READING THE SKYLINES OF AMERICAN CITIES

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ABSTRACT. During the past century, American cities and the skyscraper have evolved together. The skylines of American cities display the interplay of cultural, technological, economic, and political forces that have led to the widespread acceptance of tall buildings. Regional and intraurban variations in number, location, and effect of skyscrapers are discussed.

WHEN one thinks of the United States, a number of images come to mind—cowboys, hamburgers, rock-and-roll music, and skyscrapers. The role that skyscrapers have played in shaping the geographies and visual character of American cities is the theme of this article. For nearly eight decades the skyscraper was largely an American phenomenon and seemed to symbolize the energy, enthusiasm, and optimism that characterized the United States in the late nineteenth and early twentieth centuries. Although skyscrapers may be found from Paris to Singapore, there are still far more of them in the United States than anywhere else. Also, only in the United States is the full history of the tall building, from the 1870s to the 1990s, still extant. By examining the past, we may trace attempts to design, control, monitor, locate, and tame the skyscraper as part of a broader effort to make the American city both visually exciting and livable.

The purposes of this article are to examine briefly the evolution of the skyscraper as an architectural form, to note the various uses for which they have been built over time, to analyze the changing interurban and intraurban locations of tall buildings, to discuss their effects on surrounding neighborhoods, and to ponder ways in which skylines can be read, to gain insights into the changing spatial organization of the American economy. Americans have long been fond of skyscrapers but have seldom been quite sure how they should be designed or where they should be located.

Why was the skyscraper invented and enthusiastically accepted in the United States rather than elsewhere? The detailed story of the origin of tall buildings has been told by others (Tunnard and Reed 1956; Gottmann 1966; Goldberger 1981; van Leeuwen 1986; Relph 1987), and I will not belabor the subject. However, a useful way to integrate the various trends and developments that combined to make the skyscraper popular is to think in terms of a four-part context consisting of cultural values, technological convergence, economic organization, and governmental policies. Only in the United States did these four strands come together in a way that facilitated the early production of skyscrapers.

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Cultural Values

The vertical profile has long been valued in European civilization. Cities competed during the late medieval period for the honor of having the tallest cathedral, and by the fourteenth century many urban places had civic towers that exceeded several hundred feet. Indeed, some of these towers, such as the campanile in St. Mark’s Square in Venice, later provided the prototype for the design of early skyscrapers in the United States. The urge to build upward certainly had not diminished by the mid-nineteenth century, when Victoria Tower, with Big Ben, was erected to embellish the new parliament building. London thus received one of its most famous landmarks. The monumental city halls built in many British cities satisfied the need for at least one tall structure in a city of any real importance. The trend continued into the late nineteenth and early twentieth centuries with towering structures such as the city halls in Munich and Stockholm. When pride was at stake, cities built tall (Girouard 1985).

In most European cities, one tower sufficed. Other builders deferred to landmark civic structures. This pattern sometimes marked American cities, especially old ones with a strong sense of identity. In Boston, for example, strict height limits allowed the Customs House tower to dominate the financial district. In Philadelphia, no structure could be higher than the statue of William Penn atop the 500-foot-high city hall. Even Los Angeles, primarily because of fear of earthquakes, allowed only the 450-foot city hall to dominate the skyline until the late 1950s. In Washington, D.C., the Washington Monument still towers over the central city.

Some cities had no such restraint—New York and Chicago are cases in point. In New York and Chicago firms competed vigorously to be visible on the skyline. By the 1890s, buildings exceeding 300 feet were arising in Lower Manhattan and their proud owners were proclaiming loudly that their towers had become the tallest in the city. At a lesser scale, similar competitions were appearing in cities such as Pittsburgh and San Francisco by the end of the nineteenth century. When cities had no consensus civic tower, everyone sought to build one.

Technological Convergence

Although low buildings with exuberant Victorian towers had been built since the 1870s, the true skyscraper was invented in Chicago in 1885. The Chicago fire of 1871 destroyed most of the downtown area, and in subsequent years architects and engineers participated in the rebuilding of the Windy City. One such architect, William Le Baron Jenny, is credited with the idea of steel-frame construction, that is, building a “birdcage” of steel on which light, non-load-bearing walls could be hung. Steel frames had been used earlier in low industrial structures, and cast-iron facades had been used to strengthen masonry buildings, but steel-frame towers were a new idea. Obviously, the technology was available in Europe, as evidenced by the Eiffel
Tower, which was described as a bridge stood on end. However, the motivation for widespread usage was not present in Europe.

