

Root, Khan, and the rise of the Skyscraper (Chicago)

Themes:

The birth of the modern skyscraper

Tensions between architectural and structural expression in buildings

Expression of structure in skyscraper building form

Stiffness in skyscrapers

Chicago 1871-1893



The Architecture of
JOHN WELLBORN ROOT

*The business buildings of
Burnham & Root were the first
tall buildings in which the
conditions both of commercial
architecture in general and
of elevator architecture
in particular were
recognized and expressed.*

—Montgomery Schuyler, 1895

*Yes, we made all these
buildings together, but they
are chiefly his, for he it was
who did the designing. . . .*

—D. H. Burnham, 15 January 1891



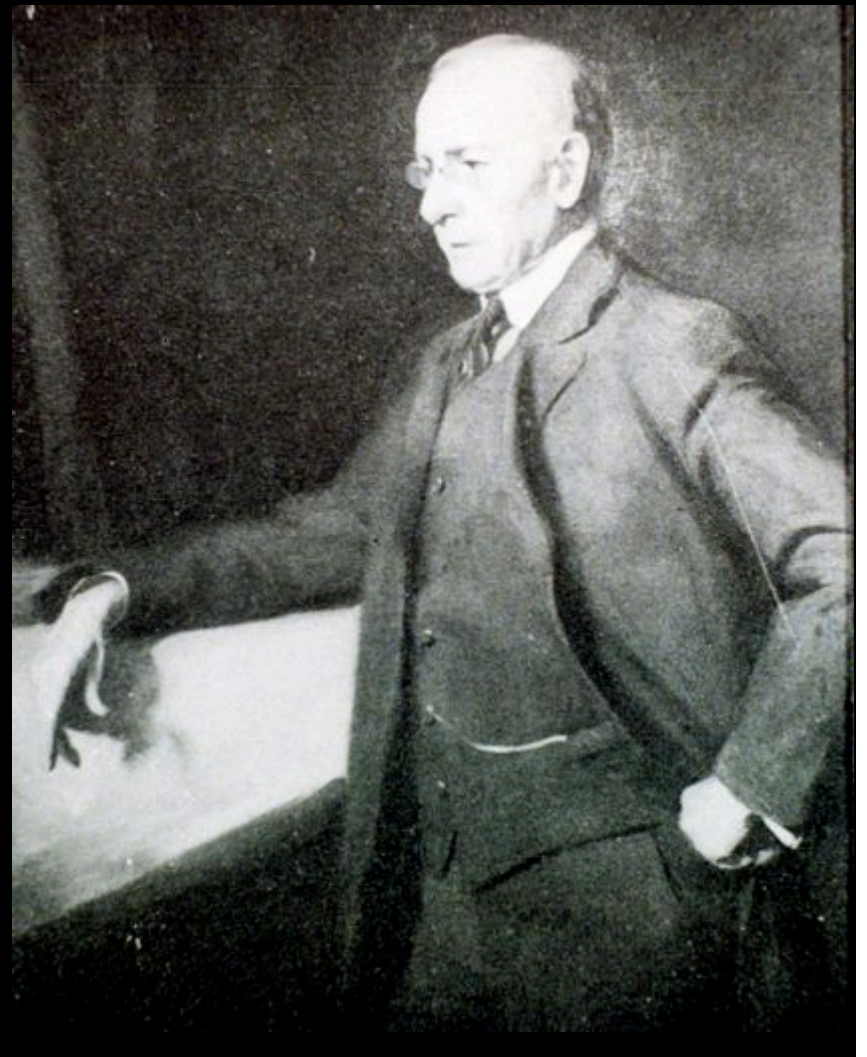








Jenney
1879
Leiter Bldg.



