



# COPY AND (TRANS-)MATERIALITY



MARGHERITA CHIOZZI



# COPY AND METAMORPHOSIS

When talk about copies in Architecture, we usually think about the replication of floor plans, the designing based on reference images or continuously reproduced architectural typologies. There are, however, more subtle processes of copying that have long been an integrative part of the creative act. The transmutation of forms, patterns, and ornamental types from one material to another constitutes a rich source of creative variation.

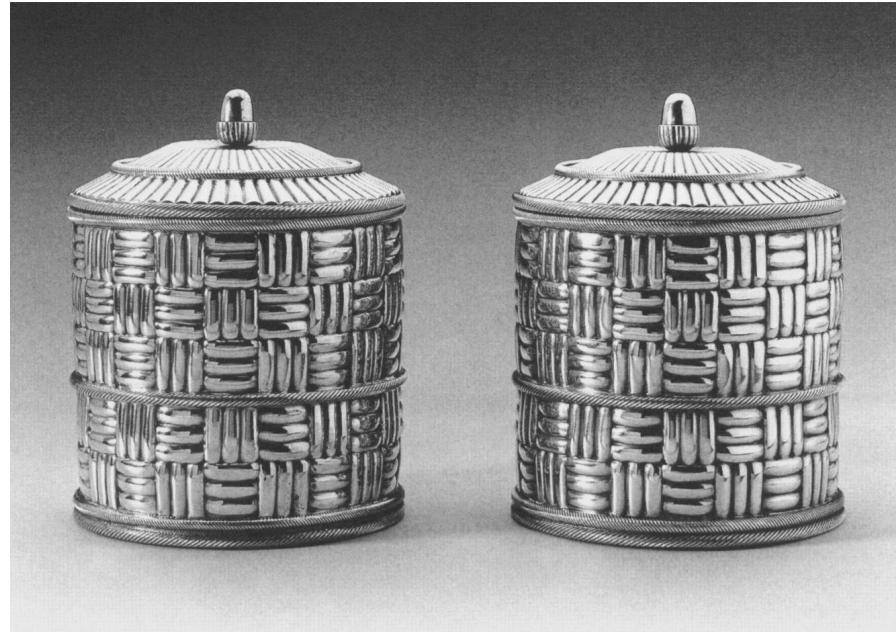


Figure 1. (left) Basket urn, marble, Naples, Museo Archeologico Nazionale; (right) Jean-Jacques Godet, Pair of boxes, Berlin, ca. 1810, Silver, Private collection, Hamburg.

The trans-material borrowing of formal and decorative characteristics often does not consist of mere imitation, but creative appropriation often occurs. Different examples in art and architectural history show how patterns and decorative styles have travelled from one material to another and how they developed to something new throughout the process. In fact, some scholars compare the process of technological and design innovation with the system of genetic information transmission: design variations occur through the combination of different characteristics, as techniques and materials, like in biology alterations develop through errors in the process of copying genetic information and the combination of genotypes and phenotypes.<sup>1</sup> The traditional understanding of trans-material transfer of motifs is often related to the concept of *skeumorphism*. The word *skeumorph* was coined by Henry Colley March in 1890 and defines „a physical ornament or design on an object made to resemble another material or technique.“ While the term describes a linear transmission of characteristics, from an older to a newer object, I will show how the migration across different media happens through a network of cross pollination.

#### TRANSMATERIAL DESIGN

The basket weave represents a clear example of a decorative pattern borrowed from one material, that has then been prolifically adopted in others. Throughout the centuries the texture of wickerwork was referenced in marble and limestone urns from the Roman Imperial period, in metal vessels and, especially at the beginning of the nineteenth century, in ivory, tortoiseshell and woodcarving objects. [Figure 1] While often the imitation of materials has been explained through economic reasons, namely the translation into a cheaper and more affordable medium, these examples show how symbolic and traditional aspects have played a significant role in the rendering of one material in another. Here an archaic practice used to merely produce practical objects like wickerwork is referenced in more precious and durable means.<sup>2</sup>

#### TEXTILE IMITATION

Another example of the process by which a decorative motif travels through different materials, can be identified in *sgraffito* facades. The source for the

design can be found in ceramic, metalwork, carpets and particularly textiles. In the example of Spinelli's palace façade, the transmutation of textile patterns into stone reliefs can be assumed with quite certainty, as the owners possessed the largest silk manufacture in Florence. [Figure 2] The trans-material migration of ornaments from one medium to another was not one-directional, but constituted a dense network of interdependencies. In fact, artists involved in the practice of *sgraffito* often worked with different materials inside their bottega, proving the existence of a common pool of motifs that moved across different scales and mediums. Additionally, books like The Taylor's Book (sixteenth century) catalogued fabrics for clothing, flags, and tents together with architectural ornaments while pattern books intended for embroidery, calligraphy, wood intarsia, and porcelain display clear parallels between each other.<sup>3</sup>

#### TRAVELLING MOTIFS IN ROCOCO

The Rococo was an inherently trans-medial and trans-cultural style. Its motifs travelled easily from one medium, place, scale, and time to the other. The decorative profusion of Ottobeuren Abbey constitutes a great example of transmutation of forms in Rococo. [Figure 3] Here natural materials like rocks, shells and marble are reproduced and painted on other surfaces like wood and plaster. Particularly the illusion of marble was achieved through *scagliola*, a fine paste composed of gypsum, marble, oyster shells and natural pigment powder applied to a surface with glue and hair and subsequently polished.<sup>4</sup> While the copiability and availability of the materials supported the spreading of Rococo throughout different social classes, economic reasons were not at the root of the style's typical reproduction of natural materials. In fact, Rococo does not claim to represent reality. Like in the Ottobeuren Abbey, the colour and scale of marble is deliberately changed, in order to fit into a carefully defined overall colour and design scheme. Because of constantly replicated motifs that were inspired by nature, yet did not try to faithfully reproduce them, the material itself was not emulated as it was the practice and tradition of ornamental types to be passed on.<sup>5</sup>

Figure 2. (left) Palazzo Spinelli, interior courtyard, South and West side, Florence, ca. 1460-70. (right) Silk lampas, probably Venice, ca. 1370-1430. Victoria and Albert Museum (756-1876), London.



## THE FASCINATION FOR IMITATION

An additional reason for the imitation of marble and natural materials in Rococo was the fascination for the man's ability to reproduce such materials. Adam Smith in his *Essays on Philosophical Subjects* (1759) suggests:

*"That pleasure is founded altogether upon our wonder at seeing an object of one kind represent so well an object of a very different kind, and upon our admiration of the art which surmounts so happily that disparity which nature had established between them."*<sup>6</sup>

At the same time, the more conscious the viewer is of the artifice, the greater the admiration grows. This same kind of fascination is what lies at the bottom of the beauty of the sculptures of Bernini, where the marble seems to come alive, beautifully imitating flesh. In the *Apollo and Daphne* statue, the metamorphosis and transfiguration from one material to another happens on different layers. While the story, due to the transmutation in marble, becomes a timeless instant of the event, the metamorphosed flesh, represented in stone, is in the act of becoming a tree branch, and the stone of the marble statue is treated so to resemble uncarved stone.<sup>7</sup> [Figure 4]

## ZWEIERSTRASSE 25

Looking at the facade of the building at Zweierstrasse 25, it is difficult to identify ornamental motifs other than the vertical and horizontal grid in which divides its design and determines its proportions. The facade's division may be in seven bays but it clearly displays a modern rather than a classical order, as it presents no hierarchy and gives the impression of an endlessly repeatable pattern. The order of the framed structure of this building is based on the system of the modernist façade, which we could trace back to Sullivan.