Because of the Bessmer process, inexpensive steel was readily available by the 1880s, and large numbers of workers had gained expertise building everything from railroads to agricultural equipment. Skilled labor was available in Chicago. Yet various other technological breakthroughs were necessary before the skyscraper could come of age. Hydraulic elevators had been available since 1857, but the geared, high-speed, electric elevator evolved gradually only after the early 1880s, when downtown areas were first electrified. By 1904, elevators could whisk passengers to almost any height. Electric lighting and modern technologies for plumbing and heating were adaptable to the demands of high-rise buildings (Shultz and Simmons 1959).

In American cities, ambitious designers gathered from around the world to work on these problems. Elsewhere, cities were likely to have traditional areas of expertise and ways of doing things that were not easily displaced. Most new technologies, from modern bathrooms to telephones, diffused far more rapidly in the United States than they did elsewhere.

**Economic Organization**

During the late nineteenth century, giant corporations came into existence at an unprecedented rate in the United States. As the national economy was created through the development of a dense railroad network and telegraph and telephone services, corporate headquarters were built, through which a company could serve the country from one central place. Although small family-owned companies remained the norm in much of the world, the United States quickly became a land of big corporations. In addition to requiring massive amounts of space for employees and records at one location, corporations often desired to occupy symbolic landmarks to prove to skeptical customers in the hinterlands that the company was viable. It was thought to be easier to sell Singer sewing machines or Metropolitan Life insurance policies in Nebraska if the representative could show that the company occupied a famous high-rise tower in a center of corporate activity and could easily be located in case of product dissatisfaction. In the United States, headquarters buildings became corporate logos.

In Europe and Japan, corporations were far more likely to be associated with well-known families and to serve small, politically fragmented regions, where they were already part of the accepted establishment. There was little reason to confront tradition by creating landmark buildings as corporate symbols. Later, however, the idea was accepted, at least in a limited way, as is evidenced by structures such as the Pirelli Tower in Milan.

**Governmental Policies**

Tall buildings have been controversial in nearly every culture. In ancient China, it was common to ban structures more than two stories high to prevent
people from looking down on a passing emperor. As early as the sixteenth century, Paris had height limits that related building size to the width of the street so as to guarantee residents a measure of light and air. In American cities, there were few such accepted traditions when the skyscraper evolved in the late nineteenth century. Hence early projects led to controversy and public outcries. Many persons decried the creation of artificial “peaks” and “canyons” where urban residents were deprived of any contact with nature. Some American cities, following the Western European example, enacted strict height codes for structures.

By the time the Equitable Building was completed in Lower Manhattan in 1915, it was clear that some types of controls were necessary. This structure, rising thirty-nine stories over an entire city block, created more than 1.2 million square feet of office space and cut off light and air from the surrounding neighborhood. Clearly, if many other developers followed suit, the infrastructure of the city would quickly be overloaded. There would be no way to move so many people into and out of the central business district, and water, sewerage, trash removal, and utility services might not function. The mass or volume of the city had to reflect its infrastructure (Fig. 1). The result was the New York Zoning Ordinance of 1916 (Goldberger 1981).

Zoning also served to concentrate downtown functions and to increase the cost of property that was marked commercial. Zoning protected residential areas, for a while, and other inappropriately zoned districts from

Fig. 1—New York City. One of the largest concentrations of skyscrapers in the world is in Midtown Manhattan. (All photographs by Larry R. Ford)
rampant skyscraper construction. Those few districts that were zoned for downtown uses soon filled with towers of incredible heights. This was a very different political solution from that which occurred in France or Spain, where uniform, six-to-eight-story, mixed-use structures covered much of the central cities.

Over the decades, political policies have continued to facilitate the adoption of the skyscraper in many cities. Urban-renewal projects executed after 1945 nearly always emphasized the construction of gleaming new office towers to demonstrate that the city had "turned around." In cities with fragile economies, governmental programs that offered subsidized land and lot assembly aided by eminent domain were necessary to make the construction of expensive skyscrapers appealing (Liston 1965).

