

Chicago Skyscrapers, 1934-1986

A Book Talk with Thomas Leslie

The Cliff Dwellers — July 28, 2026

Summary

This video and the transcript below captures an evening lecture at The Cliff Dwellers featuring architectural historian and Cliff Dweller Thomas Leslie discussing his new book *Chicago Skyscrapers, 1934-1986*.

Patricia Natke opened the program on behalf of the University of Illinois Urbana-Champaign School of Architecture's Alumni Advisory Board. She welcomed the audience and introduced Francisco Javier Rodríguez-Suárez, the University's School of Architecture's Director, who in turn introduced Tom Leslie, the School's Ralph Johnson Professor of Design.

Leslie's talk traced how a two-decade construction drought spanning the Great Depression and World War II delayed Chicago's postwar skyscraper boom, even as architects and engineers quietly developed the technologies that would define it. He described the Great Migration's impact on housing demand and the innovative cooperative apartment projects of Henry Holzman and Herbert Greenwald. Leslie goes on to describe how Greenwald's partnership with Mies van der Rohe produced 860-880 Lake Shore Drive once the city finally modernized its outdated 1905 building code.

Leslie then turned to Chicago's return to commercial construction under Mayor Richard J. Daley's Central Area Plan. He covers important landmark buildings including Inland Steel, Harris Bank, Marina City, the Daley Center, the Brunswick Building, the John Hancock Center, and Sears Tower. Along the way he focuses on structural engineer Fazlur Khan's tube-structure innovations that made many of these buildings possible.

Leslie also addresses the more troubled legacy of public and cooperative housing, urban renewal, and their disproportionate impact on Chicago's Black communities. He highlighted projects like Lawless Gardens alongside better-known commercial landmarks. His talk closed with audience questions on apartment interior design and the racial dimensions of postwar redevelopment, underscoring the book's central argument that large-scale building is never a neutral act.

Table of Contents

[Patricia Natke \(00:00\)](#)

[Francisco Javier Rodríguez-Suárez \(02:27\)](#)

[Thomas Leslie \(04:51\)](#)

[A Second Volume on Chicago Skyscrapers \(04:51\)](#)

[The "Fallow" Years: Depression, War, and the Second City \(07:16\)](#)

[Housing the Great Migration: Cabrini Row Houses and Henry Holzman \(10:16\)](#)

[Holzman's Co-ops: Democratizing Ownership \(12:17\)](#)

[Herbert Greenwald and the Hunt for an Architect \(14:30\)](#)

[Mies van der Rohe's First Skyscraper: 860-880 Lake Shore Drive \(16:27\)](#)

[An Outdated Building Code and the Push for Reform \(17:36\)](#)

[The 1950 Code Rewrite and the Glass Box Emerges \(21:11\)](#)

[Downtown's Return: Prudential, Inland Steel, and Harris Bank \(28:25\)](#)

[Mayor Daley, the Central Area Plan, and the Civic Center \(33:51\)](#)

[Marina City and Chicago's Building Boom \(39:46\)](#)

[Engineering the Skyline: Fazlur Khan's Tube Structures \(46:12\)](#)

[The Hancock Center and Sears Tower \(53:14\)](#)

[Public Housing's Legacy and Closing Reflections \(57:40\)](#)

[Audience Q&A \(1:03:59\)](#)

Transcript

Patricia Natke (00:00)

It's my pleasure to see the architecture and also today highlighting the legacy of the Illinois School of Architecture. Our current Cliff Dweller president, Ann Sullivan, is an alum of the University of Illinois at Urbana-Champaign. Not only does she have her own firm, Sullivan Preservation, she is also a fellow of the American Institute of Architects, and our club's president this year.

I will make my comments brief because I will be introducing the director of the Illinois School of Architecture, Francisco Javier Rodríguez-Suárez. He will be introducing Tom. For nine years, Rodríguez-Suárez served as the dean at the University of Puerto Rico School of Architecture and taught and lectured internationally in Europe, Asia, Latin America, Africa, and the United States. He has his own practice and has won over 10 AIA Puerto Rico awards. He's also past president of the ACSA, the Association of Collegiate Schools of Architecture, where he was recognized as a distinguished professor.

But most importantly, Francisco is here because, under his stewardship, the school has really undergone a profound design, technical, and intellectual renaissance. His leadership has been a watershed moment for events like this, where there is outreach to cultivate new ideas and an exchange of thoughts. I speak on behalf of the School of Architecture's Alumni Advisory Board, where I'm here with Mike Toulas, who is also on the board and sitting with us today.

It's events like today that really show the school is outperforming other schools, and that shows the genuine support Francisco gives to professors like Tom, their talent, and their intellectual pursuits. It's great for the next generation of architects.

So please, a round of applause to welcome Francisco so he can do the introduction.

[Francisco Javier Rodríguez-Suárez \(02:27\)](#)

Thank you so much for that lovely introduction. Good afternoon, everyone. What a great place to have this presentation — I think there wouldn't be a better venue in Chicago to do this, and what a gorgeous day.

So I'm going to start by thanking the Cliff Dwellers club for supporting our University of Illinois at Urbana-Champaign School of Architecture and Professor Thomas Leslie for this book talk and book signing of his latest book, *Chicago Skyscrapers*, about technology, politics, finance, and race, which have shaped the city from 1934 to 1986. Taking a quote from Tom's last chapter, "Myth, Morality, and Meaning in State Buildings: Building at Large Scale Is Never Neutral. It concentrates resources and populations, alters a surrounding economic geography, and draws further investment and attention towards itself." Tom Leslie's comprehensive book looks at the modern era of Chicago skyscrapers, and he writes the narrative to view the skyscraper idea and the buildings themselves within the broad expanse of Chicago's history.

