential Center promised to be just that, and even its location, placed in the Back Bay area distanced from the existing central business district was indicative of its role as the symbol of a “New Boston.”

The city authorities were quick to reinforce this turnaround movement with numerous urban renewal projects. First came the Government Center Project (masterplan by I. M. Pei and Partners, 1960, completed 1968) which is considered to be one of the few large scale urban renewal project in major American cities that was carried out almost exactly as it was planned. The project was
conceived as an oasis of newness and modernity in the midst of the obsolete, old fabric, and existing low to mid rise buildings were razed to make way for Modernist towers and edifices that housed the administrative functions of the city, the state, and the federal government. Older buildings were preserved not to retain a piece of the past, but to make the newness of the project stand out by virtue of contrast.

No other major American city in America was influenced as much as Boston by urban renewal. Hundreds of millions of federal dollars poured into the city, and a whole residential neighborhood were transformed into highrise apartments with large open spaces and parking lots (as the West End became Charles River Park). Tight low rise neighborhoods gave way to spread-out highrise, and the skyscrapers, as in other American cities at the time, symbolized progress and prosperity.

As Boston gained momentum with its economic recovery in the mid to late 1970's, the city took this chance to demand that developers provide something for the “public good” in return for granting larger and more profitable developments. Although the height restriction was relaxed in 1928 to accommodate taller buildings, it was still substantially more limited than most other American cities, and this guaranteed that each new development would need to be “negotiated” with the city authorities, if they were to be made large enough to be really profitable.

More open space, infrastructure improvements, jobs for the local residents, funds for subsidized housing, quality street-level environments were some of the exactions received in return for development. Despite the fact that the definition of “public good” was basically the same among city authorities and the public, the priority of the issues shared by each party was often in conflict. The Boston Redevelopment Authority (B.R.A.), came to own and operate several developments for profit, placing it in a delicate position. Even excluding this issue, there were rumors
that the city place priority on making profits to balance the municipal budget, since most negotiations for new developments were executed behind closed doors. Robert Campbell, the architecture critic for the *Boston Globe* stated that the city pursued this misguided policy in the last days of the Kevin White administration resulting in oversized projects such as the International Place (Philip Johnson and John Burgee, 1987) or the New England Building (now under construction).²

Boston today regards skyscrapers as an inevitable form, necessary for the city to grow as well as to keep up with the demand for office space, and is not ready to implement a growth cap on the amount of development allowed as in the case of San Francisco.³ But the public and professionals alike generally agree on need for better control over the final design of these developments.

It was somewhat fortunate that the drive for height came quite late in Boston compared to other American cities. As stated in Chapter One, the preservation
movement that emerged in the early 1970's made people more aware of what they were giving up in place of the symbols of the "New Boston." In 1975, the Boston Landmarks Commission was established by the state legislature. Its main mandate was to designate historic buildings preventing either demolition or substantial exterior changes without public hearing and the Commission's approval. Recently, more and more buildings are being designated for some degree of historic value which inevitably means that the design of new developments must, in one way or the other, respond to these existing buildings as well as to reflect the character that people value.

One way that designers of skyscrapers are dealing with these preservation values may be classified as "facadism." Due to the narrow and twisted street pattern of downtown Boston (which basically has not been altered since it was laid out for cows and horses), the view down many streets is quite limited. The sense of continuity is strengthened in these streets by consistent cornice lines or roof lines. When the WZMH Group, Inc. of Boston was faced with a problem of designing a skyscraper facing State Street, one of the most important street in the central business district, they were forced by public opinion and the Landmarks Commission to preserve the facade of the old Boston Stock Exchange Building, and consequently build a 40 story.

*Exchange Place, Boston, WZMH Group, Inc., 1984*
The basic notion behind facadism is to preserve the streetscape that forms an important element of the context, and build a tower set back from the street so that it tower made of reflective glass set back behind it. The result was Exchange Place (WZMH Group, Inc., 1984).