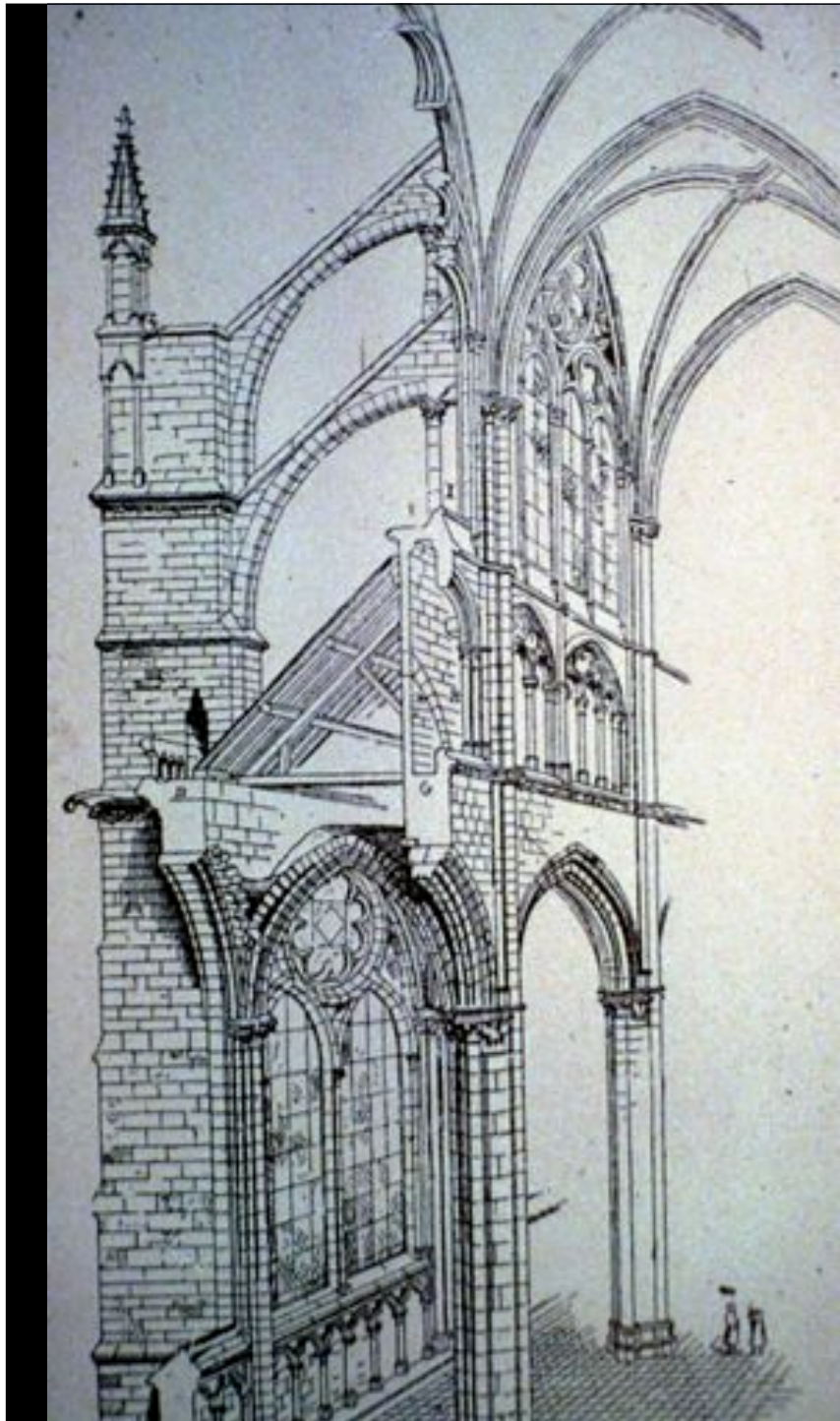
Sullivan's Wainright in
St. Louis

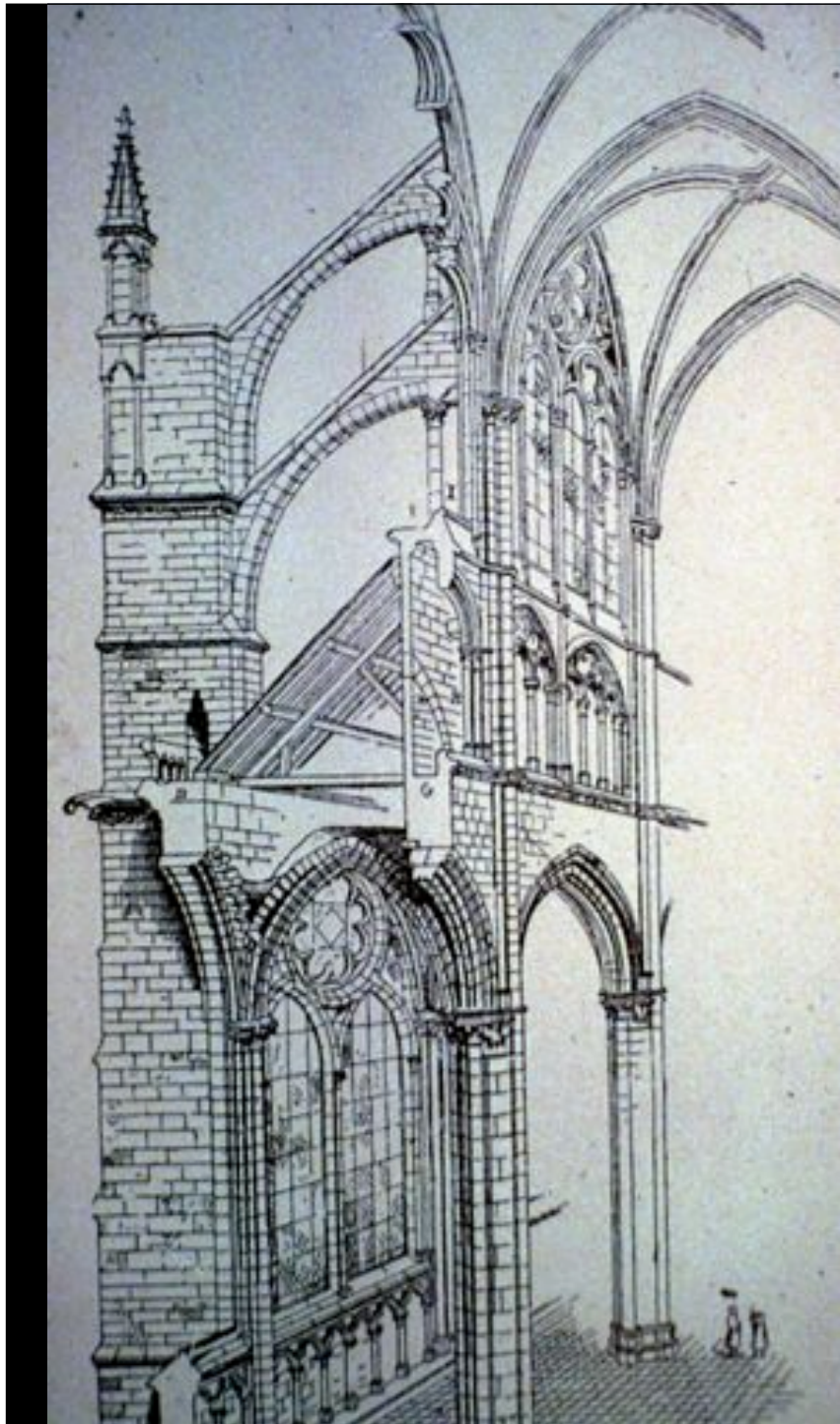




Viollet-le-Duc



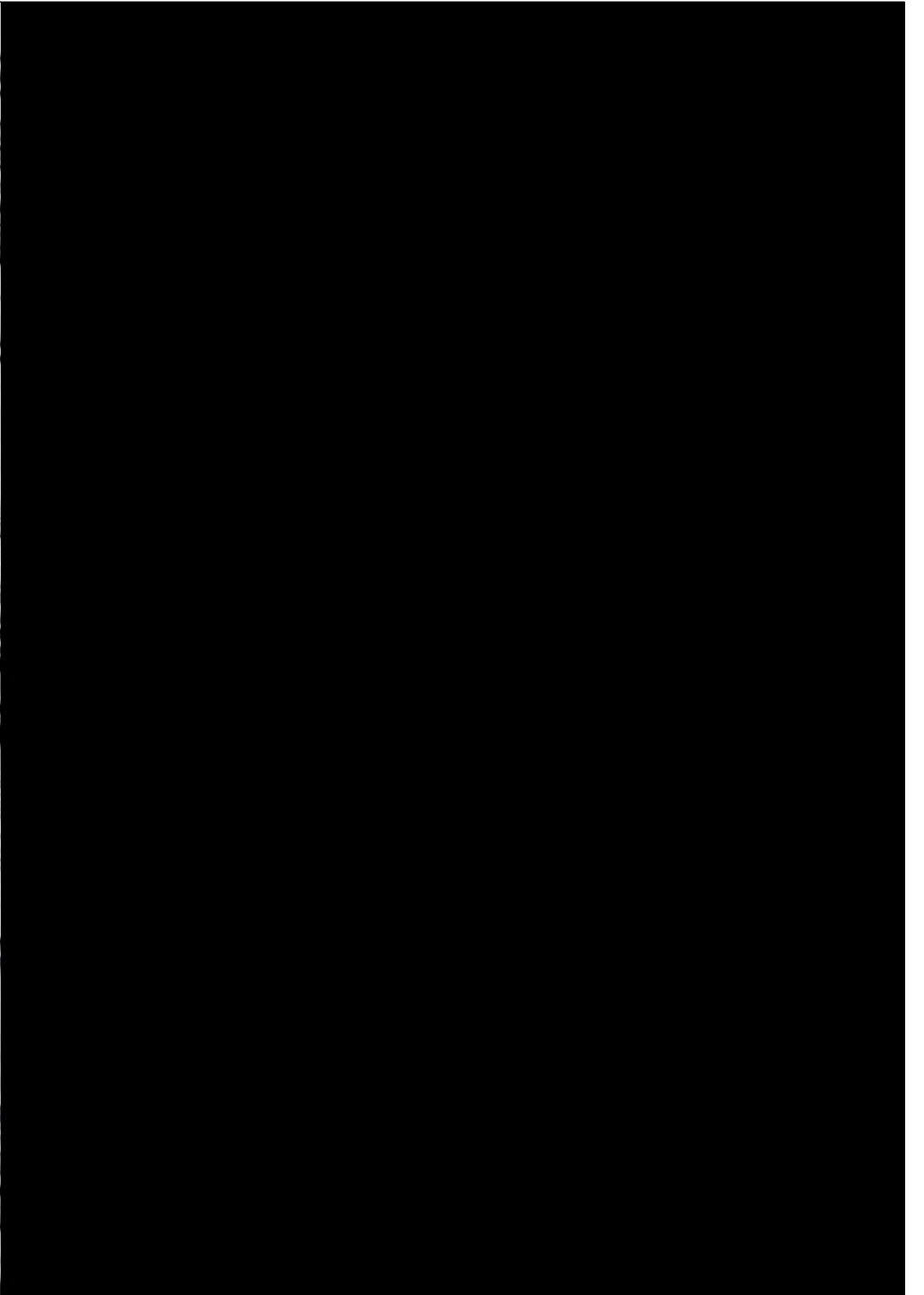
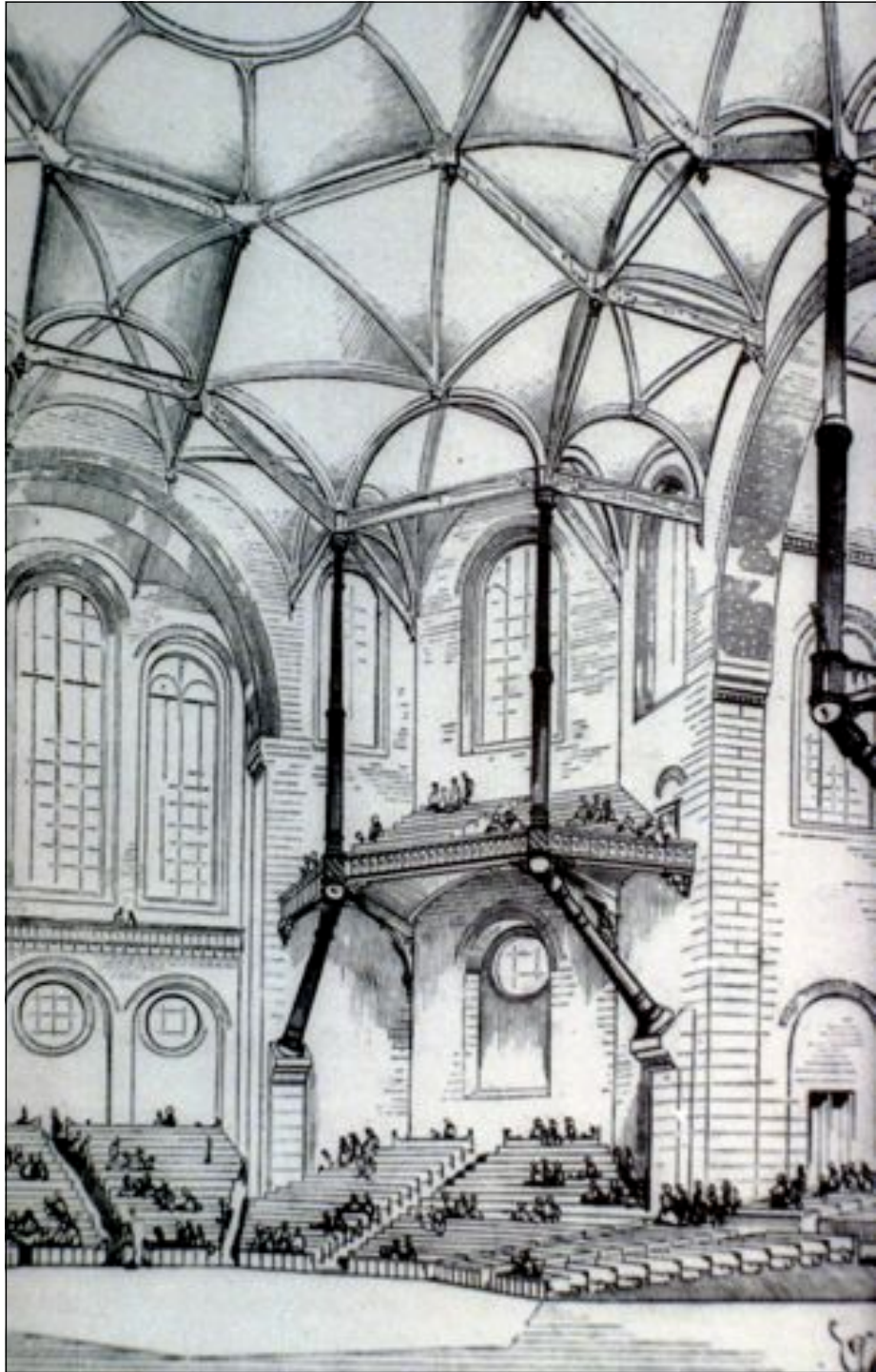


