

# Digital Plecnik: Vienna Years

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## INTRODUCTION

This paper proposes that by looking at the work of the architects of the Wagner School, Joze Plecnik in particular, one can identify a series of connective threads with the digital technologies of the present day. Digital technologies have enabled production of myriad of wall panel and cladding systems, with a focus on predetermined architectural form and materiality. One can argue that if he were to practice today, Plecnik would be an even more productive and engaged architect (if that is possible!) - with all the available speed and ease of production. Yet, it is important to state that the basic premise behind his architectural production remains true to Gottfried Semper's *Bekleidung* theory, which provided the theoretical grounding to Plecnik's work. Semper's theory remains, even after a century and a half, as inspiring and fresh, as it was when it was first introduced to the architectural audience. In other words, Plecnik's work embodies the same principles that were/are championed not only by Otto Wagner, but also by our contemporaries. Semper's attention to the surface, or skin, rather than the structure of the wall, in relation to the space (making), found its early testing in Plecnik's Vienna work. That same "Semperian cloth" richly adorned with architectural ornament, can be observed in the work of Swiss architects Herzog & de Meuron, who, with the help of digital technology, create buildings that give an even more complex interpretation of the relationship between the surface and space.

## THE CONTEXT

Joze Plecnik was one of a few young architects in Vienna who not only studied under Otto Wagner, but

also worked in his office in the 1890's. It was a decade that saw a profound shift in Wagner's understanding of architecture. He had abandoned the use of historicist styles and had embraced a new expressivity and new materials that were to become an integral part of Secession movement. In *Modern Architecture*<sup>1</sup>, a textbook written for his students in 1895, Wagner states the objectives for design in the new century - and proclaims a break with the old architectural paradigm. As the physical appearance of Wagner's architecture starts to change, its theoretical premise becomes grounded in the writings of Gottfried Semper, a German architect, architectural historian, and theoretician whose designs for Natural History Museum and Burgtheater, both located on the famous and polemical Viennese Ringstrasse, certainly did not solicit praise from the members of the Secession movement.

Vienna at the turn of century was a laboratory of ideas in its own right - from urban (Camillo Sitte) to artistic (Gustav Klimt). One of the formidable voices was that of the art historian Alois Riegl who refuted Semper's materialistic account of the origins of ornament in the decorative arts; for Riegl, ornament had an autonomous and continuous history. Vienna Secession members, and the architects in particular, had embraced textile arts as the origins of architecture and architectural ornament.

For Wagner and his school, Semper's seminal *Style in the Technical and Tectonic Arts*<sup>2</sup> and in particular his *Bekleidung* theory, provided a constant source of reference - and a much needed conceptual grounding. Semper's understanding of the critical role of textiles in the development of architectural form came from his exhaustive research into the cultures

of Europe and Middle East. For Semper, the use of covers is “perhaps the most important element in the symbolism of architecture.” He states that “the principle of dressing has greatly influenced style in architecture and in the other arts in all periods and in all nations.” That statement, as well as the principle of dressing, introduces a metaphor of an interior kernel (*Kern*) and exterior covering (*Hulle*): the stylistic “hull,” or shell, and the inner “kernel,” or core. This particular metaphor, which became very important to Semper, can be actually traced to the writings of contemporary Carl Botticher, with whom he carried on a tense rivalry.

It seems obvious that the idea of the *Kern*, devoid of ornamentation, represents the ideal of pure form, and therefore an essence of the Modernist approach to architecture. Thus the dressing, or shell, that conceals the core, is kind of obstacle to the purity of form. Nevertheless, as Werner Oechslin argues in his essay *The Evolutionary Way to Modern Architecture: The Paradigm of Stilhulse und Kern*<sup>3</sup>, Wagner arrives at Modernism under complex, and evolutionary circumstances, not really liberating the *Kern* from the concealment of the exterior covering, but rather, paradoxically, by introducing a modern, clear-paneled façade.

This notion of a form that is modern because of its exterior treatment, in which the façade is liberated from the tyranny of historicist reference, is a critical element in our understanding of both Wagner’s and Plecnik’s work in relationship to our contemporary moment. By deconstructing or reconstructing the wall into a series of layers, both architects gave themselves - and us - permission to look at it in a more complex and engaging manner. Although neither of them had actually moved beyond a standard masonry wall structure artfully dressed in exquisite marble panels, they had nevertheless attempted to work with reinforced concrete, and, in the case of Plecnik, had continued to work with new materials.

Bernard Cache, in his insightful essay *Digital Semper*<sup>4</sup>, proposes that Semper closely follows Vitruvius in the concept of transposition. He means that regardless of whether architectural motifs have their origin in wood or stone, or in fabrics (as Semper proposes), the general principle is that the forms and proportions of the architectural orders are technically determined. This determination does not come from actual material but via procedures

associated with another material that then must be transposed. Cache creates a series of tables that trace this transposition game through the four different technical arts (textile, ceramics, carpentry, masonry) that Semper recognizes as forming the origins of architecture. Architecture emerges in the move from one technology to another - textiles would today be the abstract procedure emerging within a transposition process that leads us from primitive fabrics to contemporary modulation techniques while continuously emulating mosaic cladding, wooden panels, and embossed metal.