A bit about Tom. Tom Leslie spent seven years at Norman Foster and Partners in London. He worked on the Jocelyn Art Museum and the Center for Clinical Science Research at Stanford University. He has been teaching since 2000. He taught building science, history, and design at Iowa State University, the University of Technology in Sydney, Australia, the Bauhaus University in Weimar, Germany, the University of Bologna, and the McCormick School of Engineering at Northwestern University. In 2013, he was the Blue Family Rome Prize Fellow in Historic Preservation at the American Academy in Rome.

He's an alumnus of the University of Illinois at Urbana-Champaign, and I am proud he is now a full professor and the Ralph Johnson Professor of Design at the Illinois School of Architecture. Please let me welcome Thomas Leslie, my colleague, dear friend, and fellow Red Sox fan.

Thomas Leslie (04:51)

A Second Volume on Chicago Skyscrapers (04:51)

It's a great pleasure and honor to be here. This really does feel like a hometown crowd, being part of both the Cliff Dwellers and the Illinois School of Architecture — great honors, both of them. And this is a particularly appropriate place: we are in a post-war Chicago skyscraper. We could practically walk out on the deck and I could just point and say, "Well, that building was built such and such a year."

The book I'll be talking about tonight is the second in a series. In 2013 I published a book called *Chicago Skyscrapers, 1871 to 1934*. The idea there was to look at the physical fabric of the buildings and to try to establish what really happened — to tell their story not from the historian's lofty perch, but from the job site and the design desk, and to look at the technical transformations and innovations, and to tell a story about how architects, engineers, and builders here took all of those innovations and turned them into what we think of today as the Chicago style, the Chicago School.

The idea behind this second book, the post-war book, was at first to do the same thing: to look at the technical innovations that reshaped the skyscraper after World War II, and to see if we could tell a similar narrative about architects, engineers, and builders taking those raw materials and turning them into something really beautiful, something transcendent. I got a team of graduate students together about twelve or thirteen years ago and we started looking at these questions. We identified about half a dozen interesting, relatively transformative technologies — air conditioning,

insulated glazing, fluorescent lighting — things that would affect the fabric of the buildings.

The "Fallow" Years: Depression, War, and the Second City (07:16)

As we got into it, though, we realized the story was going to be different for this book. Even though architects and engineers were very much alive to the things that were going on and being invented, the timing was off. The major innovations and developments that shaped the post-war skyscraper largely happened during the 1930s and 1940s, but that decade and a half was a really fallow period for high-rise building in Chicago and throughout the country. The Great Depression and World War II meant that this was essentially a moribund, dead city architecturally. The innovation was happening — architects were certainly reading about fluorescent lighting and air conditioning and wondering if they would ever get a chance to install these technologies in an actual building — but Chicago was particularly affected by the Great Depression. From 1934 until about 1952, there was no commercial construction in the Loop of any size. That's almost twenty years, almost a generation of architects who come to Chicago, maybe wanting to be part of the Chicago School tradition, and don't get a chance, because there's absolutely nothing being built.

This is the era when a sports writer from New York calls us the Second City, meaning that Chicago has been left in the dust — the city is kind of dead. He writes about downtown being empty at five o'clock and basically says, "Stick a fork in that city, Chicago is done." We, of course, being Chicagoans, take the "Second City" label as our own and say, "Yeah, watch this."

What happens during those years, though, is really interesting, and I think the foundations for the amazing, transformative architecture of the 1950s, '60s, and '70s can be traced to things that go on during the Depression and World War II. We have to go back and look at some root sources that are a little unfamiliar, and in particular at the response the architectural and

engineering community had to the biggest demographic crisis Chicago faced: in the aftermath of World War I and throughout the 1930s, and eventually into the 1950s, Chicago was one of the destinations for the Great Migration. Blacks fleeing the Jim Crow South — I think it's fair to call them refugees — came here often unprepared for the jobs Chicago had, which were few and far between in the '30s, and came with all sorts of social needs the city wasn't quite prepared to meet.

Housing the Great Migration: Cabrini Row Houses and Henry Holzman (10:16)

We tend to think of the big housing projects that later became so problematic, but in the early years of the Great Migration, Chicago actually did a good job of housing not only its own residents but also this influx of people coming to seek a new life. One of the really innovative moments here was the Cabrini row houses — we think of Cabrini as part of Cabrini-Green, and these were the original public housing units on that site. They're not skyscrapers, but they were innovative in the sense that the architects involved, particularly a figure named Henry Holzman, who will play a role in the next few projects I discuss, brought new ideas to bear. Holzman was trained as an architect and had run a failed automotive production company in the early twentieth century, but he took the lessons of that failure — what he'd learned trying to compete in the automotive world — and tried to apply them to buildings: looking at family housing as something that could be mass-produced, or at least prefabricated, finding ways to cut costs while squeezing as much quality out of them as he could.

The Cabrini row houses were designed by a team of architects, with Holzman as one of the leaders. His innovations included things like concrete floors, which were relatively new in low-cost housing, and thoughtful arrangement of the units themselves. The row houses had single or double units on the lower floors, mostly for elderly residents, and family units —

two, three, four bedrooms — above. Holzman's idea was that there would always be someone on the stoop watching the kids while the families lived above them, so the demography was mixed, and the construction was remarkably efficient. These buildings are still standing, though they're threatened right now; there's a preservation campaign to keep at least some of them as an example of these early, innovative techniques.

Holzman's Co-ops: Democratizing Ownership (12:17)

Holzman went on to develop his own company — not only a contracting company and a design company, but also a financing company. His idea was that you could take a financing scheme known as co-ops, cooperative housing or mutual ownership — something wealthy families had used to buy apartment buildings on Lake Shore Drive, the classic 1920s buildings, which were often mutual ownership or co-op, where you bought a share of the building and needed an awful lot of legal and financial help to do it — and democratize it. Holzman said you could essentially buy an apartment (this is before condominium legislation): "You could buy an apartment, we'll do all the legal work for you, we'll do all the financing, we'll run the apartment building. You'll buy a share, but we'll help you do that." This made the co-op something the middle class could afford and access.