Figure 3. Simpert Kraemer and Johann Michael Fischer, Ottobeuren Abbey, Germany. 1711. Photo: Johannes Böckh & Thomas Mirtsch. Wikimedia Commons.



Figure 4. Gian Lorenzo Bernini, Apollo and Daphne, 1622. Galleria Borghese, Rome, Italy. Photo: Scala/Art Resource, NY.



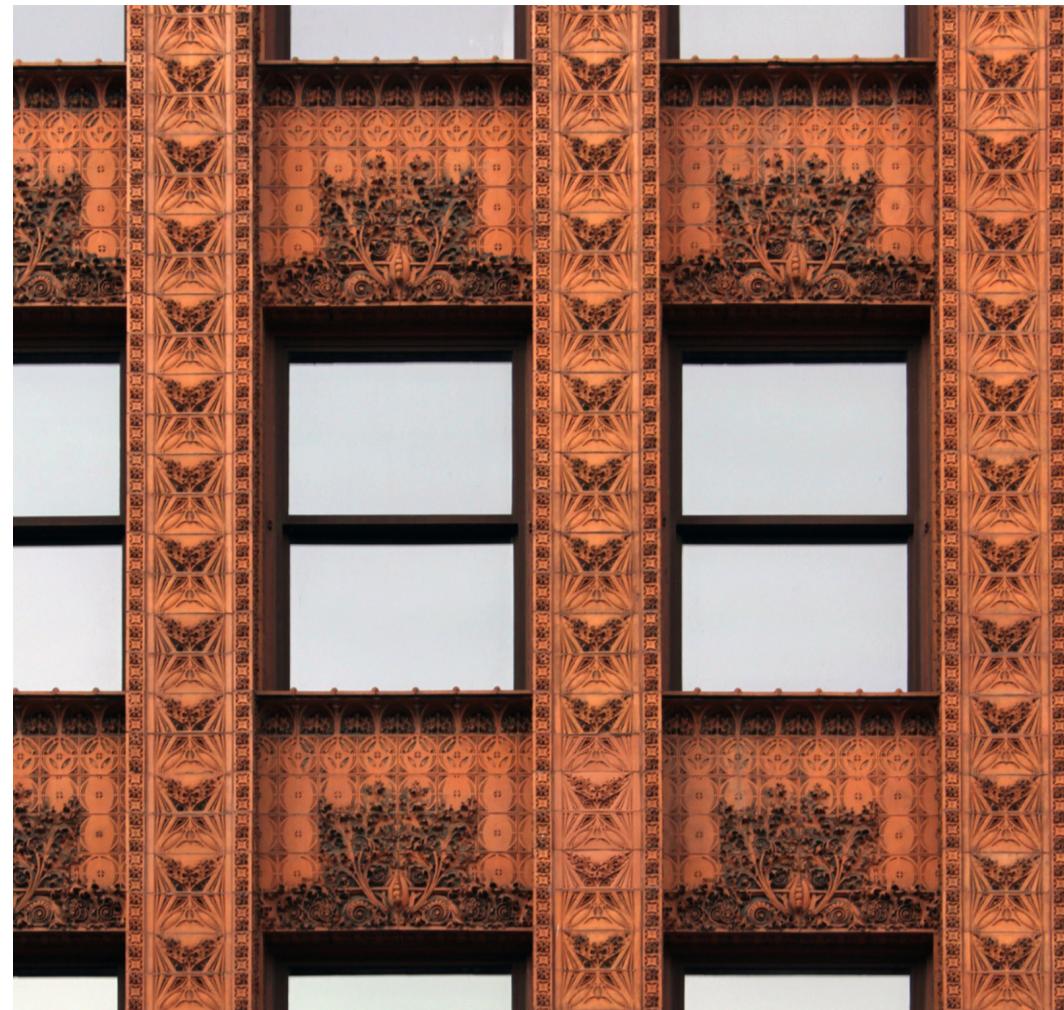


Figure 5. Sullivan and Adler, Guaranty Building, 1894-96, Buffalo, New York. Photo: Luke McDonald.

### SULLIVAN AND THE FRAMED FAÇADE

The Guaranty Building can be seen to represent the passage from the pierced window to the framed façade. In fact, while the supporting structure consisted of steel frames, the outside brick walls expressed stability and still functioned as part of the static mass resisting wind loads. As the building structures started to become taller, due to the innovative introduction of steel structures and the elevator, Sullivan focuses on artistic instead of technical questions around the new typology of the tall office building.

*How shall we impart to this sterile pile, this crude, harsh, brutal agglomeration, this stark, staring exclamation of eternal strife, the graciousness of those higher forms of sensibility and culture that rest on the lower and fiercer passions? How shall we proclaim from the dizzy height of this strange, weird, modern housetop the peaceful evangel of sentiment, of beauty, the cult of a higher life?<sup>8</sup>*

He tried to both find a new language for the new typology of internal metal structure supporting the exterior masonry, while at the same time develop an unique character for each building.

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*„There exists a peculiar sympathy between the ornament and the structure.... Both structure and ornament obviously benefit by this sympathy; each enhancing the value of the other. And this, I take it, is the preparatory basis of what may be called an organic system of ornamentation.“<sup>9</sup>*

His reflections on ornament are expressed in the non-structural ornamentation that takes up the form of laborious terracotta cladding covering the entire façade, that strongly recalls Semper's *Bekleidungstheorie*.<sup>10</sup>

#### THE SURVIVING SPANDREL PANEL

Through the evolution of framed facades, and the call for "honest" expression of the real structure of the façade, the presence of decorative motives gradually diminished. While the windows occupy the maximal available surface on the facade, the spandrel panel is the only part of a classical window that survived. In fact, while window elements like the pediment have been eliminated in favour of room high windows and the reduction of floor height, the parapet element still fits in the modernist functional argument, serving for example for the placement of heating elements. In this building at Zweiertstrasse 25, even if the parapet is bare of ornament, the different patches produced by the weather create a sort of involuntary decoration that differentiates the otherwise identical panels from one another. Looking at Zurich's cityscape, different types of balustrade element decorations can be identified. A subsequent process of abstraction has transmuted elaborate relief ornament into more simple and geometric forms of decoration. Some clearly trace back to a full balcony, copying with more or less abstract means the image of a balustrade.

