

## Facades

Design, Construction & Technology

常州大学山书明藏书章

**BRAUN** 

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Lara Menzel

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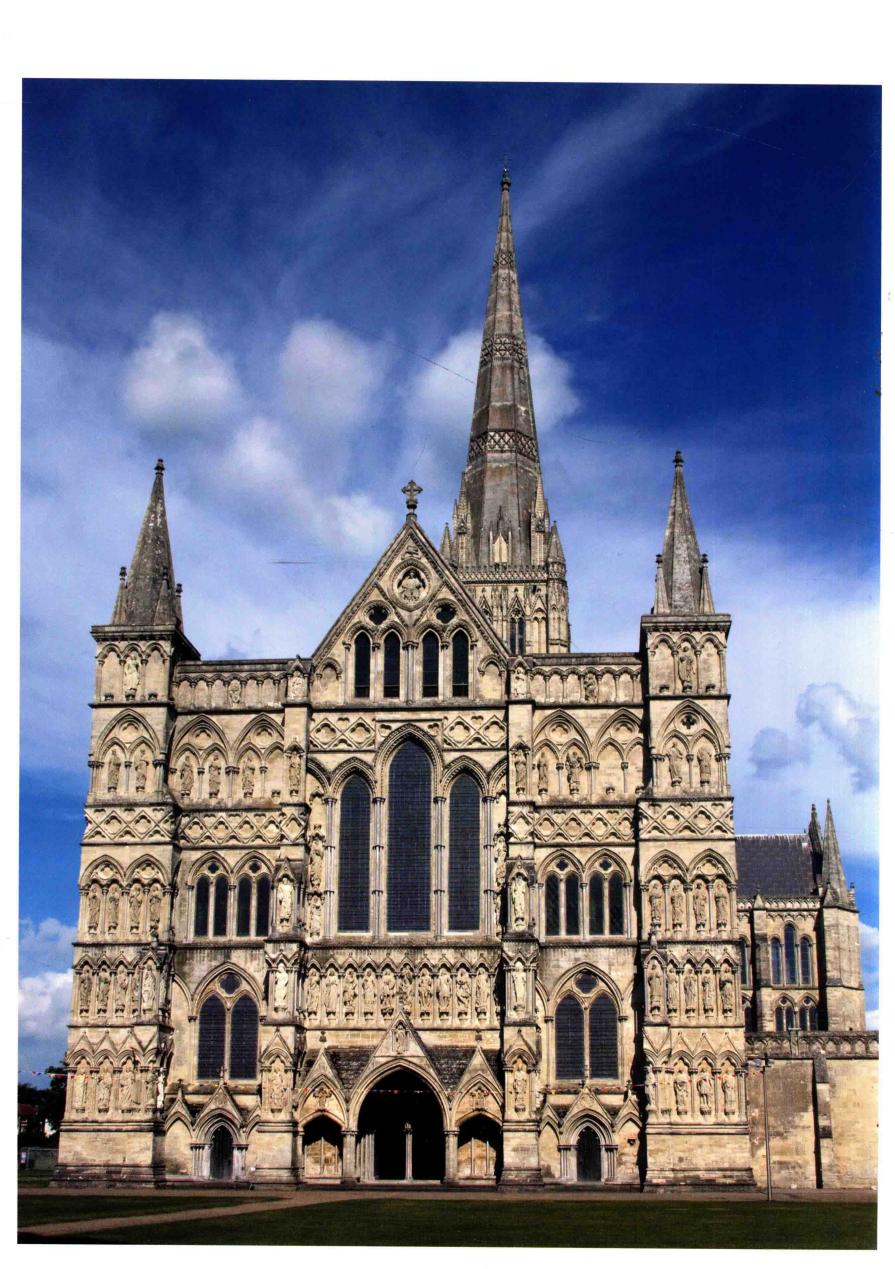
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### Facing the Front

by Chris van Uffelen

The word facade is derived from the Latin term "facies", or outward appearance. It connotes the outwardly visible surface structure of buildings - in a narrower sense only the appearance of the front side of a building even. This is usually the side of the main entrance, in Christian churches, for example, mostly the western side. In highly visible locations, for example on a hill overlooking a city, a different side can also serve as the front side. However, the main façades with the main entrance generally face public urban sites (city, square) and dominate the appearance of the building. Nevertheless, side façades such as those of Gothic naves or Baroque palace gardens can be designed as elaborately as the main façade with its dominating building structure. The other sides of buildings were usually designed more simply, even though architectural history includes examples of all-round prestigiously designed buildings, the most famous example being the Villa La Rotonda (1571) by Andrea Palladio.

