


**AHST 3322-001 (27125)**  
**History of Modern Architecture**  
**Dr. Charissa N. Terranova**  
**University of Texas at Dallas**  
**Spring 2019**  
**Tu-Th 1:00-2:15**  
**AD 2.232**

Thursday January 31  
Chicago Loop and Skyscraper

An aerial night photograph of a city, showing a dense grid of streets illuminated by warm orange and yellow lights. The perspective is from a high angle, looking down at the city's layout. The lights create a strong sense of order and structure, with the grid lines clearly visible. There are some darker areas, possibly parks or undeveloped land, interspersed within the grid. The overall tone is dark, with the city lights providing the primary illumination.

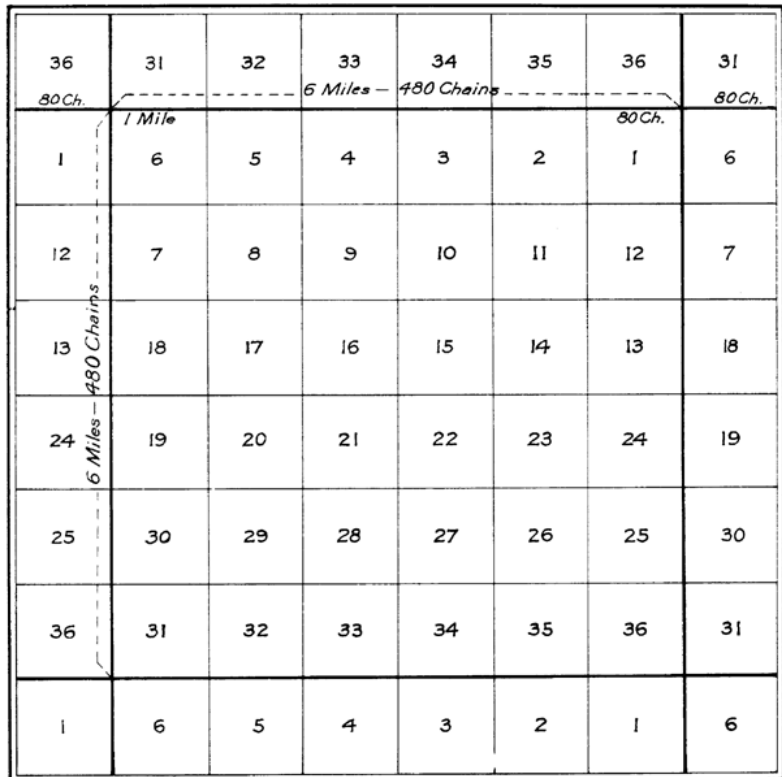
# The Logic of the Grid

# NATIONAL LAND ORDINANCE

OF 1785

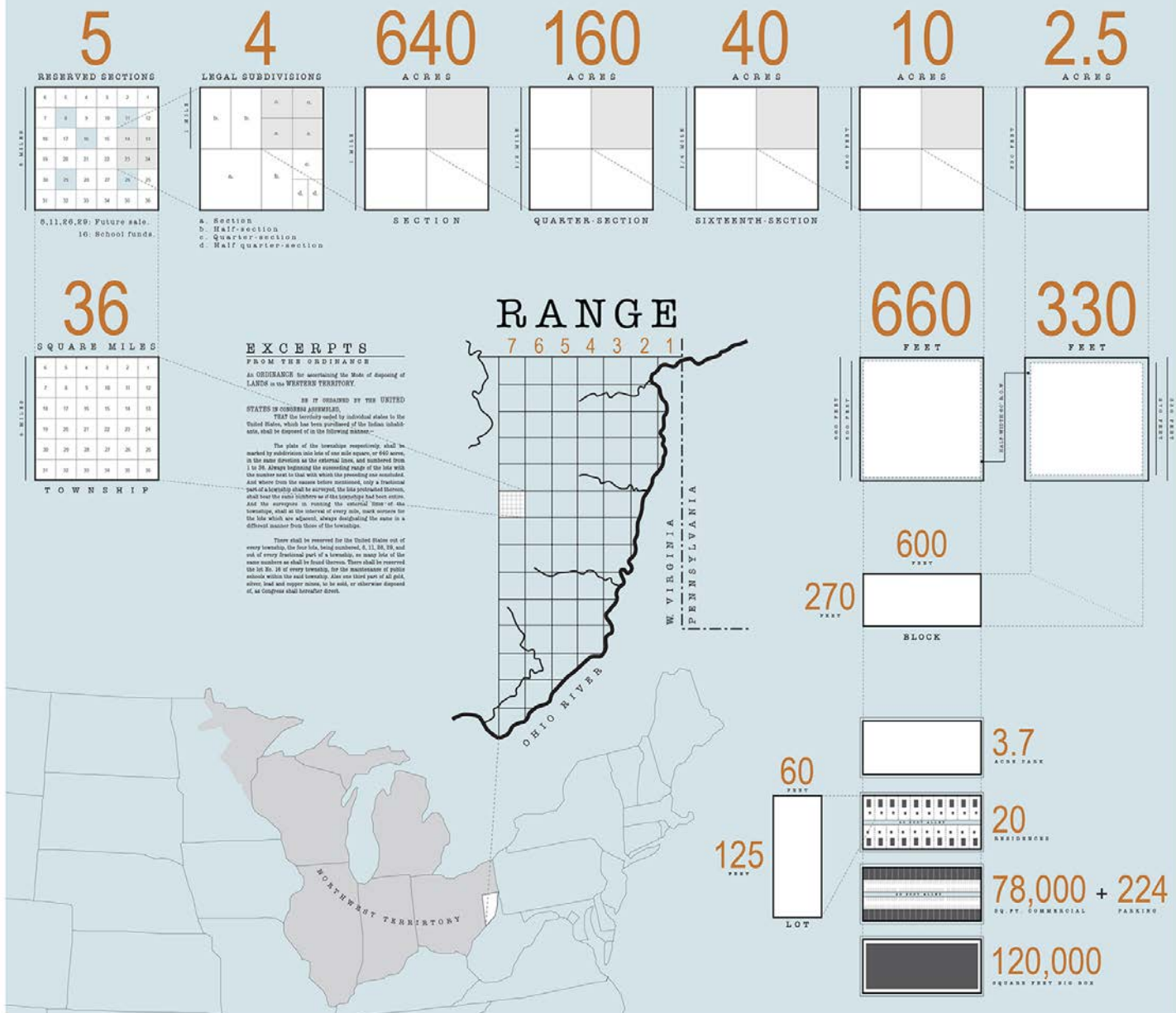
Paul Knight | www.PaulKnight.com

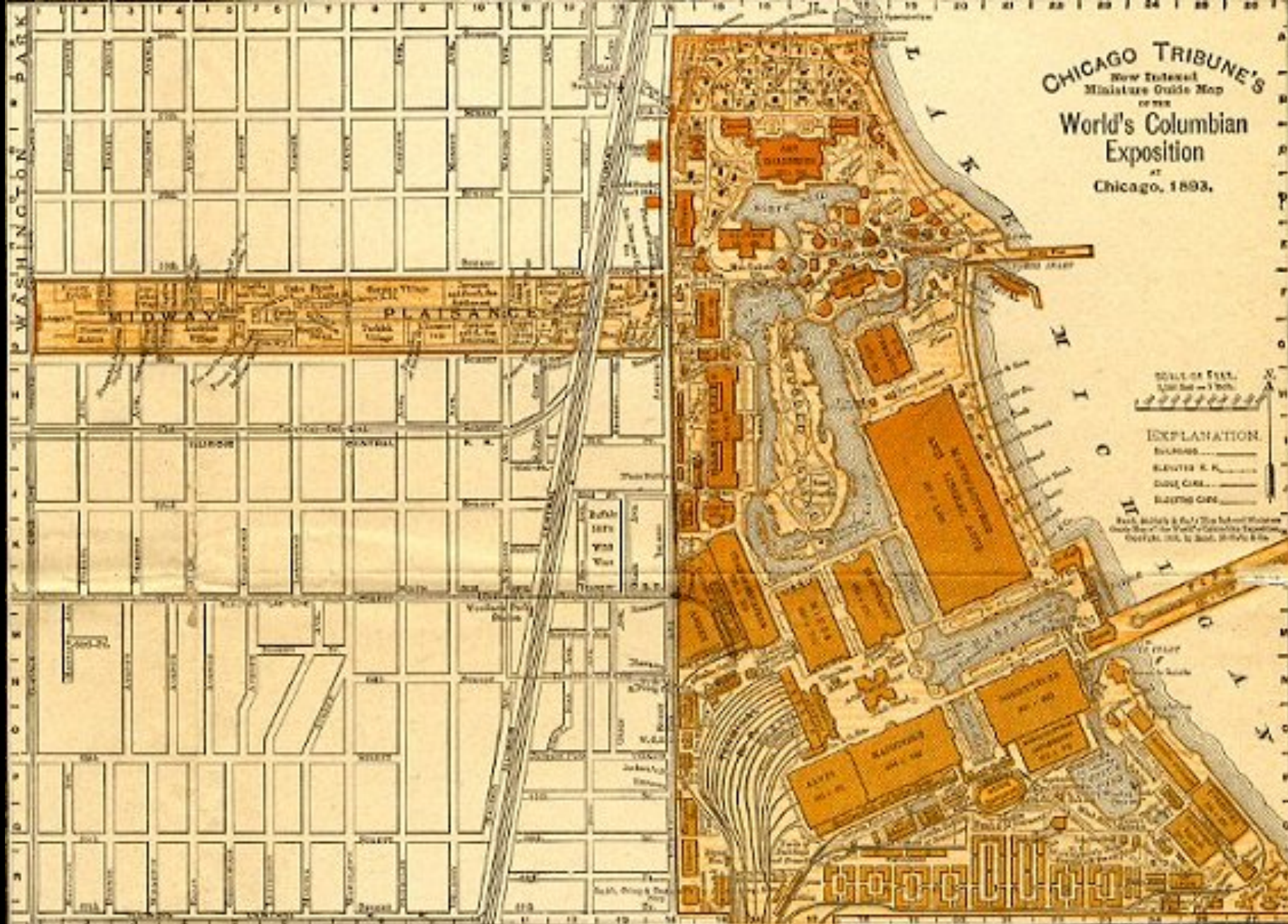
*THEORETICAL  
TOWNSHIP DIAGRAM  
SHOWING  
METHOD OF NUMBERING SECTIONS  
WITH ADJOINING SECTIONS*



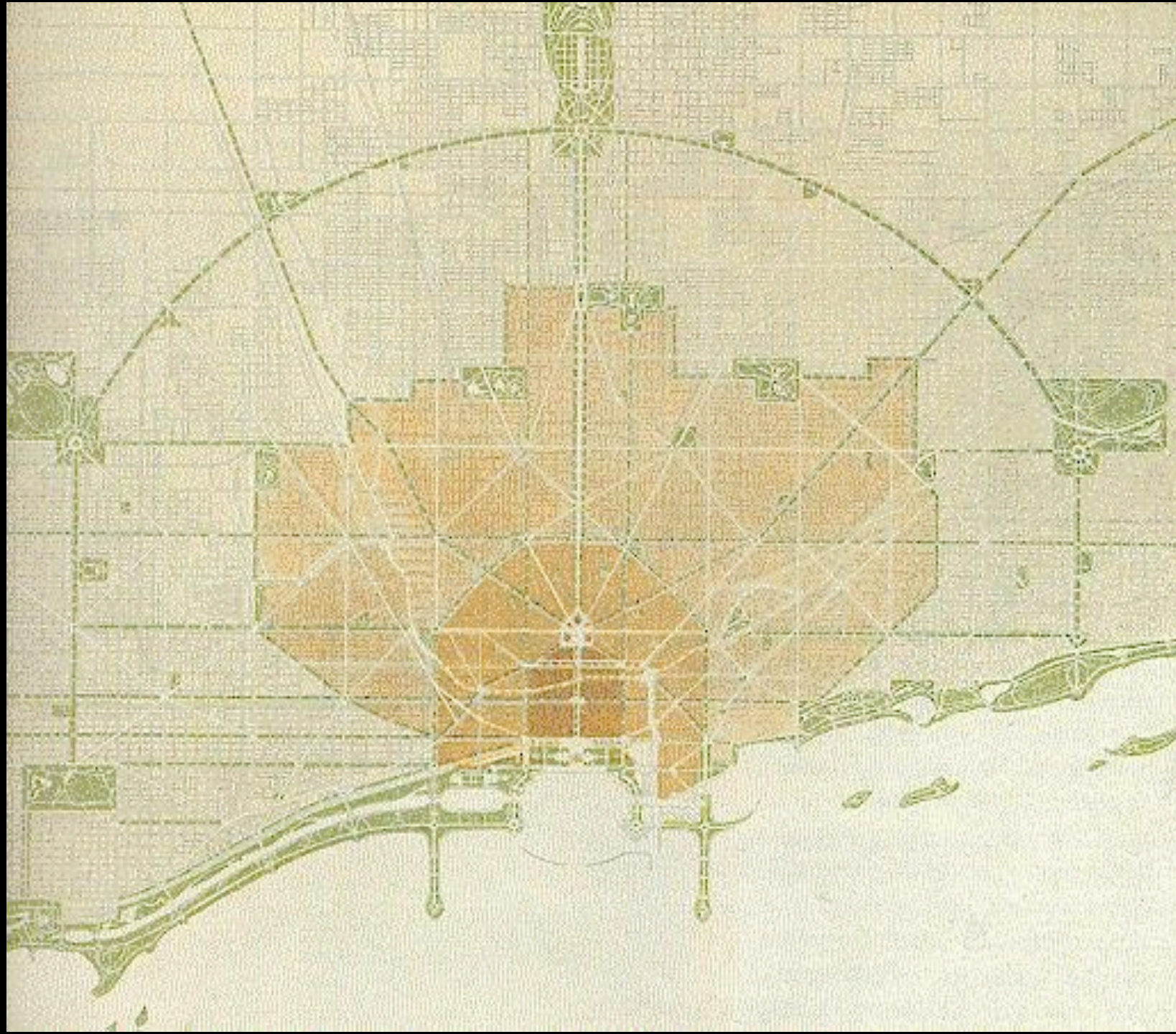
*1796* *2*

Above: General Land Office plan for numbering sections of a standard survey township adopted May 18, 1796  
Right: Logic of Land Ordinance of 1785 by Thomas Jefferson; showing how the method of subdivision can be applied from the scale of the country down to the scale of a single lot