#### TEMPORARY FAÇADE ADORNMENT

Others clearly reference and imitate textile or tapestries. This motif can be found throughout Europe and is mostly concentrated on the parapet element. The transmutation of textile elements in stone and stucco is, like the examples shown before, not a mere appropriation of a decorative element in another material but more a form of record and monumentalization in stone of a tradition and practice of ephemeral architectural structures. A long tradition in history exists of the use of actual textiles and tapestries to temporarily adorn the facades of a city. It was a collective practice and the metamorphosis of the city on a festive day involved many of the citizens, who were sometimes even required to participate in this process. [Figure 7] In the painting of Lorenzo

Figure 6. Werner Schamel,  
Fensterschürze 13, 2015.



De Quiros, the city of Madrid was temporarily transformed to celebrate the entry of Charles III in 1760. [Figure 8] The external walls were adorned with silk and carpets creating the illusion of an interior space for outdoor events enhancing the city's beauty and becoming a backdrop for the public display of royal power. Additionally to the hanging of tapestry and festoons, also the installation of ephemeral architecture made in wood was part of the design of the event. Along carefully chosen procession routes elaborate iconographies of ephemeral arches, monuments and obelisks were erected, representing the built environment of the festival. Through the transmutation of ephemeral decorative elements into permanent ones, that eventually became through continuous replication and abstraction decorative motives of their own, the connection back to the festival and temporary transformation of the city was lost.

*"Scarcely had she looked at Iphis, laid out on the bier, when her eyes stiffened, and she turned all white, as warm blood left her body. She tried then to turn back from the window, but she stood transfixed there. She then tried to turn her face away from that sad sight, but could not move; and by degrees the stone, which always had existed, petrified in her cold breast, and took possession of her heart and limbs. This is not fiction, and that you may know, Salamis keeps that statue safe today, formed of the virgin and has also built a temple called, 'Venus the watchful Goddess.'"<sup>11</sup>*

Ovid in his *Metamorphoses* often uses petrification, the transmutation into stone, as a metaphor for death. Still after death the identity endures as a monument, like here in the case of Anaxarete's statue.<sup>12</sup> Trans-material metamorphization offers a great potential for the creation of new forms, increases flexibility and enables the creation of a overall design. The temporary practice, or story that takes place in time becomes a fixed image, that still can evoke the narrative to the informed observer.



Figure 7. Canaletto, *Una regata sul Canal Grande, cut-out*, 1740. National Gallery, London.



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Figure 8. Lorenzo De Quiros, Ornato de la calle de las Platerías con motivo de la entrada de Carlos III en Madrid, 1763. Museo de Historia de Madrid.

#### NOTES

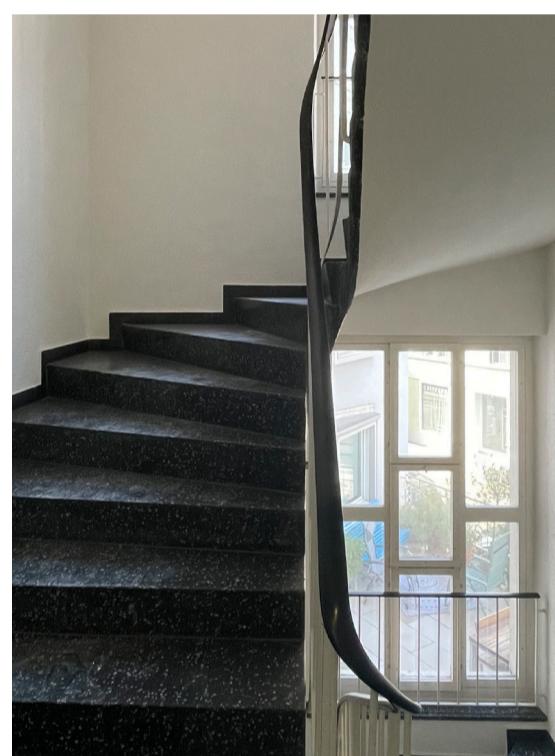
- 1 Maxine Berg, "From Imitation to Invention: Creating Commodities in Eighteenth-Century Britain," 2002, 7-8.
- 2 Based on Benjamin Engels, "Roman Basket Urns as Elements in a Transmaterial Design System," 2022, 246-263; and Bernhard Heitmann, "Migration and Metamorphosis: The Transformation of Shapes, Ornaments, and Materials," 2002.
- 3 Based on Alina Payne. "Wrapped in fabric: Florentine facades. Mediterranean textiles, and a-tectonic ornament in the Renaissance," 2006, 274-289.
- 4 "Scagliola," 1890, 84.
- 5 Based on Maarten Delbeke, Lecture for Master Thesis, 2022.
- 6 Adam Smith, *Essays on Philosophical Subjects*, 1759, 185.
- 7 Based on Paul Barolsky, "Ovid, Bernini, and the Art of Petrification," 2005.
- 8 Louis H. Sullivan, "The Tall Office Building Artistically Considered," 1896.
- 9 Louis H. Sullivan, "Ornament in Architecture," 1988, 79-85.
- 10 Based on Joseph Siry, "Adler and Sullivan's Guaranty Building in Buffalo," 1996.
- 11 Ovid, *Metamorphoses*, Book 14, 8 AD.
- 12 Paul Barolsky, "Ovid, Bernini, and the Art of Petrification," 2005.