Holzman also applied the ideas he'd gained from the row houses to these projects — Park Lake Gardens on the South Side, Winchester Hood on the North Side, Lake Lunt is another one. In 1952, after Holzman had built some of these, a British delegation came to Chicago; they also went to Washington, New York, and Oakland, California. When they were done, they said Holzman's buildings were the only modern things they saw in Chicago, even in America. This is someone really looking at whatever technology was available — at this point, reinforced concrete, prefabricated brickwork, prefabricated window jigs — finding ways to make good housing out of relatively cheap materials. These buildings are still around; one is in

Evanston, the Sherman Garden Apartments, which was very successful at housing middle-class faculty, in this case for Northwestern — one of the earliest attempts to house young, up-and-coming faculty who couldn't afford one of the nice houses on Orrington Avenue but wanted to buy into a mutual ownership scheme.

Herbert Greenwald and the Hunt for an Architect (14:30)

Here's where it gets interesting: Holzman not only designed the buildings, he designed the financing around them. This is the prospectus for the Sherman Garden Apartments, and he explains, with little cartoons and terse, pithy phrases, what it means to buy into a co-op. If you look closely, his agent for this — also one of the people who helped fund the project — was a young entrepreneur named Herbert Greenwald.

Greenwald had been a student at Yeshiva University; his parents wanted him to be a rabbi. He dropped out and instead came to the University of Chicago to study in the Great Books program, at which point his parents cut off his tuition, as you might expect. Greenwald put himself through school by working for Holzman. Sherman Gardens was his first step outside the nest: he hired Holzman to do the design and construction and to advise on financing, but Greenwald raised the money himself. After the success of those apartments, Greenwald bought a site on the South Side, on Lake Shore Drive, near the Museum of Science and Industry. Being young and a bit naive, he thought, "I'm going to get the best architect in the world to design my co-op building." He asked Frank Lloyd Wright, who said, "Sure, for a million-dollar fee, I'll do it." He asked Eero Saarinen, who was too busy. He asked Walter Gropius, who wrote back and said, "Why are you writing us? The master of us all is right there in Chicago" — Mies van der Rohe, who was teaching at IIT and had always wanted to do a skyscraper. "Why don't you ask Mies to do it?"

Mies van der Rohe's First Skyscraper: 860-880 Lake Shore Drive (16:27)

Greenwald hired Mies — this is when Greenwald and Mies started their long working relationship — and he also hired Holzman, both as a construction expert and as a financing expert. What Mies, Greenwald, and Holzman did was build a co-op on the South Side — not for Northwestern faculty this time, but mostly for University of Chicago faculty. It combined Holzman's ideas about finding available technology — simple reinforced concrete, a pan-joint system typically used on factories at the time, exposed brickwork, off-the-shelf windows — with Mies's way of organizing, detailing, and punctuating those materials to make not just an acceptably beautiful building, but one that got an awful lot of publicity. This was Mies's first skyscraper; he had been publishing ideas about skyscrapers for thirty years at this point, and Greenwald and Holzman were the people who finally enabled him to build one.

An Outdated Building Code and the Push for Reform (17:36)

Historians today look at this building and say Mies was being a little tentative — you can see what's coming with the glass box, but the windows are big without being that big, and the concrete is exposed but subtly so. The issue here isn't that Mies was being tentative; the issue is that Chicago by this point was really behind the times. Chicago hadn't been building high-rises — there were no high-rise commercial buildings being built in the Loop — and this was one of the first high-rise apartments to go up after the war. The problem was that Chicago had a building code that, by this point, was about twenty-five years out of date. If you go back and look at the 1941 code, under which Mies was working, what Holzman, Greenwald, and Mies were dealing with was essentially a nineteenth-century building code — what we'd call today a prescriptive code, where the city actually tells you how to build your building. The 1905 City of Chicago was, in effect, telling Mies van der Rohe how to build a skyscraper. If you read the relevant pieces of the code, you find that

when you have an exterior wall, you have to have a sill that prevents fire from coming out of one apartment and going up into the one above — that sill has to be three feet high and it has to be brick. And that is exactly what Mies had to do. So this isn't Mies tentatively exploring an idea; this is Mies building to the absolute limits of the Chicago building code at the time. Mies and Greenwald were fine with it — they knew the rules and understood what they had to work with — but other developers were not.

When New York Life began to look at doing a similar but much larger apartment complex, what became Lake Meadows, they were the ones who really pushed the city, saying, in effect, you have this tradition of innovation, and yet your code is twenty, thirty, forty years out of date. Lake Meadows was one of the earliest projects of what was then called urban renewal or slum clearance — the idea that New York Life and the city needed to take some of the really awful, exploitative rental housing on the South Side and replace it with more modern high-rises. New York Life funded the project but was concerned about the antiquated code; seeing projects like Promontory in development, they understood there were real limitations to what they could actually do. So developers began agitating for the city to change the building code, realizing that if there was new housing, there might also be new commercial construction. Under pressure, the city finally relented and hired John Merrill, a partner in Skidmore, Owings and Merrill. Merrill and his committee, at the end of 1950 — this made a really interesting headline in the Tribune that day — came up with a new building code that was not prescriptive but performative, telling architects essentially: we just want the building to be fireproof; maybe you know better than we do, or better than our forefathers did twenty-five or thirty years ago.

[The 1950 Code Rewrite and the Glass Box Emerges \(21:11\)](#)

What the new code did is what building codes typically do today: it established a set of performance standards for various pieces of the building.

So if you were trying to build a window in a wall under the 1950 code, it told you that if the wall faces a street, it has to last one hour in a fire — enough time for the fire department to arrive and put it out, so the building wouldn't be in any great danger. If you look up the definition of a "one-hour wall" elsewhere in the code, it says the wall can have a window of any size you want, provided certain conditions are met. What this meant was that Merrill had very quietly allowed for the disappearance of that brick spandrel, that brick sill. For the first time, not just in Chicago but anywhere in North America, there was a building code that, read correctly, allowed you to build an all-glass skin on the outside of a building — something Mies had wanted to do since 1922.