Daniel Burnham with Frederick Law Olmsted, Master Plan of Columbian Exposition, 1893



Daniel Burnham, Plan for Chicago, 1909



# BIRD'S-EYE VIEW OF THE BUSINESS DISTRICT OF CHICAGO

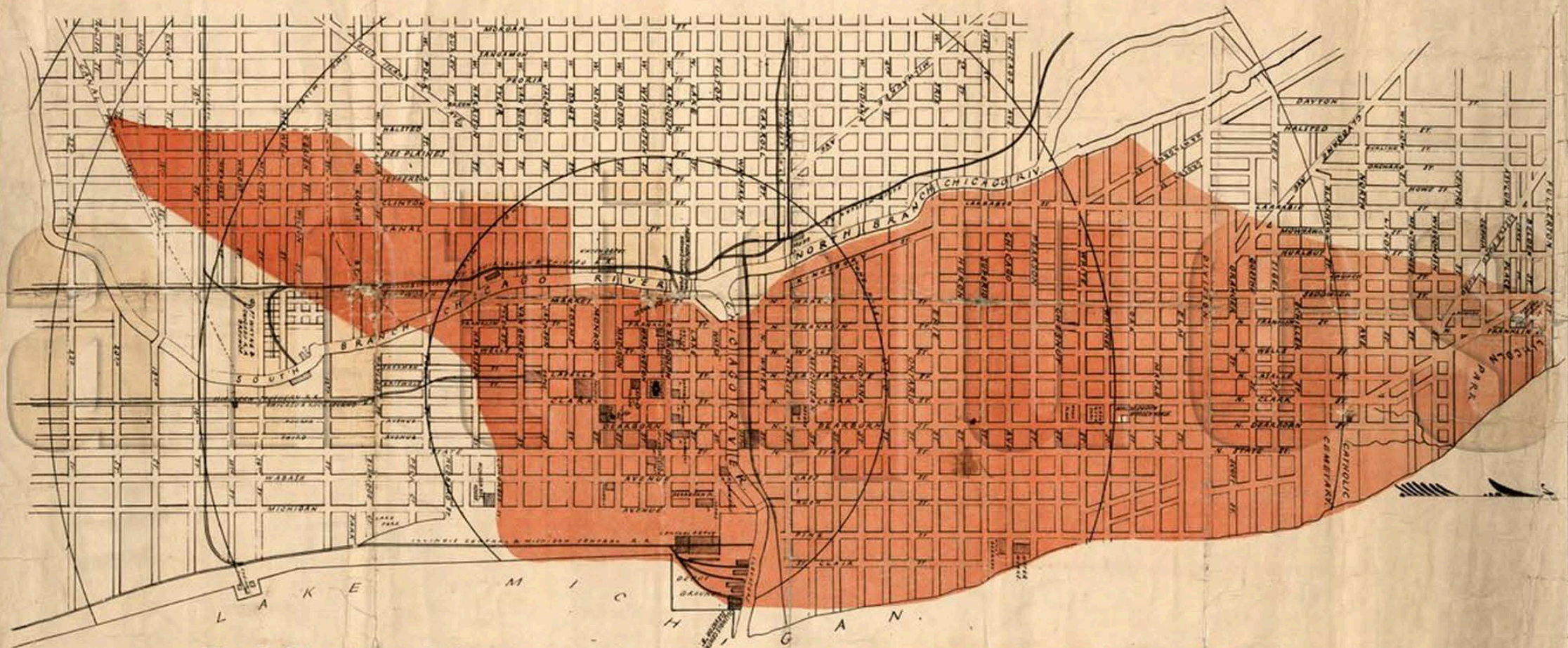
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ARCADE ST.	200





Aftermath of Great Chicago Fire, 1871

# MAP SHOWING THE BURNT DISTRICT IN CHICAGO,

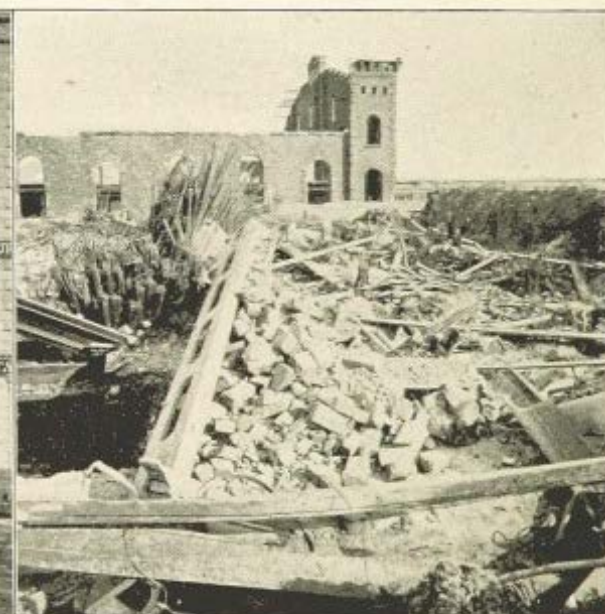


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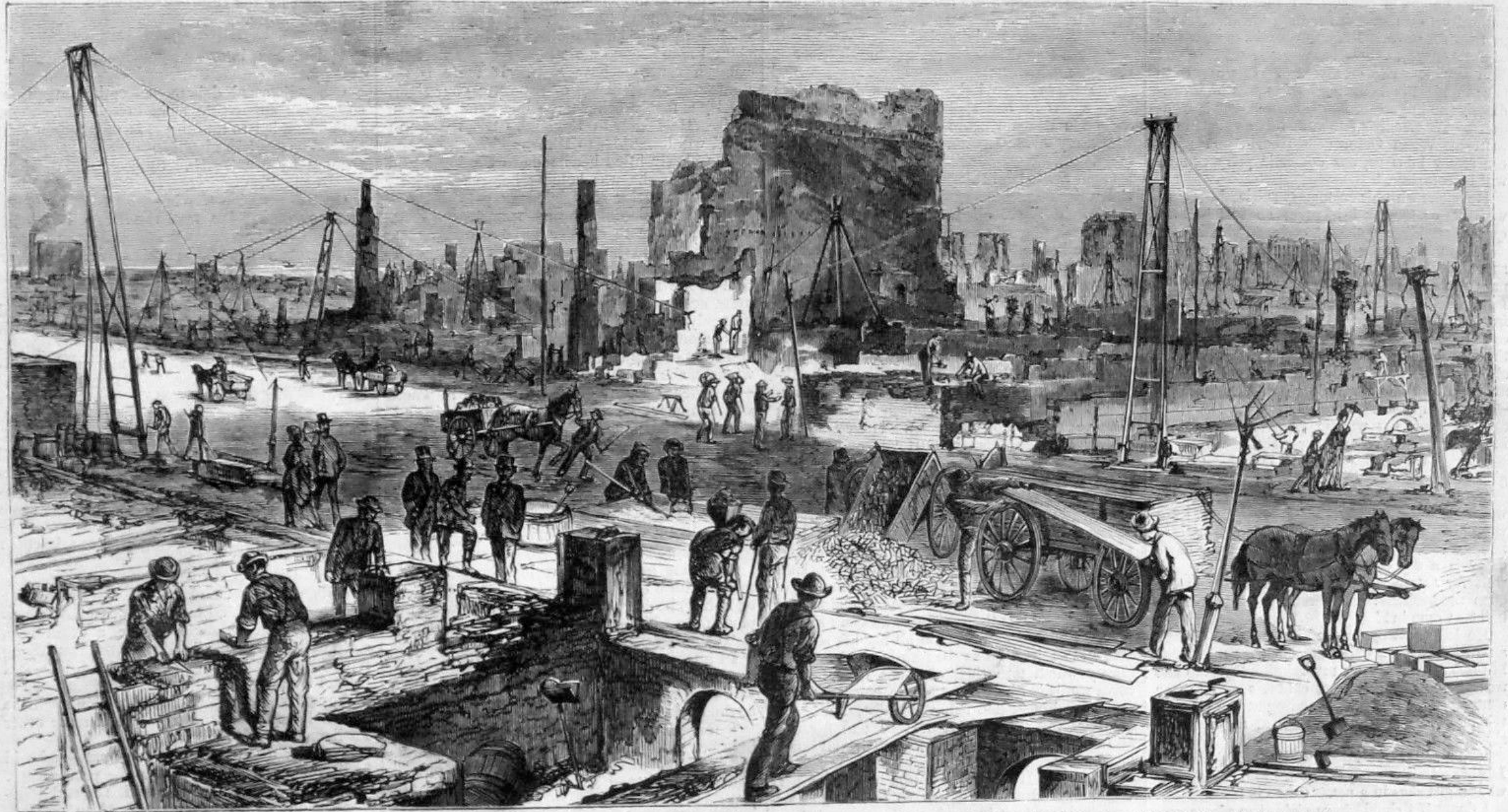




SHEPARD'S BUILDING, DEARBORN AND MONROE STS., BEFORE AND AFTER THE FIRE OF 1871.



MICHIGAN AVE. NORTH FROM MADISON ST., BEFORE AND AFTER THE FIRE OF 1871.



REBUILDING CHICAGO—VIEW AT THE CORNER OF LAKE AND LA SALLE STREETS, LOOKING TOWARD THE LAKE.  
FROM A SKETCH BY THEO. R. DAVIS.—[SEE PAGE 1058.]

# CHICAGO FRAME/CHICAGO SKELETON



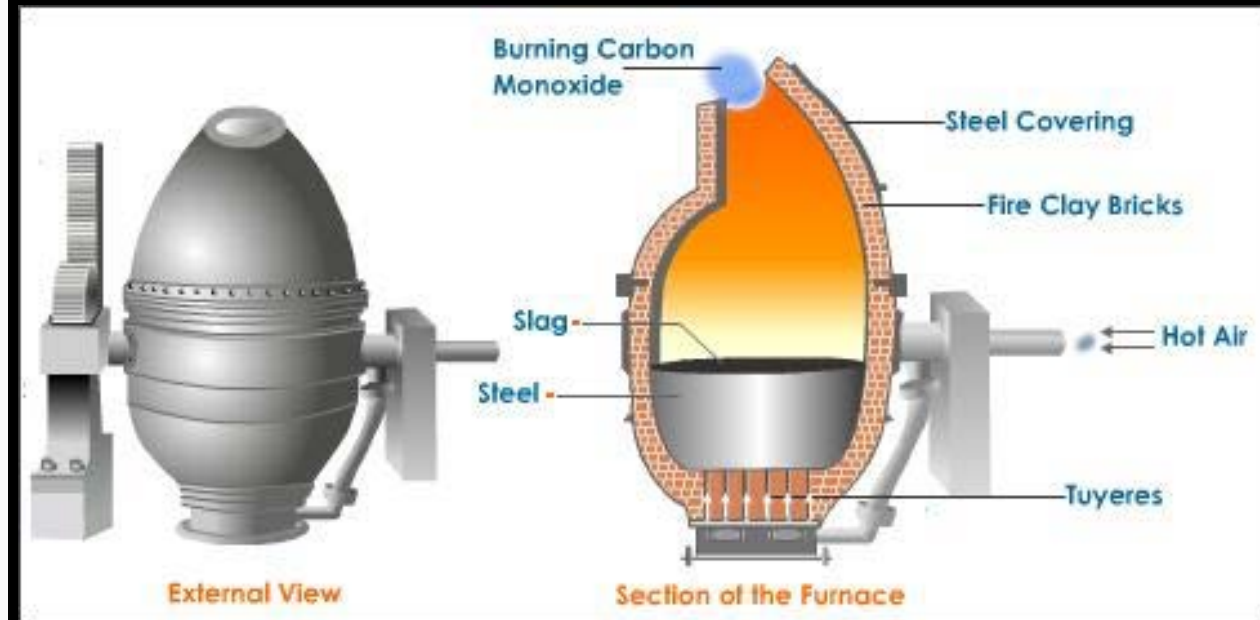
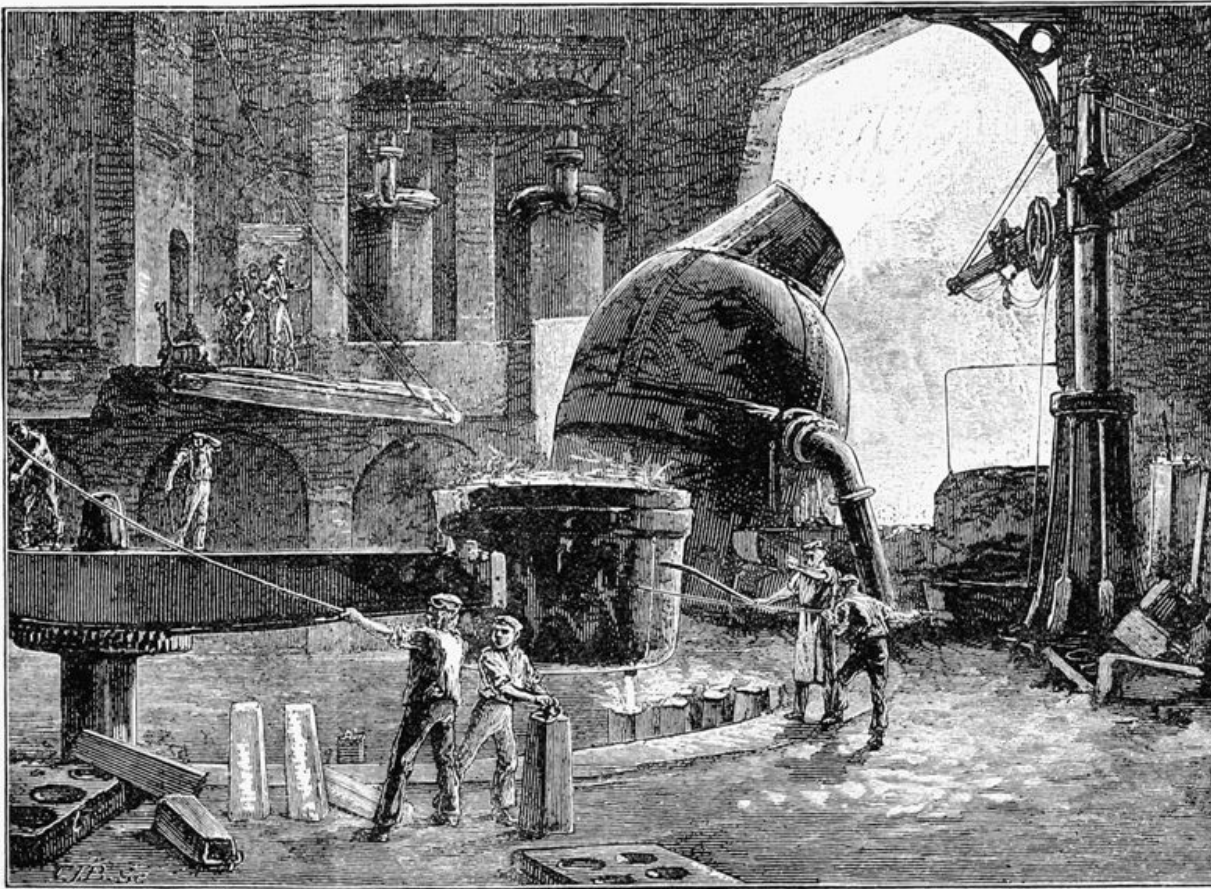