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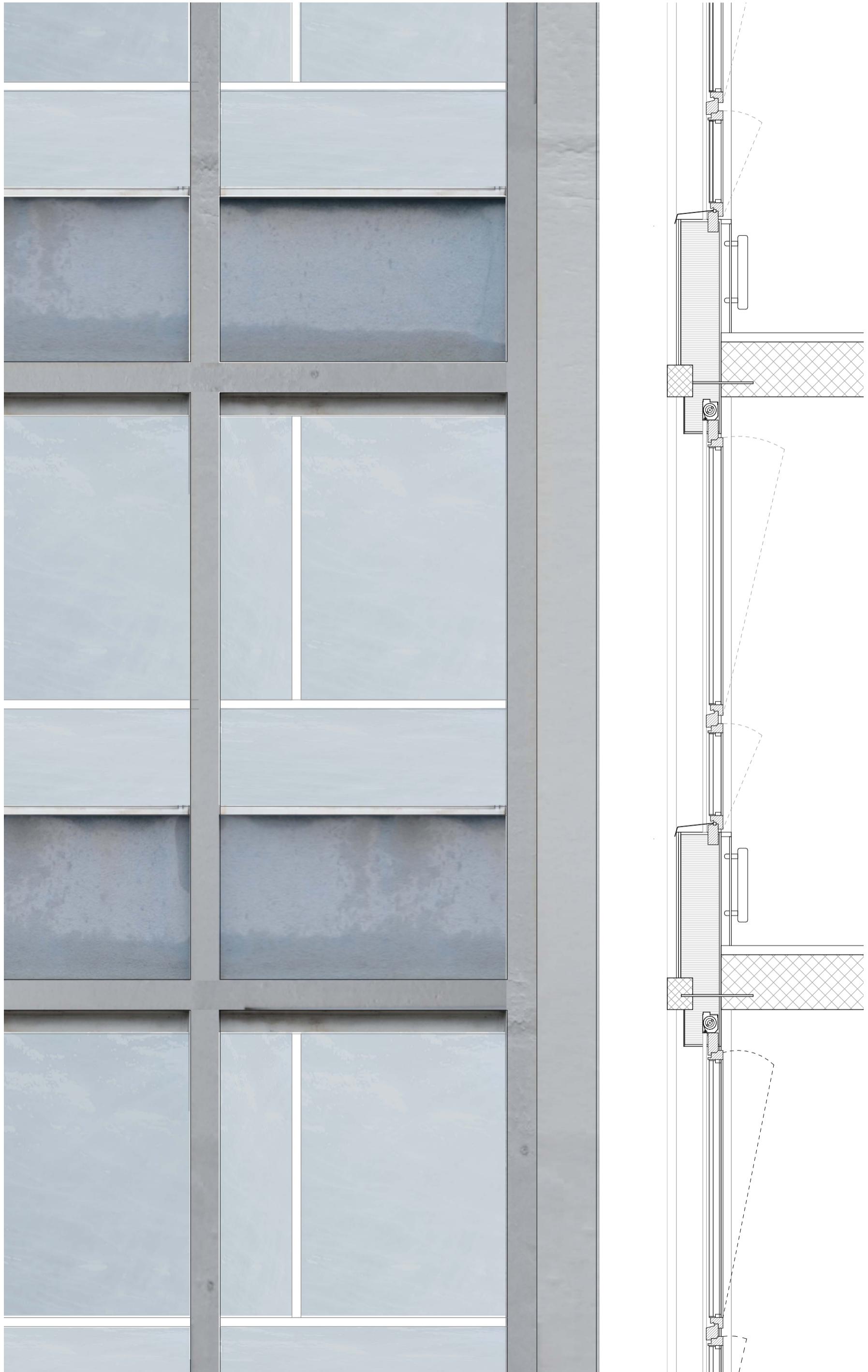
**FROM EPHEMERAL TO PERMANENT,  
FROM AESTHETIC TO FUNCTIONAL  
THROUGH REPLICATION AND ABSTRACTION**



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ZWEIERSTRASSE 25

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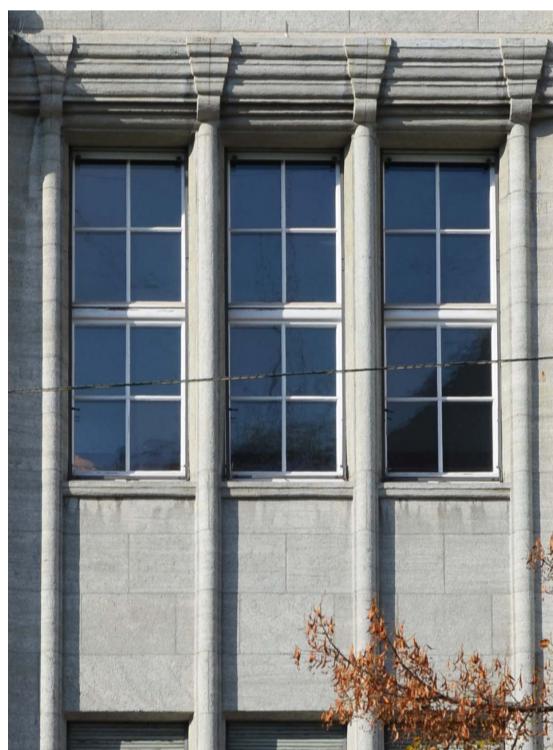
Paradeplatz



Weinbergerstr.



Zweierstrasse



Bahnhofstr.



Wainwright Building (Image 1)



Uraniastr.



Bayard-Condict Building (Image 2)



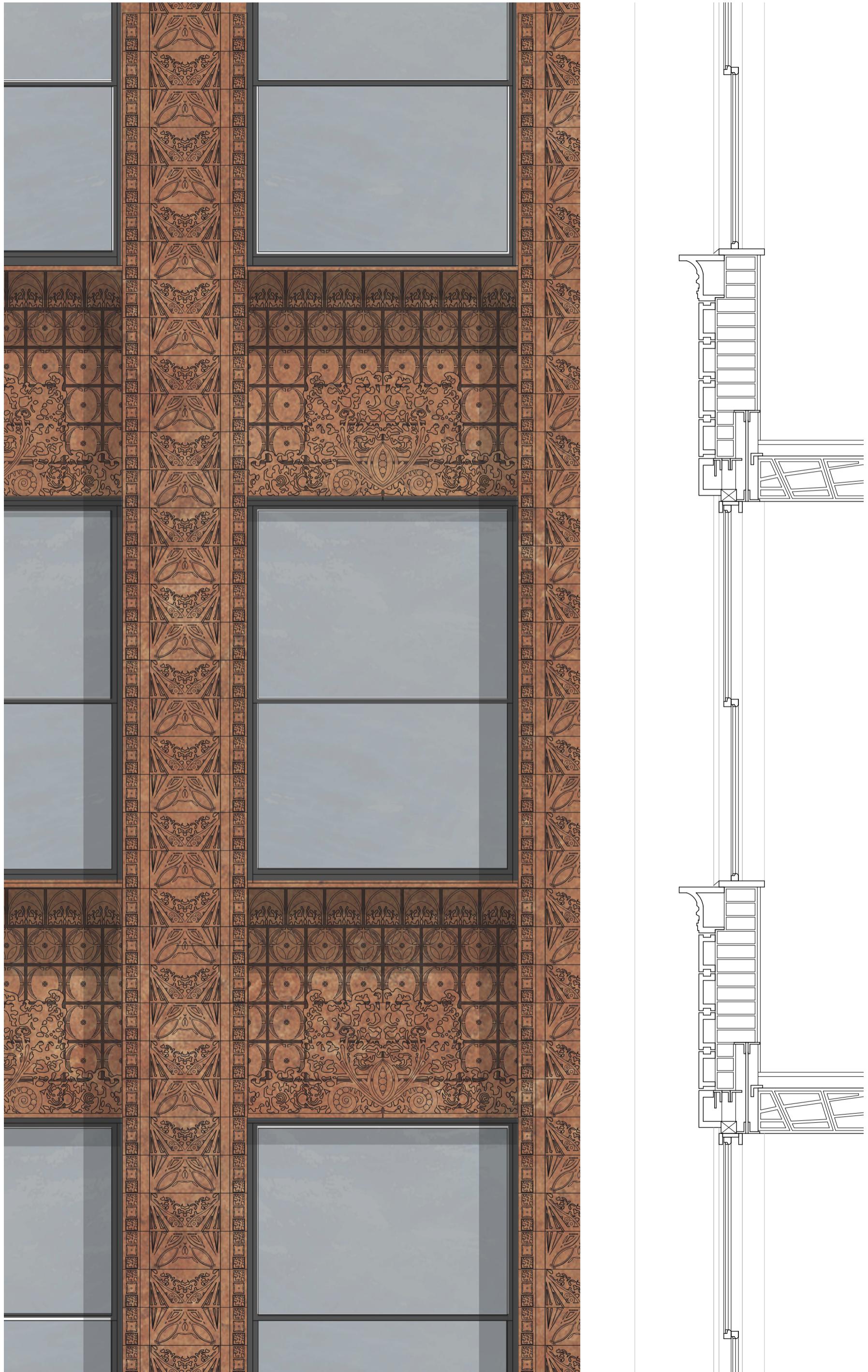
Guaranty Building (Image 3)



Zweierstrasse

## FRAMED/MODERNIST FACADE

MARGHERITA CHIOZZI



FROM EPHEMERAL TO PERMANENT, FROM AESTHETIC TO FUNCTIONAL THROUGH REPLICATION AND ABSTRACTION



Seestr.