During the past century, the four contexts—cultural, technological, economic, and governmental—have continued to facilitate skyscraper construction in most American cities. Corporations have continued to seek symbols and logos, such as the Transamerica Pyramid (Fig. 2), and cities continue to
compete for "tallest in the region" landmarks. A variety of governmental laws and regulations makes investment in downtown real estate so profitable that investors from foreign countries have been attracted to a land market whose visual correlative is the urban skyline.

SEARCH FOR A VERTICAL STYLE

The skyscraper required a new approach to the design of buildings (Messler 1981; Huxtable 1984). When most urban structures were more or less the same height, having an impressive street facade was the prime consideration. Architects concentrated their efforts on the creation of a pleasing, fashionable front, on the assumption that the sides would be flush with or abut adjoining structures and that the back would be for service bays, fire escapes, and the like. The first tall buildings continued this design, and they were ugly. There was a limit beyond which traditional-style structures could not be extended and still retain their composition and symmetry. Tall buildings presented a challenge. Early skyscrapers were often simply taller versions of traditional buildings, but the Renaissance palaces and Greek temples that had served as the inspiration for many small buildings were too short to use as models for the new variety. Additionally, since the new towers rose above the level of the surrounding buildings, it was necessary to have four facades instead of the traditional one or two. At some point in its rise, the skyscraper was no longer part of the streetscape, but rather stood alone, visible from all directions. Gradually, designers learned to accentuate the vertical by emulating the civic and religious towers of Europe. The Metropolitan Life Building, completed in 1909 at a height of 700 feet, borrowed imagery from the campanile in St. Mark's Square, and the Woolworth Building, completed in 1913 at 792 feet, was dubbed a "cathedral of commerce."

The evolution of the skyscraper to a stand-alone building visible from four sides was a seminal moment in American urban design. It is difficult to state exactly at what point a tall building becomes a skyscraper, especially because skyscraperlike structures of only twelve to fifteen stories exist in many small cities and dominate the surrounding landscapes. For my purpose, I define the skyscraper as a building that is at least 400 feet tall, with the most important towers above 500 feet, and is designed in tower form. Although a variety of traditional buildings approached 200 feet in height and some reached 300 feet with the addition of decorative tops, a 400-foot-tall building, which means more than thirty stories, is usually distinctly different. It is built to be a landmark; vertical design elements are an aesthetic requirement. In American cities, the street gradually lost its visual primacy as individual, often unrelated structures began to compete for attention. The end result of this trend is the current "edge cities" that, emulating the strip in Las Vegas, have no streetscape, only individual features (Venturi and Brown 1977).
A NEW YORK PHENOMENON

Although the skyscraper was invented in Chicago, by the early 1920s New York City became the undisputed skyscraper capital of the country, with a skyline that was recognized around the world. It was also during this period that New York City came to rival London as a financial center. These two aspects of New York City are related in several ways. Although many skyscrapers were built far taller than necessary as corporate symbols, the fact that so many important business decision-makers were located in close proximity very likely contributed to the economic dynamism of the city. Face-to-face communication in London or Paris often involved relatively long trips across town; in New York City, hundreds of firms were located in relatively close-knit buildings. Millions of square feet of office space were constructed on and around Wall Street by the early decades of the twentieth century (Starrett 1928).

By 1903, office rents in New York City were four times those in Chicago, and pressure was increasing for a quantum leap in the height of skyscrapers. With its completion in 1908, the Singer Building doubled the height of the tallest point on the Manhattan skyline, reaching 612 feet into the air. The race for the sky was on, and by 1913, the Woolworth Building rose 792 feet. For the next twenty years this building was the tallest in the world. During that period, the New York skyline became synonymous with big business in the United States. Some notable towers were built in other cities before World War I, but to a very real degree skyscrapers were concentrated in Lower Manhattan (Pygman and Kately 1985).

DIFFUSION OF THE SKYSCRAPER

There were many reasons why the skyscraper was slow to diffuse to cities beyond New York before the 1920s. Most cities had too little demand for office space, too little capital, too little architectural and engineering expertise, and land values too modest to justify the construction of truly monumental towers. One solution for cities with limited demand for office space was to use the skyscraper for something else. After all, throughout the nineteenth century the biggest structures tended to be factories, hotels, or department stores rather than office buildings. Offices were most often tucked away in converted houses or above stores until relatively late in the century. The sudden increase in the demand for offices, which accompanied the reorganization of the American economy and the development and widespread use of typewriters and other machines after about 1880, fueled the boom in office-tower construction. But why not build other kinds of towers?