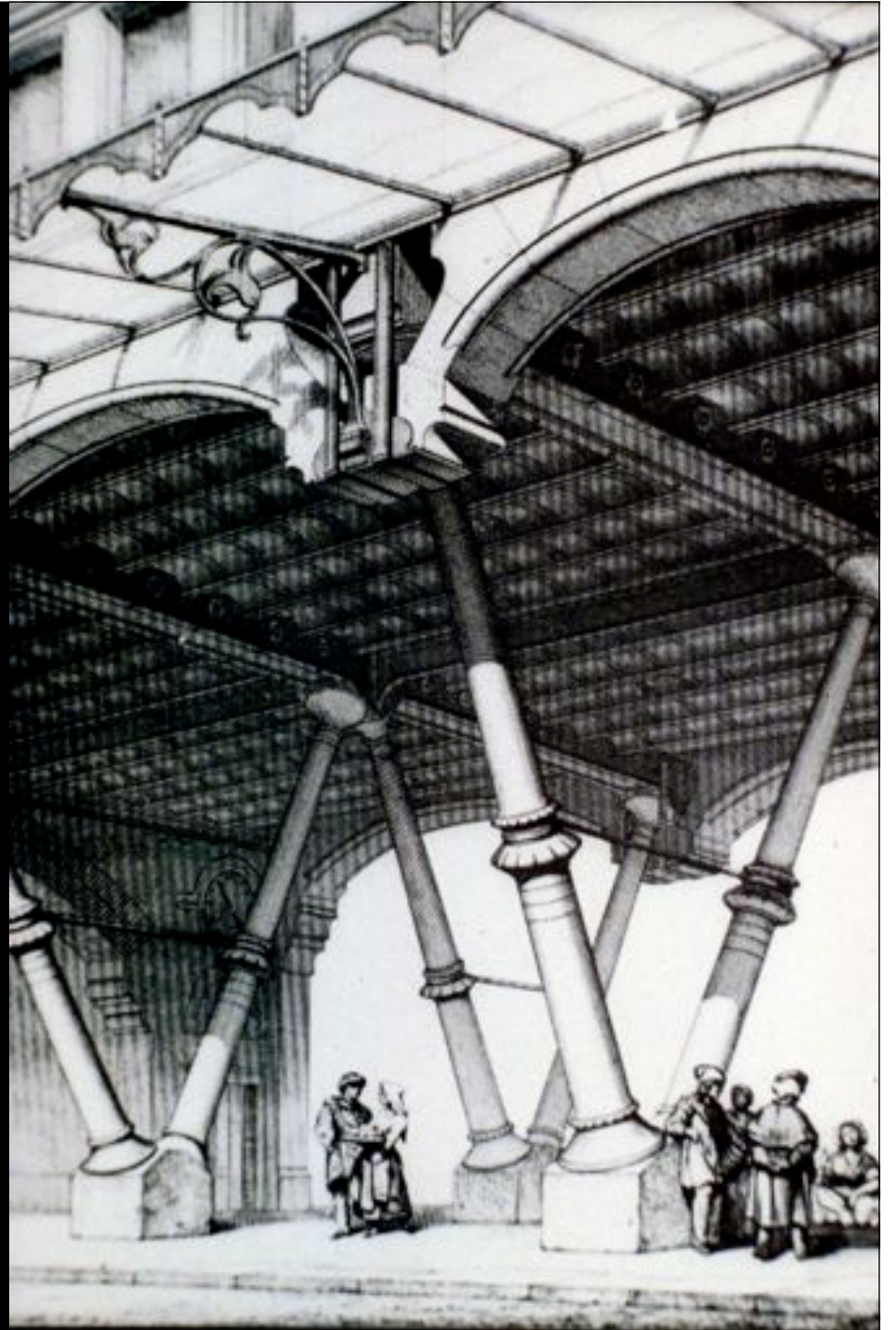






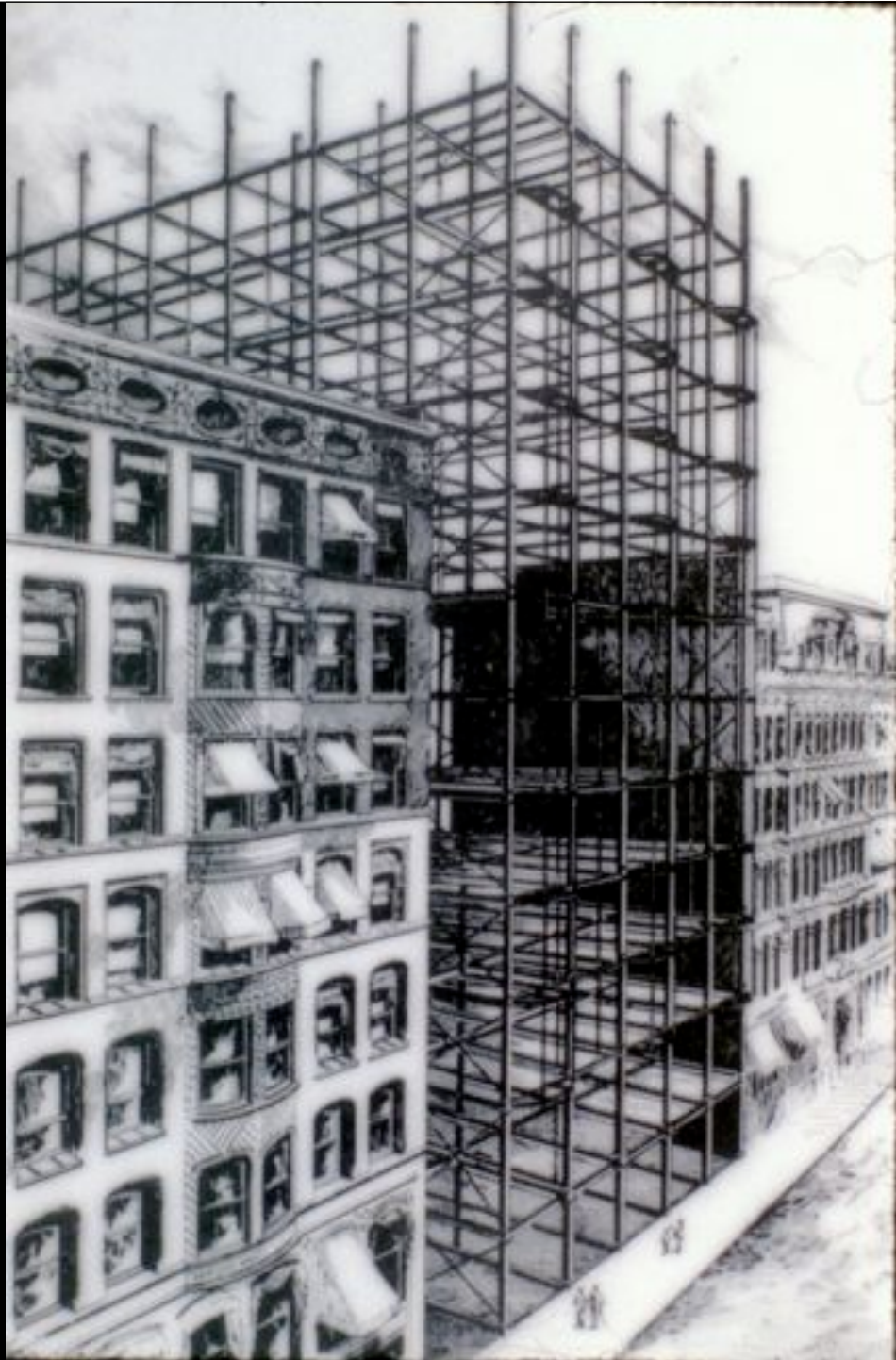




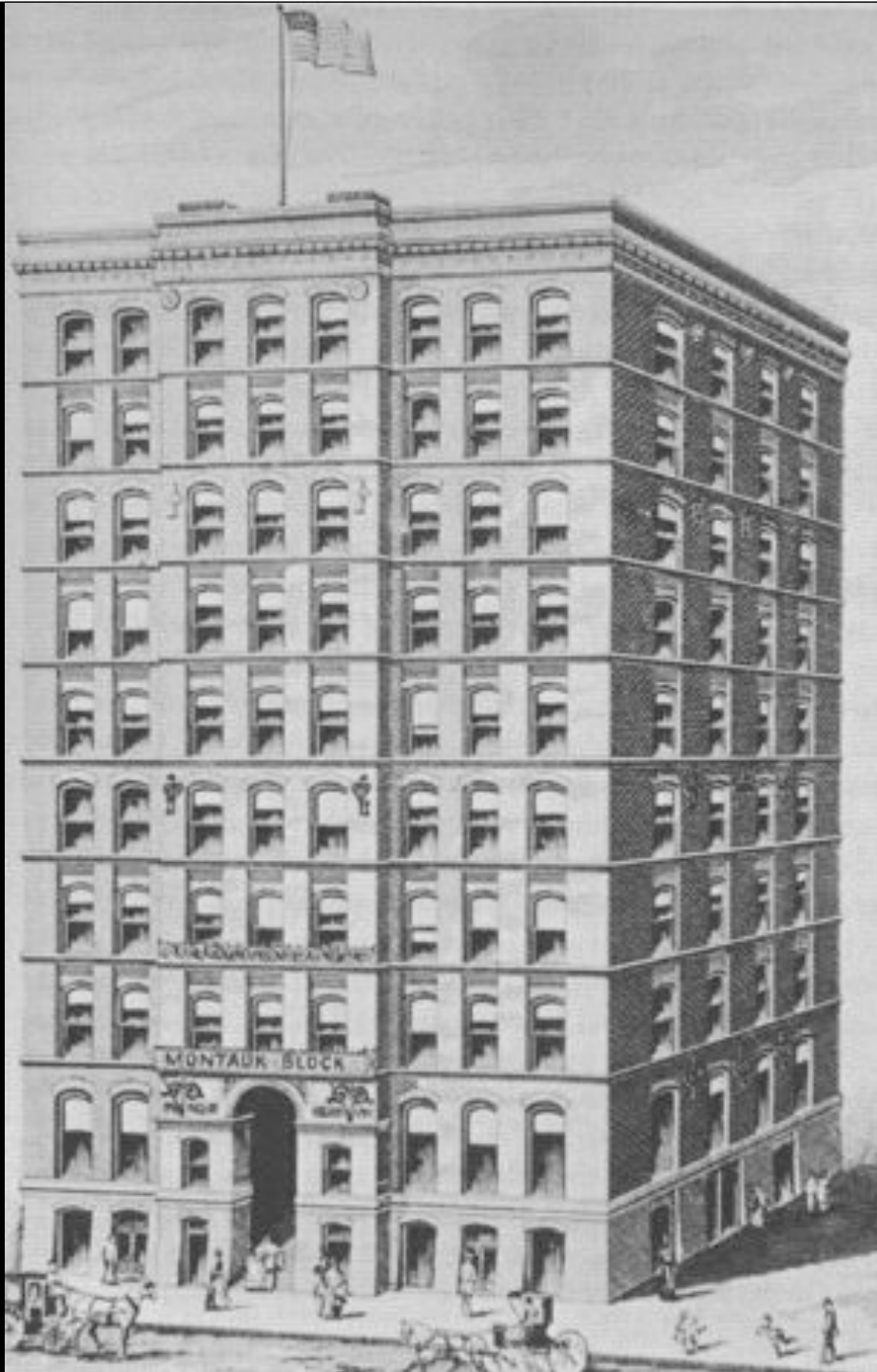




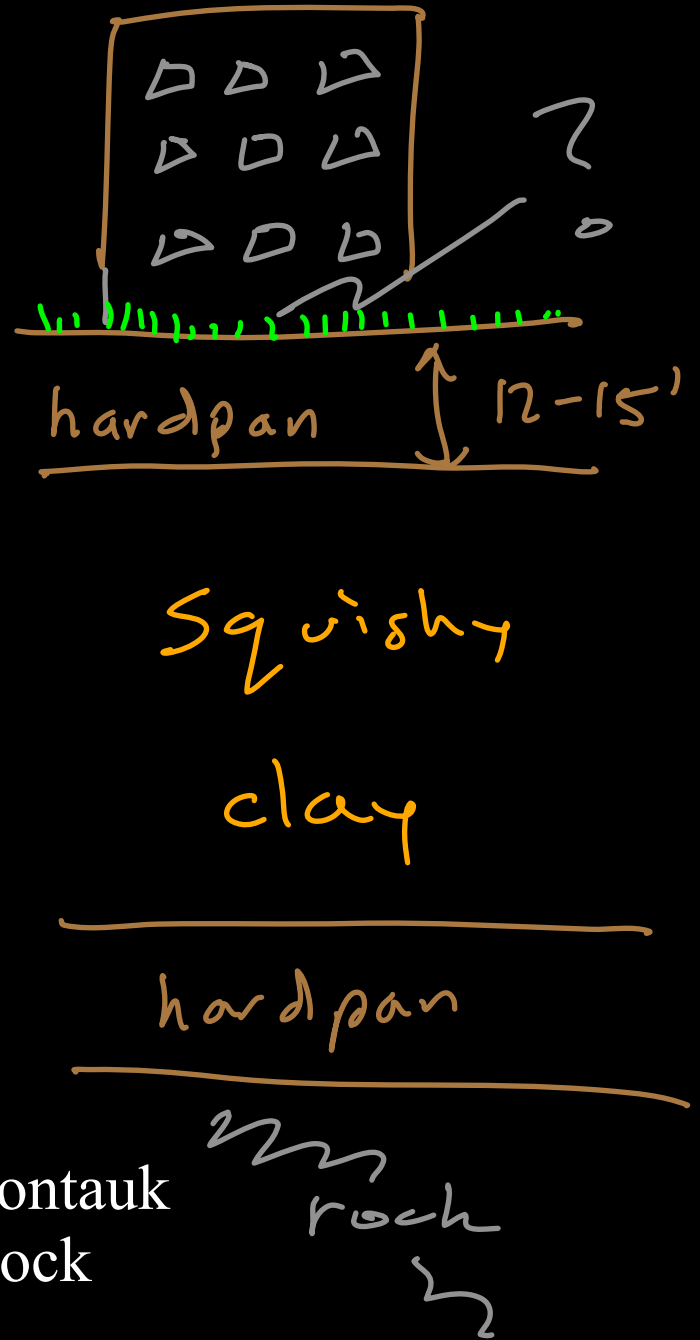




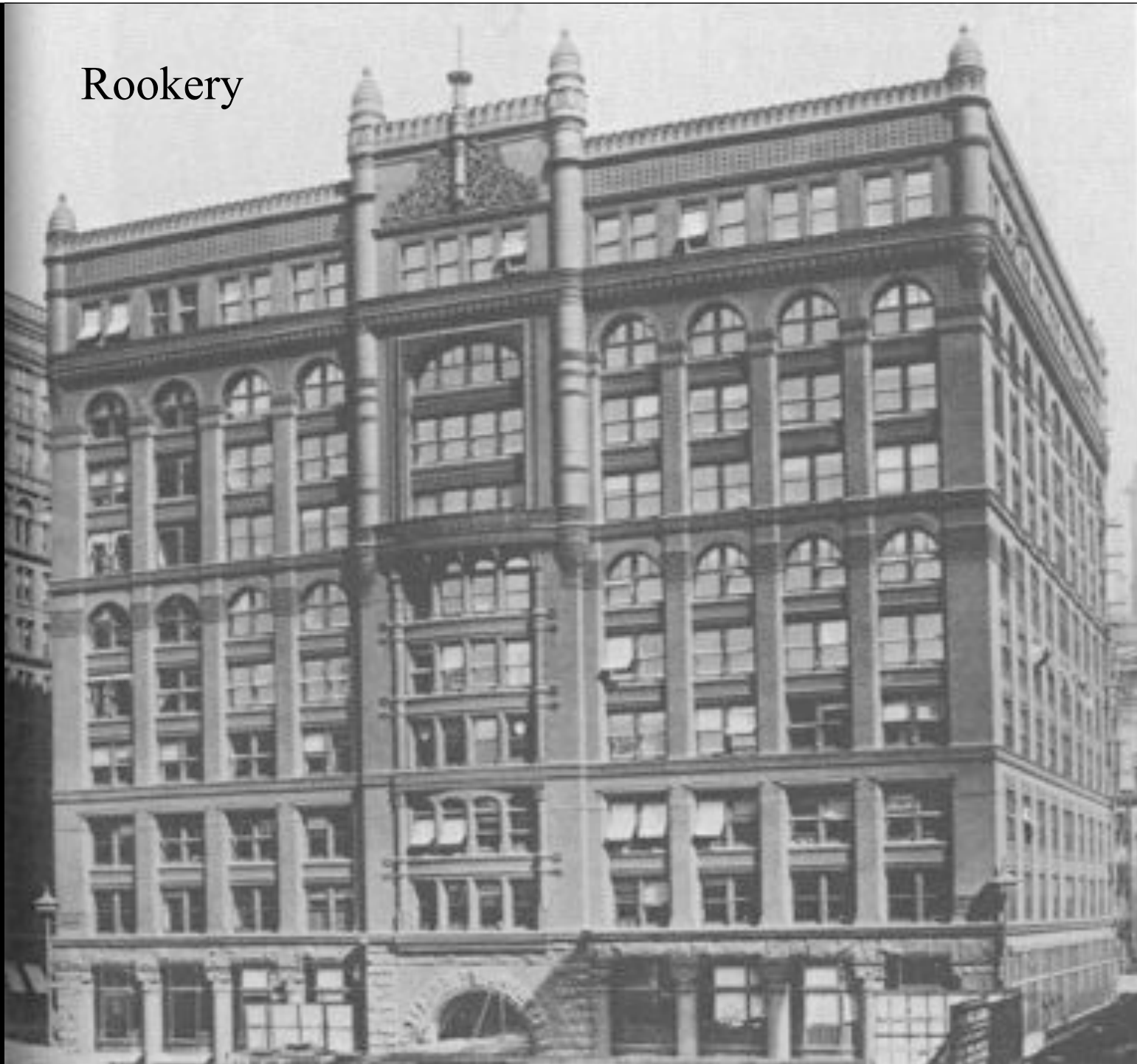
Root



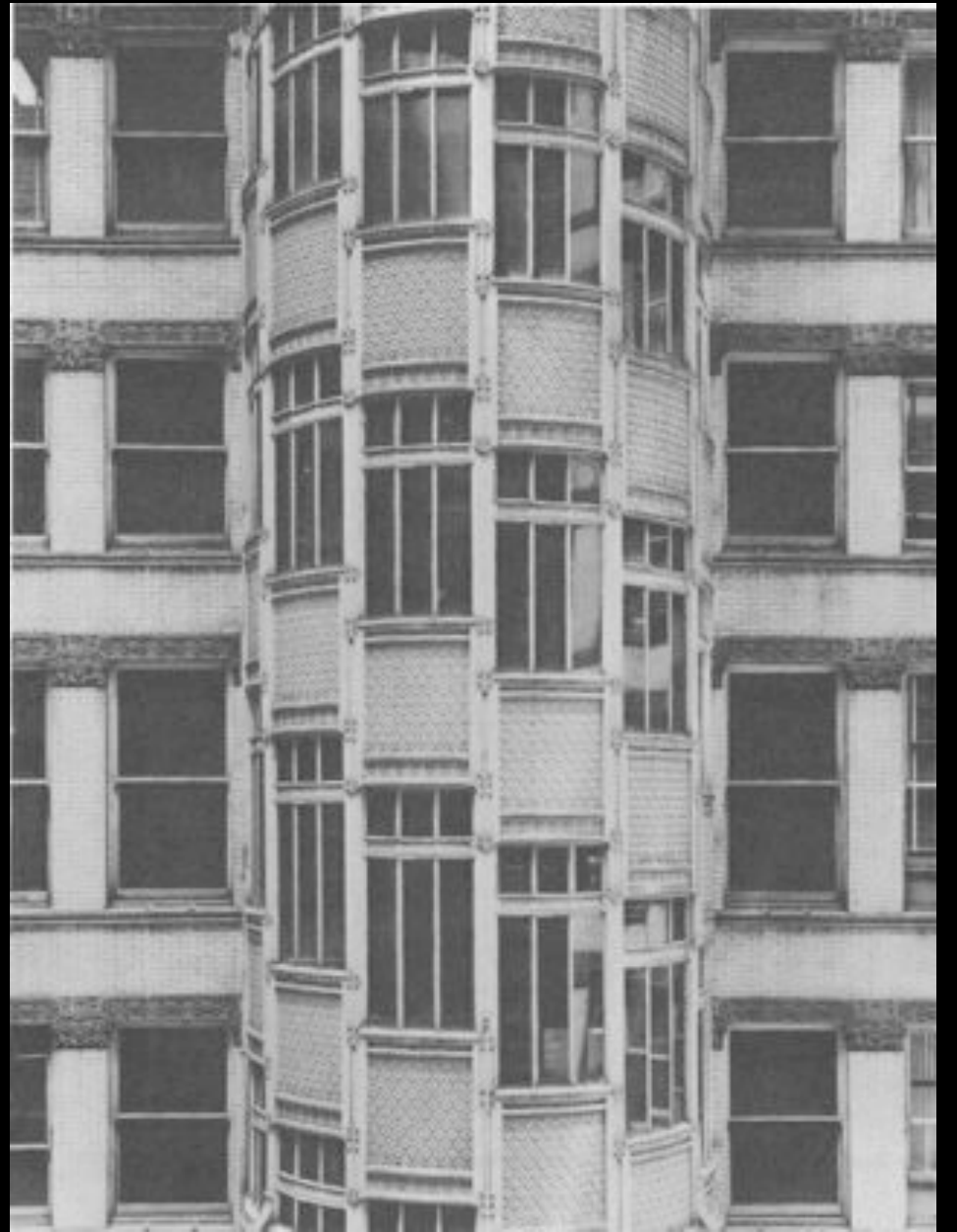
Montauk Block



Rookery

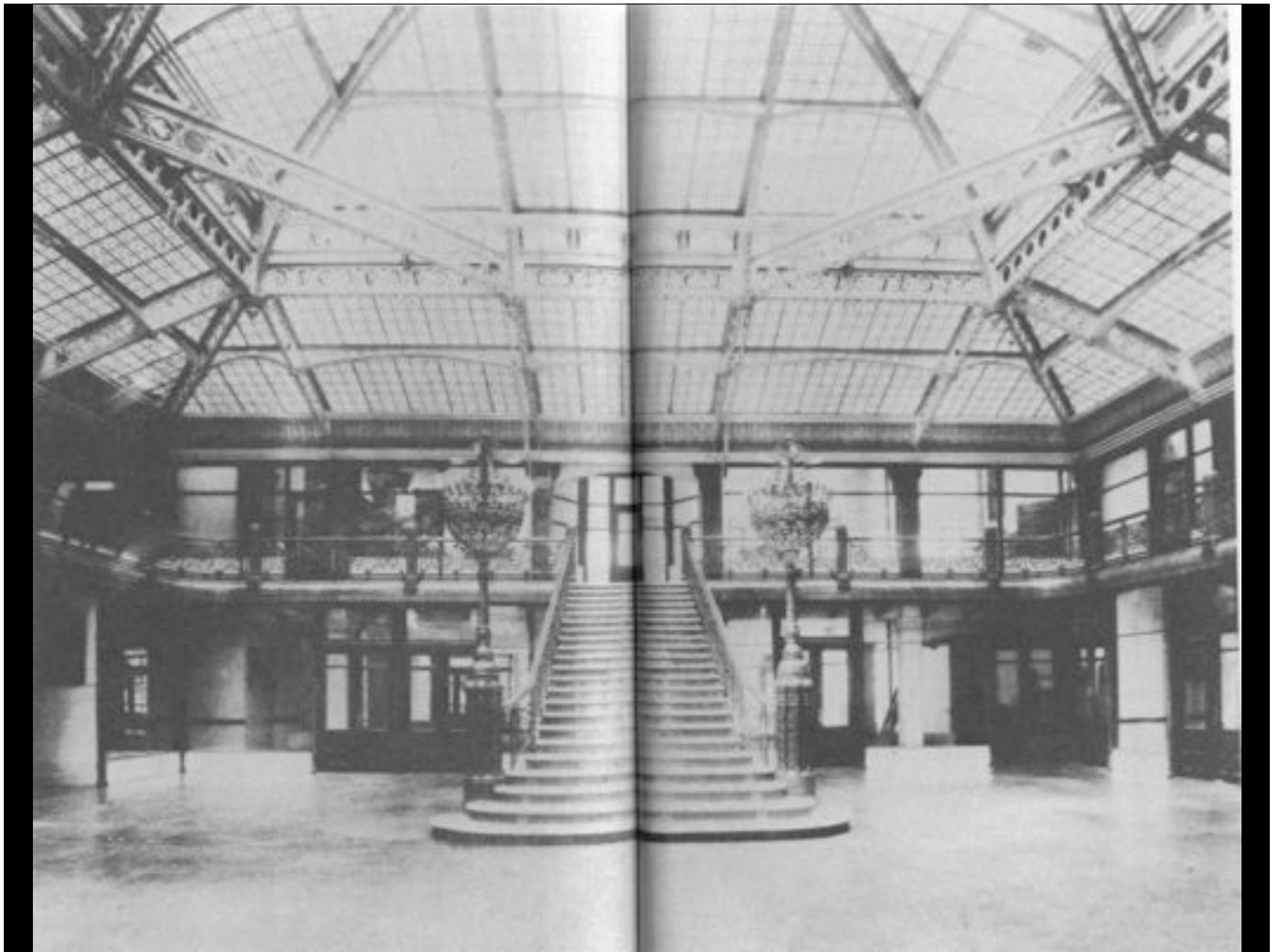








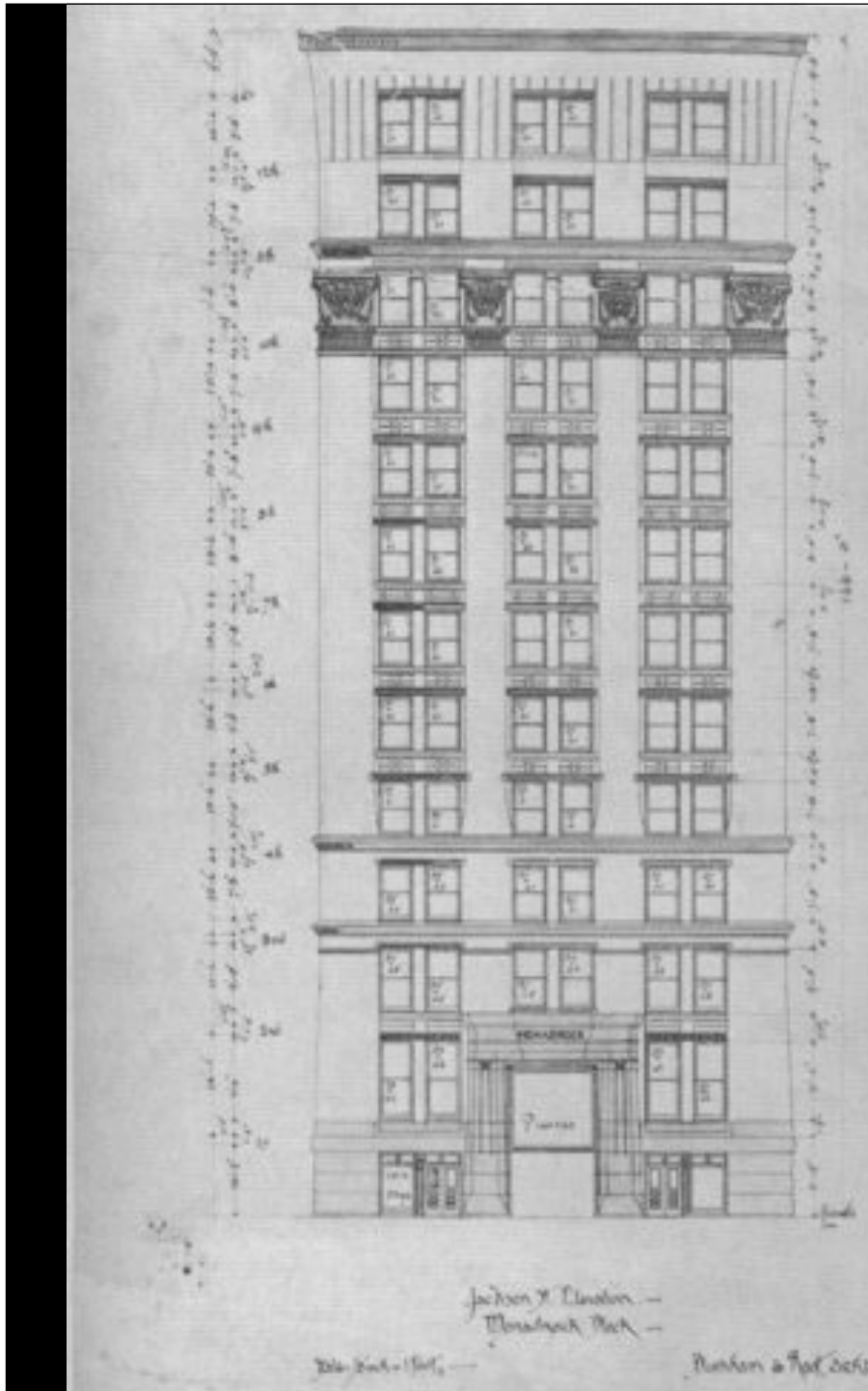


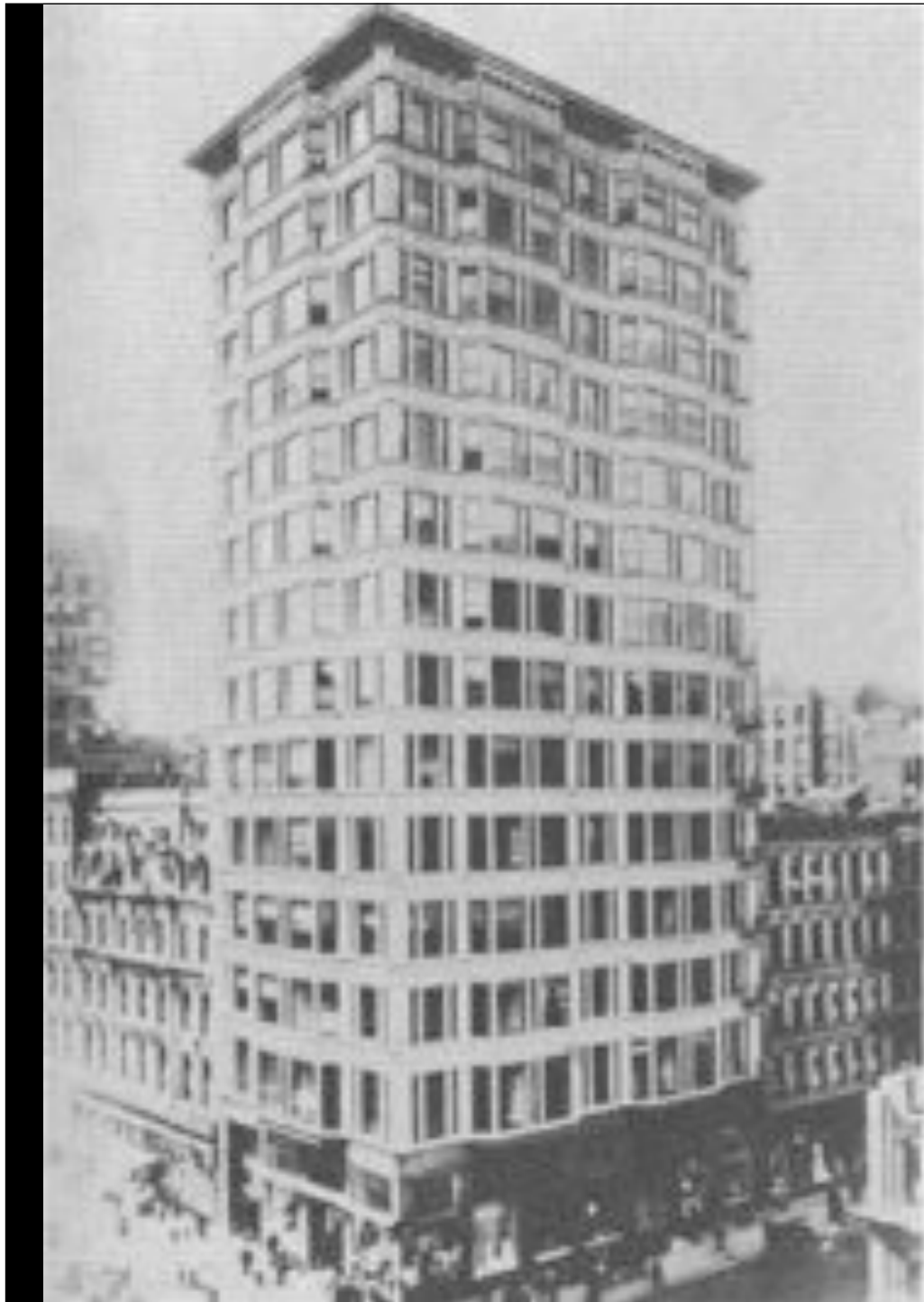