Another, and more fascinating example of “facadism” is the 101 Arch Street Building (Hoskin, Scott, Taylor, Smith and Anderson, 1988) in Downtown Crossing, the major shopping area of Boston. Here, a similar controversy emerged. As a result, the existing third to fifth floor red brick facade from the former Kennedy’s department store was preserved, and a 20 story tower of granite was placed on top set back behind the five story base. The preserved facade was literally hanging in mid-air supported by steel girders until the new structure was placed, to which it was molded.
does not intrude or intimidate at street level. It is, in a sense, an act of giving up the cityscape for preservation of the streetscape. Facadism is criticized for reducing the existing buildings to a mere wall paper, characterized “fake” by the critics, and as a very expensive alternative to demolition by the developers. But this “compromise” in some cases becomes a practical way of building a modern highrise while preserving the public’s desires to retain Boston’s nineteenth century streetscape, and the city is likely to see more of them in the near future.

Perhaps the best example of the public’s values with regard to skyscrapers and context may be the recent controversy over the development of the New England Building in the Back Bay. The New England Building was originally conceived during Mayor White’s administration, and called for a mixed-use development consisting of office, retail, and parking spaces designed by John Burgee with Philip Johnson. The original scheme, which was to be carried out in two phases, had two identical office towers that rose to 25 stories sitting on top of a six story base. The proposal showed some acknowledgement of the physical context by maintaining the...
height of the roof line facing Boylston Street and by the material of its exterior skin which was to be clad in granite of similar color to that of the Public Library on the other side of Copley Square. But soon after the plan was made public, people revolted against its construction. Public sentiments may be summed up in Robert Campbell’s commentary which appeared after the revised Phase II was unveiled:

“...the New England’s Phase I, a building now under construction that is so dreary, bulky, arrogant and life-denying as to make anyone despair of the future of Boston or of American corporate architecture.”

One group of Back Bay residents, Citizens for a Better New England Life, took the developers to court in an attempt to stop the construction. The move was unsuccessful, but enough public furor arose over the project that the B.R.A. was prompted to step in and advise the New England to seriously rethink Phase II of their building plan. The developers (the New England and Gerald D. Hynes Interests) fired the architect, Johnson and Burgee, who had done so well in Houston. A one-year review period was established where all interested parties were invited to rethink the design of Phase II. During this period, a new program was drawn, and a limited competition was held to select a new design and a new firm that would be more acceptable to the community. The new plan by the architect Robert A.M. Stern of New York for Phase II was unveiled in January of 1988. The revised plan calls for a slightly smaller tower surfaced in red brick and trimmed in pale stone that reflect the Colton Building which will be torn down to make way for Phase II. In overall profile, the new building steps back in easy stages and has a well defined base, middle and top.

Although Stern’s design has many elegant parts, they do not relate well to each other, and it lacks the sense of being an unified object. This may be said of most of
the recent projects in Boston, including the 75 State Street Building (Graham Gund Associates, under construction) or the aforementioned 101 Arch Street Building. These skyscrapers seem to have been designed so that each part (the base, middle and top) of the building respond independently to their contexts of street, city and sky. There is no sense of a single object. The outcome of this effort is a building that, due to its schizophrenic nature, seems smaller than it really is. To quote Campbell again;

“It [Phase II design by Stern] is not a unitary building; you do not sense it as one big thing as you do Phase I. You sense it as an aggregation of agreeably scaled smaller things—a tried and true strategy for making a large building feel smaller.”

This disparity between portions of a building was something that the architects of the eclectic skyscrapers in the early twentieth century New York tried to avoid, since their concerns were the composition of the traditional parts to achieve a unified whole. But in the context of Boston where maintaining the streetscape is the primary concern, the goal seems to be a skyscraper design that is so richly and
diversely detailed that observers will not sense it as one big building: a fragmented skyscraper.