Americans were too practical to build many purely decorative, nonfunctional structures such as the Eiffel Tower. Americans had to pretend, at least, that towers were useful and needed. Factories and warehouses were almost obviously not suited to the tower, although they could be embellished with
clock towers. Department stores could also be built only as high as shoppers would go in search of merchandise, rarely above ten stories. Apartment buildings and hotels could use the tower form, but only if people would use it and felt comfortable being several hundred feet above ground. By 1930, New York City had many tall apartment towers and hotels, but they were rare elsewhere in the country (Alpern 1975). The few in Chicago and San Francisco were modest in size and height. It was risky for investors to expect Americans to live or even stay a few nights far above terra firma. Office workers could be told where to work; residents and visitors could not be so ordered.

Some cities managed to erect multiuse buildings of considerable height. In Columbus, Ohio, a luxury hotel occupied the lower fourteen stories of the American Insurance Union Citadel, above which a slim office tower rose for thirty stories (Fig. 3). In Cincinnati, the Carew tower complex included a hotel and both retailing and office space. By the end of the 1920s, six large cities in the Midwest had at least one tower 500 feet tall. On the west coast, Seattle, San Francisco, and Los Angeles each had one 400-foot tower; in Texas, Houston and Dallas were beginning to construct landmark towers. Still, in most cities, one or two really tall buildings were about all that could be accomplished before the Great Depression engulfed the country. Even Chicago had on-again, off-again regulations that limited the height of towers to less than 600 feet until the 1960s.
Skyscrapers and Downtown Morphology

The skyscraper had a very important role in the development of a consensus urban core in large American cities. Because most of them lacked a traditional focal point comparable to the plazas, cathedrals, or palaces of Western European cities, locations of downtown business districts tended to shift over time. In Philadelphia, the core moved steadily westward along Market Street, and in New York City, it went northward on Broadway to Twenty-Third Street, where Fifth Avenue became the axis (Lockwood 1976). American downtowns became noted for their zones of discard, or skid rows, and zones of assimilation, as some areas were bypassed and others were absorbed into the central business district. The skyscraper served to anchor the business core around a functional and visual landmark. Since the 1920s, few truly significant towers have been left behind by migrating business districts. Indeed, the Terminal Tower, completed in Cleveland in 1927, reversed decades of eastward migration of the central business district and made Public Square a long-term center of the downtown (Fig. 4). In New York City, the massive Rockefeller Center created a midtown node in the 1930s that has expanded but never migrated from the Fifth Avenue-Fiftieth Street focus (Karp 1982).

Although skyscrapers served to anchor the central business district, they also tended to accentuate the existence of peripheral skid-row areas. As first-class activities were concentrated vertically into high-rise towers, small build-
ings a short distance away were left with little economic worth. Compared with urban centers in other parts of the world, American downtowns became small and compact in area.


The race for the sky was under way when the Great Depression began in 1929. Frank Lloyd Wright suggested that a mile-high skyscraper might soon be possible, and plans were made for various projects. When construction halted in the early 1930s, New York City had two towers higher than 1,000 feet: the Empire State and Chrysler buildings. In spite of the nationwide boom in demand for offices, New York City still had more towers above 500 feet in 1930 than the rest of the country combined, a ratio that would not change until the 1980s. Beyond New York City, skyscrapers of more than 500 feet were located only in Baltimore, Chicago, Cincinnati, Cleveland, Columbus, Detroit, Hartford, Minneapolis, Pittsburgh, and Seattle. The largely decorative city hall in Philadelphia also exceeded that height. Another ten cities had buildings of 400 feet or more by 1930, giving the United States at least twenty-one “skyscraper cities.” Outside New York City, only the Cleveland Terminal Tower went higher than 700 feet. There were no functional buildings anywhere else in the world that exceeded 400 feet in the 1930s, although an apartment building in Buenos Aires came close. By 1931 the United States had wrested the “tallest in the world” label from France, because two American buildings surpassed the height of the Eiffel Tower. For a long time, nothing changed.