William le Baron Jenney, Home Insurance Building, Chicago, 1885



## Essential Characteristics:

1. Great height
  - Arrangement in stories
  - Utmost space and light in each story
2. Necessary means
  - Structural system – skeletal construction
  - Materials necessary to system, above all steel (iron, reinforced concrete), fireproofing, heat-resisting material
  - Passenger elevators
3. Favoring conditions
  - Economic – such as high value of land; availability of labor and capital
  - Social – such as living in large groups [density]; enterprise; organization of work; publicity
  - Technological – such as suitable tools, processes, and sources of power, development of plumbing, heating; growth of engineering; development of craft of building to a certain point
  - Psychological – desires (conscious and unconscious) which a tall form can express
  - Aesthetic – liking for height; preference for the effect of towers related to lower buildings

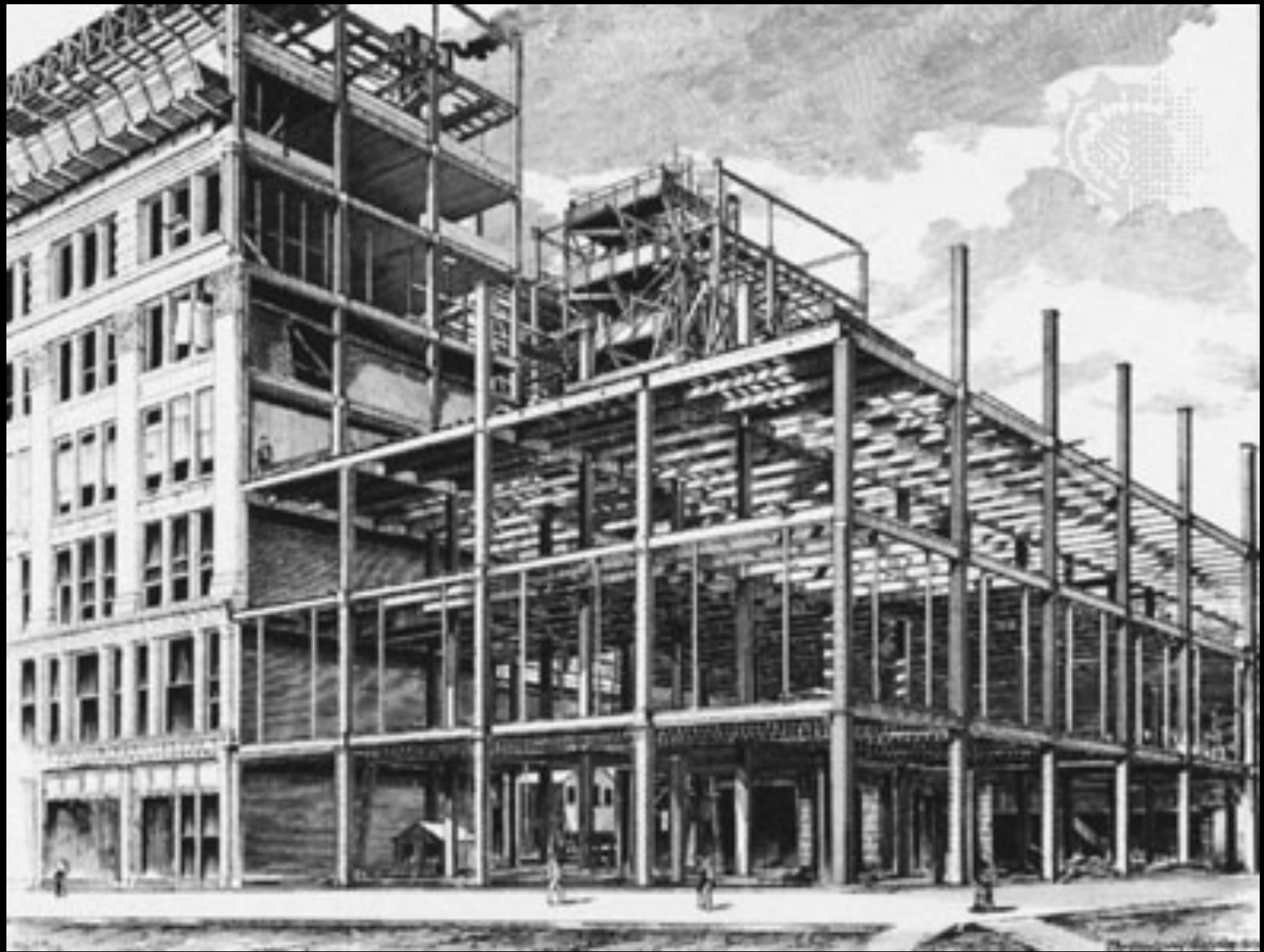


The Bessemer steel process is named for Sir Henry Bessemer of England. Invented / discovered in the 1850s, this process was the first inexpensive industrial process for the mass-production of steel from molten pig iron before the development of the open hearth furnace. Key to this process is the removal of impurities from the iron by oxidation with air being blown through the molten iron.

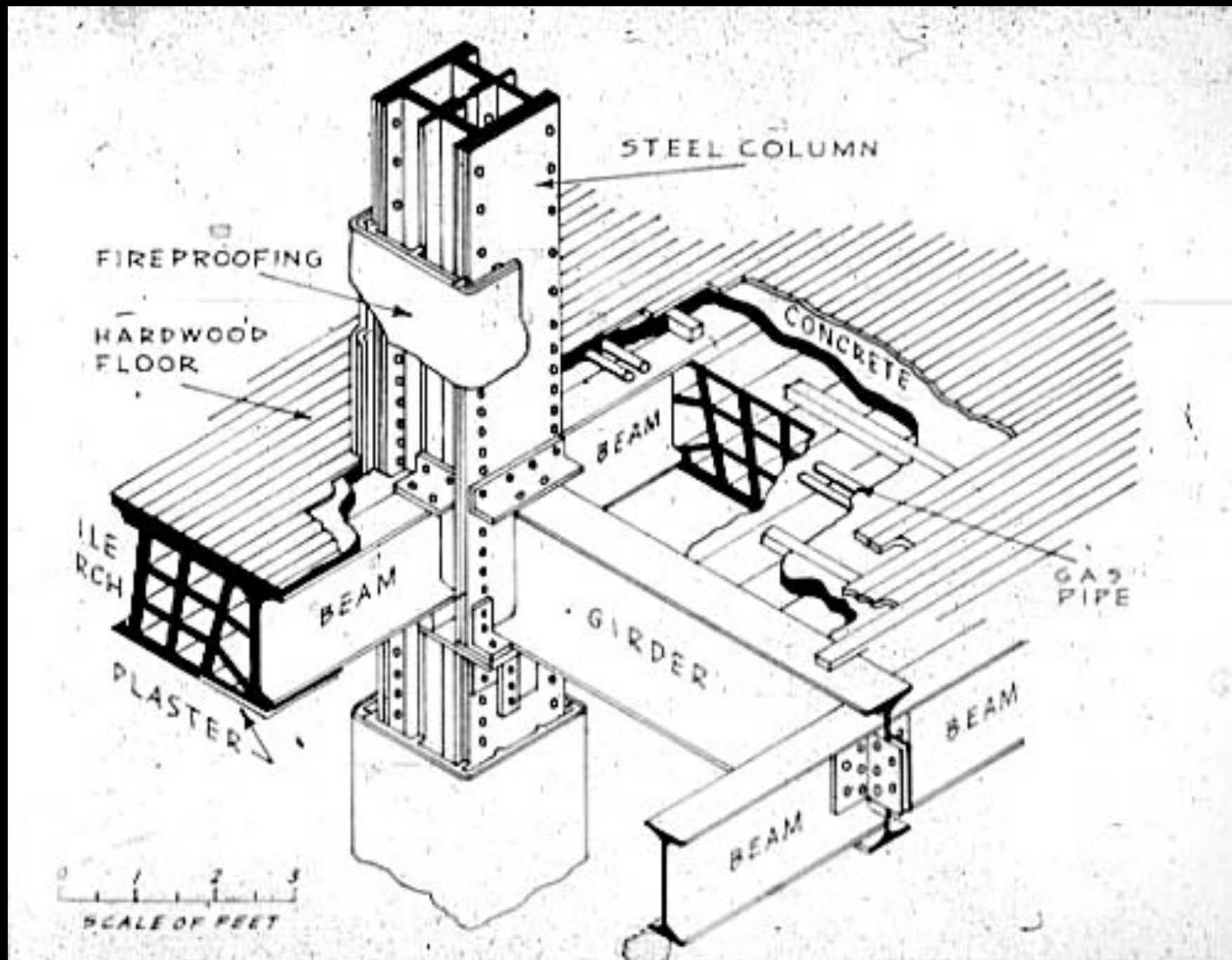
*The Fair, Department Store, Chicago  
State and Adams Streets*



