The Chicago Auditorium Building as Advertisement

Following the Great Chicago Fire of 1871, a massive reconstruction effort led to an explosive growth in the city's built environment; more than 100,000 structures stood within the city limits by the 1880s. The ability of Chicago to rapidly regrow was primarily due to innovations in the mass production of building materials and the use of the materials themselves, namely iron and steel. Furthermore, these new structural elements promised resistance to fire along with the potential to establish a new architectural identity in a city whose slate had been wiped clean. Chicago became the laboratory for testing these materials in terms of both structural and architectural performance as there was a transition away from traditional load bearing masonry toward steel frame construction. Out of the range of projects that emerged from this transitional period, no building better embodied the confluence of and experimentation with varying structural elements than Adler and Sullivan’s Auditorium Building. Given the Auditorium Building’s civic significance, a massive assembly hall affordable to a larger range of socioeconomic classes than other theaters of the time, and the simultaneous presence of each of the various systems of construction within the building, the theater functioned as a viewing machine not only for live performances, but also for steel’s structural and architectural capabilities. In essence, the Auditorium Building served as an advertisement for steel as the major structural material after the transitional period of the 1880s.

Prior to the commissioning of the Auditorium Building in 1885, the theater as a type had been established as a means for displaying a city’s prominence to its own citizens as well as the country at large. Outside of Chicago, major cities such as Boston, Philadelphia and New York had constructed significant opera houses as civic works through private financing. The New York Academy of Music, completed in 1854, was constructed by Manhattan capitalists who arranged for stock in the project to be sold in the form of public subscriptions. A significant demand for Italian opera at affordable prices was the motivating factor in the financing of this project. The theater seated 5,500 customers in order to maximize profit and exposure. Beyond the revenue that was generated through ticket sales, the New York Academy, along with its counterparts in other cities, provided a larger, long-term economic function; it created a space for the city’s financial elite to gather and promote deals with traveling businessmen, encouraging further economic investment in the city.¹ The theatrical space and its ornament was a city’s economic prosperity made manifest. Architectural daring signified increased economic investment in a city’s cultural identity, motivating wealthy travelers to return to their city and finance similar ventures with the hope of outdoing the attempts of other cities. In the case of the New York Academy, the German-trained Alexander Sältzer was selected as the architect. Sältzer created a horseshoe-shaped plan, modeling the interior after the Berlin Opera House. By architecturally mimicking a German opera house, the New York Academy and its investors were imbued with European elite culture. The Academy’s ties to historic European cultural centers became desirable for other cities to emulate as they tried to promote their own cultural significance and economy in turn.²

In 1865, Chicago completed its own opera house in the same vein as the New York Academy of Music. The project was financed by Uranus C. Crosby, a wealthy Chicagoan who made his fortune from

² Ibid., 23-25
the distilling and selling of alcohol. Crosby's Opera House became the flagship Chicago music center, providing two venues for entertainment – the primary theater for opera and a music hall where smaller concerts were held separately. Just as the New York Academy had attempted to recreate the Berlin Opera House, Crosby had the interior of his opera house lavishly designed in a similar fashion to European models to concretize a historic culture in his own project. The ceiling featured a central dome, ringed with portraits of famous composers and lit by hundreds of concealed gas lamps. Above the proscenium was a replica of the baroque artist Guido Reni’s fresco *Aurora*. There was a major emphasis on promoting an elite and wealthy identity rooted in history. However this significant Chicago structure would last only six years as it was destroyed in the Great Chicago Fire of 1871.3

In the years after 1871, Chicago underwent a major transformation as a significant portion of the city was to be replaced. With so much of the city’s architectural identity lost, Chicago was willing to consider new construction techniques and their resultant effects on built forms. According to Louis Sullivan, “the year 1880 may be set as the zero hour of an amazing expansion, for by that time the city had recovered from the shock and panic of 1873.” He claimed that “in Chicago, the progress of the building art from 1880 onward was phenomenal.”4 Sullivan was speaking primarily to the business district, in which structures were implementing the newest techniques for construction, ornamentation, and interior equipment. In 1885, following a series of temporary opera festivals that culminated with the Grand Opera Festival of 1885, Chicago’s Democratic mayor proposed that a permanent opera hall be constructed on the lakefront as a civic project easily accessible to all people. A group of investors led primarily by Ferdinand Peck, the head of the Chicago Grand Opera Festival Association, set out to develop the theater with the goal of making it a significant civic project that would provide affordable artistic education and entertainment to a wider range of socioeconomic classes. In March of 1886, a grouping of plots on Congress Street between Wabash and Michigan Avenue were acquired as the site for the Auditorium Building. Contrary to previous theater projects, initial purchase of stock paid only for the building’s construction. In order to properly maintain the operation, the theater was planned to be augmented with a hotel and rentable commercial spaces, creating a multi-use complex different from other significant opera houses of its time.5