Because of the Great Depression, World War II, and the postwar suburban-housing boom, very little was built in most American downtowns for almost thirty years. During that period demand for office space slowly caught up with capacity, and motels were replacing hotels as the preferred place to stay for travelers. Consequently there was little need to erect skyscrapers. The first skyscraper era closed with the construction of Rockefeller Center during the 1930s, and the second era did not begin until 1958 with the erection of the Chase Manhattan Tower in Lower Manhattan. In most American downtowns, virtually nothing of any size was built between 1928 and 1963 (Pygman and Kately 1985).

The second era of skyscraper construction started very tentatively with relatively small, conservative glass boxes. When demand for office space rose during the late 1950s, corporations wanted, above all, to reflect the image of modernity and to disassociate themselves from the fussy, uneconomical towers of the predepression years. Enthusiasm for “less is more” glass and steel buildings inspired by Bauhaus ideology shaped the new additions to the American skyline constructed during the mid-1960s. The boom affected nearly every city in the United States with a metropolitan population of 500,000 or more by the late 1960s (Fisher 1967). Nearly all of the taller buildings were erected in the traditional downtowns, although there were some exceptions,
such as along the Wilshire Corridor in West Los Angeles and in Back Bay Boston (Fig. 5).

A good deal of construction was associated with urban renewal financed in part by both local and federal tax incentives. In cities across the country, old waterfront areas were razed and subsequently filled with gleaming new towers. A skyline of glass and steel demonstrated that a city had been economically revitalized and that downtown areas were not going to disappear from the urban landscape. New construction was especially evident in cities where large corporations sought to maintain the downtown land values. Much defensive development occurred as companies sought to protect a century of investment in downtown land and buildings (Manners 1974). Most of the towers were single use, usually for offices. Zoning laws tended to preclude mixed-use projects, and so the cores of the central business districts filled with office space, and other activities, including retailing, shifted elsewhere. Many downtowns became visually exciting from a distance but sterile and uninteresting at street level and completely empty at night. In San Diego, the fifteen-block core had more than 1,600 street-level doors in 1950 but fewer than 400 in 1970 (Ford 1984).

In spite of the office building boom of the 1960s, few downtowns were viewed as interesting and fun by 1970. Downtowns were widely perceived as cold, remote, and architecturally sterile. Tight clusters of towers were separated from the surrounding neighborhoods by parking facilities and
rows of deteriorating structures. The time for change was at hand (Wolfe 1982).

**Since 1970**

By 1970, the economic boom of the 1950s and 1960s led to new confidence among the builders of skyscrapers, whether private corporations, state or local government, or speculative developers. New “tallest in town” landmarks appeared, from the twin towers of the World Trade Center in New York City to the Transamerica Tower in San Francisco, but first place went to Chicago, where the Sears building soars to 1,450 feet (Fig. 6). Although they were still built in large numbers, the era of conservative glass boxes was ending. The economic downturn brought on by the oil crisis of the mid-1970s led to a short break in construction, but the gluttony of the 1980s created a skyline boom of unprecedented proportions. The most visible change in the American skyline during the past two decades is simply that there is more. The amount of office space has grown not only because of expansion of white-collar service employment but also because of increased levels of affluence, which have prompted companies to attract talent by offering employees top-floor office accommodations. Several other dimensions of American skyscraper construction have changed: function, ownership and management, location, and architecture. This era has been dubbed postmodern for a variety of reasons, but it remains to be seen whether there has been a real break with the past or simply expected change along a continuum.

**Functional Change**

Elsewhere in the world, tall buildings have been associated primarily with residential areas. The first skyscrapers in cities such as Buenos Aires and Montevideo were apartment towers. From the coast of Spain to the suburbs of Moscow, high-rise apartment buildings abound. In the United States, residential towers were rare outside the largest cities until recently. Now, however, residential towers of impressive size are found from Boston to Seattle. Three of the tallest structures in the San Diego skyline are residential, and there are plans for several more in the forty-story range. The legalization of condominium ownership for apartments has made it possible for builders to recoup their investments quickly on luxury projects and has made tax write-offs of mortgage interest available to purchasers. Although office towers still dominate the skylines of most American cities, residential buildings are increasingly competing for landmark status.