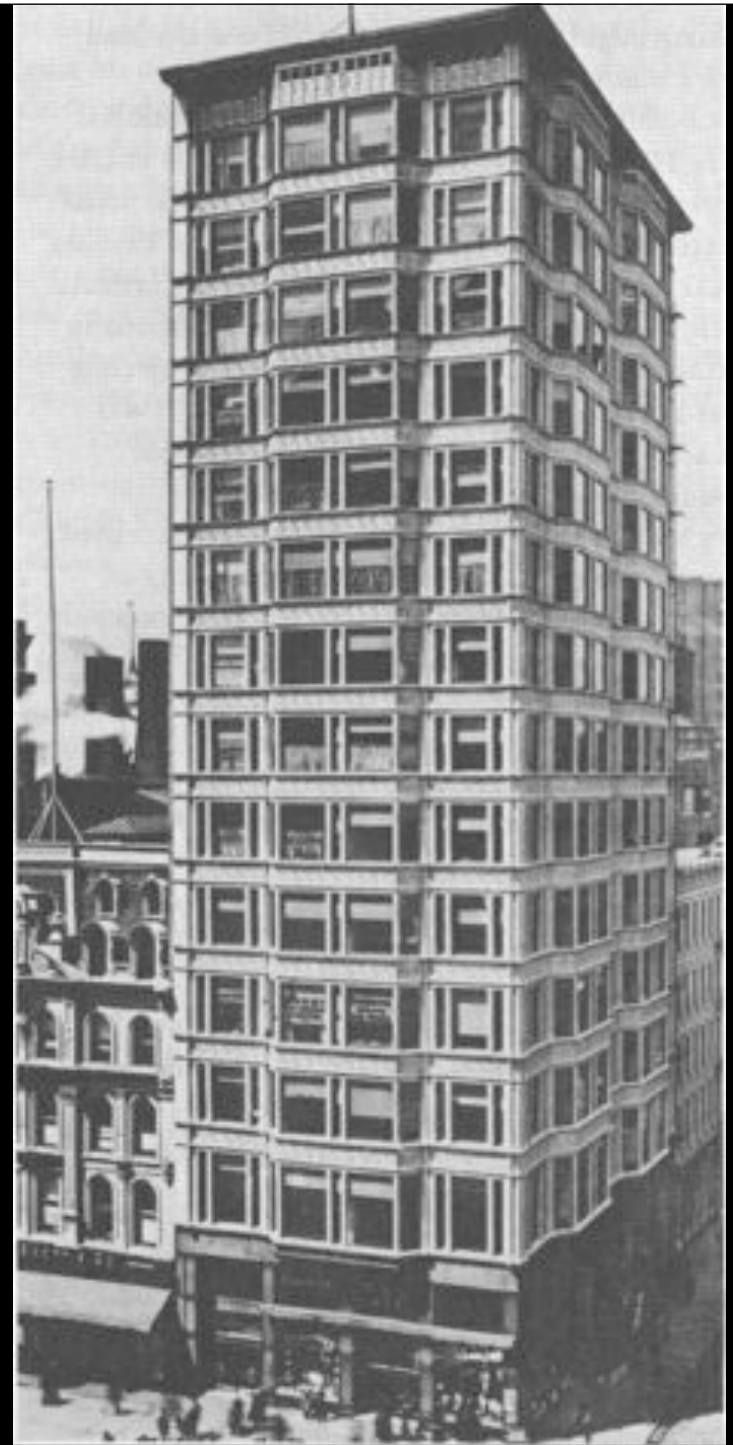


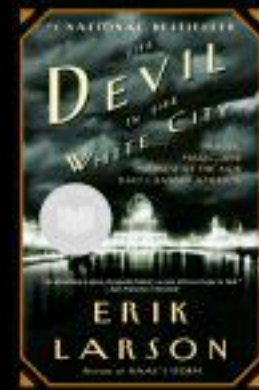
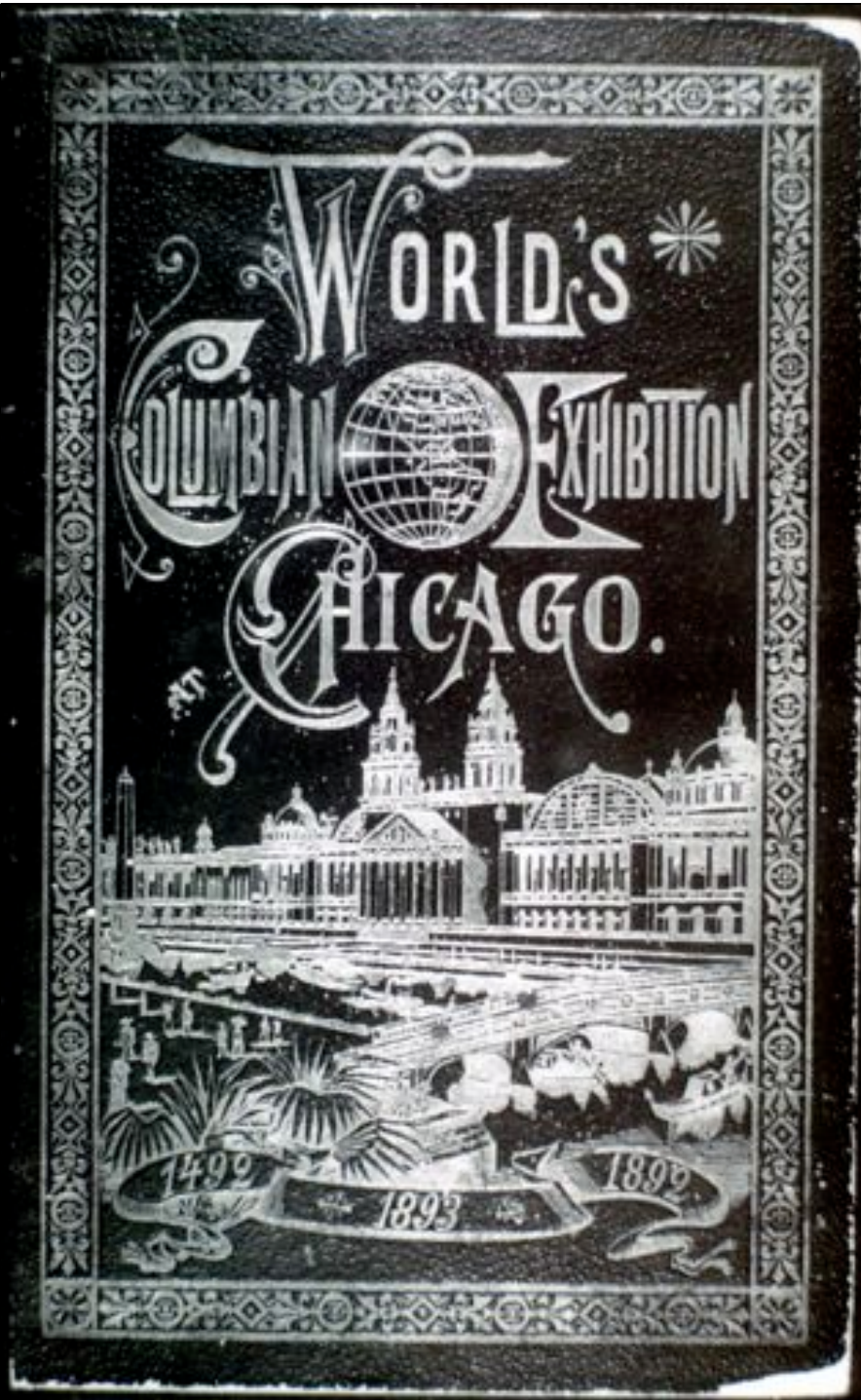
Monadnock











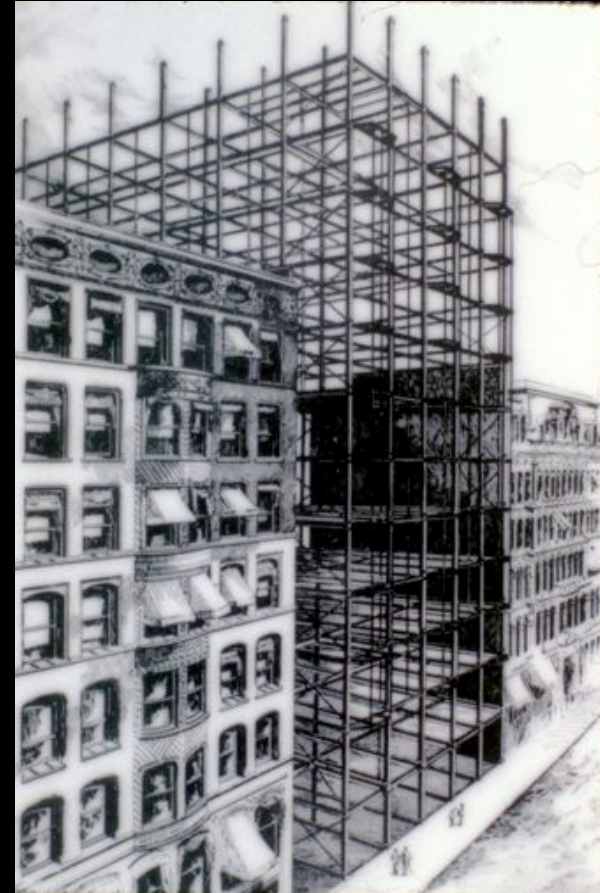




The (First) Chicago School

Jenney
Sullivan
Burnham
Root

...





Chicago 1930-1970

“The depression that began in the 1930’s and was ended ten years later only by a massive program of military procurement was a disaster for the nation as a whole but an