## TWO CASE STUDIES: LANGER HOUSE AND ZACHERL HOUSE

As a son of a cabinet maker, young Plecnik came to Vienna after he spent several years in cabinetry school. His continuous exposure to the finesse and precision required in the making of an object, and an emphasis on the mastery of the whole as well as its parts, provided a formative influence on the future architect. And I suggest that this design discipline provides a particularly fitting parallel to digital thinking and making, where one has to constantly shift scale from a detail to the final product.

Plecnik’s close relationship with Wagner both as his teacher and mentor produced a clear incorporation of some of Wagner’s most important theoretical and pragmatic issues into Plecnik’s work. The notion of *Gesamtkunstwerk* (the understanding of a building as a total work of art) became incorporated into Plecnik’s architecture early on; most of Plecnik’s projects have his very distinctive involvement with all of the aspects of design, including landscape and furniture design. Additionally, the Semperian understanding of walls as a memory of the textiles, or mats, once used to divide and define spaces, resonated strongly with young Plecnik. Throughout his career, he consistently applied a Semperian *Kern* and *Hulle* dialectic to building design. The exterior of the building conceals the structure - the load-bearing wall - and the interior is often treated in an equally elaborate manner as the exterior.

The interdependence of art forms, the totality of the artistic vision, the emphasis on craft, and the strive for individual expression are some of the elements that contributed to the technologically innovative and artistically unique architectural projects. Plecnik’s formative years in Vienna were defined by

his adherence to Semper's writings, and his application of the *Bekleidung* theory into his built work.



Figure 1. Langer House, Vienna



Figure 2. Langer House, Detail

Langer House (1900), Plečnik's first commission in Vienna, was a relatively modest project that involved ground-floor remodeling and the design of a new street façade. The request to design the façade as an independent element resonated with a textile treatment, and Plečnik's solution was to create a smooth plaster surface with a winding floral pattern in relief that created a strong textural quality. This lively patterned fabric is set amongst a simple grid of windows that transition from a row of flat windows to slightly concave ones, ending up on a wall projecting forward as a large bay. This fine geometric game of patterns, projections, and reliefs is contrasted by a side elevation that is simple, unadorned, and has only vertical grooves in plaster.

Plečnik's design strategy had involved many different sketches and drawings for the façade. Architectural historian Peter Krecic<sup>5</sup> argues that in the Langer House one can see an anticipation of a future curtain wall precisely because of the independent treatment of the façade. Plečnik also introduces a repetitive element - the floral pattern - that can be easily seen in a number of different fabrication possibilities if it were to be built today. The plasticity of the façade represents not only a departure from the historicist reference but also from a material research point of view. That is, the plaster is not treated as a delicate surface as would be case with the *sgraffito* technique, but rather its sculptural potential is fully explored through the relief form. Langer House is the first in a long series of Plečnik's exquisite buildings/building facades that push the envelope not only with regard to their material and aesthetical potential, but also in terms of their constructability.

Zacherl House (1903-1905) is an almost exact contemporary of Wagner's Postal Savings Bank. Both the master and young architect followed Semper's *Bekleidung* theory while developing structural and cladding systems for their buildings, and both used reinforced concrete in a limited capacity, relying primarily on brick masonry for the upper-floor walls. But Zacherl House is also a point of departure for Plečnik, and a clear differentiation from his teacher. Wagner's Postal Savings Bank celebrates the Secessionist spirit in a more traditional treatment of the exterior cladding, where marble panels are affixed to the structure from behind with a series of rivets, thus reinforcing his admiration of industrial aesthetics while still remaining somewhat conventional. The interior, however, exudes the spirit of

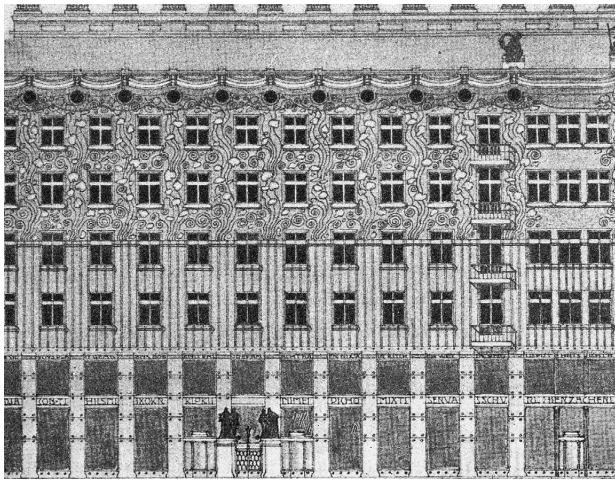


Figure 3. Zacherl House, Competition Entry

modernity and innovation, particularly its central hall. Conversely, Plecnik's building communicates clarity, simplicity and even a sense of technological innovation through its exterior but remains fairly traditional and autonomous in its interior.

