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Autor: Bühler, David
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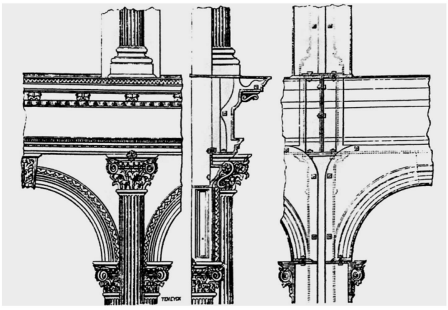
Stacking Cornices: Serialization in Nineteenth-Century American Architecture

David Bühler

As an important element in the classical orders, the cornice has been redrawn and reproduced in various guises since the Renaissance. However, with the advent of industrialized manufacturing and its associated economic growth, the proliferation of cornices took on a new meaning. The cornice itself was not only serially produced, but the number of stories on buildings simultaneously increased. Unfurled like ribbons and then stacked upon one another, serially repeated cornices began to contribute to the delegitimization of the classical orders.

It was "whilst in Italy, contemplating there the rich architectural designs of antiquity, that [I] first conceived the idea of emulating them in modern times by the aid of cast iron ... and of establishing a new, a valuable and a permanent branch of industry." So claimed James Bogardus, the pioneer of cast-iron architecture, in his 1856 book *Cast Iron Buildings*. In the book's second edition, published two years later, Bogardus illustrated the basic element of his 1850 patent for iron frame buildings. Verticals and horizontals were still columns and architraves or cornices, but what connected them now were not only Corinthian capitals but also iron bolts. fig. 1



His patent was an intriguing idea, as he proposed a system with a tectonic coherence between structure and expression atypical for nineteenth-century historicist buildings. Bogardus's system was even more frank about construction than later modernist buildings, which so often claimed structural honesty for themselves. Even the most rational modern examples, such as the Seagram Building designed by Ludwig Mies van der Rohe, lack a direct expression of their structure, as the non-load-bearing, decorative steel profiles on the exterior of the curtain-wall facade reveal. The combination of a new construction method using a formal language based on antiquity can be considered an evolutionary rather than revolutionary approach to building culture. It adapted a new material to classical taste and consciously created an aesthetic continuity throughout the city fabric. But despite this seemingly harmless approach, Bogardus's idea was a proposal with several serious consequences: his interest in "establishing a ... branch of industry" points to a commercial way of producing architecture. The use of historical forms can, therefore, also be regarded as an intentional method to legitimize the use of a new building material and to overcome potential skepticism toward this novelty. This formal continuity in combination with other advantages, such as alleged fire resistance, rich ornamentation at moderate cost, and a skeleton frame enabling larger openings, convinced potential customers. Soon other cast-iron foundries joined Bogardus's venture and

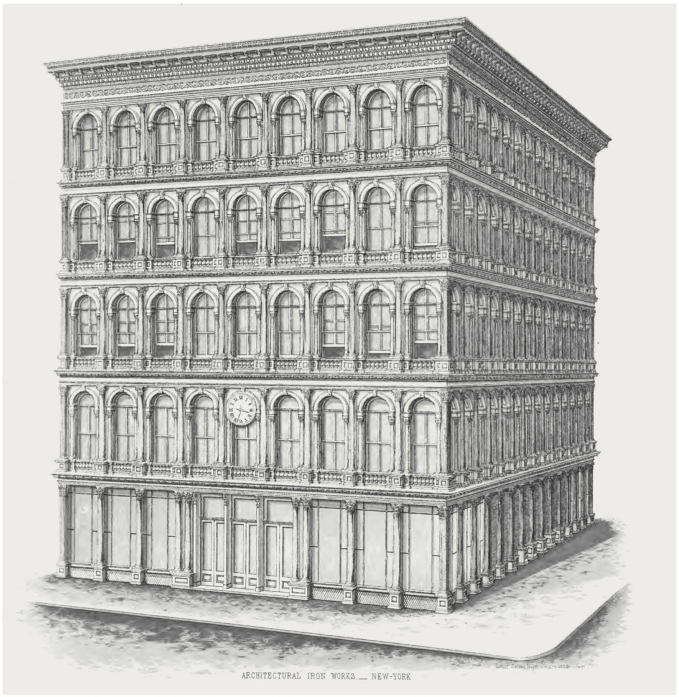
gave birth to a productive era of cast-iron architecture that lasted roughly from 1850 to 1880.