General-Wille-Str.



Schaffhauserstr.



Lindenbachstr.



Kronenstr.



St. Peterstr.



Tödistr.



Häringstr.



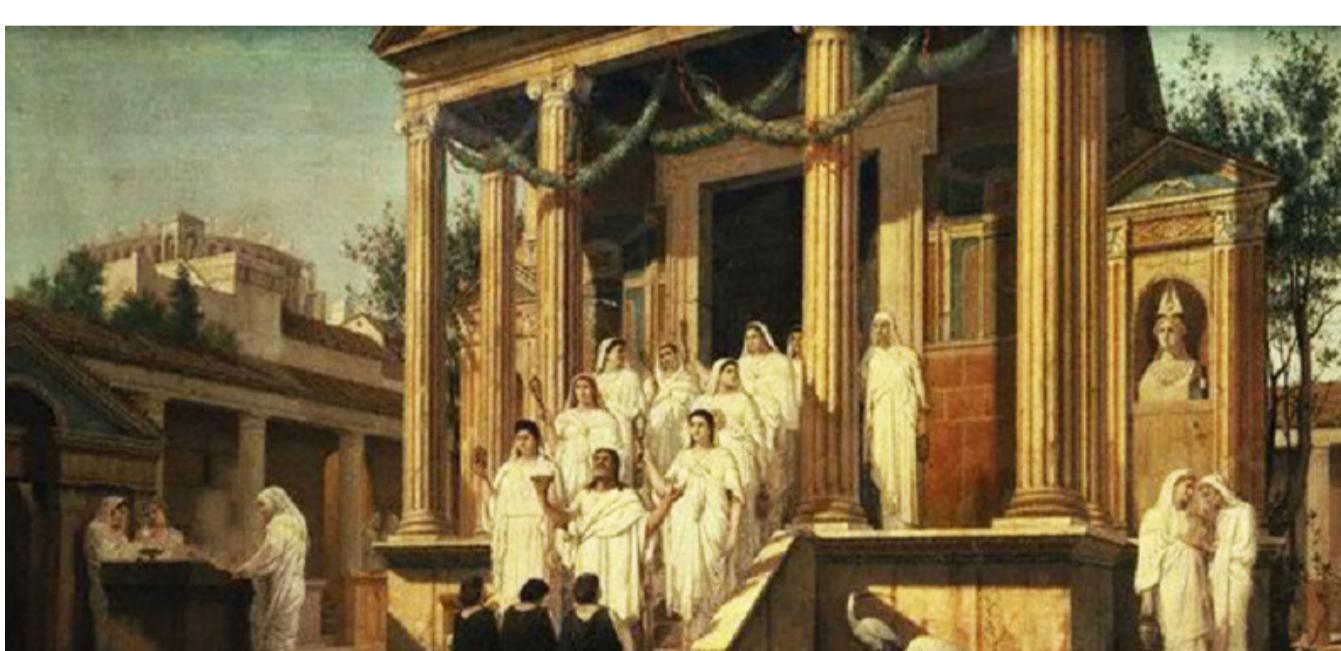
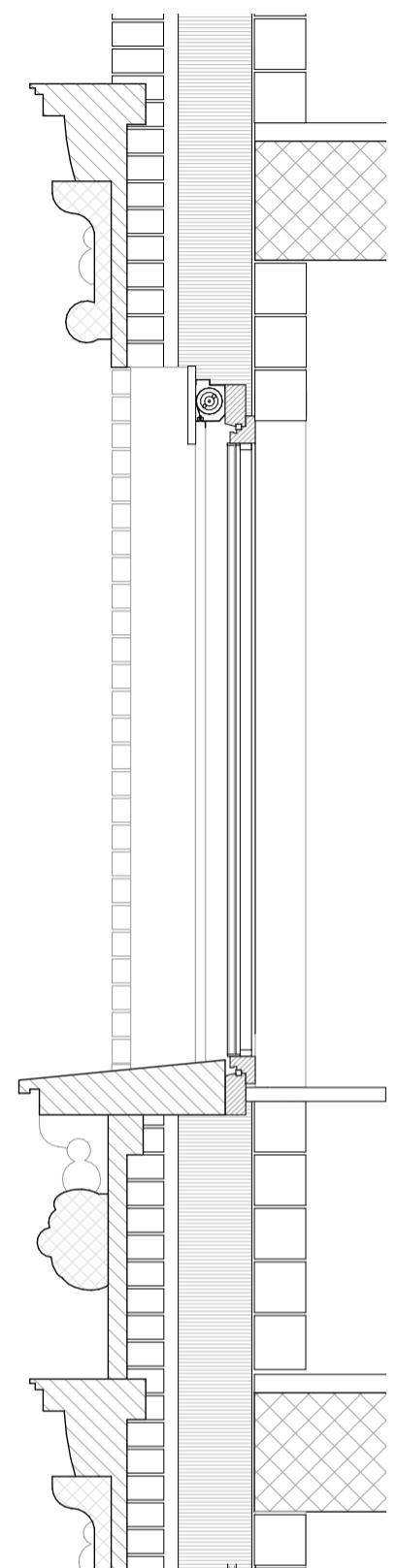
Kronenstr.

## FESTOONS AND SWAGS

MARGHERITA CHIOZZI



Schweizergasse



Leroux, *The Vestal Virgins*, 1800.



Gartenstrasse



Mattengasse



Mythenquai



Schaffhauserstr.



Turnersteig



Birchstr.