Hotels have also adopted the skyscraper form. The tallest tower in Detroit is a hotel, as was the case, until recently, in Atlanta. The advent of the downtown hotel/convention-center complex requiring several thousand rooms has spurred the construction of high-rise structures that attract not only individuals but also, and more importantly, organizations seeking meeting accommodations in “memorable” surroundings. The atrium-style Hyatt Re-
Fig. 6—Chicago. The Sears Tower, rising 110 stories or 1,450 feet, is the tallest office tower in the world.

gency Hotel in Atlanta, opened in 1967, played an important role in the latest round of monumental hotel construction.

To date, there have been few uses of skyscrapers other than for offices, residences, and hotels. The University of Pittsburgh failed to generate a trend with its 535-foot classroom tower, in spite of the obvious association with higher learning. In the future, mixed-use buildings are likely to become more important. The 100-story John Hancock Center, opened in Chicago in 1969, pioneered this trend, with one-half of its space devoted to offices and the other half to apartments. This division represents a full-circle return to the past: many of the most important prewar projects, including Rockefeller Center and the Terminal Tower in Cleveland, featured mixed uses. Increasingly strict zoning regulations from the 1940s to the 1970s served to discourage such projects, and not until the mid-1970s, when the sterility of downtown office districts had become evident, did mixed use return to favor. Several cities, including New York and San Francisco, began requiring retailing at street level to bring activity back to the city. Seattle, among other cities, offers zoning bonuses to mixed-use projects that include residential units. The economic crisis of the mid-1970s also encouraged a return to mixed uses, because it meant more options for occupying space on expensive downtown land.

The trend toward mixed-use projects is also associated with the ideology of postmodernism. The modernist agenda, which dominated urban development after 1945, sought to create cities of streamlined efficiency with
everything in its optimum location. Offices, factories, residential areas, and recreation zones were all carefully separated. Functional, no-frills architecture would contribute to a modern, uncluttered environment. A trend line of progress was envisioned, which featured a noble march from the messy chaos of the nineteenth-century city to the clean, efficient modern metropolis. Achievement of such a progression is now accepted as impossible. With skyscrapers, too, variety has become the accepted standard (Jencks 1981; Jacobs 1985).

OWNERSHIP AND MANAGEMENT OF THE SKYLINE

The changing scale of commercial construction in the United States has brought new economic realities to the fore. The most obvious and controversial trend involves foreign investment and ownership of American landmarks such as Rockefeller Center. At least until 1990, American land and buildings provided an ideal investment for problematic foreign capital. Condominium towers in San Diego and office buildings in Los Angeles were purchased with Mexican and Iranian funds. British, Canadian, and Japanese capital also flowed into the creation of the American skyline. Many downtowns seemed uncontrollable as short-term supply and demand were less important to investors than long-range profit.

American corporations also invested heavily in skyscrapers. During profitable times, banks, insurance companies, and large oil companies could find no better place to keep funds than in office towers. When the oil glut began in the early 1980s, Houston had many empty towers. Speculative building dates at least to Renaissance Florence, but the scale has changed in the modern world. Today it is sometimes difficult to read the city skyline and know if much of the space is actually being used. Overbuilding and overlending played major roles in the financial problems of the late 1980s and early 1990s.

The rampant proliferation of skyscraper megaprojects during the 1980s also resulted from structural changes in the development industry. Instead of small, specialized firms engaged in architectural design, engineering, and land acquisition, vertically integrated corporations appeared that could handle every stage of a project, from financing to management. Skyscraper construction became a self-contained operation with little or no outside supervision. Even when high vacancy rates existed or were predicted, large, confident firms seemed convinced that increasing product differentiation and market segmentation would prevail: there may be much available space, but it is not all alike. Most of this confident building has come to an end, at least temporarily.

CHANGING INTRAURBAN LOCATION

It is difficult to determine exactly when the first skyscrapers were built outside consensus downtown areas. The situation is complicated by the fact that New York City has two cores—Lower and Midtown Manhattan—and
the two have been competing in the race for the sky since the 50-story Metropolitan Life Building was erected north of the old downtown on Madison Square in 1909. Elsewhere in the country, it was very rare for tall buildings to be distant from the center of downtown. Perhaps a new trend was about to start in 1928, when the General Motors Corporation sponsored the Fisher Building more than two miles north of downtown Detroit (Fig. 7), but the Great Depression soon brought such innovation to a halt.