Today's architecture differentiates less among the different façades – many buildings have a different appearance on all sides and often only the entrance indicates the main façade of the entire building's skin. Contrary to the concept of the outer wall, the term façade primarily denotes an architectural and not a constructional principle. It refers to the outermost building layer and the ones behind, if they are visible. The outer wall denotes the constructive unit, while the façade describes the visual surface of the building's skin.

The differentiation between the outer wall and the façade is especially crucial in situations where they are separated from each other. The façade can become an independent structure that completely obscures the look of the building behind it by exhibiting a completely different structure. While most Romanesque era facades immediately revealed the structure of the building's architectural parts, or narthexes and westworks served as independent entrance structures, the double-tower façade of St. Etienne in Caen initiated the development of Gothic façades as independently structured front sides. In the Gothic era, screen façades also evolved, which were placed as thin layers in front of the actual buildings (Salisbury Cathedral). Veneered façades (Palais Bourbon, Paris) provided new looks to hide outdated old buildings. Façades

did not completely cover the building behind them only in rare cases, such as Leon Battista Alberti's Sant'Andrea in Mantua. This building is a particular vivid example of the façade's design and proportion - a combination of a triumphal arch and a temple front - dominating the dimension of the building situated behind it. During the Renaissance era, the conceptualization of façades had a key significance. The shapes and proportions of antiquity were used as models to be emulated. The horizontal division into a plinth section, main section and terminal top section became canonical and had to be brought in sync with the functions, while the vertical division of the main section had to also fit in harmoniously. Andrea Palladio devised the 'giant order' as prototype solution to the latter requirement in his monumental design of the Palazzo Valmarana-Braga in Vicenza. With his design of the facade of Il Gesù in Rome during the early Baroque era, Giacomo della Porta was even able to establish a façade style that became binding for the entire Jesuit order. The church building by Giacomo Vignola located behind it was the initial building of the Baroque. Baroque façades often feature an unprecedented three-dimensional quality. Convex and concave elements simulated movement in the building fronts and had a much more powerful effect on the urban space than the comparatively planar façades of the previous eras with their orthogonal projections and bays. In this era and the subsequent Rococo the colorfulness of façades also reached a vividness that had not been seen

NK | West front Salisbury Cathedral, England, 1258. 
N | Villa Rotonda, Italy, 1571.

since Antiquity. The subsequent Neoclassicism required a new appearance based on the assumption that antique temples were bright white and the return to traditional façade proportions.

Due to the very strict shape codex of the Neoclassicism era, there were particularly frequent clashes between the desired look and functionalities, which is clearly apparent on numerous churches where the Christian tower dominates the heathen temple (Allan Dreghorn's St Andrew in Glasgow). After Historicism and Eclecticism had utilized the entire scope of previous elements during the 19th century, the question of the relationship between the outer wall and the façade suddenly took on a whole new dimension: for the Monadnock Building in Chicago, Burnham and Root had to render the ground floor walls almost 2 meters thick to enable them to carry the weight of the 16 floors. However, the suitable solution was already present at the time: Iron (Joseph Paxton's Crystal Palace in London 1851) and steel lattice formwork (Jules Saulnier's Menier factory in Noisiel 1871) were thin and resilient. Louis H. Sullivan, who established the new dimensions of Chicago's steel frame construction high-rises by adjusting the plinth, main part and terminal section, uttered the far reaching statement "form follows function." In conjunction with the honesty discussions of 100 years earlier, Adolf Loos' "Ornament and Crime", and Le Corbusiers "Five points of architecture" (including ribbon windows and free façades), this led to the sober façades of Classical Modernity. Nevertheless, these façades were far from being as free of "intentional shapes" as they claimed to be. The whitewashing itself was already a deliberate style feature, often hiding the rather outdated building methods (Erich Mendelsohn's Einstein Tower made of brick).