One of Bogardus's most successful competitors was Daniel D. Badger, another cast-iron pioneer whose foundry, the Architectural Iron Works of New York, was situated just opposite Bogardus's office at the edge of today's SoHo-Cast Iron Historic District. Badger's approach to Bogardus's idea is a particularly illustrative example. He even employed staff architects to design stock parts and serve as consultants to architects ordering cast-iron facades. Testimony to his success was his impressive publication *Illustrations of Iron Architecture* of 1865, a mixture of advertisement, pattern book, and legitimization of the new material. In the book, Badger establishes a visual connection to Renaissance treatises of architecture by featuring his cast-iron columns in the manner of the canonical column orders or by assembling cornices depicted as fragments.

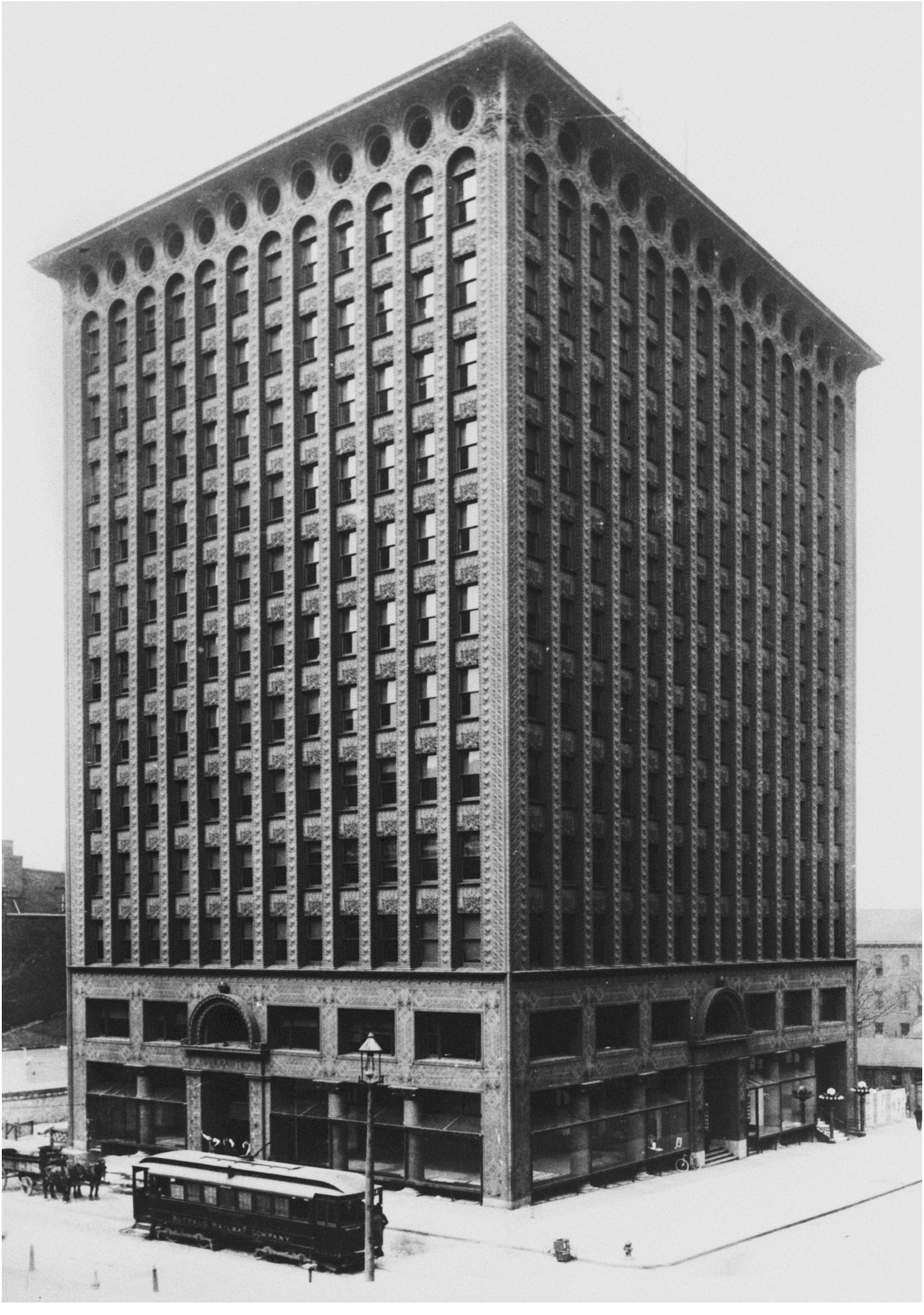
Badger, however, raised industrialized architecture to new levels with designs such as the E. V. Haughwout Building in New York City, finished in 1856 by his foundry and still standing today at the corner of Broome Street and Broadway. fig. 2 As the foundries entered the building process, architecture became more economic, and the roles of the actors involved started to shift. Although the foundries collaborated with external architects for certain projects and gave them credit for their design, they reused the same facade moldings for other projects planned

