8.
THE PRINCIPLE OF DRESSING[1]

Semper and Polychromy

The image of a colored marble temple in the Greek landscape was a challenge to the imagination in the 19th century – and remains so to this day. Nonetheless, some aesthetes of the period were enthused by the notion that "dead antiquity" could be brought to life by color. Josef Bayer, Professor of Aesthetics at the Technical University in Vienna, wrote in 1890 that the "dogmatic idea of 'classicism' and 'noble simplicity'" that, for them, was synonymous with "noble tedium" had finally become unbearable.[2]

In his *Vorläufigen Bemerkungen über bemalte Architectur und Plastik bei den Alten* (*Preliminary Remarks on Polychrome Architecture and Sculpture in Antiquity*, 1834) Gottfried Semper paid tribute to the British architects James Stuart and Nicholas Revett, who had surveyed the ruins of the Parthenon in Athens in 1757.[3] In the three folio volumes of their much-vaunted publication *The Antiquities of Athens* (1762–1794) they mentioned that traces of the architectural color scheme had been preserved.[4] Stuart and Revett's discovery was, however, barely noticed by their contemporaries and would certainly have been difficult to reconcile with their own notion of antiquity. Like Georges Cuvier's theoretical reconstruction of the plumage of the extinct pterodactyl, the colored surfaces of a marble temple must have appeared monstrous and a colorful statue well-nigh barbaric. But at the beginning of the 19th century, polychromy was grabbing the attention of many French and German architects, who started to study precisely this aspect of Stuart and Revett's work.

The first important contribution to the discussion on polychromy in the context of the theory of imitation came from Antoine Chrisostôme Quatremère de Quincy, professor and *Secrétaire perpétuel* (Secretary-for-life) at the Académie des Beaux-Arts, in the form of his monumental publication *Le Jupiter Olympien* (1814).[5] In this folio volume he published his colored reconstruction of Phidias' huge gold and ivory statue of Zeus which had stood in the cella of the temple in Olympia. In terms of architecture, however, Quatremère de Quincy felt bound to Johann Joachim Winckelmann's classical ideal of beauty and the notion of colored temple architecture must have appalled him. And yet two architects in Paris with German origins, Jakob Ignaz Hittorff (1792–1867) and Franz Christian Gau (1790–1854), who had studied at Quatremère de Quincy's École des Beaux-Arts, not only carried out research which contributed to the polychromy debate but also delivered their own built examples of a new colored architecture. Gau exhibited his illustrations of vividly colored Egyptian façades and tomb interiors at the Paris Salon of 1822 and Hittorff published chromolithographs entitled *Architecture antique de la Sicile* in 1827,[6] in collab-

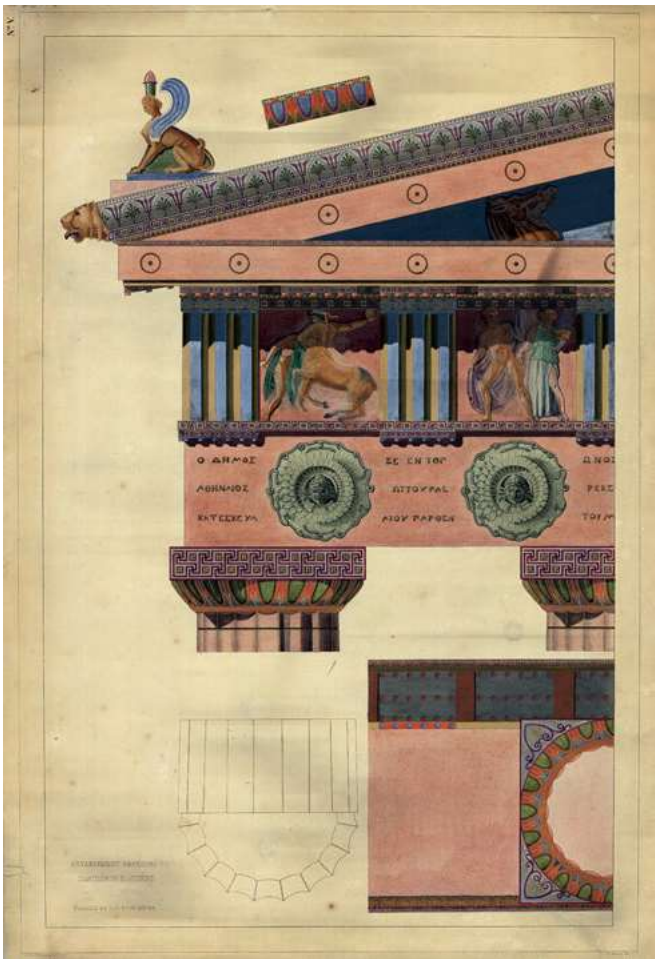
oration with Karl Ludwig Wilhelm Zanth, the architect of the Moorish Villa Wilhelma in Cannstatt near Stuttgart (1837–1851).