William le Baron Jenney, Fair Store, 1890-91









William le Baron Jenney, First Leiter Building, 1879



William le Baron Jenney, Second Leiter Building, 1890



Second Leiter Building

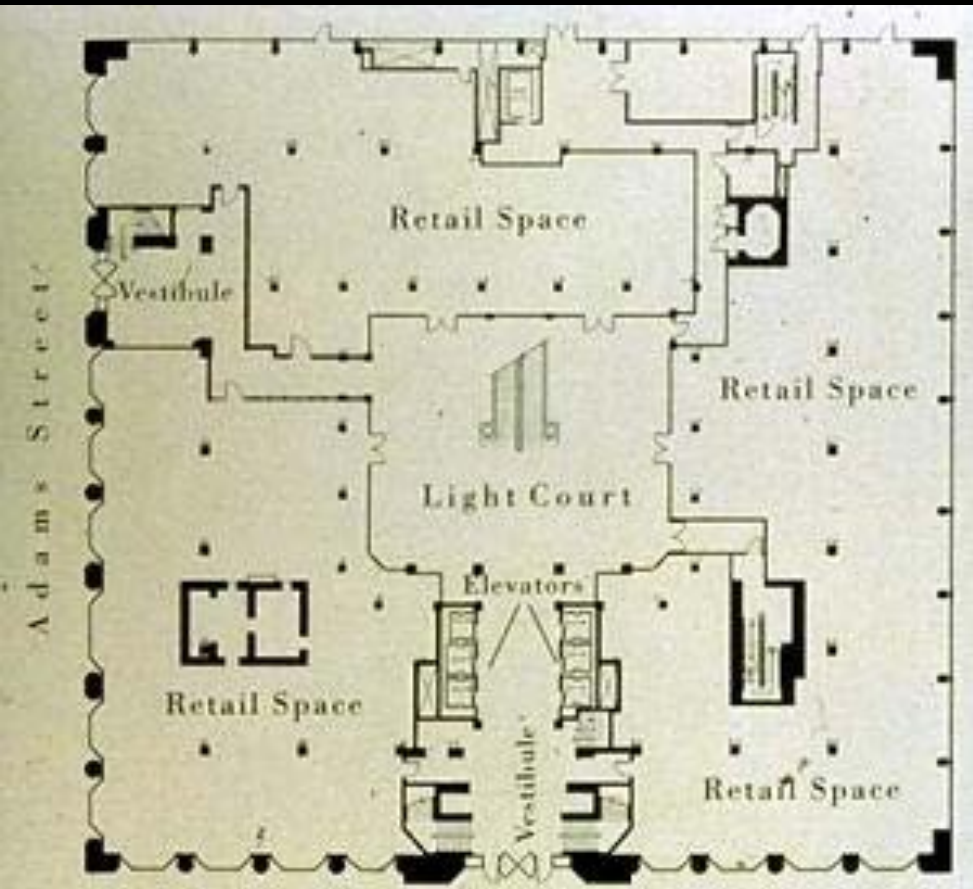


Burnham & Root, Rookery, 1886

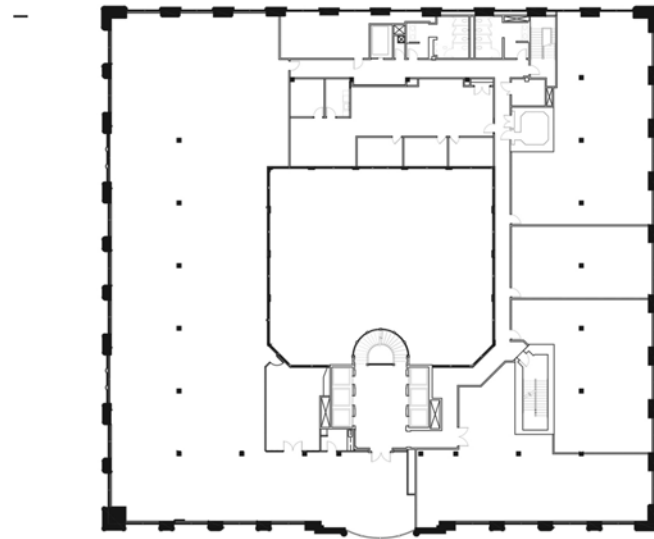
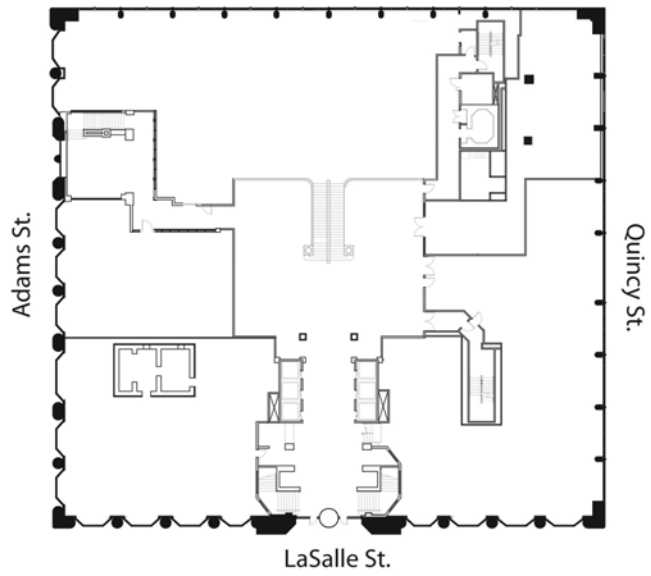
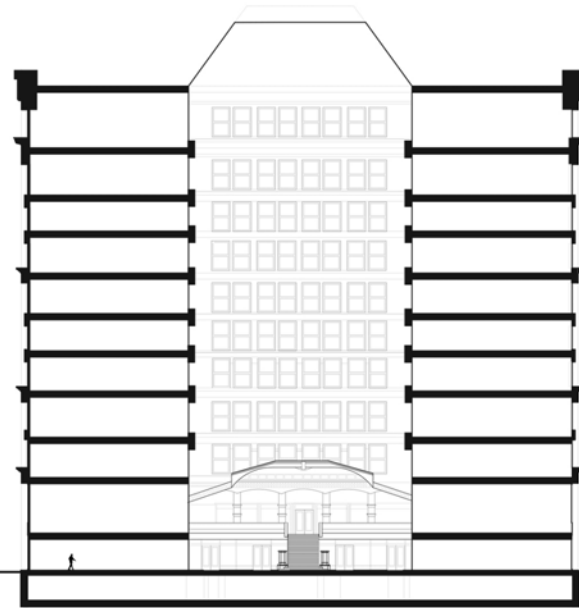
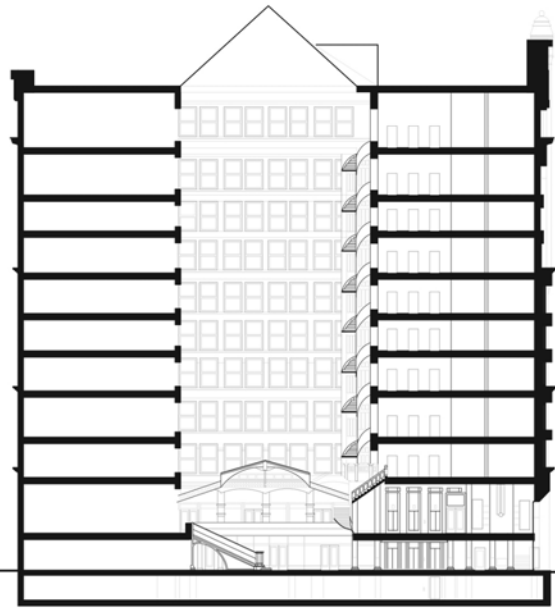


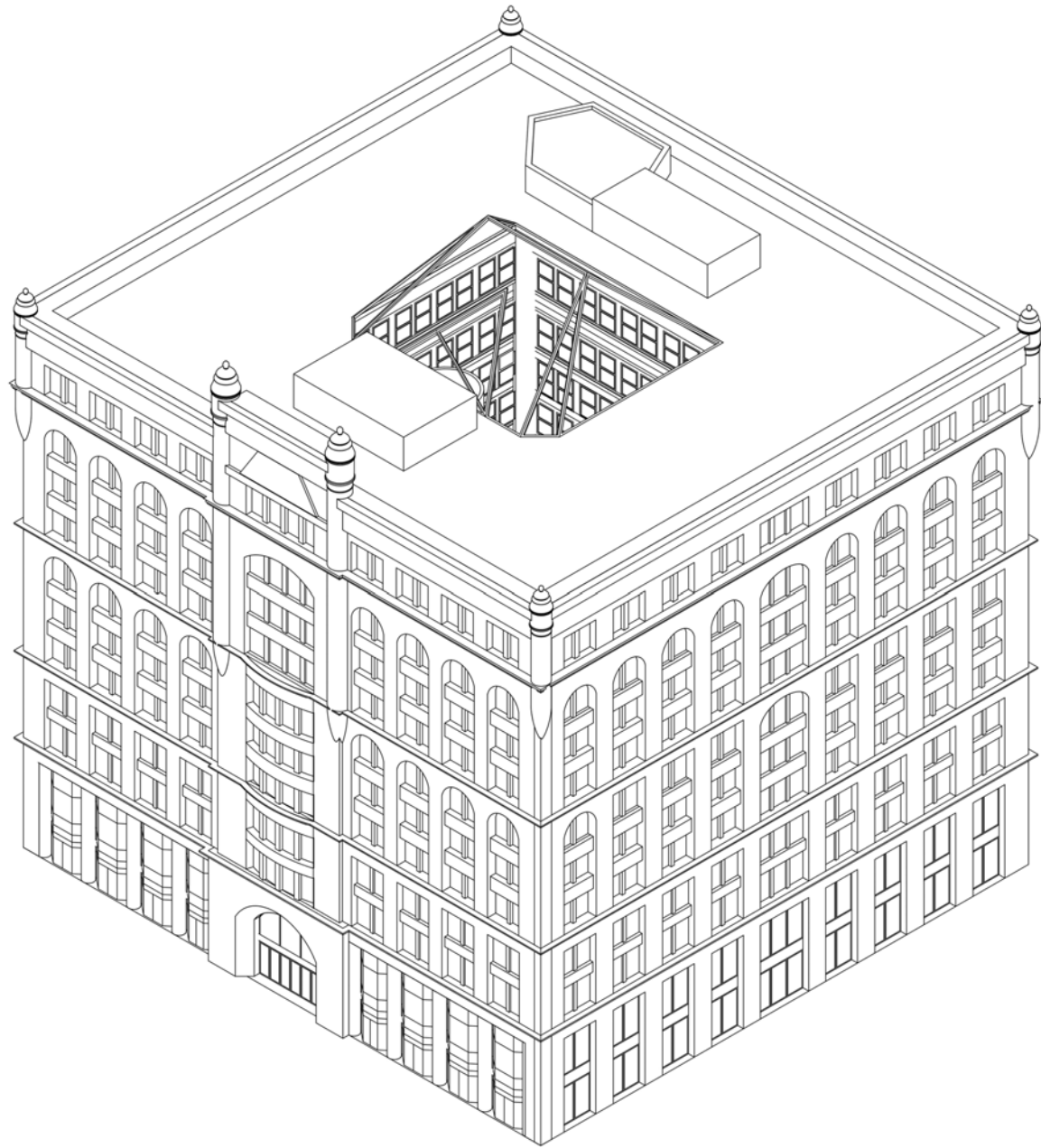


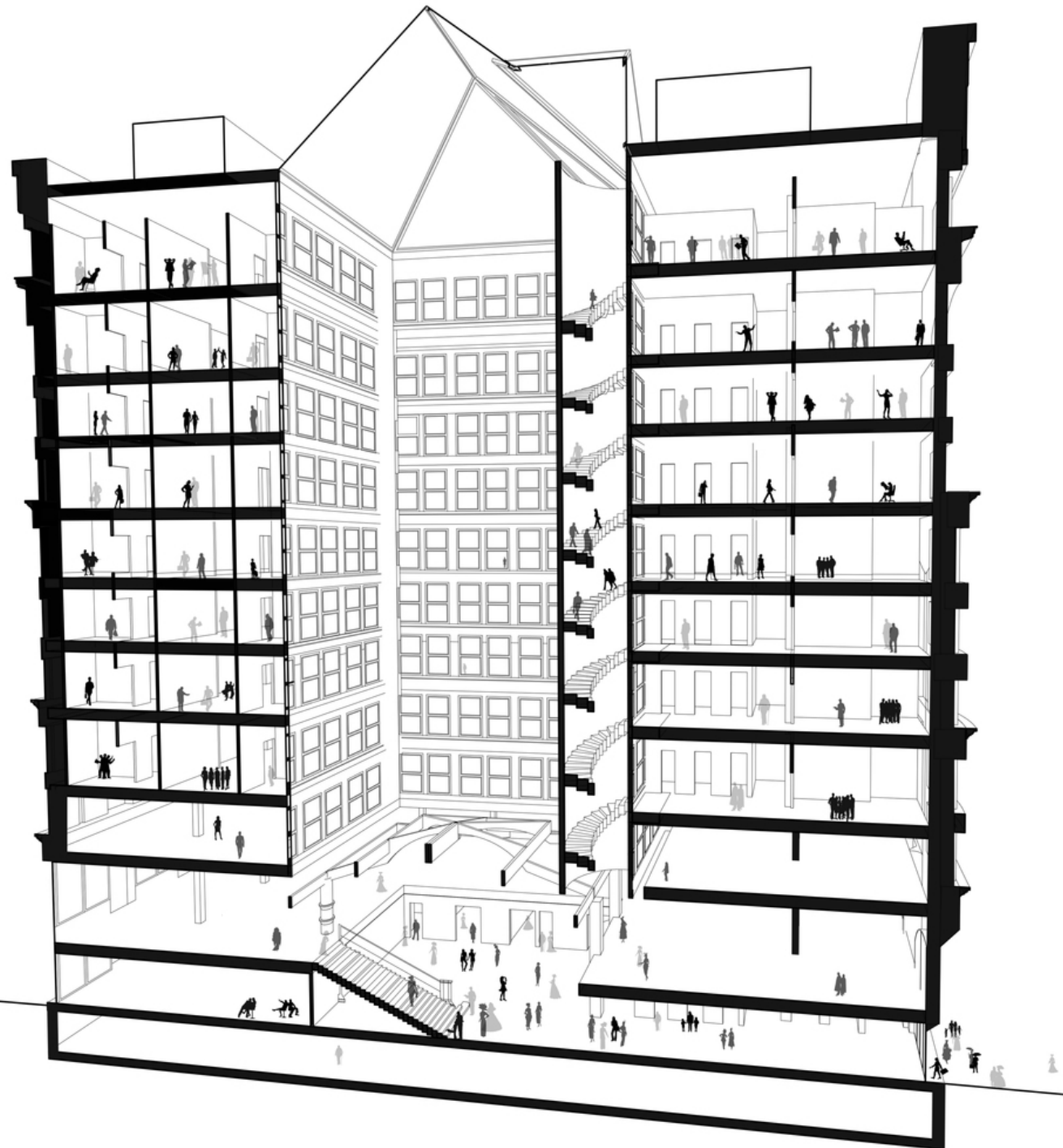
Frank Lloyd Wright, Remodeled Lobby of Rookery, 1905













Burnham & Root, Monadnock, 1891



ADAMS

(Looking South)