New York Life went ahead and built Lake Meadows: as soon as the new code dropped, they hired Skidmore, Owings and Merrill — funny how that works. SOM designed buildings that came close to the all-glass ideal, but they still had sills, used partly to hide the heating coils; they were still solid sills. Mies van der Rohe's office and Herbert Greenwald had a different idea: they went on to build 860 and 880 Lake Shore Drive, the first floor-to-ceiling glass windows in Chicago, the first of the "glass boxes." If you go back into the Chicago Building Department records, what's interesting is that the permit set for 860-880 was filed less than three weeks after the new code went into effect — January 20th, 1950 — which is just about the time it would take to put a permit set together. So you can imagine Greenwald and Mies sitting down together saying, "This is finally our chance — Mies has been waiting to do this for thirty years," rushing a permit set together and building the first floor-to-ceiling glass building not just in the city, but in North America.

There were advantages to this approach that contractors liked too. One construction photo shows Promontory, where a dozen or so bricklayers would take about a week to lay the brick sills for each floor. By contrast, at 860-880 Lake Shore Drive under construction, you see two guys with a stack

of prefabricated aluminum-frame windows putting together about a floor every two days. The construction was faster, took up less space, and was much lighter — and, if you're Mies, it gave you the glass box, the glass skyscraper he had been promoting for twenty or thirty years.

860-880 is a revolutionary building in a lot of ways: a steel-framed building with floor-to-ceiling glass windows. It was missing one crucial ingredient, though — it was not air conditioned, believe it or not. This wasn't yet a standard item in residential construction; you just opened the windows and hoped for the best.

Further north, almost immediately after 860-880 opened, a building that I think actually took the extra step — and maybe in our minds should be considered the first true glass box — was built by an entrepreneur and young architect named Milton Schwartz. Schwartz had attended the University of Illinois School of Architecture, though he didn't graduate from there; he was the son of a family that had a heating, ventilation, and air conditioning business out on Roosevelt Road. Schwartz looked across the street from the apartment he was living in, saw an open lot on Oakdale Avenue, and got together with his father and uncles, saying, "We can do 860-880 one better — let's build the first all-glass, air-conditioned skyscraper apartment building in Chicago." It's important, because air conditioning, as noted, was one of the major technologies being looked at as a game-changer. 320 Oakdale is really the first apartment tower, and one of the earliest skyscrapers in Chicago, to put all these pieces together: floor-to-ceiling glass, high-rise structure, and air conditioning. Schwartz marketed it as such, and Commonwealth Edison was one of the sponsors of the project — they obviously would love to get people to buy electric air conditioning as well.

You can tell this building was influential because the next round of buildings that Greenwald and Mies did completely flipped the script: they adopted what Schwartz was doing and did it in a Miesian idiom. So the

Commonwealth Promenade Apartments in Lincoln Park, and the Esplanade Apartments at 900-910, are concrete-frame buildings with air conditioning installed in the buildings themselves, and they too have floor-to-ceiling glass. But if you compare the classic glass boxes — 860-880 with 900-910 or with Commonwealth — you notice a couple of interesting things. One is that although steel was tried at 860-880 as a structural material, because it's so deep, concrete ends up being the material of choice for high-rise apartment construction — there are three extra floors in 900-910, and the building is about the same height as 860-880. Equally important, you can see the skin coming off of the structure, because the air conditioning pipes — a chilled-water system — have to be woven in between the structure and the skin. So 860-880 is often thought of as the purer architectural expression, but that's because it doesn't have the sophisticated environmental system that 900-910 or Commonwealth do.

[Downtown's Return: Prudential, Inland Steel, and Harris Bank \(28:25\)](#)

All of this took place in the early 1950s. Chicago wasn't quite waking up yet, but there was starting to be construction, and starting to be innovative thinking about how to put all these technologies together. The catalyst for commercial construction downtown was a series of projects by companies that wanted to invest in speculative office buildings, but also to make a statement of faith in building in the city. The first to do this was the Prudential Company, an East Coast insurance firm. They wanted to build a regional office, but also office space they could rent out. In the early 1950s they bought a spot at the head of Grant Park — a foolproof site; who wouldn't want their office overlooking Grant Park? They built a tower that was the first skyscraper in downtown Chicago since 1934.

To do it, though, they ran into another problem the city had, which was — in addition to an antiquated building code — an antiquated zoning code. The limitation on how much building you could construct was based on volume:

you could build 144 times the square footage of your lot in cubic feet, and if you do the math, that's about twelve stories. So what Prudential had to do to build its building was actually buy the air rights above the blocks around them and stack all of those air rights on top of one another to get to the size of building they thought they could comfortably make a profit with — essentially taking all the value from those blocks and condensing and stretching it upward. It worked for Prudential because no one else at the time wanted to build east of Michigan Avenue, so they could buy those air rights fairly easily.

But downtown, in the Loop proper, this was a real problem. Inland Steel — designed by Skidmore, Owings and Merrill's Chicago office, one of their major commercial commissions — was a local company; even though their steel mills were in Indiana, they wanted to build in Chicago to help prime the pump and get the local construction industry going. They were only allowed to build seventeen stories, and to do even that they could only build on about 60% of their lot — this was basically the tallest skyscraper you could build in downtown Chicago at the time. Interestingly, it went up just a couple of years after Prudential and got a lot of headlines as the first skyscraper in the Loop in twenty years. This gets at the Chicago way of finding architectural meaning or beauty in raw materials: Prudential essentially covers everything up, while Inland Steel takes a very different approach of celebrating the structure and the material — stainless steel is an inherently shiny, attractive material, and SOM was able to detail it in a way that feels forward-looking. The Prudential Building got a lot of press as the last building of the pre-war era, even though it was completed in 1952; Inland Steel is rightly considered the first skyscraper of the post-war era — the first one that looks forward.