absolute and unmitigated calamity for Chicago. It was not only the collapse of the public and private economy; it was the Sophoclean reversal of fortune, from the expansive force of the twenties ... to the impotence and hopelessness of the thirties.”

“It was 12 years after WWII ended before a new building would be built in the Chicago CBD.”

Chicago 1930-1970, *Carl Condit*



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A LISTING OF THE INDUSTRIAL BUILDINGS	
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1924

1924. 1924. 1924. 1924. 1924.







*Ludwig Mies
van der Rohe*



cityofchicago.org



www.greatbuildings.com



Seagram Building, New York.

Photo by Jean Alejandro di Bergerac Stephenson Davilus

www.structurae.de



Seagram Building, New York.

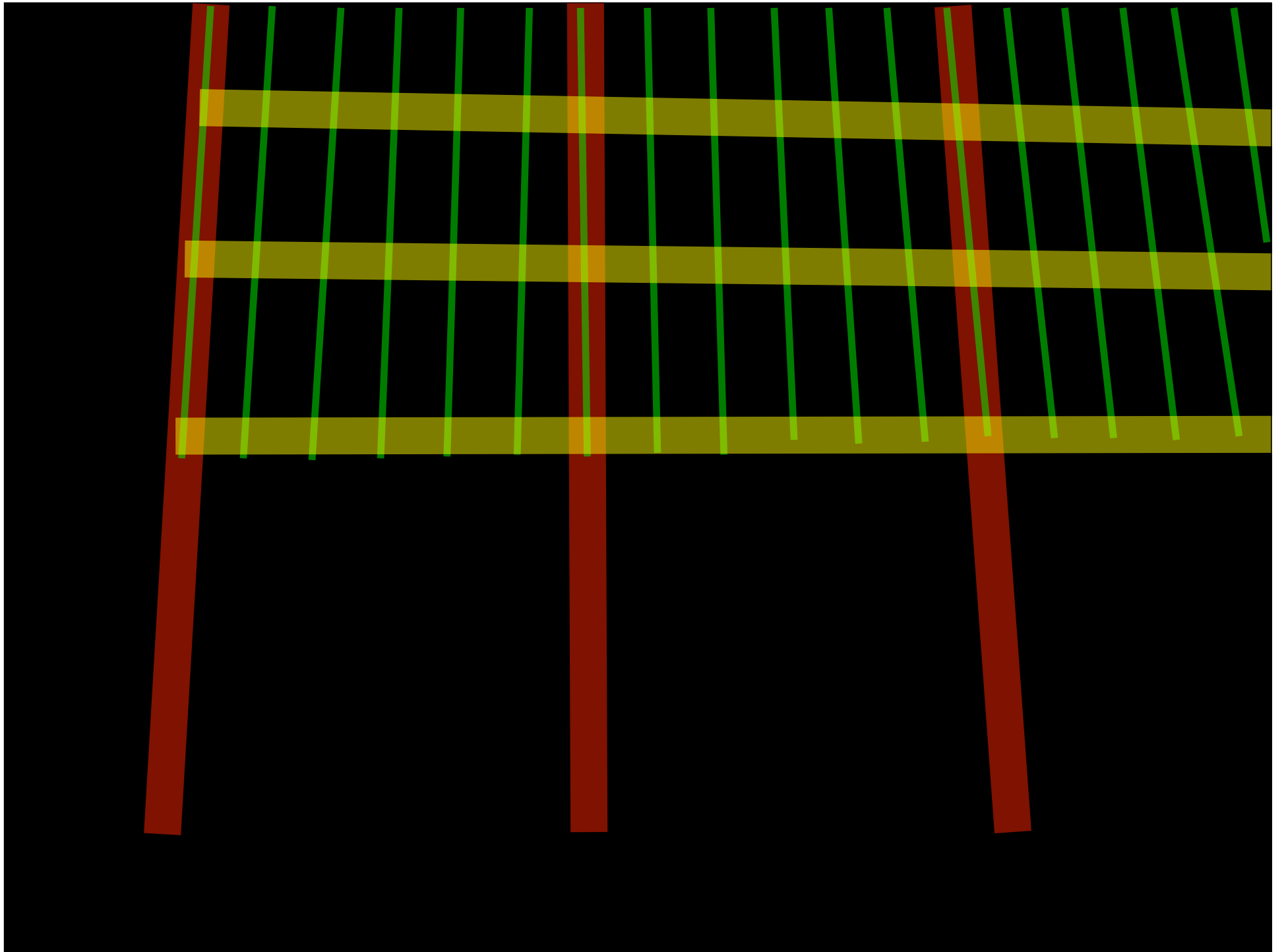
Photo by Jean Alejandro di Bergerac Stephenson Davilus