STREET





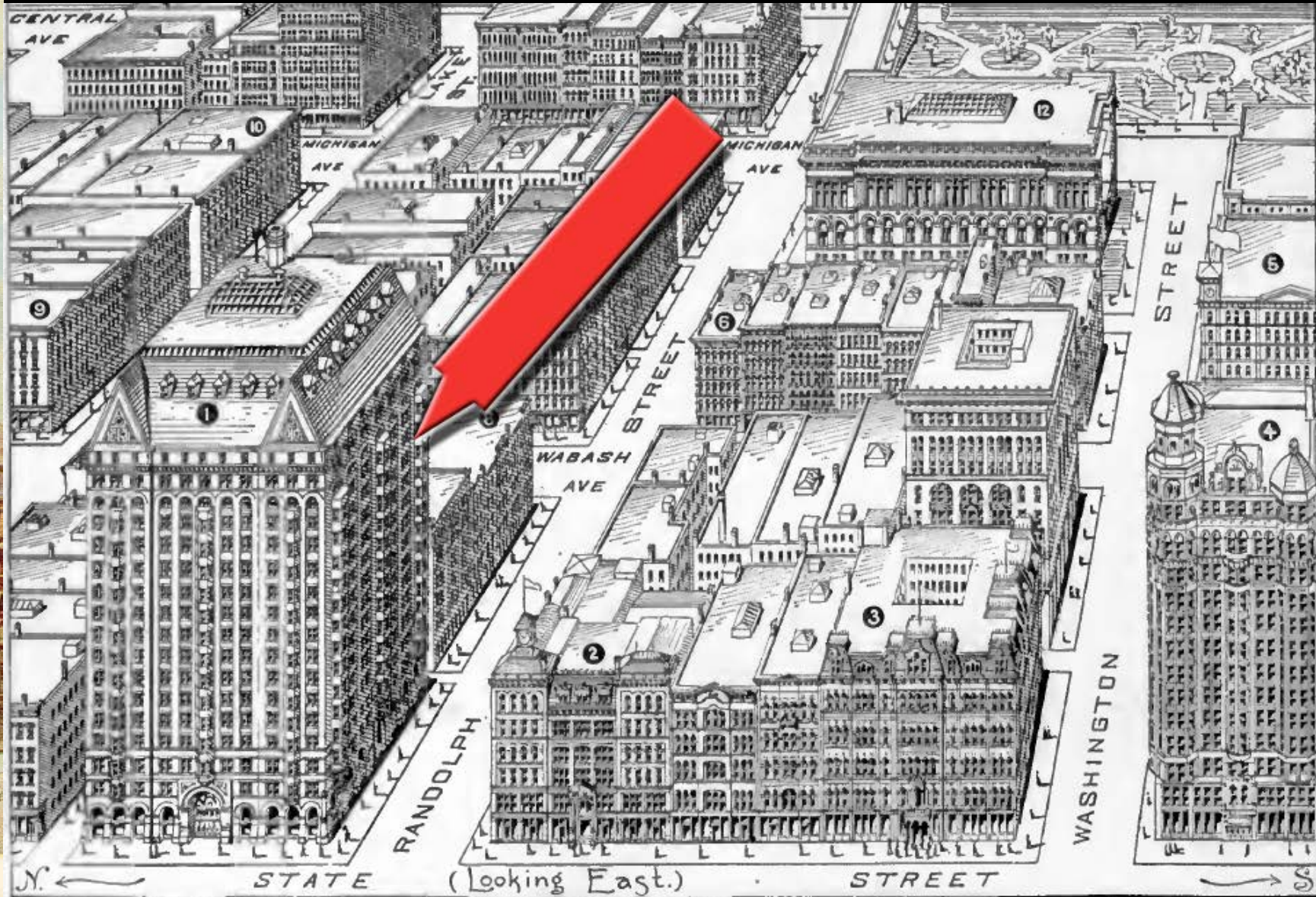






MASONIC TEMPLE, CHICAGO. 22 stories; total height, 302 feet

No. 164. V. O. Hamman Pub. Co., Chicago



Burnham and Root, Masonic Temple, 1892

Masonic Temple Rand, McNally & Co.'s Bird's-eye Views and Guide to Chicago 1893



The Masonic Temple Building 1892-1939





Stairways and Galleries of the Masonic Temple, 1892



Light well/Light court



One of the many interior meeting rooms



View of Randolph and State from the roof



Burnham & Root, Reliance Building, 1890-95





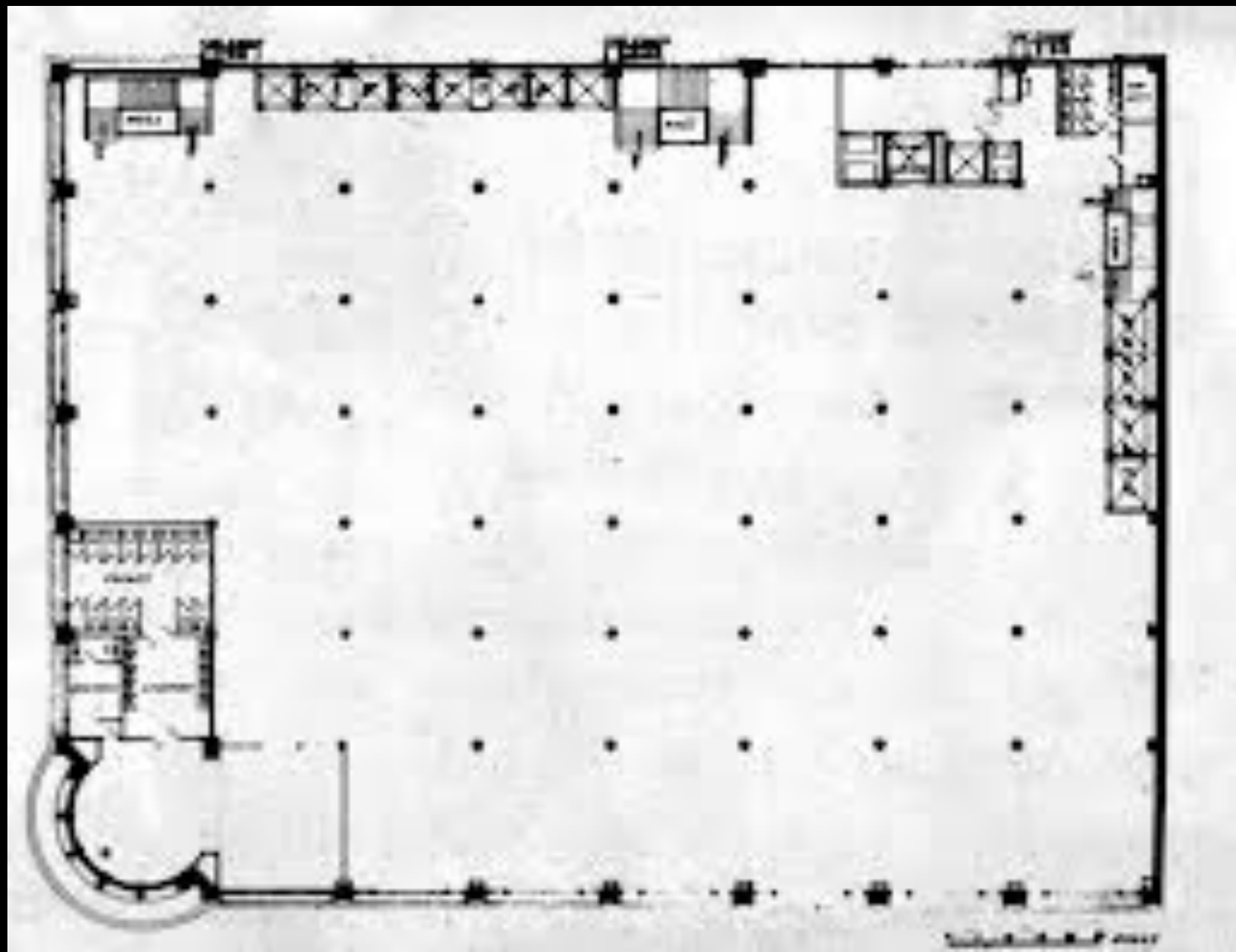
Louis Sullivan, Carson, Pirie, Scott & Co.,  
1899-1904













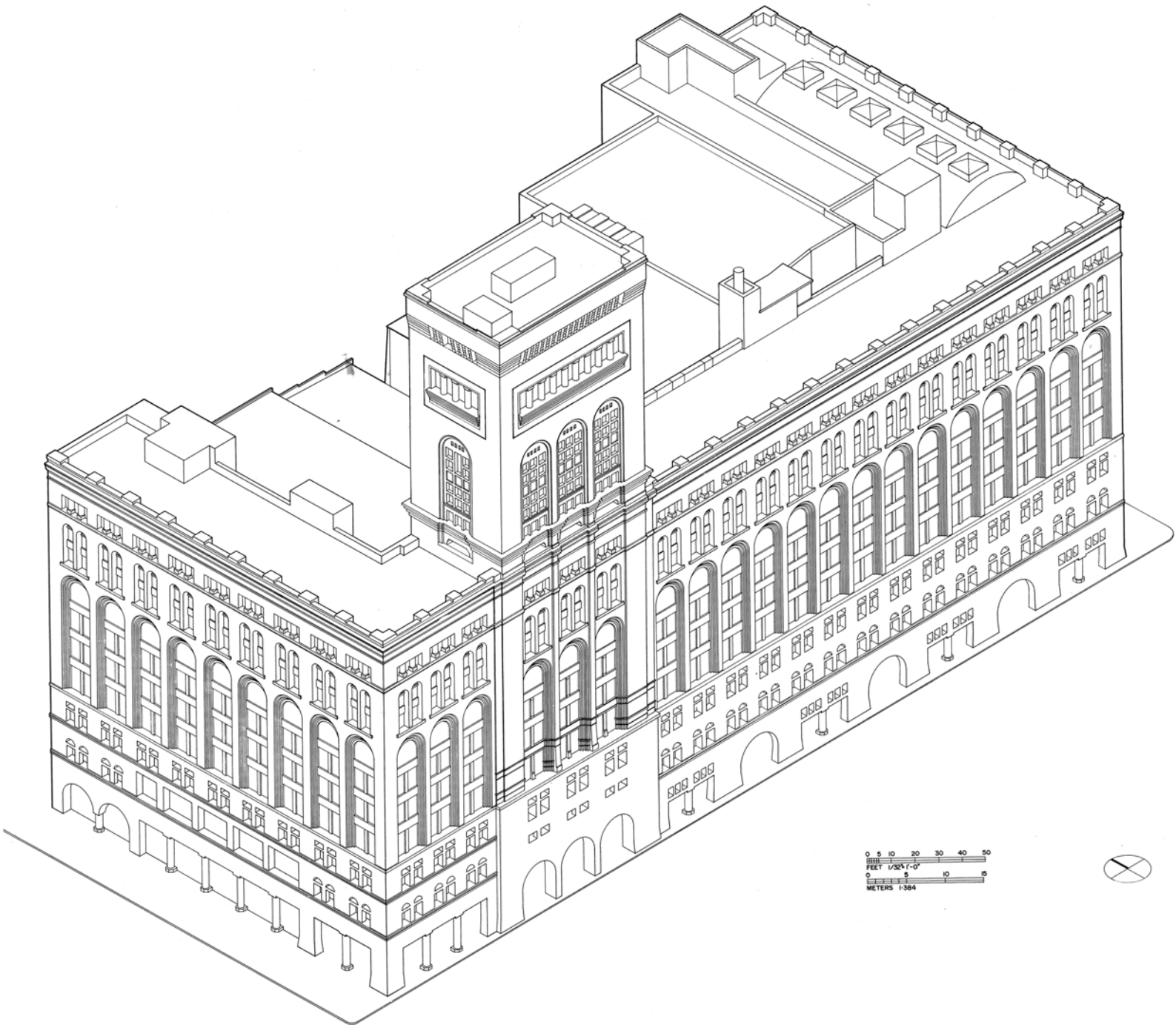
Dankmar Adler and Louis Sullivan, Auditorium Building, 1889