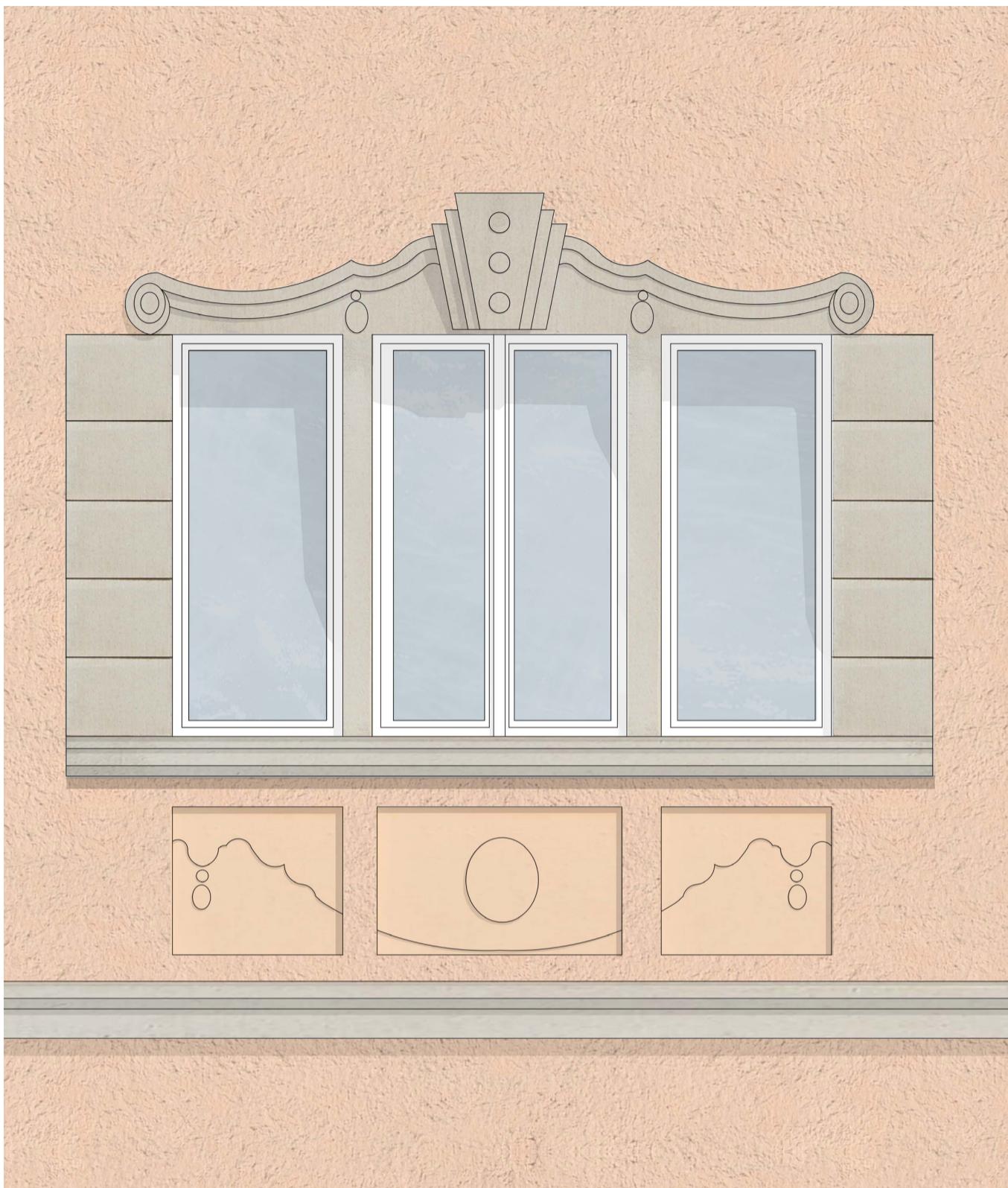
Lindenbachstr.



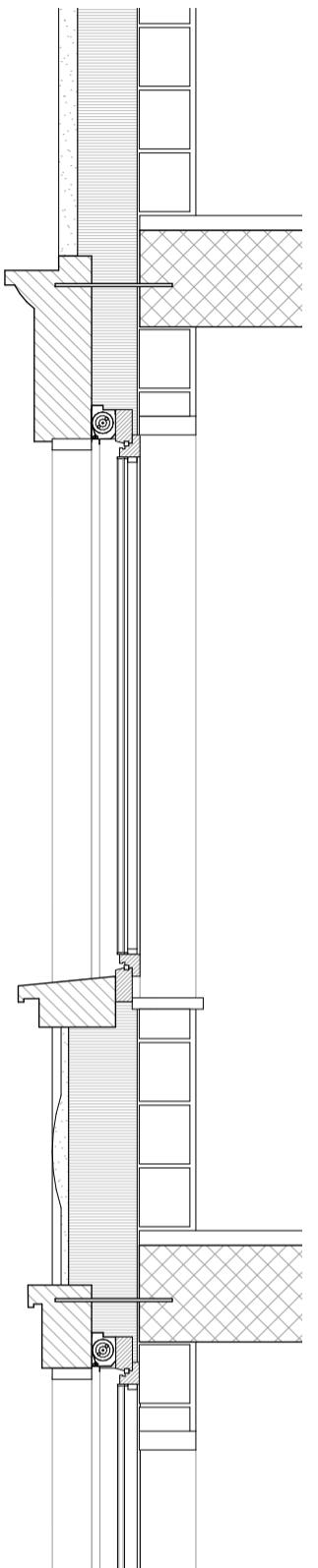
Turnerstr.



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Lindenbachstr.



Canaletto, *Una regata sul Canal Grande*, cutout, 1740.



Bleicherweg



Grüngasse



Schaffhauserstr.



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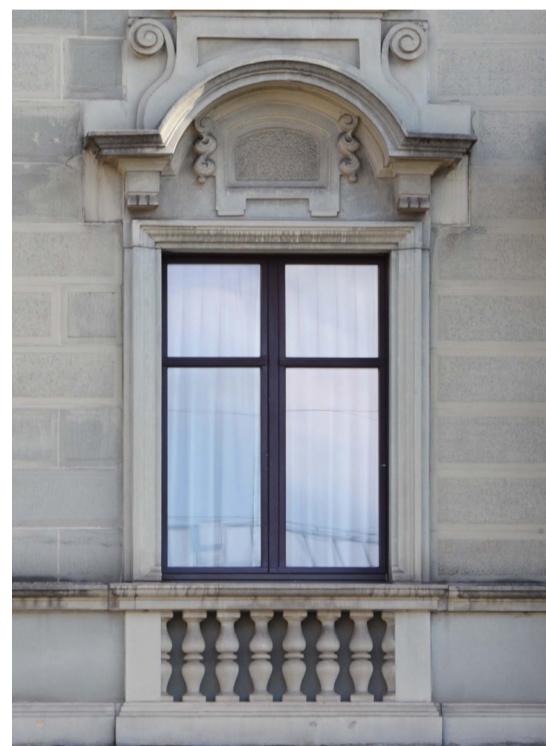
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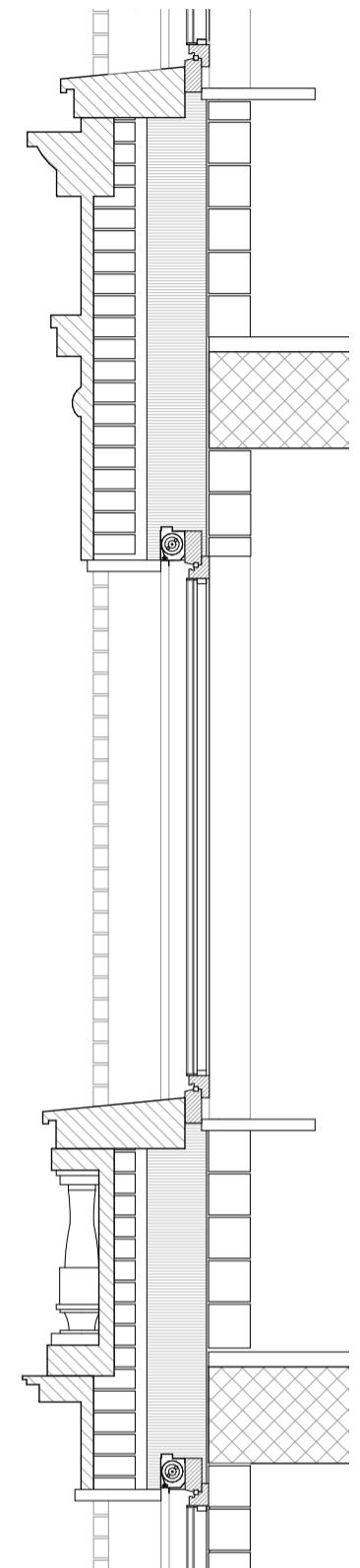
Bleicherweg