Semper made two visits of several months to Paris between 1826 and 1830 in order to study at Gau's school of architecture. In 1830 he travelled on with his friend Jules Goury to Italy and then to Greece in order to investigate the traces of color on ancient buildings. In Greece they met the young Owen Jones, who would go on to compile the highly influential sourcebook *The Grammar of Ornament* (1856) and was also commissioned with the color design of the Crystal Palace in London.[7] In 1833 Semper travelled to Berlin to personally present his drawings showing colored reconstructions of the Acropolis to Karl Friedrich Schinkel who, over the course of the next few years, produced a grandiose polychrome design for the Orianda Palace on the Crimean Peninsula (1838). [Fig. 8.1]

Textile walls assume an important role in Semper's description: He states that, alongside painting, "the metal ornaments, gilding, tapestrylike draperies, baldachins, curtains, and movable implements must not be forgotten. From the beginning the monuments were designed with all these things in mind, even for the surroundings – the crowds of people, priests, and the processions. The monuments were the scaffolding intended to bring together these elements on a common stage."[8] This text includes statements that he would later develop into his theory of dressing. He demanded that each material should speak for itself and appear unveiled, brick as brick, wood as wood, "each according to its own statistical laws."[9] In the next sentence, however, he clarifies that he is not a spokesman for the theory of truth to materials: "true simplicity" alone is not enough and we should "let our fondness for the harmless embroidery of decoration run free. Wood, iron, and every metal need a coating to protect them against the corroding effect of the air. This need can be fulfilled quite naturally, in a way that contributes at the same time to their embellishment. Instead of a dull coat of paint we could select a pleasant diversity of color. Polychromy thus becomes natural and necessary."[10] In this text he already describes the decoration of the temple of Selinunt as "color dressing" (Farbenbekleidung).[11] These words are guided by a vision not of a white marble temple juxtaposed with nature but of a building and its natural surroundings which have become a single colorful entity: "In a bright, consuming southern light and strongly tinted environment, the effect of refraction on well-ordered tones of color placed next to one another is so mild that the colors do not offend the eye but soothe it."[12] It is clear that archaeological discoveries alone cannot explain the newly ignited interest in polychromy – the aesthetic vision was, at the very least, equally important.

Bötticher's tectonics

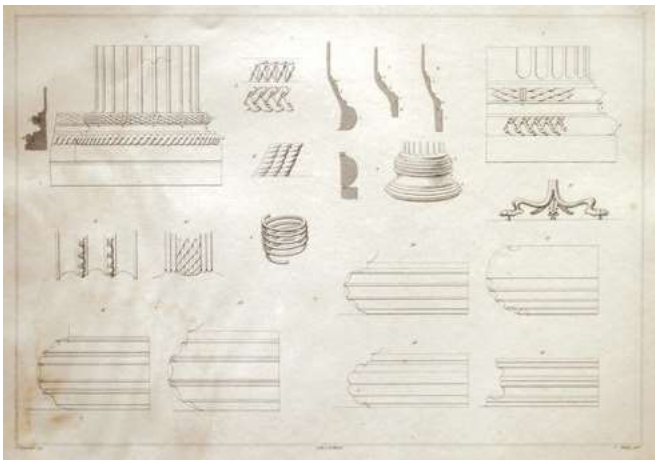
The German architect and archaeologist Karl Bötticher (1806–1889), a pupil of Schinkel, took upon himself the role of drawing up a consistent theory which corresponded with the built works and the remaining fragments of the architectural teachings of his master. Bötticher's important work *Die Tektonik der Hellenen* (*The Tectonics of the Greeks*, 1844–1852) broke with traditional