In 1886, Adler and Sullivan were selected as the Auditorium Building’s architects. The pair had established themselves in the realm of theater design by working on a string of theaters in Chicago prior to the commissioning of the Auditorium Building: the Grand Opera House (1880), Hooley's Theater (1882), Haverly’s Theater (1884), and McVicker’s Theater (1885).6 Due to its significant commercial program, the design for the Auditorium Building became representative of the logistical concerns for the money-making functions of the hotel and commercial spaces. The theater was positioned in the center of the building, surrounded by the commercial operations which required an ordered repetition of fenestration to increase street exposure.7 The elevation presented a tripartite elevation with an increase in scale of the fenestration in the middle band, responding to the presence of the theater space

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3 Ibid., 25-28
4 Ibid., 63
5 Ibid., 123-129
6 Ibid., 63
7 Ibid., 144
it contained. While the façade represented a regularity within the building, the range of programs and their spatial differences required a number of structural solutions.

The first matter of structural concern for the Auditorium Building was its foundation. At 110,000 tons, the building was immensely heavy for the ground area it occupied. Furthermore, Chicago lacked the easily reachable bedrock that existed in Manhattan where pile foundations could function properly. The clay soils that the Auditorium Building rested on led to the development of a local technique for shallow pier foundations that would resist settlement. In order to ensure equal settlement, each section of the building would have to spread its certain load across an area of concrete foundation that would equal the load-to-area ratio of the rest of the sections. Due to the varying programs and spatial arrangements within the building, certain areas required larger or smaller concrete footings to allow the building to practically float on the soil.\(^8\)

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\(^8\) Ibid., 151-152
Above ground, the regularity of the office and hotel spaces permitted the use of traditional masonry techniques combined with iron column-and-beam construction, however the adventurous section and scale of the theater required a more innovative approach. Adler and Sullivan approached the theater as a space that would possess a regionally distinctive character with democratic ideals. In attempt to distance the theater from the elite European culture that previous theaters had referenced, the architects rethought nineteenth-century conventions of opera house design. While ornamentation played a role in the rethinking of the traditional European models, new approaches to structure, and in turn the spatial organization of the theater, would enable the establishment of a distinct approach to the theater as a civic and democratic project.

Adler created a strategy for an arched proscenium which progressed into a series of expanding arches as the theater moved back from the stage, allowing for a more equal viewing experience for all attendees -- a technique that had no precedent in Europe or America. In order to achieve this feat, six transverse trapezoidal trusses were spaced at varying heights between the proscenium and the highest balcony seating. Hung from the bottom of these structural members were arched trusses that held the vaulted ceiling. While cast iron could function accordingly for the structure’s columns, the spans

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11 Ibid., 212
required for the four-thousand-seat theater were too great for the structural capacity of cast iron. In 1885, before construction began on the Auditorium Building, the Carnegie structural-shape rolling mill, which supplied structural members to the project, switched production from wrought iron to Bessemer steel. This availability of steel allowed for all beams, girders, and trusses to be made of the stronger material.  

Sectional Perspective through Auditorium Building, showing trusses spanning the width of the theater, 1998. George C. Izenour Archive, Department of Special Collections, the Pennsylvania State University Library.

Auditorium Theater, showing the multi-arched space created by the steel trusses, 1967. Photograph, Cervin Robinson.

With the various systems of construction simultaneously present, the Auditorium Building became a display for the possibilities of steel with respect to other materials. No longer was the theater praised for its authentic replication of classic European ornament. Reinvention of typical spatial layouts through the implementation of steel structures provided a new modern American identity. The Auditorium Building functioned as a transitional building on the path to true steel-framed architecture which took off in the 1890s. In the years following the completion of the Auditorium project, other Chicago projects began to rely on a larger portion of steel in their structures. Baumann and Huehl’s Chamber of Commerce Building, built between 1888 and 1889, utilized an iron and steel frame with no masonry supports to enable a thirteen-story structure with a large central light court. The court created a new standard for the spatial experience of a typical commercial block through the assistance of steel. Between the years of 1890 and 1893 (when the depression hit), the number of large, steel-framed buildings in Chicago skyrocketed. The steel-framed building had been mastered, with projects like Jenney’s Fair Store (1892) providing examples of commonly-used wind-braced framing. Additionally, the steel frame was no longer specific to large scale projects, but was beginning to be altered for use in smaller private residences, such as the W.H. Reid house by Beers, Clay and Dutton in 1894.

While the Auditorium Building may not have been solely responsible for the proliferation of steel structures following its completion in 1889, its theater space and public nature certainly created buzz for steel as the primary building material moving forward. By contrasting the multiple-arched theater space with the regularity of its surrounding commercial functions, steel’s structural performance became exaggerated. The structure had become a way to establish a new American architectural identity without relying on traditional European models for spatial arrangements or ornamentation.

Bibliography


14 Ibid., 50
16 Ibid., 61