What finally resolved the zoning issue was that when Harris Bank, about a block from Inland Steel, decided they wanted to build new headquarters, they had to build on their whole lot because it was in the middle of the block

— and that's what SOM was able to do for them: a twelve-story bank building. Harris Bank went to the city and said, essentially, "We're stuck between these two nineteenth-century buildings that are both taller than we're going to be able to build — we need to do something about this." Harris was very well connected, and the city council passed the floor-area-ratio zoning code, which allowed you to go up higher — first of all, sixteen or seventeen times your lot area downtown — but also gave you some flexibility: if you added certain amenities at the base, you could add to your allowable height. So Harris Bank built their headquarters, then took their revenge by knocking down the nineteenth-century building right next to them so they could build even taller. So Harris Bank was the first step in breaking through the older zoning code.

Mayor Daley, the Central Area Plan, and the Civic Center (33:51)

So Chicago had started tentatively rebuilding, and had started removing some of the barriers to building tall. But it wasn't until 1955 that this really took off — and the reason for Chicago's explosive growth wasn't down to technology, it was down to a mayor's vision. In 1955, Richard J. Daley became mayor of the city of Chicago. He had been city clerk and president of the Cook County Democratic Organization; he slated himself to run for mayor, and after he won, he didn't give up the chairmanship of the Democratic Party. This let him pick and choose who ran for city council, and he used this to turn what had historically been a weak mayoral position into the strongest mayoral position in the United States.

Part of Daley's vision was to remake the downtown area. He had a vision he called the Central Area Plan, and in the first weeks of his administration he took business leaders and people from the city planning department to Detroit and Pittsburgh. He pointed out that both cities had massive urban redevelopment plans underway — to be fair, not entirely successful, though at the time no one knew that yet. They came back to Chicago and Daley said,

"Get busy, we need to do the same thing." That contingent came up with what's called the Central Area Plan, which went into effect in 1957. It is essentially a blueprint for rebuilding the city to nourish the Loop, giving it all the transportation and facilities it needed to thrive as a corporate center. So there were new transportation facilities — this is what finally got the expressway system built, for better or for worse, and part of what got O'Hare Airport underway. There was also investment by city, state, and — hopefully — federal government, and the idea that housing would be one of the ways the city rebuilt itself.

The Central Area Plan focused a lot on transportation, and that's where most of the histories of this plan tend to look. A lot of people think of the expressways as draining the city out to the suburbs, but in Daley's view, the expressways were going to allow people, if they chose, to live in the suburbs while still coming into the city to work — making it easy for the corporations he wanted to see in the Loop to bring workers in from the suburbs. The central plan committee also had ideas about government reinvesting in itself: this is the original scheme for the Civic Center, what we now call the Richard J. Daley Civic Center. We're looking west here, so it's backwards; on the left is the tower that Daley wants to use to consolidate all of the city's offices. His idea is that if everyone working for the city is working downtown, that will be the seed that convinces retail to move back downtown, and that in turn will make an attractive place for corporations to move back downtown as well. Ultimately, they realized that if you put the tower on the north side, the plaza would actually be in sun instead of in shadow. Beyond that is City Hall, but City Hall re-clad — stripped of its old-fashioned Corinthian colonnades and dressed up with something much more technocratic, much more modern-looking, in Daley's view. Notice the balcony on the fifth floor: this is where Richard J. Daley would come out and address the masses — his version of St. Peter's.

The Daley Center is the city's investment in itself, and it's Daley's investment in the idea that downtown can be a thriving place. It is technically very advanced: the idea is that with 90-foot spans instead of 30 or 40-foot spans, you could move courtrooms and offices around as needed. In practice they never did that — the courtrooms have always stayed exactly where they were. But there's also an awareness that the "Miesian" idiom people were beginning to associate with Chicago could be a real trademark. This is a city that builds in steel, and so the city's own office building, the city's own representation of itself, should also be in steel.

It has sometimes been called the best building Mies van der Rohe never designed, because he had nothing to do with it. It was actually designed by a consortium of C.F. Murphy; Loeb, Schlossman, Bennett & Dart; and Skidmore, Owings & Merrill. Jacques Brownson, the designer for Murphy, was a Mies acolyte, and the story he used to tell was that Mies, who by this point was elderly and not getting around much, asked Brownson to drive him by to see how it was going. Mies looked at the building and said, "Well, I wish I had done that." Brownson's response was, "My whole career has been made."

What Mies did get to do was the federal government's investment in the Loop. The Daley administration convinced the federal government to knock down the old post office that had stood at Dearborn and Adams and to build not only a new, low, square post office but also a new courthouse behind it, the Dirksen Courthouse, and a new office building, the Kluczynski Building. The idea, again, was that the federal government had offices scattered all over the city, and Daley wanted them consolidated so there would be a critical mass of workers in the Loop every day to support retail and add to the sense that the Loop was a lively place. So the federal government was investing in the Loop, and the state did too, though it took until 1984 for the state to build its office building.

Marina City and Chicago's Building Boom (39:46)

The other major component of the Central Area Plan — one that I think gets overlooked a lot — is housing. The plan made it easier, through tax incentives and things like allowing mixed use, to build housing near downtown, so that the corporations Daley wanted to attract would be nourished by a population of workers nearby. And this wasn't just for executives — he wanted housing for the clerks, the secretaries, the administrative people who help run the companies. He had an alliance with the downtown janitors' union, who also had an interest in people working downtown and things getting built downtown, and that union funded the first of these projects: an apartment complex, Marina City, just across the river from the Loop.