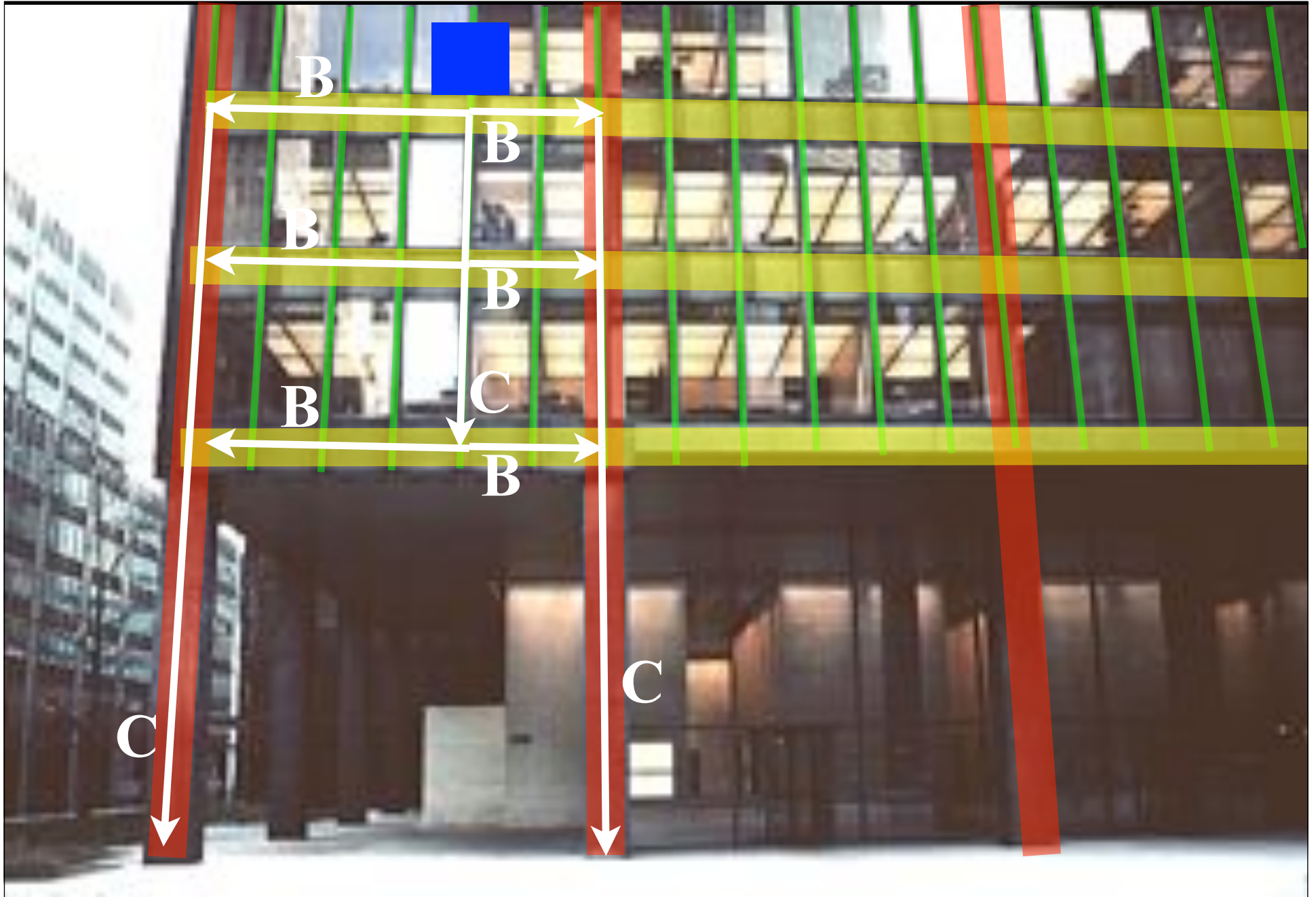
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Structural Columns

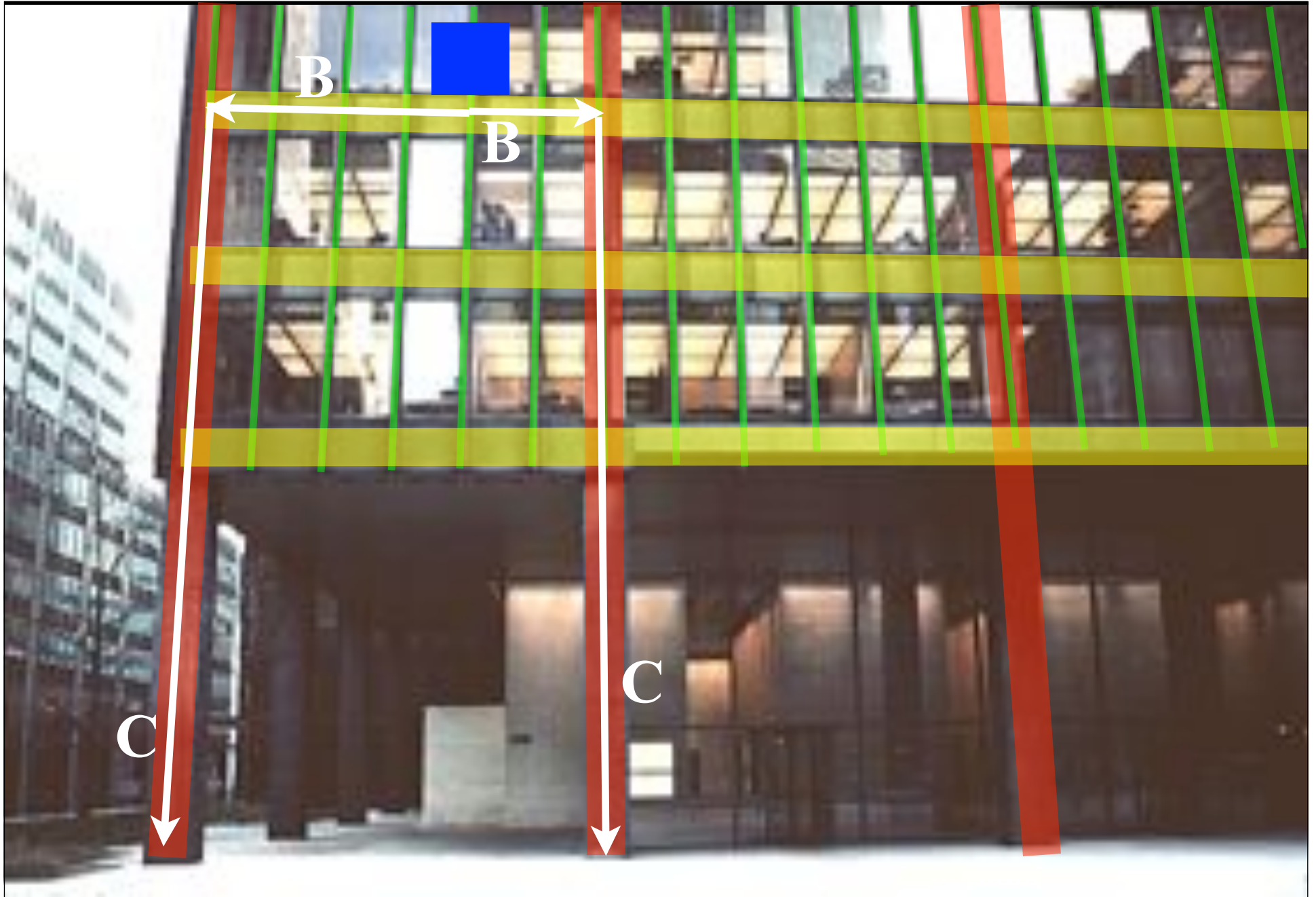
Structural Beams

Architectural Mullions





Load Path?



Load Path?