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## BALUSTRADE

MARGHERITA CHIOZZI



(left) Gustave Caillebotte, *Man on a Balcony*, 1880, oil on canvas. Private collection. Wikimedia Commons.

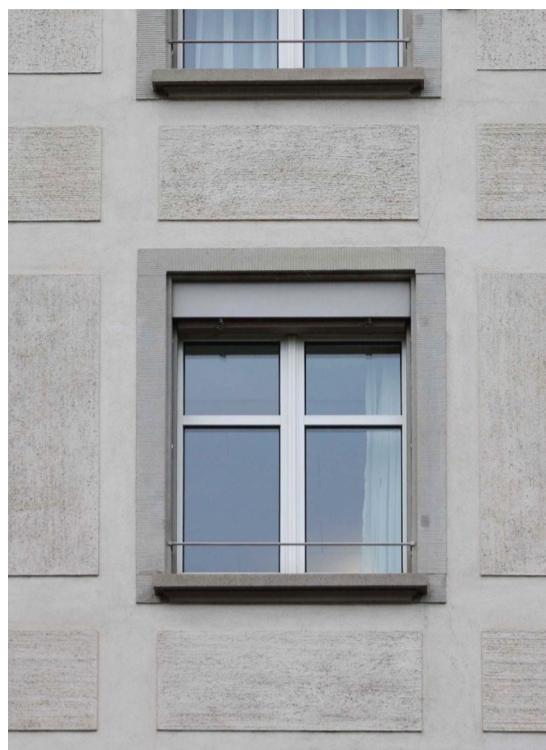
(right) Gustave Caillebotte, *Young Man at His Window*, 1875, oil on canvas. Private collection. Wikimedia Commons.



Rennweg



Dreikönigsgasse



Stauffacherquai



Beckenhofstr.



Bethovenstr.



Kronenstr.



Morgartenstr.



Ottikerstr.



Stockerstr.

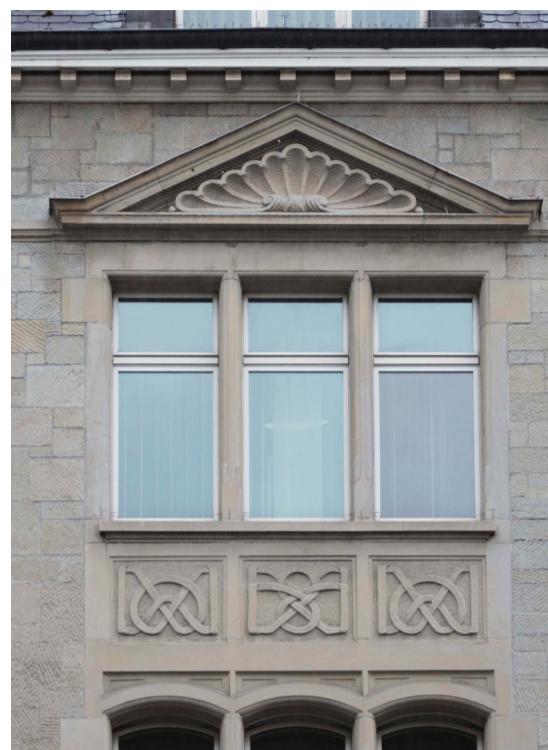


Bäckerstrasse

## PARAPET ORNAMENT



Rennweg



Badenerstr.



Tödistr.



Kronenstr.



Genferstr.



Bethovenstr.



Rotbuchstr.



Schaffhauserstr.



Schindlersteg

## ORNAMENT

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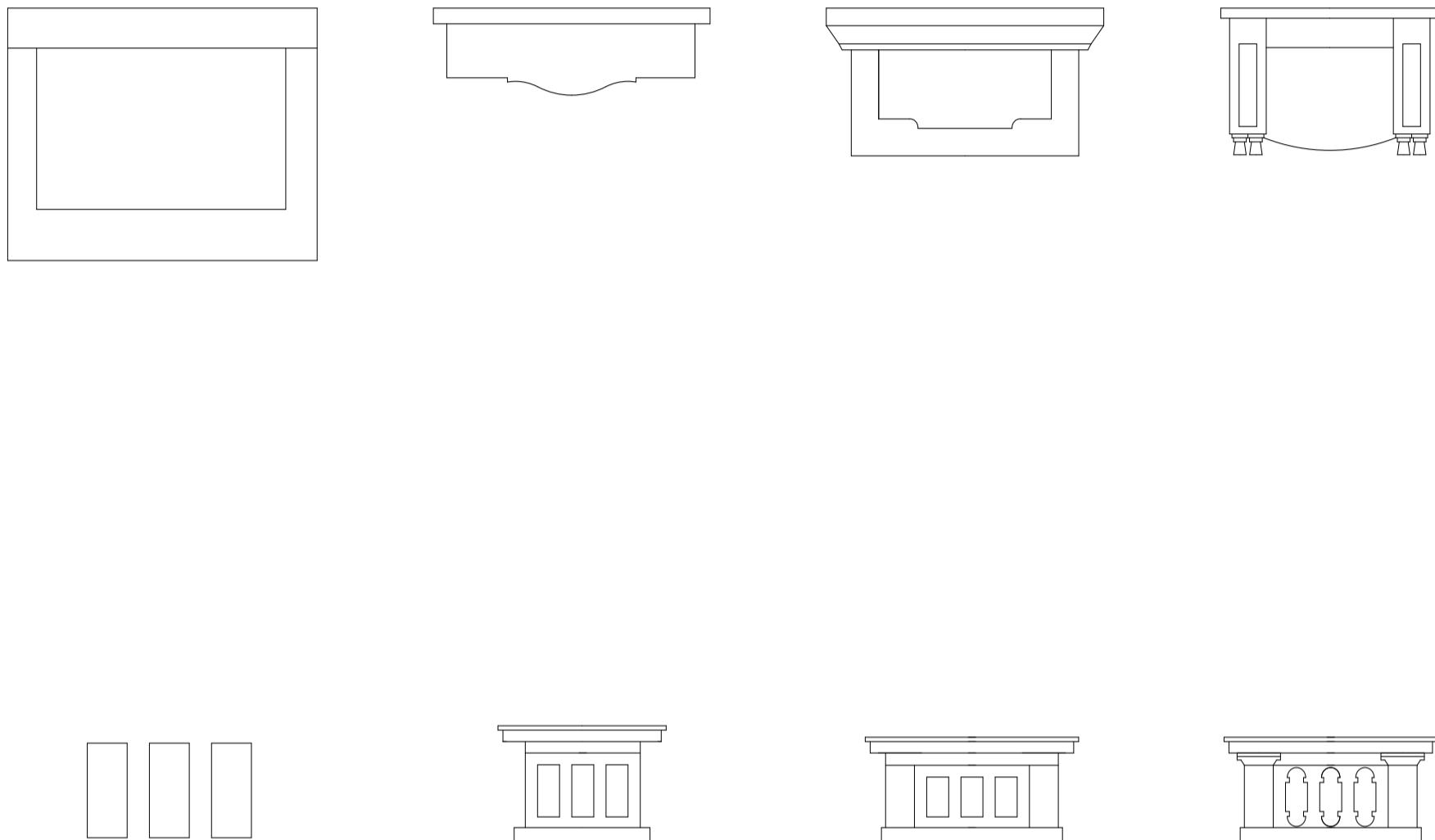
Weberstr.