Today, the equating of a skyline with city center has less validity, because skyscrapers can be found in two distinct types of locations outside the traditional downtowns: midtown spines and edge cities. Midtown spines are usually spillover areas near the old downtown. They are often located along prestigious streets that link downtown areas with upper-income neighborhoods. In some cases, as along Peachtree Street in Atlanta, the spine is simply an extension of the traditional downtown (Fig. 8). In other cases, for example, Rosslyn in Washington, D.C., a political boundary allows for a very different set of development regulations across the river from the old core. Occasionally, as in Back Bay Boston, the tallest buildings in the city are located in midtown, because lots tend to be bigger and land assembly cheaper. In each of these examples, as in New York City, midtown is connected to downtown with a subway system.

Wilshire Boulevard in Los Angeles, the original "miracle mile," is perhaps the best-known American spine. In Phoenix, the spine, Central Avenue, has
become the office center of the city. In cities with midtown spines, the skylines have a loose weave, because the tallest buildings may be scattered rather than sited in close proximity. In other cities, such as San Francisco, Seattle, and Minneapolis, the skyline is still compact (Fig. 9). In Minneapolis and Cincinnati, the compactness is part of an overall plan to connect important buildings to a system of pedestrian walkways either above or below street level. Buildings that are not integral to such systems are peripheral. The economic, social, and aesthetic effects of this increasingly obvious city-differentiating trend have yet to be studied. At what distance does the importance of face-to-face access begin to break down? Will downtowns and midtowns gradually merge, or will they become increasingly separate as market segmentation occurs?

The newest trend is the suburban skyscraper. There has been office space in suburbia for a long time, but the appearance of large, prestigious developments with monumental office towers is relatively recent. Joel Garreau (1991) terms these places edge cities, although I object to his inclusion of midtowns in this category. Edge cities are vast projects with at least five
million square feet of office space and a wide variety of retailing and service establishments. They are nearly always located along the outerbelt or bypass freeways that encircle most American cities. Examples are Tyson’s Corners outside Washington, D.C.; Irvine in Orange County, California; and the Galleria outside Houston. The old models of city structure based on land-value gradients, access to markets, or distance-decay features lose significance when the whim of an investor can create a complex as big as downtown Kansas City on a metropolitan fringe. The skyscraper has become an economic and symbolic part of these new types of places. The tallest tower in an edge city is the Transco Tower, at 901 feet, in the Galleria district of Houston. Other notable examples include the twin-tower complex at Century City in Los Angeles, which rises 571 feet, the Prudential Town Center near Detroit, which is 448 feet high, and Tower Place, to 401 feet, in Atlanta.

The original reasons most often given for corporate moves to the suburbs related to the quest for green, parklike settings distant from the chaos and congestion of the traditional downtowns. It was soon evident that there were real advantages associated with face-to-face contact and a highly visible, prestigious location. Increasingly, corporations did not depart for rural suburbs but to a suburban meganode. Duplicating the pattern in downtown almost a century earlier, tall buildings began to appear as developers sought compromise densities that would allow people to meet, walk, and talk in interesting but reasonably serene settings. It is difficult to achieve this type
of setting and interaction, and many edge cities are now as messy and congested as the downtowns they sought to replace. Only rarely in the United States, and Century City is an example, has sophisticated overall planning approached the level found in La Défense, which is nonetheless controversial, in Paris or the Docklands in London. Tyson's Corners, for example, appears to be a jumble of widely scattered, unrelated buildings. It remains to be seen whether these developments will eventually fill in and become walkable and interesting at street level or if occupants will simply move to a less-congested edge city as certain size thresholds are crossed. The acceptance of well-designed and appropriately juxtaposed mixed-use skyscrapers will no doubt play an important role in determining if edge cities can be workable.

POSTMODERNISM AND THE LANDMARK TOWER

During the 1960s and 1970s, people who sought to build landmark structures usually relied primarily on size rather than architectural novelty to ensure recognition. Examples are the World Trade Center in New York City, the Sears Tower in Chicago, the John Hancock Tower in Boston, and the Seafirst Building in Seattle. In most cities towers with more than forty stories and a million square feet of space created a certain presence no matter what their external appearance. In recent years, many builders have sought to create easily recognizable structures by adding whimsical and colorful spires and other features of postmodern architecture. With such embellishments, even small structures can make statements. Of course, really large, highly decorated buildings can make even stronger statements.