Plecnik arrived at the final design of the exterior for Zacherl House after countless design schemes. One of the most prominent features of the final scheme is a "Semperian cloth," a fabric that he lays over the structure. In a bold gesture that was response to the irregularity of the site - a trapezoidal shape with three facades - Plecnik uses the same, singular "cloth" to wrap the building from one end to the other, without differentiating between the different sides. This reinforces the importance of the building within a dense urban setting, giving it a monolithic presence further emphasized by the use of polished dark grey granite.

Plecnik's cladding of the Zacherl House in a series of vertically oriented panels alternating with narrow granite strips is a clever system devised to conceal the supporting system for the panels. The long narrow strips, or battens, were designed in a shape similar to the letter "T" so that the panels could be affixed on each side with a minimum of additional support by iron anchors. By laying these long vertical strips first into the structure behind, the individual panels were slid from the top into their intended position. There is a fitting paragraph in *The Style* that addresses the necessity of expressing joinery of different pieces together:

"If something is originally separate we should characterize it not as *one* and *undivided* but, by deliberately stressing how parts are connected and interlaced toward a common end, all the more eloquently as coordinated and unified."



Figure 4. Zacherl House

### THE DIGITAL CLOTH

That same "Semperian cloth" richly adorned with architectural ornament, can be observed in the work of Swiss architects Herzog & de Meuron<sup>6</sup>, who, with the help of digital technology, create buildings that give an even more complex interpretation of the relationship between the surface and space.



Figure 5. Ricola Storage Facility, view of printed wall and ceiling panels (photo A.Godel)

Material and technological advances at the end of the 20<sup>th</sup> century have enabled Herzog & de Meuron's architecture to reformulate and extend many of Semper's ideas. Their understanding of the potential of the façade to communicate meaning through ornament takes Semper's notion of the wall well beyond its historic beginning (origin) and firmly roots it in the contemporary moment.

The façade of the Ricola production and storage building in Mulhouse, France, is conceived as a pattern formed by a repeated plant motif - a yarrow - printed on transparent polycarbonate panels. In reference to the candies produced by Ricola, Herzog & de Meuron employed photographs of plants by German artist Karl Blossfeldt. The visual tapestry of the façade is monochromatic and semi-transparent, allowing for dispersed light to enter the interior. The exaggerated dimensions of the canopy are balanced with a seemingly weightless continuation of the polycarbonate panels and yarrow pattern into the ceiling plane. The ornamented surface is animated with natural light that allows for multiple readings of interior and exterior space.

The library for the Technical University in Eberswalde, Germany has 17 horizontal bands of iconographic images silk-screen printed on glass and concrete. The images are part of the *Newspaper Photographs series* created by artist Thomas Ruff, one of Herzog & de Meuron's close collaborators on a number of projects. The bands of photographs create a pattern, a rather complex monochromatic ornament, akin to a tattoo on the otherwise simple geometry of the building. The effect of the etching of the glass and concrete panels resembles the *sgraffito* facades of the 17<sup>th</sup> century; yet the surface is unmistakably contemporary. The building is wrapped in a cloth that is at once a superbly crafted façade and an insight at the complex relationship of the surface and space.

In conclusion, Semper's attention to the surface, or skin, rather than the structure of the wall, in relation to the space (making), found its early testing in Plecnik's Vienna work, enabling future generations of the architects to continue refining their design responses. Herzog & de Meuron's work represents the most sophisticated and complex reading of Semper yet - and, in the projects discussed above, it brings the Secession spirit in a contemporary, digital cloth.

## ENDNOTES

- 1 Otto Wagner, *Modern Architecture - A Guidebook for his Students to this Field of Art*, transl. H.F. Malgrave (Los Angeles: Getty Publications, 1988)
- 2 Gottfried Semper, *Style in the Technical and Tectonic Arts; or Practical Aesthetics*, transl. H.F. Malgrave and M. Robinson (Los Angeles: Getty Publications, 2004)
- 3 Werner Oechslin, *The Evolutionary Way to Modern Architecture* (from *Otto Wagner: Reflections on the Raiment of Modernity*, edited by Harry Francis Mallgrave; Santa Monica: Getty Publications, 1993)
- 4 Bernard Cache, *Digital Semper* (from *Rethinking Technology: a Reader in Architectural Theory* By William W. Braham, Jonatan A. Hale, John Stanislav Sadar)
- 5 Peter Krecic, *Plecnik: Complete Works*, transl. by P. Crampton and E. Martin (New Haven: Yale University Press, 1997)
- 6 Carrie Asman, *Ornament and Motion: Science and Art in Gottfried Semper's Theory of Adornment, Herzog & de Meuron Natural History*, Philip Ursprung, editor (Montreal: CCA, 2002)