by their staff architects—a circumstance that gave rise to difficulties of authorship and copyright.

Repetition became most obvious in the stacking of cornices, which challenged the classical orders.



Although the Haughwout is still reminiscent of Italian Renaissance references— it might well be considered a cast-iron palazzo—it also violated the principles of the classical order that it cited. Except for the clock above the entrance, the Haughwout lacks any differentiation in its horizontal expansion due to the continuous use of the same molds for each window bay. Since the cornice is a longitudinal element and has always been potentially infinite in length, classical ideas of order are not drastically affected. But with its vertical structure, the Haughwout marks a turning point in history. The stacking of identical cornices and stories makes it a first step toward the skyscraper, as it echoes the installation of the world's first elevator by Elisha Graves Otis in the interior. Otis's invention managed to equalize the value of all stories and enabled a potentially infinite number of floors. Thus, what was potentially horizontally infinite before—think of the cornices in Piazza San Marco in Venice—now became potentially vertically unlimited.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The Haughwout features more equal stories than can traditionally be organized in a classical manner, and yet the heavy cornice on the top still manages to hold the composition together.

However, the limits to stacking cornices vertically became obvious in early Chicago high-rise production, where industrialized growth started to have a more serious impact on the size of buildings. With the need for greater fire resistance and load-bearing capacity, the cast-iron construction was abandoned and replaced by steel with terra-cotta cladding, with the result that the skeleton disappeared under the skin. The non-load-bearing terra-cotta cladding and the number of stories exceeded the expressive abilities of the classical orders, demanding a cornice every few stories, and inspired a search for new languages led by such figures as Louis Sullivan. The Guaranty Building in Buffalo, designed by Adler and Sullivan, refrains from the use of multiple cornices and features only a single cornice on top. fig. 3 Although Sullivan negated historical, anthropomorphic, or aesthetic inspiration for his tripartite building structure and asserted solely functional reasons for his design, he failed to give any other explanation for the attic-cornice than it being "purely physiological in its nature." He thus tacitly acknowledged the cornice's aesthetic necessity for architectural completion.

This shows that, although the familiar classical orders disappeared in the designs for tall buildings,

the cornice remained vital, triumphally crowning the Guaranty Building, showing its viability even as an element independent of a classical order.

David Bühler is an assistant at the Chair of the History and Theory of Architecture, at the Institute for the History and Theory of Architecture (gta) at ETH Zurich and is a founding partner of Bühler Streit Architekten.

fig. 1 Illustration to James Bogardus's patent for a bolted connection between column and beam
Source: James Bogardus and John W. Thomson, *Cast Iron Buildings: Their Construction and Advantages,* 2nd ed. (New York: J. W. Harrison Printer, 1858)

fig. 2 E. V. Haughwout Building in New York City, 1857
Source: Daniel D. Badger, *Illustrations of Iron Architecture Made by the Architectural Iron Works of the City of New York* (New York: Baker and Godwin, 1865), Plate III

fig. 3 Louis H. Sullivan and Dankmar Adler, Guaranty Building, Buffalo, New York, 1896. Photograph, ca. 1900
Source: Library of Congress, Prints and Photographs Division, HABS NY,15-BUF,6--1