

Fractious Firsts

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The tallest building in the world today, the 828-meter Burj Khalifa, as well as the one perhaps on its way to 1,000-meter height, Jeddah Tower, are bearing-wall structures – much like the first and tallest of New York’s early skyscrapers, the 1874 Tribune Tower. Thick walls (either of 19th-century brick and stone or 21st-century reinforced concrete) hold up these buildings – not a skeleton of steel, the major material and method of skyscraper construction for most of the 20th century.

When the CTBUH organized the October 2019 conference “First Skyscrapers/ Skyscraper Firsts,” they fell victim to confirmation bias*. Implicit in the call for papers was a definition of “skyscraper” as a tall building constructed of steel. This was made clear in the initial emphasis on Chicago’s Home Insurance Building as the putative “first skyscraper.” When the steering committee adamantly rejected the proposal that vying presenters debate the priority of a single building in the history of the type, the conference title was adjusted to the plural: First Skyscrapers/ Skyscraper Firsts.

This conceptualization is still a problem. The idea of a “first” in the evolution of a building type that evolved from so many simultaneous forces and factors is unsound. Advances in technologies – whether the metal skeleton, passenger elevators in office buildings, or curtain walls – represent one aspect in the fairly sudden appearance of buildings of nine or ten stories in the early 1870s. But also key were the dynamics of urbanization – cities’ burgeoning populations and competition for expensive land and prime locations. Industrialization was the broader context for this urban ascent. By the mid-1880s, architects and engineers saw that strong and economical Bessemer process steel and rolled I beams manufactured by the hundreds of miles for railroad ties and bridges adapted well to skyscraper construction. Office buildings and large hotels were building types that took advantage of high-rise development to multiply rents. So did lofts, which were generic manufacturing spaces, as well as department stores, which employed large windows and open interiors, though they often also extended horizontally along block frontages.

A second problem with the title of the conference and of this publication is the choice of the term “skyscraper.” It’s ironic that for this occasion the CTBUH abandoned its awkward titular attachment to “tall buildings” in favor of the far more evocative word. “Skyscraper” is a metaphor that evokes in the mind’s eye a silhouette against the sky that is tall, slender, and emphatically vertical. Though of indeterminate height, the imageability of the word makes it possible to have a clear meaning even without stipulating a number of stories or height – both of which are clearly relative to context and historical era.

How tall is tall? The timeline gets stuck in yardstick issues and multiple asterisks outlining criteria. When should we start the timeline? What is the minimum number of stories a building must have to qualify: 7, 8, 9 or 10? Indeed, the decision on both the starting date and the number of stories for inclusion (seven in 1870) seems largely determined by New York’s Equitable Building, the first office building to exploit a passenger elevator. Seven stories tall, it was also, notably, wider in its long dimension

than it was tall, which in my book would disqualify it as a skyscraper. Marginal verticality should be a *sina qua non* in the history of the skyscraper typology.

Likewise the list of “firsts” presents conundrums. What happens when there are simultaneous firsts such as the completion in New York in 1874 of the pair of ten-story, elevator-office buildings, the Tribune and the Western Union buildings? Should we privilege the taller of the two over the one that opened for business first? Fortunately for the 260-foot Tribune Building, it will be ensured a place in history on the “Tallest” timeline. In sum, the more specific these distinctions get, the less meaningful they become in describing the origins of significant characteristics of skyscrapers.

What issues other than of technological innovations and debates on what to measure in terms of height should we consider? We could call attention to the *commercial* motive in the adoption of the skeleton – for example, its role in making floor plans more productive – not just in adding stories, but in increasing the rentable floor area. Floor plates are at least as important as facades and structural systems in the history of the skyscraper. The relative price of construction of one system or material versus another is also germane, as Thomas Leslie illuminated in his discussion of terra cotta and glass curtain walls of the Reliance Building and as Donald Friedman details in his new book *Structure of Skyscrapers in America, 1871-1900*. Likewise, speed of erection changes the equation of the profitability of a project. Architect Cass Gilbert defined the skyscraper as a “machine that makes the land pay.” Form follows finance, as I argued in my book of 1995. These economic factors also affect the adoption, or not, of new technologies.

Skyscrapers around the world today employ a wide range of structural strategies, including core and outriggers, tubes, diagrids, trusses, and buttressed cores, and almost all of these are constructed of reinforced concrete. Historically, Gothic cathedrals are tall masonry structures that used “skeletons” of stone to open up large expanses of walls to windows. Like the Burj Khalifa, they employ a system of buttresses.

Masonry structures were given minimal attention at the conference. Again, this seemed to originate in the confirmation bias that highlighted the Home Insurance Building as the fulcrum of debate about the “first skyscraper.” This incredibly tenacious title has long been discredited in academe, as both Gail Fenske and Thomas Leslie showed in their papers’ close readings of the historiography surrounding the contention. Among architectural historians, there is at least thirty years of settled scholarship, including that of Gerald Larson, who argued in his 1987 *JSAH* article and again 2019 in Chicago that the Home Insurance Building was *not* a skeleton frame: “No beam, no frame,” was the axiom he repeated in his presentation.

Leaving aside the debate about structure, we should also consider the Home Insurance Building’s shortness and lateness, since it was both 100 feet shorter and completed ten years later than New York’s Tribune Building. In a series of articles in the 1950s, the eminent architectural historian Winston Weisman critiqued the prevailing narrative of the “First Chicago School” with its emphasis on structural innovation and made the case for the tall masonry office buildings of New York City as “proto-skyscrapers.” I would omit his suffix.

Although they had no champions at the conference, the tall bearing-wall buildings of New York certainly should be counted as part of the early history of the skyscraper. Manhattan had twelve buildings taller than the original 10-story Home Insurance

Building, which in 1884, the date of its completion, measured 130 feet. Eight of the dozen were office buildings and four were apartments. They were tall because they could be – even in masonry – and because elevators made the extra floors possible and profitable. There is the essence of the skyscraper.

The history of the typology should begin in the 1870s – on that we can agree – but otherwise, defining “firsts” is highly problematic and should be avoided. The 2019 conference is a step in the right direction for CTBUH in embracing a commitment to exploring the history of the skyscraper. The Council can reinforce, through its core competency of convening professionals, that there is a need to better understand and communicate both the complex history and the present-day process of creating and constructing high-rise buildings and communities.

*Confirmation bias, Wikipedia explains, is “the tendency to search for, interpret, favor, and recall information in a way that confirms or strengthens one’s prior personal beliefs or hypotheses.”

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