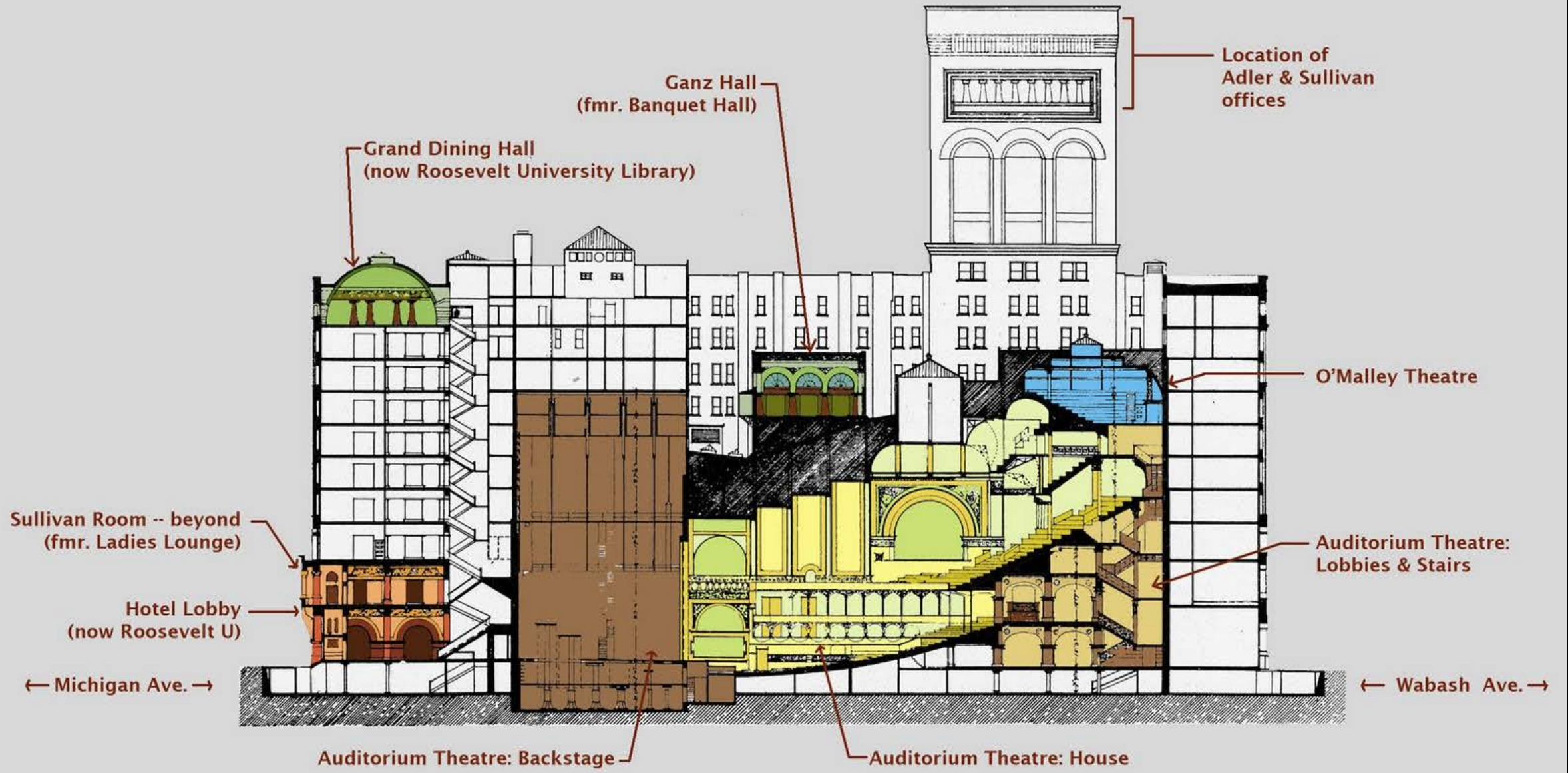




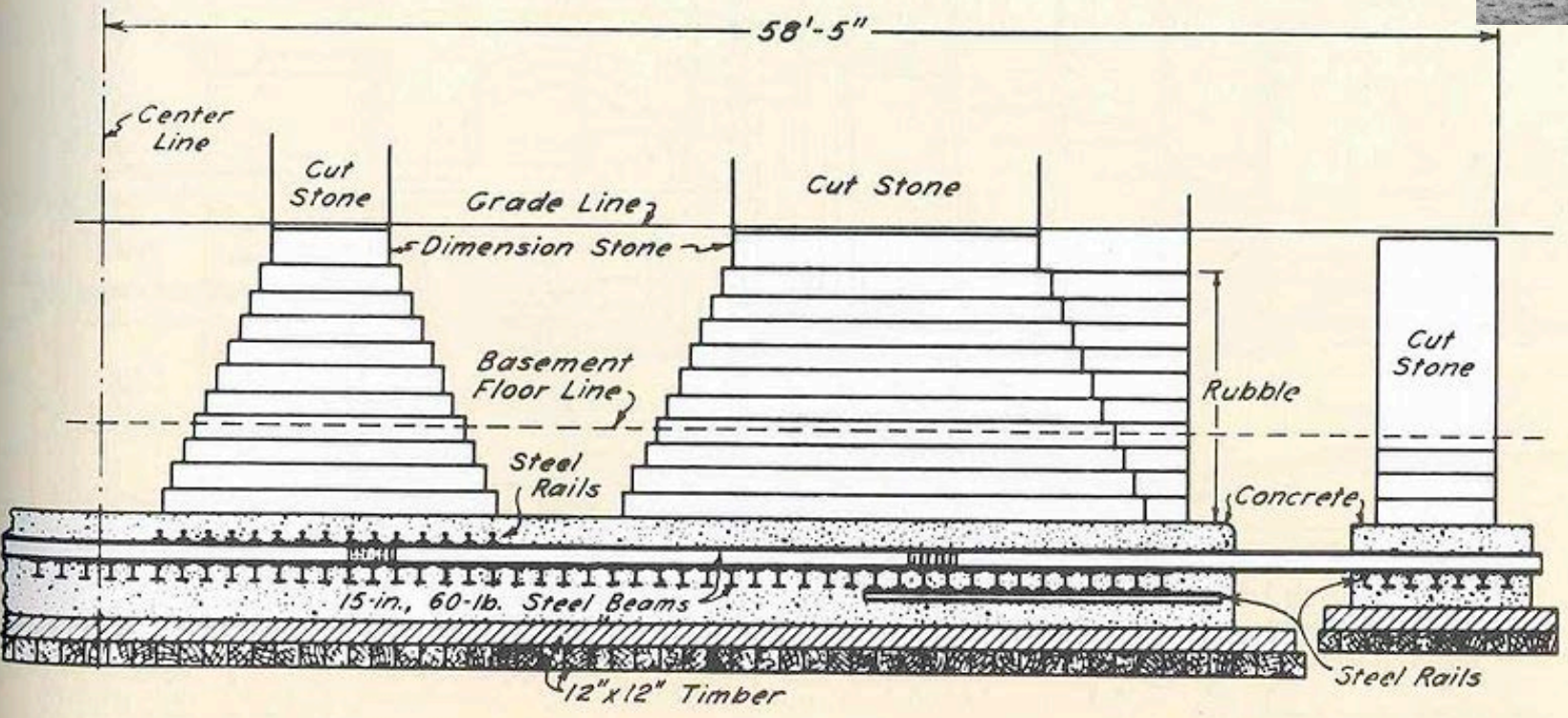


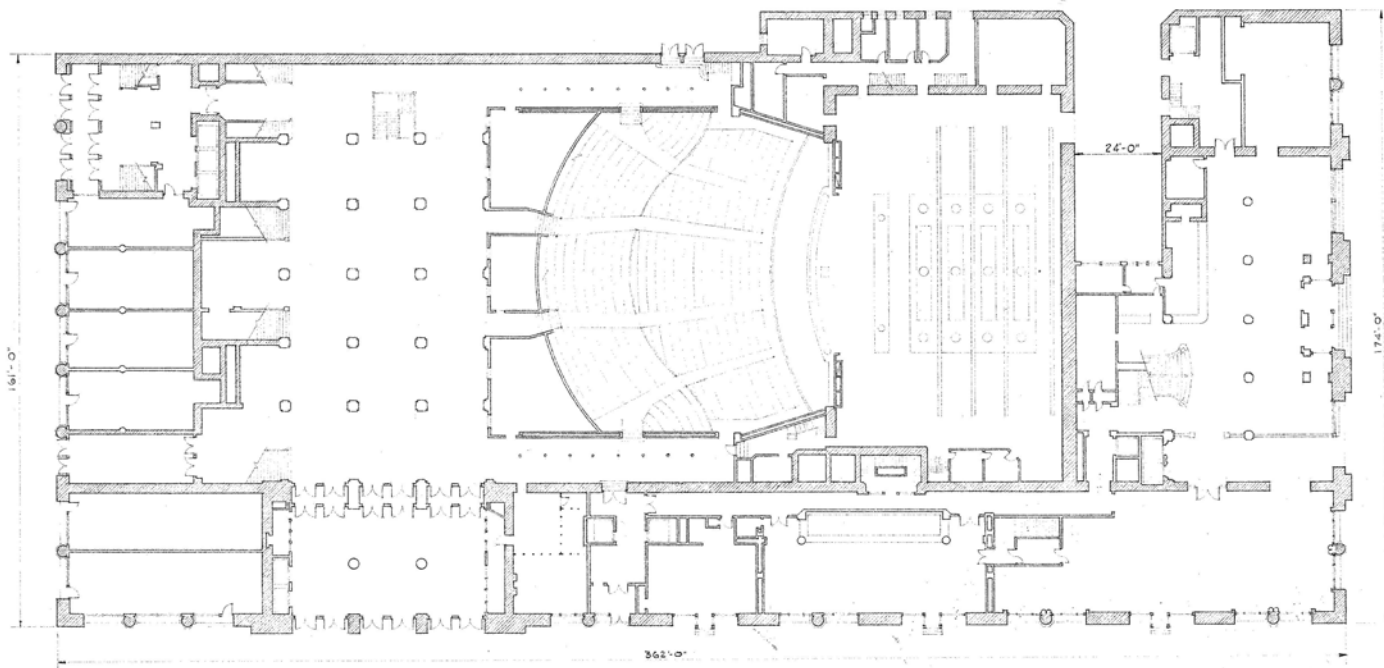
0 5 10 20 30 40 50  
FEET 1/324" = 1'-0"  
0 5 10 15  
METERS 1:304





# Auditorium Building Foundations





RESTORED PLAN BASED ON EARLY DRAWINGS AND PHOTOGRAPHS. PRINCIPAL ALTERATIONS INCLUDE AN OPEN ARCADE, 20 FEET DEEP, ALONG THE ENTIRE SOUTH SIDE, REMODELLED SHOPS ON WEST SIDE, TEMPORARY PARTITIONS ADDED IN EAST LOBBY.

# MAIN FLOOR PLAN

SCALE 3/64"=1'-0"



ROBERT C. GIEDNER, DEL.

H.A.B.S. CHICAGO PROJECT 1963

UNDER DIRECTION OF UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE, BRANCH OF PLANS AND DESIGN

NAME OF STRUCTURE

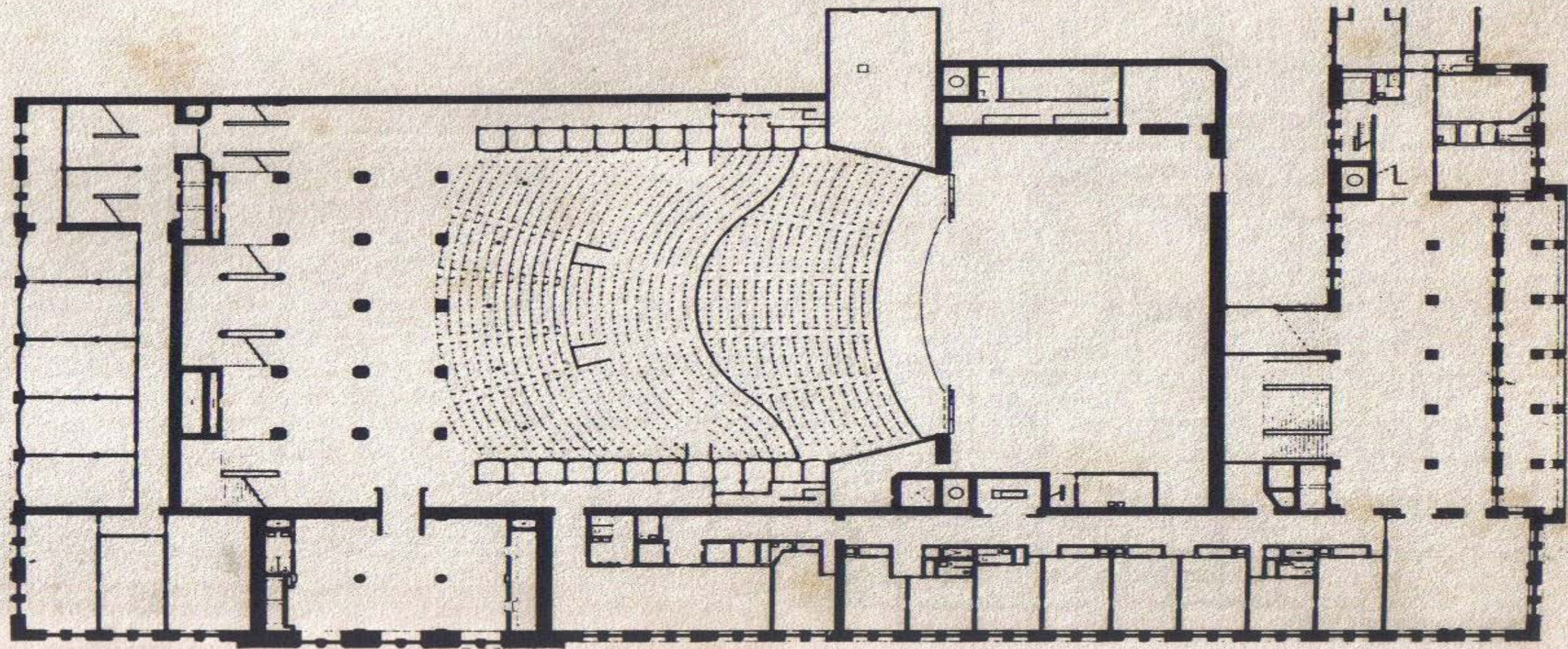
AUDITORIUM BUILDING

N.W. CORNER MICHIGAN AVE. & CONGRESS ST. (EXTENDING THROUGH TO WABASH ST.), CHICAGO, COOK COUNTY, ILLINOIS

SURVEY NO.  
ILL  
1007

HISTORIC AMERICAN  
BUILDINGS SURVEY  
SHEET 2 OF 7 SHEETS

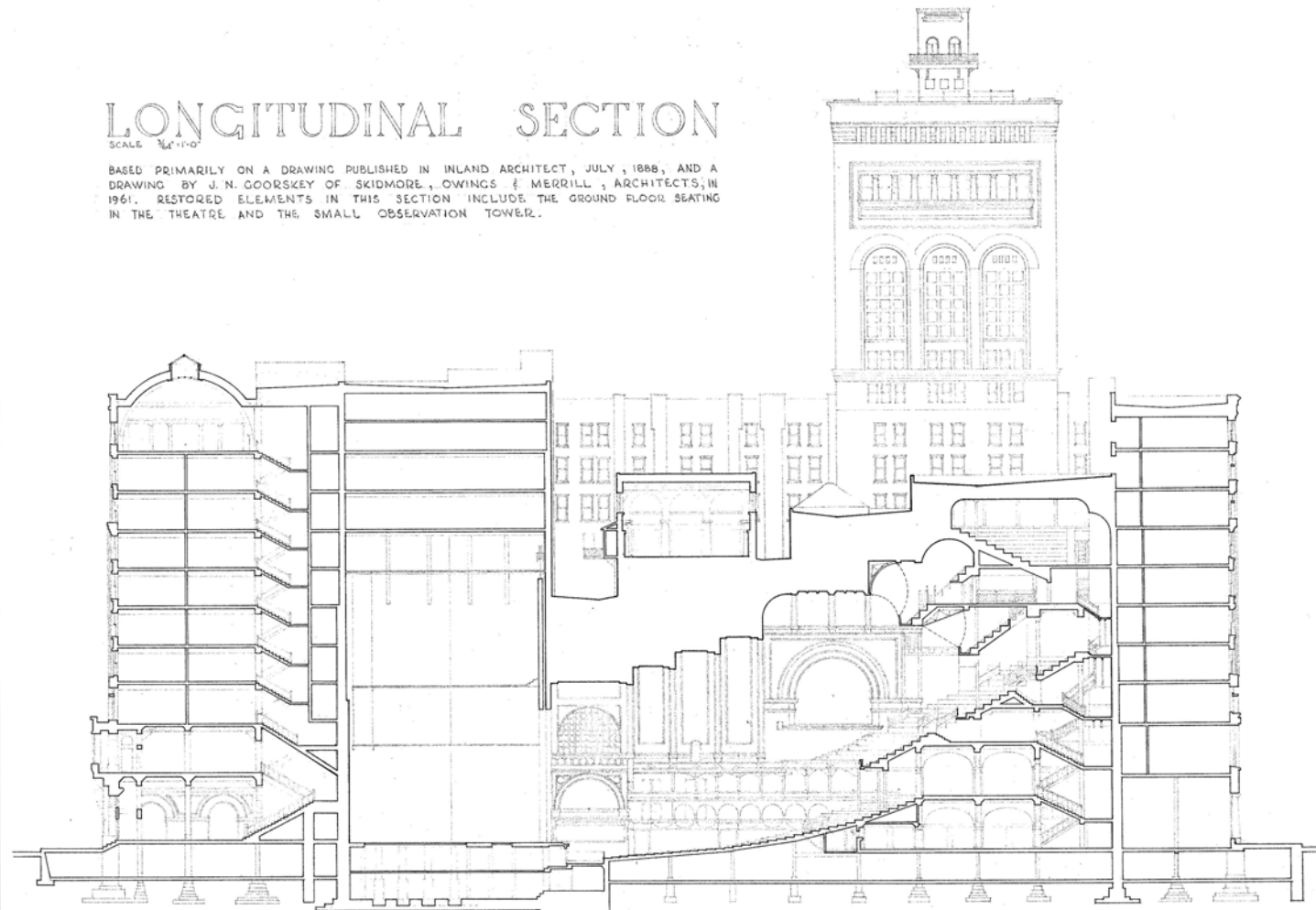
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BIBL. NUMBER