Bertrand Goldberg, the architect, was very union-friendly — he'd done work for the union before — and he had a vision for what he called a "city within a city." Today we take it for granted that a complex might combine offices, apartments, commercial space, and recreational space, but at the time this was radical, not just for Chicago but for any city in North America. The administration rushed through an urban development ordinance allowing this mix of uses on any site larger than four acres, and Marina City was the first project permitted under it — even though its site was actually only three and a half acres, a detail no one seems to mention. It was so important to get one of these prototype buildings built that the city essentially waived the requirement and said, let's just build this thing.

Marina City was also technically innovative. It was one of the first skyscrapers anywhere to call for high-strength concrete — instead of the usual 2,500 or 3,000 pounds per square inch, it used concrete rated at 4,000 and 5,000 psi. It also used fiberglass formwork for the first time in America: McHugh Construction developed fiberglass forms, essentially built like little boat hulls, to create the complex curvature that forms Marina City's corn-cob-shaped perimeter. Structurally, it was a kind of proto-tube structure, an idea

I'll come back to. But I think what gets overlooked about Marina City is that it was socially innovative as well. The Daley administration went to Washington and asked the Federal Housing Authority to allow mortgage insurance — which had usually been used for suburban single-family houses — to be used instead for the construction loan on a high-rise apartment building. The FHA agreed, the first time this had been done, and it became a way of taking legislation that had been supporting the suburbs and bringing some of that support downtown.

It was also, interestingly, one of the first integrated apartment developments in Chicago. People are always surprised to learn that Marina City, from 1961, is one of the first four apartment buildings in Chicago where it was illegal to discriminate on the basis of race. Part of that is because it was FHA-funded, but part of it is also that the janitors' union was itself an integrated union and refused to let the management discriminate on that basis. It got a lot of coverage — all kinds of magazines covered it, including *Ebony*, which noted that for the first time in Chicago, Black residents could live within walking distance of the Loop, giving them proximity to the jobs and amenities there.

So there was this blueprint the Daley administration had come up with, the Central Area Plan, and it slowly got put into place. They announced the Daley Center — the civic center — in 1959, as a way of letting corporations know the city was going to do everything it could to make the Loop a vital place. And it worked: local and regional companies like Continental Insurance began to invest too, because their investment was going to be relatively secure — there would be a thriving Loop because of all the government employees, so there would be retail their workers could use, and workers in proximity, whether by walking from new downtown developments or, for those who chose to live in the suburbs, by driving in on the new expressways. Continental Insurance was one of the first to do this, with its headquarters building on Wabash. It's in the same style as the Civic Center — they hired the same firm, C.F. Murphy, and Murphy again

had Brownson design it — establishing a common language for what a Chicago skyscraper looks like.

We think of that as the Chicago school, but what's interesting is that as companies began to invest, building their own headquarters or speculative buildings, real momentum built up, and even though a lot of similar-looking buildings went up, the variety was actually pretty interesting. Perkins and Will did a building for U.S. Gypsum, sadly no longer standing, that they called a "prairie-style skyscraper." This got sniffed at by hardcore modernists like SOM, who did the Equitable Building nearby. And then there were wilder buildings that are off the chart entirely, like the Blue Cross Blue Shield Building at 55 West Wacker, a brutalist concrete building that feels almost misplaced compared to this steel city. All of these were technically innovative and highly functional — they all did their jobs well — but they also embraced the idea that a language of materials, structural techniques, and cladding could be shaped without a lot of decoration or concealment, to tell the story of how they were built.

Engineering the Skyline: Fazlur Khan's Tube Structures (46:12)

The Equitable Building is interesting as a link to the skyscrapers everyone probably thinks of when they think of Chicago. It's a building very much like the Prudential Building, occupied partly by the insurance company itself but also leased out on a speculative basis. By this point, architects at firms like SOM had gotten very good at getting exactly the right lease spans, the exact right distance between the core and the curtain wall, and exactly the right floor-to-ceiling height. Steel works well for commercial buildings because the space that's left empty above a dropped ceiling in an apartment building — which can't be reused — can, in an office building, be filled with ducts, so you're using it twice. This looks, at first glance, like a fairly typical steel-frame building of the era.

But there's an interesting story that the lead structural engineer at SOM at the time used to tell. They were trying to get the building stiff enough to resist the wind — not that it was going to fall over, but that it needed to be stiff enough to be comfortable — and they were also trying to get the office ceilings as tall as possible. It's a familiar story: architects want more space, engineers want more structure. He talked about how they decided that they could make the structure on the outside of the building deeper, taking a couple of inches off the window but still giving a tall ceiling in the offices behind, and the architects said, fine, let's do that. But as he did the calculations, he realized that making the outside of the building stiffer was exponentially more efficient at bracing against wind — that what he'd actually done was turn the building into a giant hollow column.

The way I explain this to students is to imagine a paper towel roll: you can stack books on top of it just fine, but if you slice it up the middle and roll it up tightly, the moment you put weight on it, it will buckle and snap in half. What he realized is that by putting most of the structural material on the exterior of the building, you can turn the whole building into a kind of super-column — take it from being a skinny piece of cardboard, roll it into a paper towel tube, and the entire building becomes a super-column.

He had a young protégé named Fazlur Khan, a proud University of Illinois graduate, who took that concept and developed what he called a tube structure for the Brunswick Building, another commercial building, done in concrete instead of steel. Khan experimented with making the entire exterior of the building the predominant structural system: Brunswick still has a concrete core in the middle, but the exterior does most of the work. Khan wrote about trying to make the building essentially think of itself as surrounded by four heavy concrete walls pierced with windows, where the connections between the concrete sections are so stiff that the four walls act like shear walls, bracing the building against wind. And it worked — the building was extremely efficient against wind loads.