Notes:

1 Loth, Renee, “From Backwater to Backlash; Buildings Bostonians Love to Hate,” the Boston Globe Magazine, p. 15


3 From the symposium, “Boston Looks at San Francisco,” held in Faneuil Hall Marketplace, Boston, April 10, 1987

4 Boston Redevelopment Authority, Downtown Projects: Opportunities for Boston, 1986, p. 81

5 Powers, John, “Facadeism; Preservation ‘compromise’ is defended and deplored,” the Boston Globe, October 25, 1985, p. 8

6 Campbell, Robert, “Addressing community concerns makes new Phase 2 a triumph,” the Boston Globe, January 22, 1988, p. 1
Boston then and now. West view from the Custom House Tower. Above: 1920, Below: 1980
San Francisco is a city built within the hills where the grid pattern of the streets is superimposed with disregard to topography. Old residential neighborhoods with their light and pastel tones create a colorful and unique cityscape. It is one of the few American cities which has a distinct and vivid image, and this attracts visitors and pleases citizens. The San Francisco image was well represented in the words of Allan Jacobs, former Director of city planning for San Francisco when the “Urban Design Plan” of 1971 was developed.

“San Francisco is generally accepted as one of the more handsome American cities. Views, hills, fog, water, charm, urbanity, diversity, intimacy, activity, Victorians, cable cars, Chinatown, Golden Gate Bridge, Fisherman’s Wharf, Golden Gate Park—all evoke images of a special urban place.”

People of San Francisco seem to be aware of their immediate physical environment, and tend to be self-conscious about it. Therefore, the controversy over the expressive qualities of skyscrapers has been going on for a very long time. Some of the “battles” go back as far as early 1960’s, when the Fontana Towers, a pair of curved apartment buildings, were built on the shoreline and citizens objected. The issue was obstruction of the view of the bay that the residents valued so much. Of course San Francisco was not the first American city where this issue was raised, but it is significant that it happened in the early 1960’s when peoples’ attitude nation-wide was almost completely in favor of tall buildings. In fact, even the leading columnist Herb Caen of the San Francisco Chronicle, who was to become one of the leading antagonist by the 1970’s, wrote in July, 1960 that; “I’m at home where the tall buildings grow...I’ll take the vertical city.”
A real challenge to the image of San Francisco came when the Alcoa Building (Skidmore, Owings and Merrill, 1964) was built, and its black color and outside diagonal bracing raised immediate controversy. The Bank of America World Headquarters Building (Wurster, Bernardi & Emmons, Inc., and S.O.M. with Pietro Belluschi, 1970) was a skyscraper which would be considered beautiful in its refined form and use of rich materials if built in any other city, but San Franciscans criticized it as being too dark with too stark a contrast with the existing light-
colored buildings, clad mainly in limestone. The Transamerica Pyramid (William Pereira & Assoc., 1972) also raised numerous debates because of its extraordinary shape, a slim pyramidal form.

All of the buildings above were eventually built, and public outcry did not result in halting the projects. Constructed mostly in the relatively flat area close to the shoreline of downtown San Francisco, these buildings drastically changed the skyline of the city. A once light and hilly skyscape in which valleys could clearly be discerned was being transformed into just another ordinary American city of the 1960's, scattered with gray, densely packed and exhibitionist designed skyscrapers whose height tended to obscure the hills. The city took action by downzoning the downtown area from FAR (floor area ratio) of 20 to 16 (25 to 20 in corner sites) in 1963. It was reduced again to 1400% in the commercial zone in 1966 accompanied by incentive zoning clauses to provide more amenities to the public. Although the 1966 zoning ordinance was considered to be one of the most sophisticated of its kind in America at the time, it clearly did not meet the expectations and concerns of the people.

The ad that appeared in the *San Francisco Examiner* and the *Chronicle* in October of 1970 depict this phenomenon clearly. More than 10,000 newspaper readers clipped the coupons from the ad and sent them to City Hall. The sentiments of the San Franciscans against tall buildings grew to an extent that they started to regard the skyscrapers as foreign imports plotted in their territory by the “outsiders.” The often used words depicting the skyscrapers were: “Manhattanizing, plastic, computerized, artificial, massive, inhuman and super–urbanized.” Anything out of scale, violating the relation of man to nature and man to preexisting man–made form was condemned as evocative of New York and people of San
STOP THEM FROM BURYING OUR CITY UNDER A SKYLINE OF TOMBSTONES

The ad that appeared in the San Francisco Examiner and the Chronicle in October, 1970

Cartoon by Louis Dunn from the Ultimate Highrise, 1971
Francisco did not want that for their city. This sentiment of the citizens was depicted in the cartoon by Louis Dunn from *the Ultimate High Rise* (Brugmann et al., 1971). Under this condition, environmental details of size, shape and/or color sometimes become trivial compared to the question of whether there should be any skyscrapers at all.