# LONGITUDINAL SECTION

SCALE 1/4"=1'-0"

BASED PRIMARILY ON A DRAWING PUBLISHED IN INLAND ARCHITECT, JULY, 1888, AND A DRAWING BY J. N. GOORSKEY OF SKIDMORE, OWINGS & MERRILL, ARCHITECTS, IN 1961. RESTORED ELEMENTS IN THIS SECTION INCLUDE THE GROUND FLOOR SEATING IN THE THEATRE AND THE SMALL OBSERVATION TOWER.



ROBERT C. GIEBNER, DEL.

H.A.B.S. CHICAGO PROJECT, 1963  
UNDER DIRECTION OF UNITED STATES DEPARTMENT OF THE INTERIOR  
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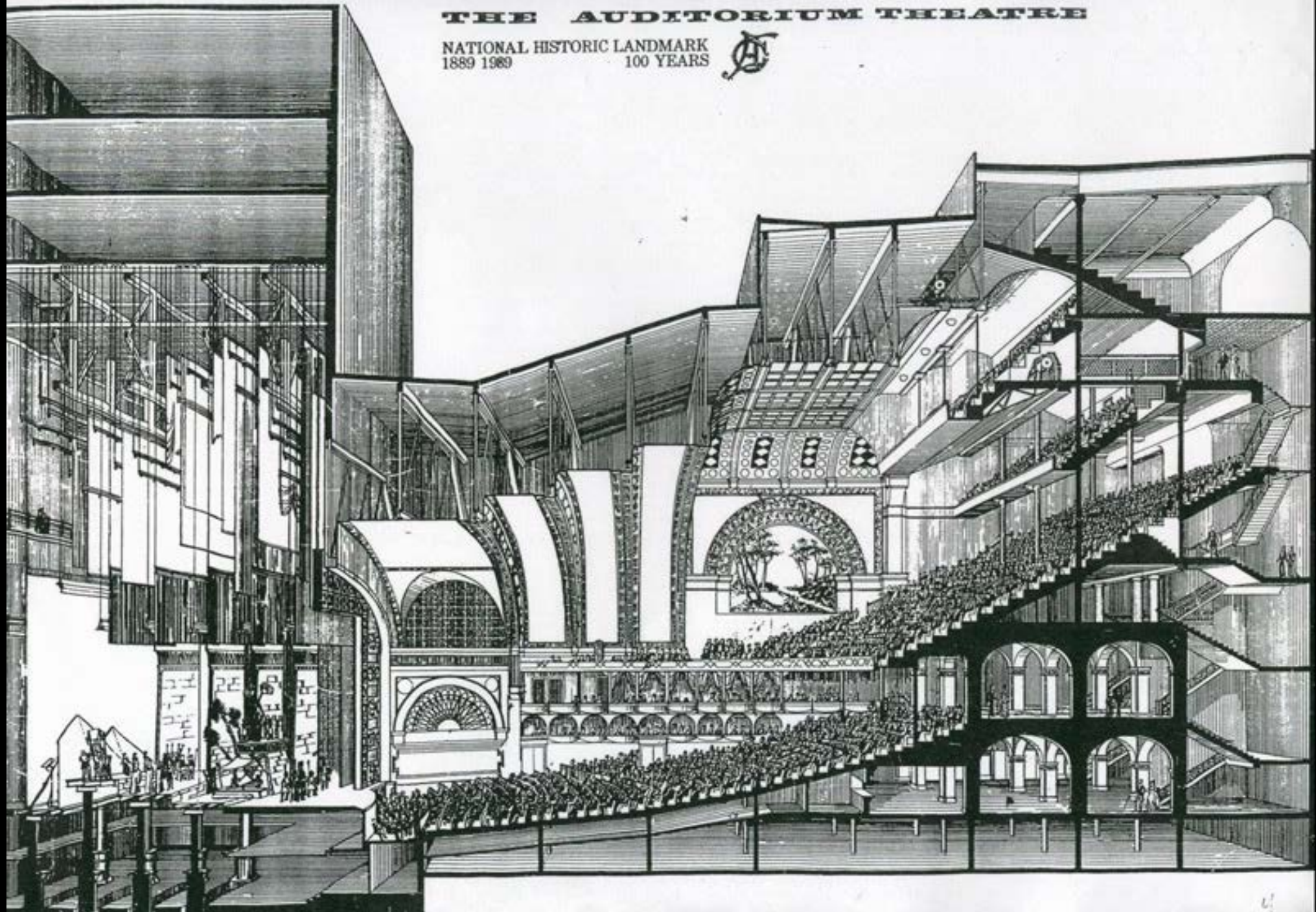
SURVEY NO.  
ILL  
1007