The next big building they got was the DeWitt-Chestnut apartment building. They had a site right next to 860–880 Lake Shore Drive, and — funnily enough — the SOM architect Bruce Graham didn't want to hide behind any of Mies's buildings, so instead of building two smaller towers, they built one tall one. The planning was such that they couldn't fit shear walls anywhere on the inside of the building, so Khan designed the entire thing as a tube, and realized that this was actually much more efficient at bracing against wind than if the wind bracing had been scattered throughout the structure. It was a proof of concept that the tube structure was really efficient, particularly for tall buildings.

Two blocks away, a few years later, a developer named Jerry Wolman from Washington, D.C., bought a piece of land on Michigan Avenue. He wanted to build a mixed-use project, like Marina City — an office building on one corner, an apartment building on the other. SOM got the commission and played around with siting the two buildings. There was a small club on one corner that they thought they could buy out to make room for both towers, but the Casino Club never sold — they held out — and the two buildings couldn't be made to work on the remaining site with the club there: the apartments would look into the offices, and the offices into the apartments. Not a great situation.

The story Bruce Graham tells is that at some point Fazlur Khan, the engineer, took the apartment building off the model and put it on top of the office building, saying this was the only way to make it work. Graham looked at it and thought it was great — you'd be putting the apartments way up in the air, everyone would have a lake view or a city view. As Khan started looking at the resulting shape and mass, he realized you could accomplish three or four things at once: the building wanted to be wider on the office floors, since the ideal span for an office is bigger than for an apartment, and wanted to get smaller toward the top. Khan thought that was great — like

the Eiffel Tower, you could spread the building's feet out at the base, reducing the amount of sail area at the top, making for a really solid shape.

They tuned the slope of the building so that the apartments at the top were mostly windows; as you came down, the apartments got a bit too deep, and then they switched to offices, which started out a little too shallow and got deeper and deeper until, near the bottom, they got too deep for offices, so they put in parking. And when the parking became inefficient at the very bottom, they put in a department store. So the program and the structure were both tuned to the shape of the building. The next step, they reasoned, was to make the whole building a tube — out of steel instead of concrete — but put all the wind bracing on the exterior, so it works like a paper towel tube. Then they turned that tube into a truss, essentially taking an old railroad truss bridge and turning it up on its side. So Khan was combining three or four different structural ideas at once.

The Hancock Center and Sears Tower (53:14)

As a result, when the Hancock was built, if you take the weight of the steel that went into it and divide it by the building's square footage, it weighs about half as much as any other steel skyscraper built to that point. That saved enormously on the cost of the steel, and also on the foundations, since the building wasn't holding up nearly as much weight — and because the steel members are all smaller, you get bigger windows. The foundations were actually problematic — one of them collapsed and the building was put on hold for a year, Wolman went bankrupt, and the financing company, the John Hancock Company, took the project over. The Hancock Company worried that all the exterior trusswork would get in the way of the windows and views, but when they began renting the apartments, they found that everybody wanted a unit with a piece of the truss visible — that became the signature of the building, and an apartment without a truss seemed almost pointless. Great lake views, I suppose.

The Hancock got written up in some surprising places — including Popular Mechanics. As an architect, I think we should all aspire to be in Popular Mechanics; it says something about how the building wasn't just a technical achievement but also an expressive one — you can look at it and get a real sense for how it works.

Interestingly, just as the Hancock was finishing up, Sears Roebuck, which had historically been located out west, became one of Daley's biggest prizes: they said they wanted to move their entire operation into the Loop — they were already on the West Side — and wanted a million square feet of building downtown. They were so confident the city was coming back that they would build 3 million square feet of speculative office space on top of that. They wanted their corporate offices to have very deep floor plans; they didn't care whether their workers had windows. But for any space they planned to lease out, they wanted lots of windows — attractive, leasable office space. The way Graham tells the story, they said, we just did one of these — the Hancock, it's great, we'll do the same profile, big floor plates at the bottom, small floor plates at the top — and Sears said, no, no, that's such an iconic thing already, we need our own shape.

So Khan said, fine, we'll do the exact opposite: instead of lightweight trusses on the outside, we'll do what he called a bundled tube. He made very stiff steel connections on the exterior, much like Brunswick, but did that nine times over, tying the nine tubes together so they lean against each other, bracing one another against the wind. As the building rises, it's cut back three or four times, which means that on the lower Sears floors you have four corner offices per floor, but as you go up you get six corner offices, then eight, and by the top you basically just have a window — a mechanical space and a window. Sears was wildly successful at first, though today it's difficult to know what to do with those big lower floor plates. Sears is famous for being big — it was the world's tallest building when it was built. The Hancock was actually two feet shorter than the Empire State Building; they

didn't go for the record, and Khan said the right thing about it — that it just didn't make economic sense to go even a story taller. Sears is famous for being big; the Hancock, I think, is famous for being good. And I think the Hancock encapsulates a lot of what this story has been about — trying to find the art in the technology, in the materials.

There are a couple of other tube structures worth mentioning: the Standard Oil Building, now the Aon Center, right behind us, was a tube structure done by Edward Durell Stone, the New York architect. And of course there are lots of other skyscrapers that explored these ideas, tucked into the canyons between these big buildings.

Public Housing's Legacy and Closing Reflections (57:40)

I always like to finish by coming back to housing — the skyscrapers that don't often get talked about in the heroic histories of the city, because alongside these successes was also the legacy of the public housing skyscrapers that didn't work. I think it's important to look at these alongside the successful ones, and a lot of them were designed by some of the same firms — Pace Associates, one of the firms that worked with Mies, also designed some of the public housing at the Green Homes.

The idea that struck those of us working on this was that skyscrapers do what the old line says: they concentrate whatever you're putting into them. If you're concentrating wealth, that's likely to be successful on some level. But if the skyscraper is your answer to the problem of the Great Migration, and the end result is aldermanic privilege and the city refusing to accept even small public housing developments in certain neighborhoods, then what you're really doing is concentrating the problems people are having. These projects were, of course, disastrous, and I think they're an important lesson to look at alongside successes like Marina City and the Hancock.