The trend back to unusual and recognizable architecture began with the Transamerica Pyramid, opened in 1972, in San Francisco, and the slant-roofed Citicorp Center in New York City. By the 1980s, the ornate, pyramidal turret had largely replaced the flat roof, and detailed, solid-appearing materials had replaced modern glass walls (Fig. 10). Often new buildings closely resembled structures from the 1920s. The cathedral of commerce was back. Some notable examples are the AT&T building, at 648 feet, in New York City; One Peachtree Center, at 841 feet, in Atlanta; Bank One Tower, at 728 feet, in Indianapolis; First Interstate World Center, at 1,017 feet, in Los Angeles; One Liberty Place, at 945 feet, in Philadelphia; and Worldwide Plaza, at 739 feet, in New York City. The construction of the last was monitored in a public-television program and book called "Skyscraper" (Sabbagh 1991).

The trend toward postmodernism has generally been encouraged by city planners and civic leaders. Not only do the new buildings create a more picturesque skyline that makes cities appear less harsh and impersonal, but also some of the troublesome urban design problems associated with the glass box have been mitigated. For example, building regulations adopted during the 1950s and 1960s encouraged box-and-plaza designs, in which floor-area-ratio requirements were met by placing a sleek tower in the center of an open plaza. Open space was a good characteristic, but the result was
often a series of sterile, unused concrete deserts separating unadorned and boring glass towers. Fountains were sometimes added but had to be closed when "wind tunnels" caused pedestrians to be drenched. Postmodernism has brought back a preference for the tower with full coverage of the lot on lower floors and gradual setbacks higher up.

Postmodern structures can also be more easily accommodated in preservation projects, so that existing buildings can be integrated into the lower part of a tower rather than destroyed for a plaza of limited utility. This variation is an old European technique; the older buildings along a street are preserved and the new structure is erected in the interior of the block (Costonis 1974). At street level, the mass of the tower is softened by the existence of a traditional streetscape. Projects such as 101 California in San Francisco have pioneered these approaches.

Postmodern cities are also visually more appealing from a distance. The glass box often led to a wall effect, if several flat-topped buildings of the same height were erected close together. For example, during the 1970s, a dozen 40-story buildings were erected along Market Street in San Francisco, and the view from the south began to feature a half-mile-long glass wall 550 feet high. Today, the city encourages decorative towers, with more than one-half of a building's volume concentrated in its lower half. The trend is back to a city of spires. After a century of experimentation, Americans may finally be learning to erect beautiful and functional tall buildings and to integrate them into a successful, interesting urban context.
CONCLUSION

Nearly every large American city has an impressive skyline, and many suburban nodes are following suit. It is of some importance that the visual outline be read for the economic, planning, social, and aesthetic meanings. In the United States, if something can be done, it should be done, which means that skyscrapers are necessary and desirable. Only a few cities, such as Washington, D.C., still restrict building height, and even there suburban towers rise within view of the Mall. Cities with impressive skyscrapers fall into one or more of the following categories. (1) A large national or regional central place with many corporate offices and other types of information-age employment. Examples are New York City, Chicago, Los Angeles, San Francisco, and Atlanta. (2) Cities with large corporations that either have vast amounts of capital to invest or a vested interest in demonstrating building technologies. Examples include Houston, Dallas, Denver, and Pittsburgh. (3) Large state capitals and other centers of governmental and related employment. Examples are Boston, Columbus, Indianapolis, Albany, Denver, and Atlanta. (4) Cities with limited amounts of land in the central area. Examples are Seattle, Pittsburgh, Cincinnati, New Orleans, New York City, and San Francisco.

The skyscraper has become a worldwide phenomenon, for better or worse. Some of the tallest buildings in the world are now in Singapore, Hong Kong, Seoul, London, Paris, Moscow, and Saō Paolo. Other cities, such as Bangkok, Kuala Lumpur, and Johannesburg, are joining in the competition. Even Penang, a small city of 500,000 population in northern Malaysia, now has a 60-story office tower. Throughout the Mediterranean region, high-rise residential towers have become the norm, and in centers such as Benidorm, Spain, skyscrapers are appearing along the beach. From Melbourne to Montreal, the tower and the image of the city have become inextricably intertwined. It was in the American city that this relationship first came to be.

REFERENCES