At around this time the media façade was born – creating a second appearance with nightly neon signs and illumination, and – much more consequential – the curtain wall. Initially created for factories (1903 Steiff toy factory in

Giengen; 1911 Walter Gropius' Fagus factories), this type of façade that was no longer bearing but resting on the bearing structure conquered the whole world through the Dessau-based Bauhaus movement and remains to this day among the most popular façade types, in addition to the continuously used punctuated façade (solid construction with openings) and million and transom (half-timbered) styles. Ludwig Mies van der Rohe conceived a perfect curtain wall design for the Seagram Building in New York, resolving the corner conflict between the static system and the façade rhythm, which was already a concern during Greek Antiquity. The curtain facade and other element and system façades (Egon Eiermann's honeycomb tiles for the Horten department stores of the 1960s) dominated the post-war era. The self-supporting concrete shell (Felix Candela) was also given a new impetus, resulting in three-dimensional external expressions of engineering architecture the likes of which had not been seen since the Baroque era. Today, the glazed curtain facade, the most popular kind of this façade type, competes with structural glazing for the greatest possible transparency. In this process, the glass panes are glued, giving the impression of a vast pane without fixtures. The continuously popular exterior insulation finishing system (EIFS), however, has often resulted in an unattractive uniformity of building's outward appearance.

The design of the Centre Pompidou in Paris (by Renzo Piano, Richard Rogers and Gianfranco Franchini, 1977), opposed the uniformity and technical perfection of the post-war façades by placing the supply technology on the outside, while the post-modern style (also of the 1970s) revived the decorative façade elements known since Antiquity (tympanum, attached column) in an abstracted and often ironic fashion. In 1987, Jean Nouvel's Institut du Monde Arabe caused a stir by integrating blinds into glass façade elements to shade the interior, promoting the development of façade modules with integrated functions.

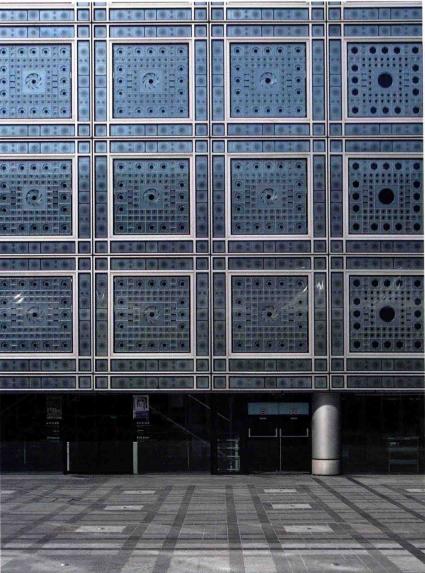
The latest architecture focuses on technical consideration in an unprecedented way: the design is affected by necessity and awareness and currently also by the economic viability of ecological construction. The double-skin façade creates a climatic buffer between an interior and a frequently glazed exterior façade layer that at the same time allows natural ventilation even of large high-rises. Vertical gardens (Patrick Blanc) not only visually enliven the urban landscape, but also improve the structural physical properties and the local climate by hydrating the air and reducing dust. Essentially, the suspended, rear ventilated façades are a return to the "apron architecture" that Classical Modernity sought to eliminate - albeit due to functional and ecological considerations. The double-skin façade is contracted to the closest possible distance, and the exterior layer takes on the representative and protective function, while the insulation and the static function are handled by the "interior exterior wall". However, technology is excellently accounted for in the current style of second modernity, which can be described as new elegance. Following the architectural historical tradition of Mies van der Rohe (Barcelona Pavilion), architects are seeking high-quality surface materials and unconventional patterns that provide the buildings with an exclusive look, creating a prestigious exterior without the traditional facade elements of Post-Modernity. Almost all buildings of this book can be seen in this context, even though the variety of applied materials and shapes are not found anywhere in architectural history. 

<sup>&</sup>gt;>> | Centre Pompidou, Paris, France, 1977.

<sup>→ |</sup> Façade of Institut du monde arabe, Paris, France, 1987.

 $<sup>\</sup>rightarrow \rightarrow$  l Openings create an ornamental play of light and shadow.







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