In between, though, I think there are also buildings that deserve to be looked at more closely — public housing in particular on the South Side that resulted from public-private partnerships. Lawless Gardens was a great example: a privately funded but publicly supported middle-class housing project in Bronzeville, just southeast of downtown. It was founded by Dr. Theodore K. Lawless, a dermatologist and one of the first Black faculty members at Northwestern, who originally just wanted to build a community bank. It turned out to be easier for him to apply for a federal loan for a large subsidized housing project than to get a loan for a corner bank, so he decided to apply for the housing loan, build the housing, and then put a bank in the base.

He hired a young IIT graduate, a Black architect named John Moutoussamy. The people doing the financing were skeptical, since this was just one person, so Moutoussamy partnered with Dubin, Dubin & Black, a residential firm. Together they not only did Lawless Gardens but went on to design residential high-rises throughout the city, drawing on the tube-structure innovations Khan had developed and finding ways to scale them down to buildings of 20 or 30 stories. Their work crops up all over the city. In 1971, when the local AIA chapter gave out its awards, two of the finalists were the John Hancock Center and Lawless Gardens — and Lawless Gardens won; the Hancock did not. To me, that speaks to a less visually ambitious but arguably more thoughtful approach to a problem that was, in many ways, far more serious.

Just to finish up: the post-Mies, post-Daley chapter of the book looks at how the Chicago school tradition splintered into a rich set of approaches to interpreting that legacy. There are buildings that are certainly Miesian — the IBM Building, one of the last buildings Mies did, set the template for a lot of work after his death in 1969. Some of his disciples, like the firm Fujikawa Johnson, went on to do buildings like the Chicago Mercantile Exchange, which are Miesian in spirit but begin to find new formal interest and energy

within that idiom. Then there are other approaches, like Harry Weese, who looked for a more human-scale way to make towers work; postmodernists like Larry Booth, who designed the interior of this space; and architects who mix and match, like Helmut Jahn, who looks toward history while also integrating contemporary approaches to technology.

It's always been important to me that the research I've done on these buildings looks as much at process as at the finished product, and so when I've talked with the publishers about what to put on the cover, I've always said I don't want a building — I want to see the people who are doing the building. We looked very hard, back in 2013, to find the two workers on the cover — a student of mine nicknamed them Ernie and Bert, and that's stuck ever since; they're eating peanut butter and jelly sandwiches on it. For this more recent book, this image seemed really appropriate to me, because it's a worker who's welding rather than riveting — the technology has changed — but you can see, in the background, the city that the Hancock, in this case, is rising up from. I thought that was really poignant. It wasn't the image I wanted at first; somehow the publisher didn't think it would sell. To me, this is much more Chicago.

So I'll leave it there. Definitely time for a break, and thanks again for coming out tonight.

Audience Q&A (1:03:59)

There was time for a couple of questions from the audience. One attendee, who worked in real estate and described being very familiar with residential construction, said it was great to hear the presentation about how these buildings were built, but asked who was involved in determining the interiors — noting that she often has a terrible time trying to sell units at 880 or 900 North Lake Shore Drive because the bathrooms are so tiny, and that she herself lives in a Mies building.

Leslie responded that she wasn't wrong. As for the interiors, he said he didn't think Mies had a lot to do with the interiors of any of these buildings — a lot of them were designed by Holzman. The reason, he explained, is that once you get inside the curtain wall, the buildings feel very pragmatic, designed very tightly — that's Holzman at work. The very innovative apartment buildings Holzman did, if you've ever been in a unit at Lunt Lake for instance, aren't generous, but that's one of the reasons they're affordable. There's no proof Mies didn't do the interiors, Leslie said, but his own unit is pretty original, and it doesn't look like anything Mies ever did. So there was a distinction between what the buildings looked like on the outside, how they presented themselves to the world, and the economics of actually making the interiors work. There are some nice touches, and they're well designed for what they are, but they're certainly not the super-generous spaces often associated with Mies. That said, it means normal people can live in them too — they're still affordable in a lot of ways.

A second audience member, speaking from the back, said she was born in East Chicago and noted that a lot of the public housing discussed was not built for African Americans — as had been mentioned, it was built for whites, and African Americans usually weren't allowed to live in them. She asked Leslie to talk about the impact of urban renewal on the Black community, on the South Side and the North Side, in connection with Daley's urban renewal program.

Leslie called it a fundamental question. The idea behind urban renewal, he said, was that a rising tide lifts all boats, and the reality was that a lot of times, when you build one group up, another group ends up paying for it. Lake Meadows is a unique example, because it was intended to be an integrated development; it ended up being mostly Black middle-class families who moved in at first. He couldn't remember the exact number, but thought there were something like 2,000 fewer beds in Lake Meadows than had been displaced by so-called slum clearance, so those 2,000 people had to go

elsewhere. And even though Lake Meadows is celebrated, and even though its initial demographics were seen as a positive — 4,000 units built for Black families on the South Side — there's a cost to that.

In the other projects discussed, he continued, the leverage was almost entirely that white families were getting either housing or neighborhoods with access to downtown, and that access often ran straight through Black or poor neighborhoods — the expressways are the greatest example of that. So the legacy is, at best, mixed. There were urban renewal projects, like in Hyde Park, that were pretty much either/or, and you can imagine which side of that balance won out. To Leslie, projects like Lake Meadows are worth looking at closely, because the intention was in some ways good, but it opens up this whole other problem: how do you provide that much good housing in a fairly limited space, and who does it end up being for?

That, he said, is part of why it was important to him that the book's title lists race as one of the things that really shaped not just Chicago's housing but also its downtown. And the questioner was absolutely right that none of this is a zero-sum game in a simple sense — there are people who benefit from projects that concentrate wealth, but concentrating that wealth means the issues that really need addressing often aren't being addressed elsewhere, or those areas end up effectively taxed for it.

"Thank you."

"Thanks so much."