Chicago

Root, Khan, and the rise of the Skyscraper

Architecture, engineering, and building form
Root and the first Chicago School: iron frame structures
Modern skyscrapers and the second Chicago school
The effects of wind on tall buildings
The structural problem of the transfer girder
Fazlur Khan: structural expression in tall buildings
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
Root
Montauk Block
1881-1882
Rookery
1885-1888
Reliance
1895
The 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
Ludwig Mies van der Rohe

International Style
Steel frames - glass curtain walls
Load Path?
Load Path?
Marina City
1960
Chicago Civic Center – now the Daley center
John Hancock Building
Khan
1929-1982
image for academic use only
http://www.emporis.com/en/il/lv/?id=203434

1965
marine
midland
bank
1 Shell Plaza
3 Premium for height is largely due to wind loads.
Reminders/Announcements

Second writing assignment due next Thursday
Writing Assignment 2

2 page essay critiquing a structure as structural art.

2 pages is not a long essay, work on editing your own writing for precision and conciseness

Peer-editing next Thursday.

- Bring 4 printed copies of your essay to class
- Type your thesis statement in bold
- Prepare to read, comment, and listen carefully