HISTORIC AMERICAN  
BUILDINGS SURVEY  
SHEET 4 OF 7 SHEETS

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BIBLIOMANCIA

# THE AUDITORIUM THEATRE

NATIONAL HISTORIC LANDMARK  
1889 1989



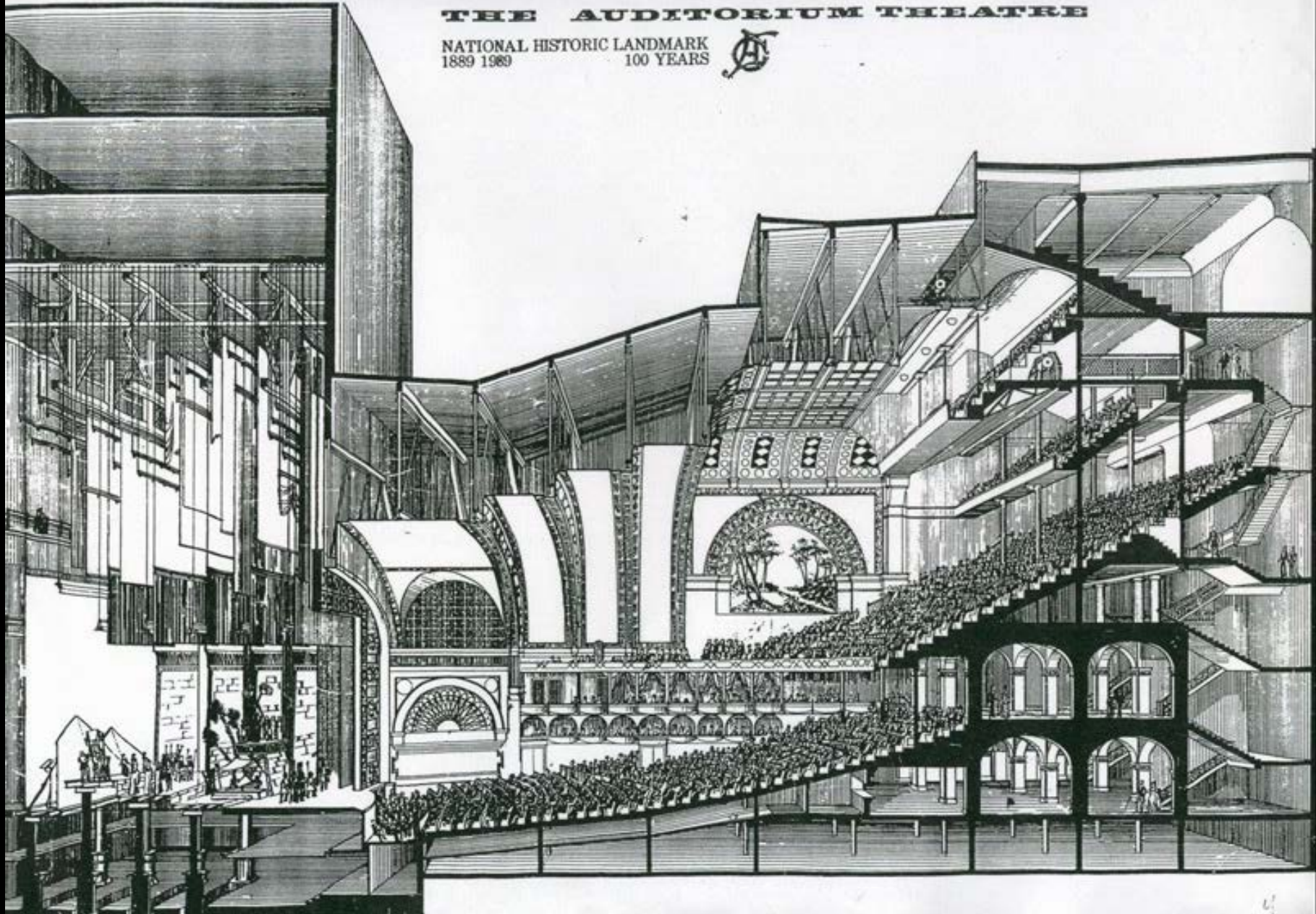




# THE AUDITORIUM THEATRE

NATIONAL HISTORIC LANDMARK  
1889 1989

100 YEARS

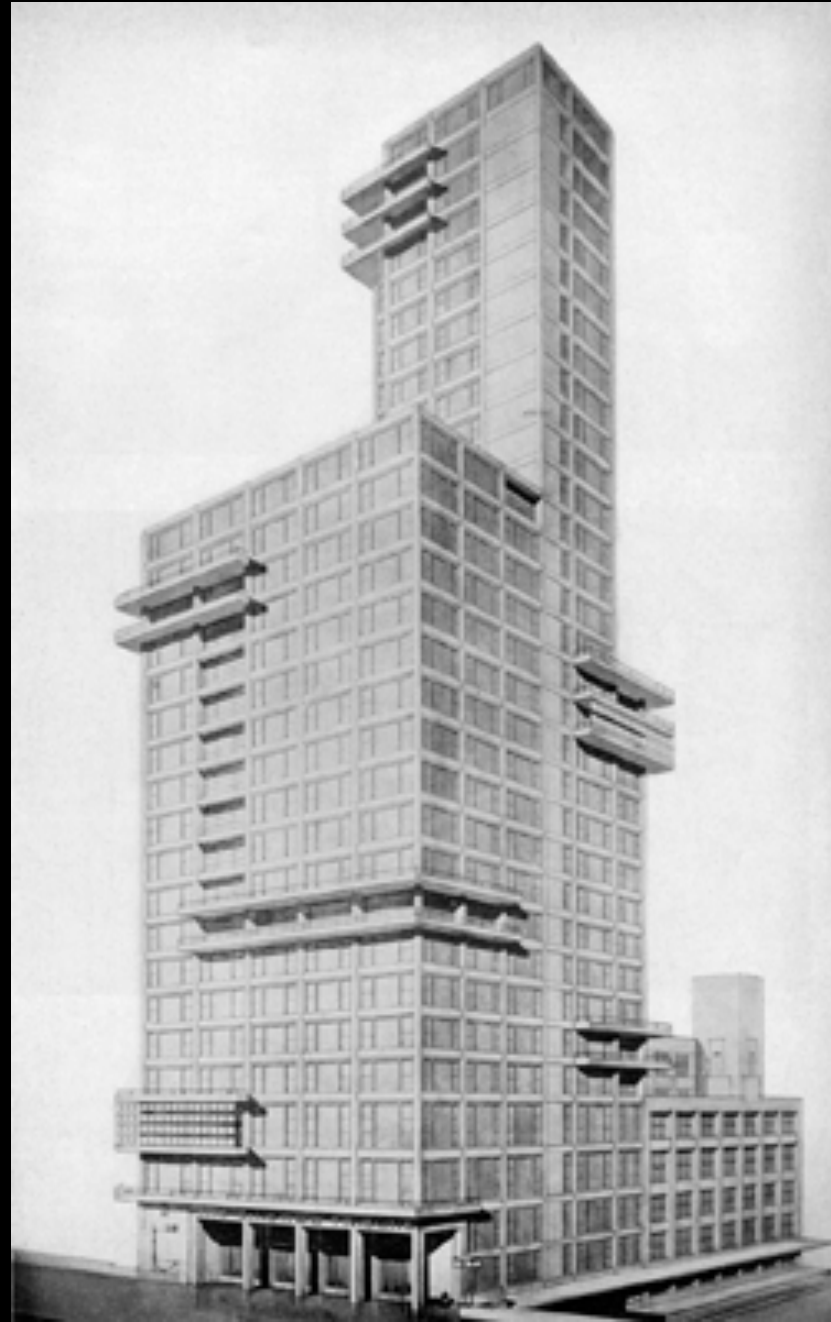
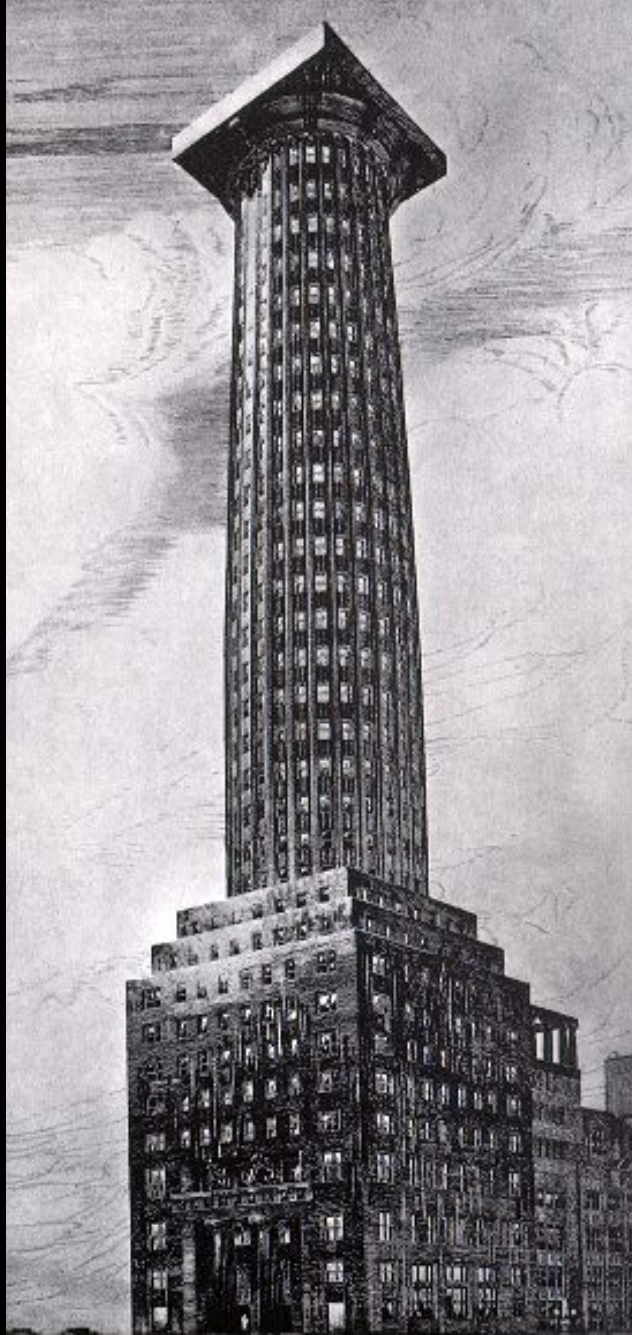




What was Louis Sullivan's position on architectural ornament?

I should say that it would be greatly for our aesthetic good if we should refrain entirely from the use of ornament for a period of years in order that our thought might concentrate acutely upon the production of buildings well formed and comely in the nude. We should thus perforce eschew many undesirable things, and learn by contrast how effective it is to think in a natural, favorable and wholesome way...We shall have learned, however, that ornament is mentally a luxury, not a necessity, for we shall have discerned the limitations as well as the great value of unadorned masses. We have in us romanticism, and feel a craving to express it. We feel intuitively that our strong, athletic, and simple forms will carry with natural ease the raiment of which we dream, and that our buildings thus clad in a garment of poetic imagery, half hid as it were in choice products of loom and mine, will appeal with redoubled power, like a sonorous melody overlaid with harmonious voices.

Louis Sullivan, *Ornament in Architecture*, 1892



Adolf Loos, Tribune Tower Competition, 1922 Walter Gropius, Tribune Tower Competition, 1922



Raymond Hood and John M. Howells,  
Tribune Tower, 1924



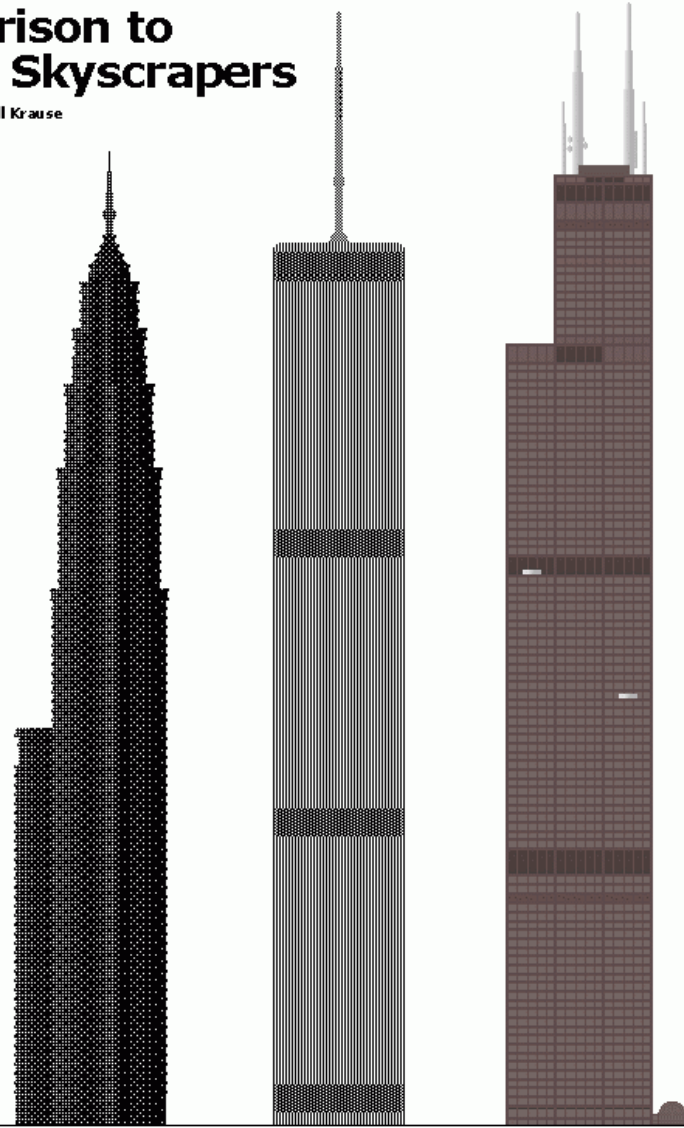
Skidmore, Owings and Merrill, Fazlur Kahn and Bruce Graham, Willis Tower, formerly named Sears Tower, 1973





# Comparison to Similar Skyscrapers

(c) 1997-2006 Randall Krause



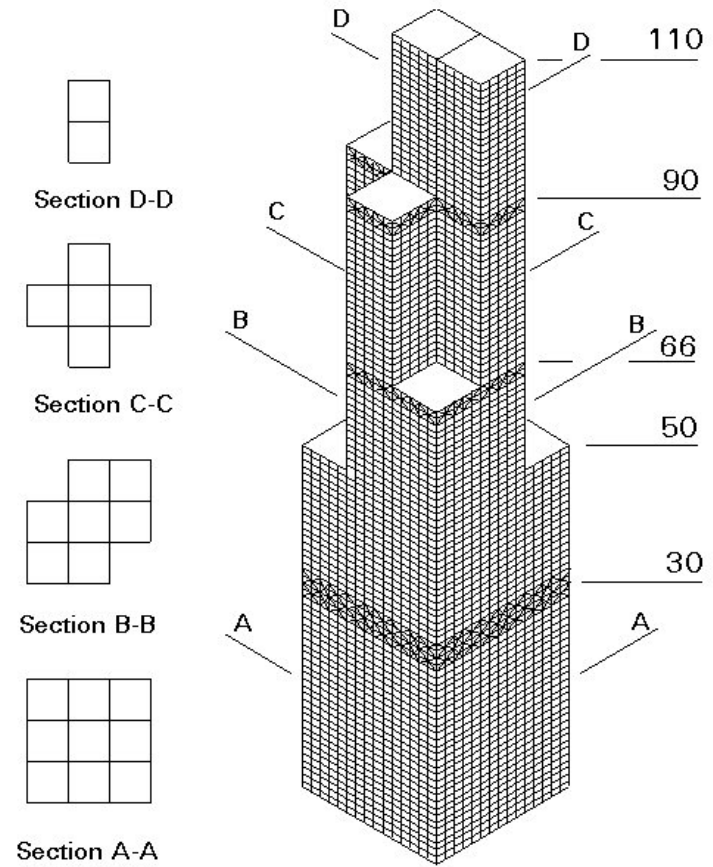
Petronas Tower

One World Trade Center

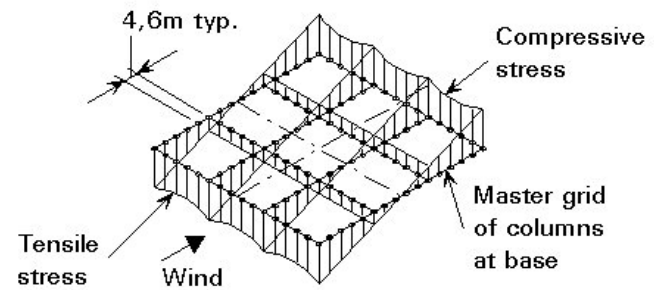
Sears Tower

Researched and drawn by  
Randall Krause, ISMA '97

<http://www.searstower.org/>



(a) Modular floor configurations



(b) Shear lag behaviour

Figure 10 Sears Tower, Chicago, Illinois

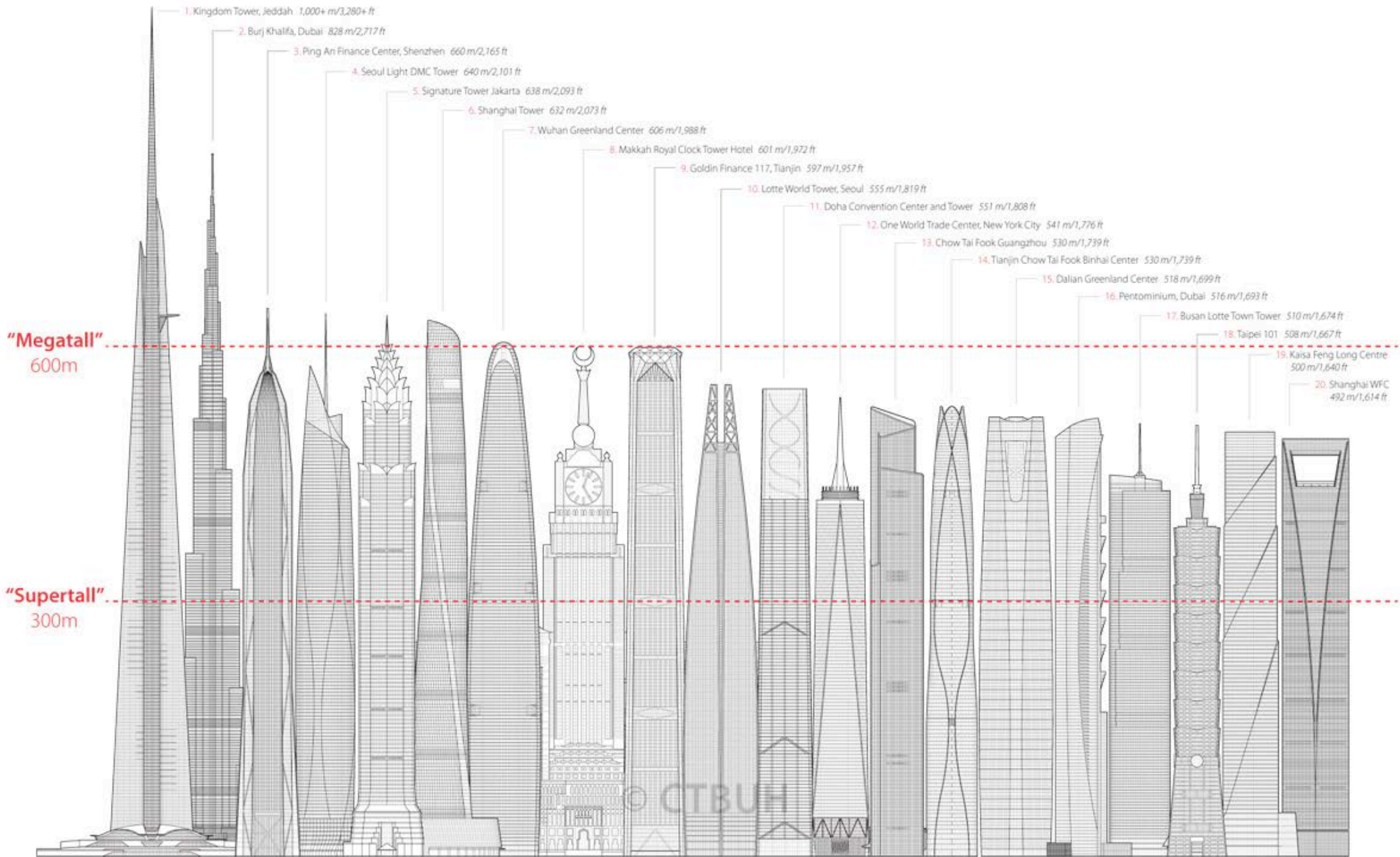


Diagram of the World's 20 Tallest in 2020 (estimated as of Dec 2011) © CTBUH