Beckenhofstr.

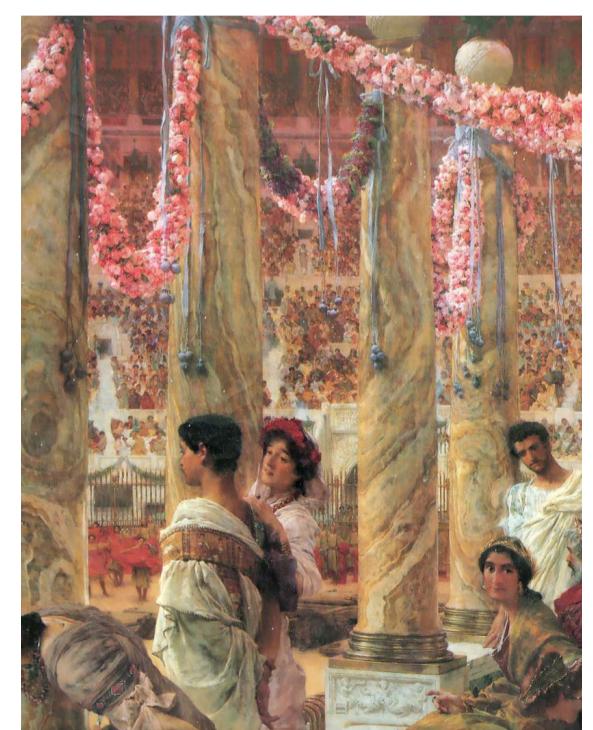
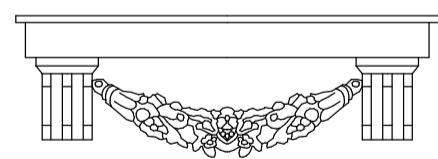
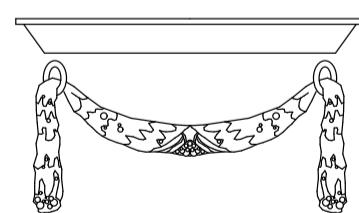
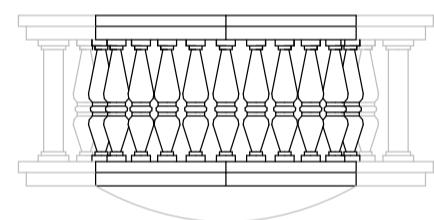
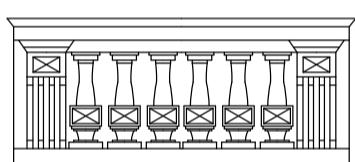
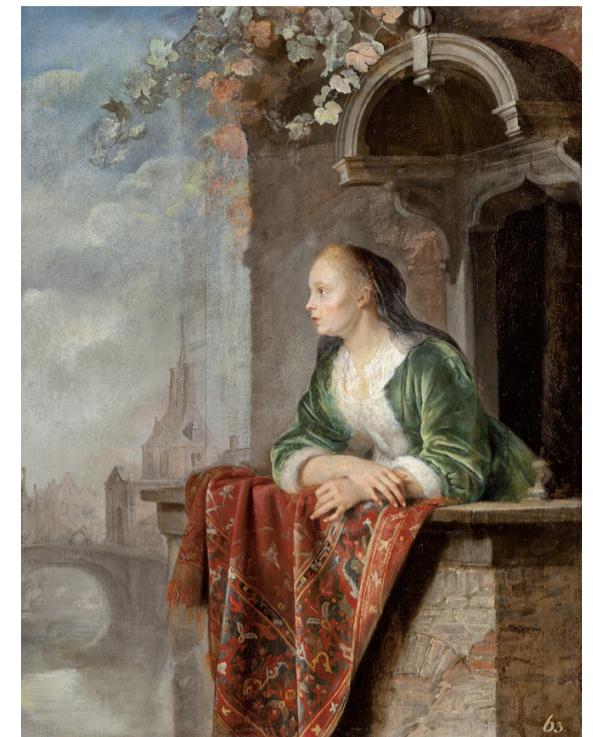
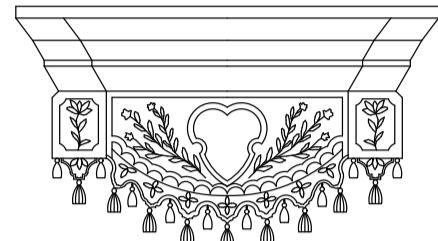
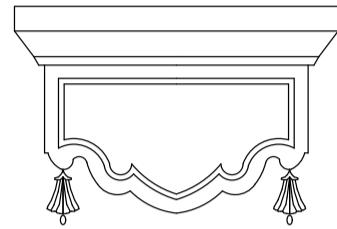


Bäckerstrasse



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## REPLICATION AND ABSTRACTION

FROM EPHEMERAL TO PERMANENT, FROM AESTHETIC TO FUNCTIONAL THROUGH REPLICATION AND ABSTRACTION



## IMAGE DIRECTORY

- Image 1. Louis H. Sullivan, Wainwright Building, St Louis, Missouri, 1891.  
Image 2. Louis H. Sullivan, Bayard-Condict Building, 1897, Manhattan. Photo: Christopher D. Brazee/ NYC LGBT Historic Sites Project, 2017.  
Image 3. Sullivan and Adler, Guaranty Building, 1894-96, Buffalo, New York. Photo: Luke McDonald.  
Image 4. Gerrit Dou and studio, *Young Lady on a Balcony*, 1664. National Gallery Prague. Wikimedia Commons.  
Image 5. Hans Heyerdahl, *At the Window*, 1881. Nasjonalgalleriet, Oslo, Norway. Wikimedia Commons.  
Image 6. Lawrence Alma-Tadema, *Caracalla and Geta*, 1907.