The San Francisco Urban Design Plan adopted in 1971 was one of the first attempts on the city’s part to codify local values. Prior to the plan, an extensive inventory of the existing urban forms and images were made through research and interviews by the consultants, out of which emerged a catalog of basic principles. The plan emphasized the role that the skyscrapers play in light of the cityscape and the skyscape of San Francisco. The first basic principle stated that:

> “The relationship of a building’s size and shape to its visibility in the cityscape, to important natural features and to existing development determines whether it will have a pleasing or disruptive effect on the image and character of the city.”

The drawing that accompanied this principle depicted the intention of the plan to visually emphasize the natural features (the hills) with the strategic clustering of tall buildings built on the peaks. Although this was eliminated due to protests from the residents of the hills when the plan was adopted, it first marked the notion of the use of clustering of towers as man-made landscapes.
Despite the fact that the San Francisco Urban Design Plan dealt with many of the aesthetic attributes such as scale, color, street character, etc., only the quantifiable measures, namely height and bulk, became the basis for the later zoning ordinance. In time, neither the adoption of new tools to control the bulk nor relatively diverse zoning districts proved to be adequate to stop the influx of the flat top towers. Part of the reason for this may be attributable to the strong economy which forced developers to build to maximum height allowed by the zoning ordinance.

These inadequacies eventually led to the Downtown Plan which was adopted in 1986. The significance of the plan in terms of designing skyscrapers was the inclusion of provisions to control the overall shape of the buildings. It was the first ordinance that weighed the skyscape of the city equally, or even more important than, the streetscape.

As for the streetscape, the Downtown Plan gives design principles that include controlling the use of reflective glass, intro-
duction of cornice lines and streetwalls, scale, material, open space, etc., but most of the policies are not explicitly controlled through written regulations. Implementation of these policies is accomplished through design review, to which all new significant projects are subject. The 88 Kearny Street Building (S.O.M., 1986) is a good example of what might be expected by the Downtown Plan in this aspect (although the building was built before the adoption of the plan). The 22 story building is light in color, respects the cornice line and the horizontal continuation of the 1907 Maskey Building adjacent to its site (which was renovated along with this project), has intricately detailed windows with both vertical and horizontal movements, and has a bulbous curved glass turret projecting out over the property line in the true San Francisco bay window tradition. In spite of all this, the skyscraper succeeds in looking new and contemporary.
The story is different for the skyscape. The control of skyline image of San Francisco was twofold under the Downtown Plan. First measure was to create highly partitioned height districts, which when all lots are built to the their maximum height should render a man-made hill comprised of a clustering of skyscrapers. The second measure was to introduce a new set of bulk controls in order to guarantee interesting forms for each building and to preserve sunlight at street level at the same time. The new bulk control, in short, attempted to bring back the traditional tripartite (base-middle-top) configuration to the skyscrapers by mandating setbacks at different levels, reducing the bulk at the top and encouraging sculptured upper towers. These two measures combined should result in a unique skyscape composed of clusters of slender skyscrapers.

The irony of the Downtown Plan was the annual quota that the city placed on the total square footage of large office development. The quota was deemed necessary due to the already overstressed infrastructure and the rising vacancy rates in the office market of downtown. The proposals for new developments now must be submitted to the city for a design review process dubbed the “beauty contest” which the winners are awarded once per year. In July of 1987, three projects were approved for the year’s quota of 718,700 square feet. But due to their location and their sizes, none of them seem
to make a strong enough contribution to the skyscape of San Francisco. With this pace, it may be decades before the man-made hill becomes recognizable. Meanwhile the Transamerica Pyramid and the Bank of America Building, the two buildings that evoked polarized emotions, will remain the dominant forms in the skyline of San Francisco.