Marina
city











Chicago Civic Center – now the Daley center



cityofchicago.org



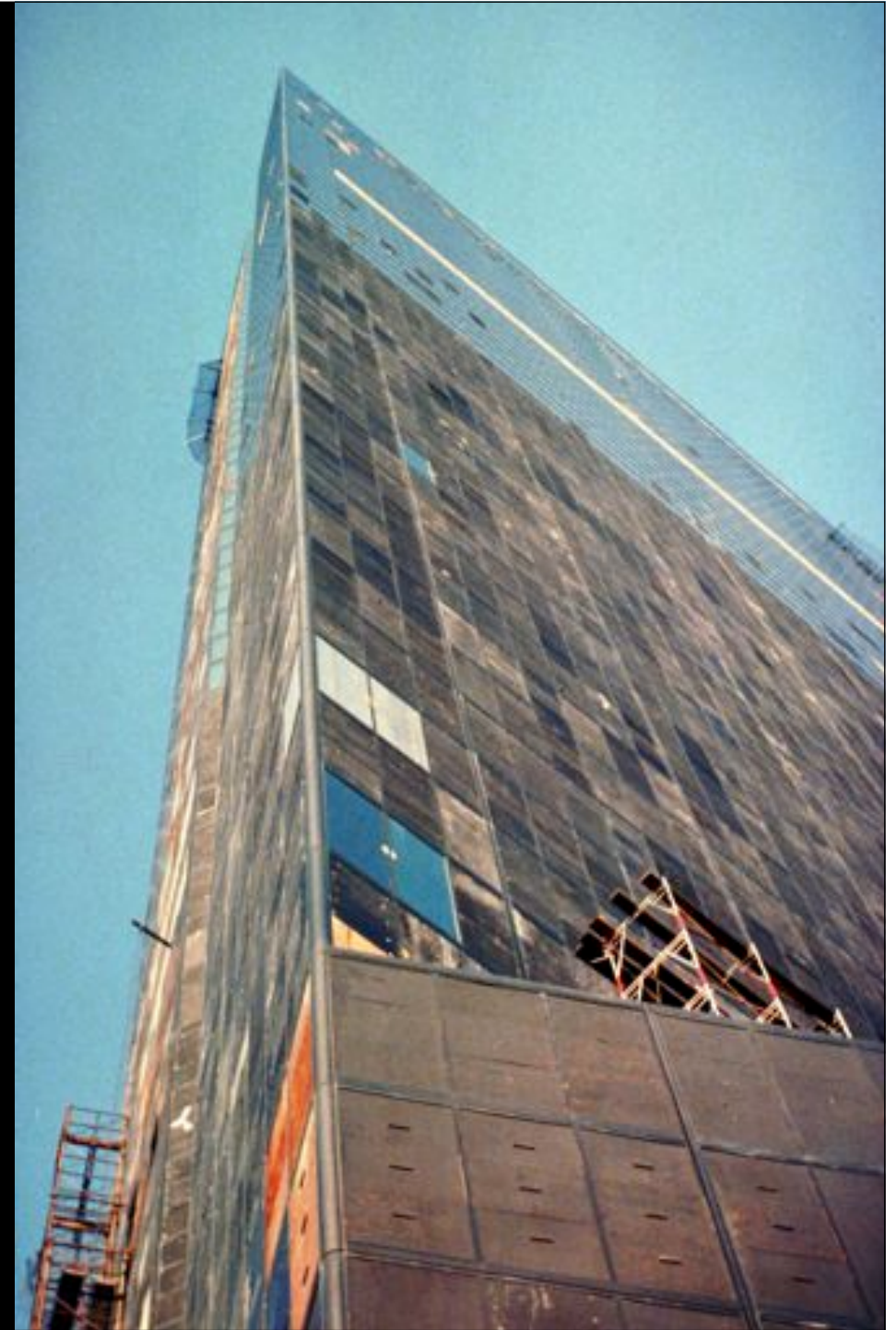




John
Hancock
Building















Khan

1929-1982



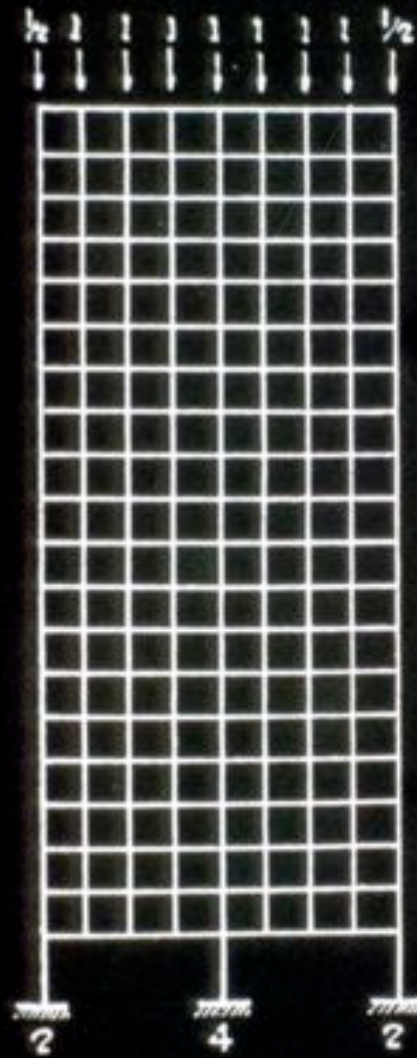




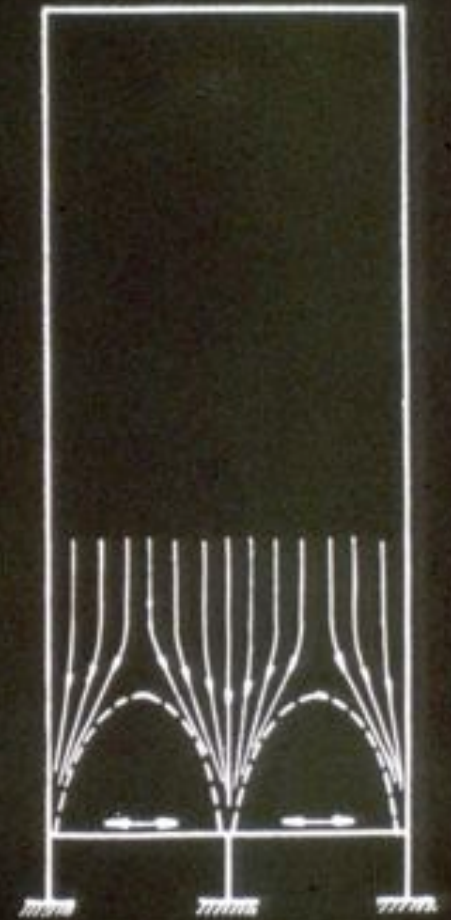


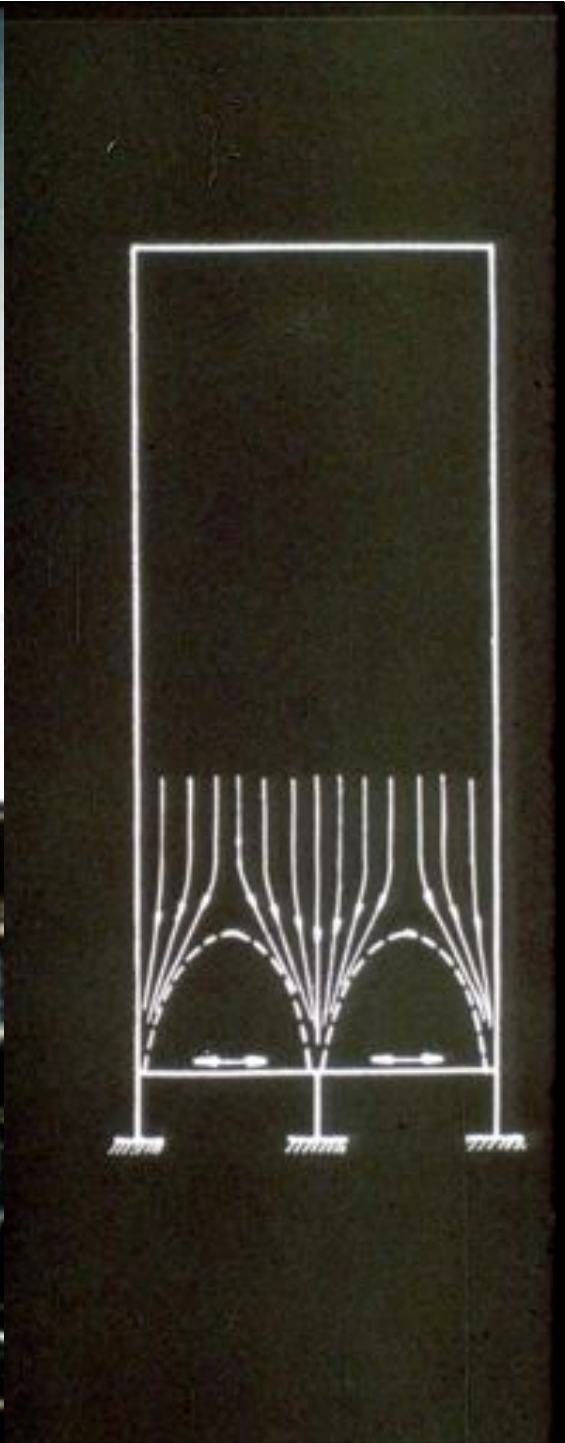
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1965



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marine
midland
bank

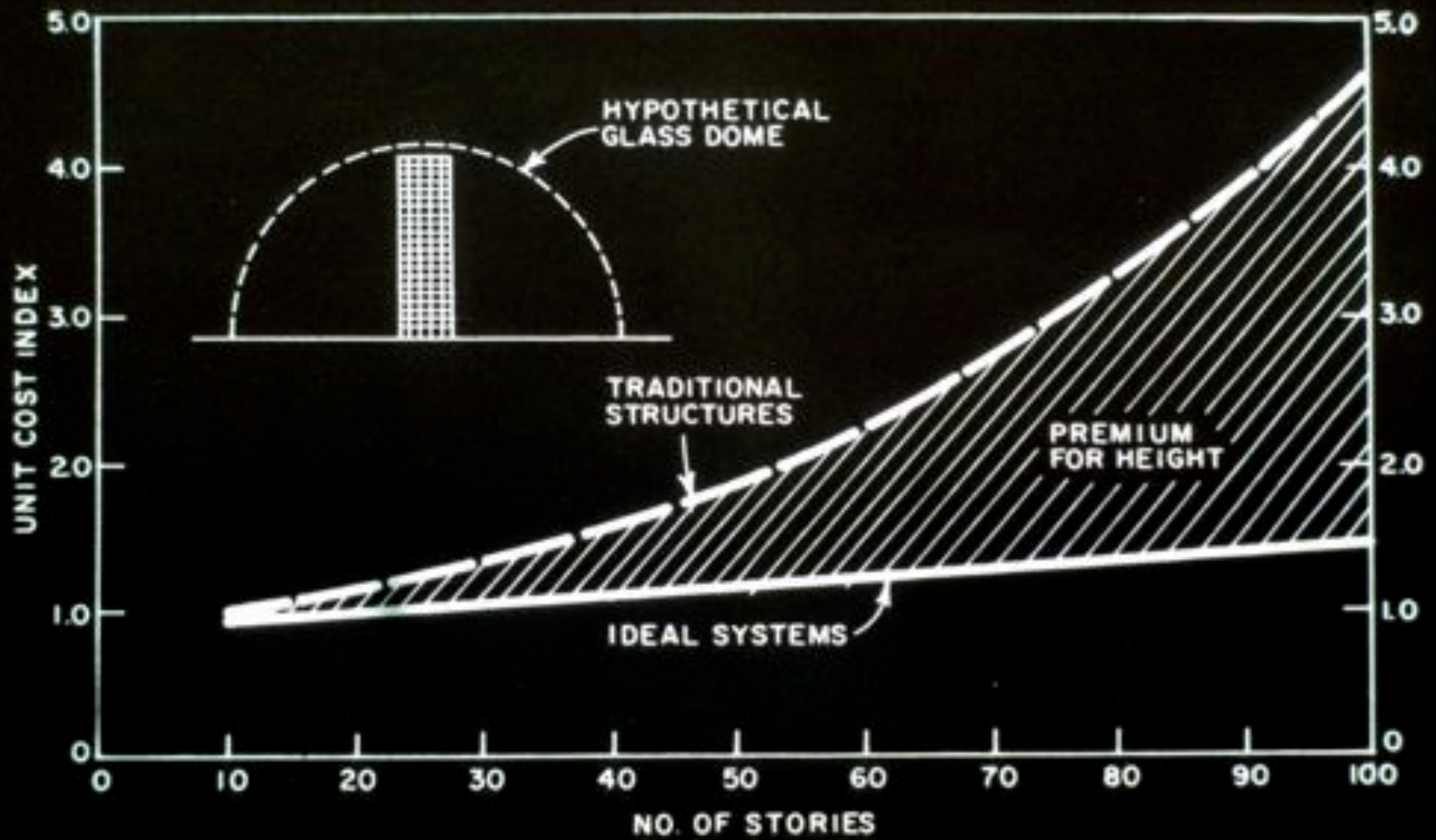


2 Shell
Plaza

1 Shell
Plaza







3 Premium for height is largely due to wind loads.



