Notes:


Conclusion

Why “Skyscrapers in Context?”

In the previous chapter, I have attempted to illustrate the diversity of “contexts” in several American cities, and how their skyscrapers responded to them. The extent that these “contexts” impose requirements on the design of the skyscrapers also differs from city to city. Cities like Boston or San Francisco leave the architects of tall buildings little choice but to “comply” with the context—or what the people value—whereas other cities give more freedom in the interpretation of what a “contextual” skyscraper is.

Why should skyscrapers be “in context” in the first place? As mentioned briefly in the Introduction, there are several forces that necessitate the design of the skyscrapers to reflect the forms that people value. First is the fact that people can delay or sometimes even stop construction of towers that they feel are not right for their cities. Although issues raised against the projects were primarily related to environmental impacts (such as bulkiness, sunlight, wind, etc.), we have seen increasing numbers of arguments based on how the expressive qualities of buildings “fit” into the existing context. The enormous legal expenses associated with these conflicts resulted in more developers and architects consulting the people from the initial phase of the design development.

Secondly, the city authorities increasingly impose requirements in the form of design guidelines, which in theory should be representative of the people’s values, but may also be invoked to preserve or enhance the “differences” that make each city
unique. These “differences” are important not just to maintain the “spirit of the place,” but also to ensure the city’s survival in the fierce competition between the cities in terms of attracting new businesses or tourism.

This leads to the third force which is the tastes and values of the clients and the tenants. Even without quoting the words of the powerful developer Gerald Hines (see Chapter Three, Houston), it is apparent that “contextualism” is marketable, at least for today. Unattractive buildings that do not reflect the tastes and values of the people have a hard time filling up their spaces. Economics have always played a significant role in the development of the skyscrapers, but never as today did they have such profound impact on their expressive qualities. These forces act upon the skyscrapers because the tall buildings, exposed to multiple contexts (streetscape, cityscape and skyscape), are such powerful entities to the image of the city.

Deducing from above, there is no doubt that the more concrete an “image” that the people have of their cities, the stronger the force in requiring the tall buildings to be “in context.” Shared images give people grounds for better cases in court when fighting against unwanted designs, as well as better chance for getting these valued images incorporated in the design guidelines enacted by the city authorities. In these cities, skyscraper design must be more aware of all the different contexts that each portion of the building responds to. On the other hand, cities without strong images, or cities that want to change their images are more likely to actively use the skyscrapers in promoting their reform, since the conspicuousness and the symbolic nature of the tall buildings are ideal for these purposes. In these cities, a skyscraper should be designed so that it exerts a strong imagery in all of its contexts.
Design Solutions Explored

The design solutions devised by architects in response to the contexts of the cities were depicted in the last chapter. I would like to conclude this study by looking at some of the variations of these design solutions explored in skyscraper design in other cities today.

The attempt to reintroduce past details that people could relate to that enhance the streetscape without losing the sense of newness (something representative of our times) may be seen in the successive works by the firm of Kohn, Pedersen and Fox. Their works are characterized by the assemblage of the past and the present.
in an unexpected and unconventional manner. The firm’s masterpiece 333 Wacker Drive Building (1983) in Chicago has a classically detailed granite and marble base which rises solidly from the ground, with a tautly curved reflective glass tower sitting on top of it. Here, the startling contrast of the modern and traditional materials and details succeeds in evoking a new form that is both balanced and complete. To quote Ada Loise Huxtable;

“They [works of Kohn, Pedersen and Fox] deal in contradiction and paradox; at the same time that these striking buildings disrupt context and shatter scale, they try to suggest the continuity of the urban context, and to address the humanistic and aesthetic dimensions of the city.”

Although none of their works are as provocative or as satisfying as the 333 Wacker Drive Building (my favorite skyscraper in Chicago), the immense popularity of their style promises more of these new eclectic towers to appear all over the world.

The attempt to reintroduce past images, instead of past details as in the example above, may be seen in several projects by Helmut Jahn. The winning scheme for the Southwest Center Competition (1982) and the Chicago Board of Trade Building Addition (1982) are mentioned in the previous chapter. These are buildings that mimic the shape of the skyscrapers of the 1920’s and 1930’s, but clad in modern materials. The shape that they mimic is very important here, as can
be seen in numerous criticisms voiced against the PPG Industries Building (Philip Johnson and John Burgee, 1983) in Pittsburg which rendered a Gothic tower not unlike the House of Parliament in Westminster. These towers, products of a synthesis of romantic imagery of half a century ago and the technological imagery of today, may well turn out to be the way to avert the “dead-end” of post modernism.

The common criticism against postmodernism today is that the return for the past is a quest with no feasible end:

“Where can reusing historical form lead us except to the impossible end of trying in vain to recreate literally the building of the past?”

The recently completed IBM Building in Atlanta (1987) or the 190 South LaSalle Building in Chicago (both buildings by John Burgee with Philip Johnson), and in a sense the aforementioned 75 State Street Building in Boston (Graham Gund Associates) may be classified as just that. Their forms and detailing are copied so literally from the skyscrapers of the early 1900's that probably in another twenty years from now when they acquire a proper weathered look, they will be indistinguishable from them.

Facadism, as mentioned in the last chapter, is seeing a different outlook in Japan. The Nihon Kasai Yokohama Building (originally the Bank of Kawasaki, Yokohama Branch Office Building, Matakichi Yabe, 1922) in Yokohama is a three story Renaissance style
Two examples of facadism from Japan

Left: Facade as “puzzle,” Nihon Kasai Yokohama Building, Yokohama, Nikken Sekkei, 1989

Below: Ochanomizu Square Building, Arata Isozaki, 1987
stone masonry building that is scheduled to be "renovated" in 1989. The program for this "renovation" called for the preservation of the exterior walls to maintain the sense of continuity and scale in the streetscape, but did not require them in the original order. The architects in charge of the project, Nikken Sekkei, contemplated various schemes by moving the "pieces" of the facade to various positions in the nine story reflective glass curtain wall using CAD simulation. Although the approved plan turned out to be fairly "conservative" (bottom row, third from the left), the project offers another dimension in the way of facadism.

Another example of facadism from Japan is the Ochanomizu Square Building (Arata Isozaki, 1987) in Tokyo. The project takes the form of a thirteen story postmodernist tower built on top of a "preserved" four story low rise building originally designed by the American architect W. M. Vauris in 1925. The significance of this "renovation" lies in the fact that the original building, which was found to be structurally unstable, was reconstructed according to the original drawings made by the architect using modern materials. Although the concept itself is not new in Japan, since the Ise Shrine has traditionally been reconstructed every 20 years for more than 500 years, it was the first time that it was applied to "tall modern buildings."

The examples above are not meant to suggest a definite "style" for the skyscrapers of tomorrow, but rather to illustrate the range of alternative "tools" that are provided for the architects of the tall buildings to design a skyscraper "in context."
Cultivating the Culture of Skyscraper

“A city must change. Change offers hope for a better future. A city must have the excitement of new things happening. It must have crackle, mystery. It shouldn’t be boring. A city is a place where people go to get rich and famous. A city must stay the same. It must embody the memory of the past as a living museum. It must remain recognizable, so that it can reassure us that we know where we are.”

Skyscraper as an architectural form is young. The culture of skyscraper is still evolving. Until the skyscrapers firmly establish their culture, they will be regarded as a form that brings only drastic change to the city. And until they do, the paradox in the above quote will always apply to the design of skyscrapers in context.

Notes:

1 Huxtable, Ada Louise, The Tall Buildings Artistically Reconsidered: The Search For Skyscraper Style, p. 73

2 Ibid., p. 76

3 Goldberger, Paul, the Skyscraper, p. 153

4 Goldberger, Paul, “Southwest Center Competition,” Southwest Center: the Houston Competition, p. 113

5 Campbell, Robert, “Architecture,” the Boston Globe, March 6, 1988, p. 92
Downtown Boston as seen from Charlestown Navy Yard
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