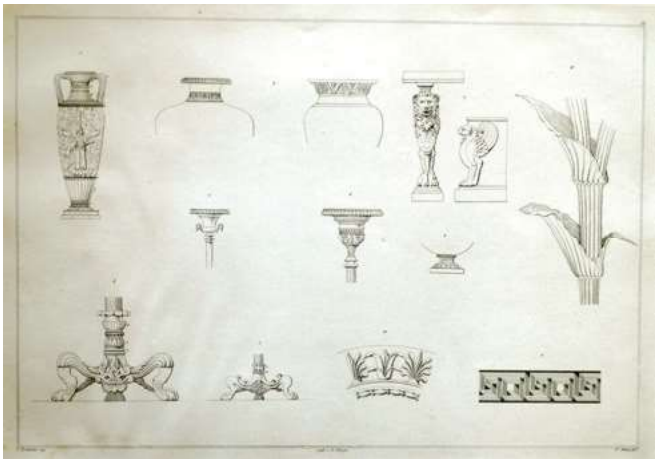


8.1 Colored view of the entablature of the Parthenon, Athens. Gottfried Semper, 1836. gta Archiv, Zurich.

treatises on the architecture of Ancient Greece by proposing a set of underlying rules for this architecture that was distilled from a detailed analysis of its forms. His aim in doing so was not only to interpret the historical material but also to provide a design theory for his own time. Bötticher believed that the principle of form in antiquity worked in a similar way to "creating nature." On the basis of this he drew up a "law of form" that stands "far above individual arbitrariness." He described tectonics as "the activity of building or of making objects of use, as soon as this activity is *ethically suffused*, and can rise to the charges placed upon it by intellectual or physical life. At that point, this activity not only seeks to satisfy mere needs by *forming a volume* in accordance with material necessity but instead may elevate that volume to a *Kunstform* (art-form)."[13] [Fig. 8.2]

Bötticher describes the Greek temple as an ideal organism, "one that is *skillfully articulated* in order to produce a *spatial* entity. This space-producing organism is thoroughly considered, from the whole to the smallest of its parts – membra. It belongs to the imagination of the human soul and has no precedent in its natural surroundings from which it could have been created."[14] The form





8.2, 8.3 Ornamentation of column bases, vessels and umbelliferous plant. Karl Bötticher, *Die Tektonik der Hellenen,* 1844–1852.

of a constructional element is lent to the building material and "inasmuch as *all* these members are related within a self-sufficient construct, then the vital force that inhabits a building material but *lies latent* as long as the material is formless, will be actualized in a dynamic expression and forced to assume a *static* function. By this means, the self-same material is lent a higher existence, because it now functions as a member of an *ideal* organism."[15] In his analysis Bötticher considers every constructional element as consisting of two components: "core form" (Kernform) and "art form" (Kunstform). He defines these components as follows: "The core form of every element is the *mechanically necessary,* the *structurally* functioning scheme; the art form, on the other hand, is merely the *characteristic that explains* this function."[16] The core form is an abstraction, the immaterial, diagrammatic image of the constructional component. The art form, on the other hand, is not pure decoration but, rather, the visually perceptible appearance of this component which not only fulfills but also has to symbolically represent the structural function. A special role in Bötticher's theory is played by "juncture", the point of connection between

elements, which takes the form of a capital, abacus, cyma or plinth, etc. These are shaped in line with models from nature as a way of expressing their precise function in the structural system. [Fig. 8.3]

The idea of coherence, the correlation of the visible and the concealed, can be largely traced back to Karl Otfried Müller's *Handbuch der Archäologie der Kunst* (*A Manual of the Archaeology of Art*, 1830) which proved to be useful reading matter for both Bötticher and Semper.[17] Despite Bötticher's characterization of the core form as a "scheme", some of his formulations and terms can be read in another way – namely, that the core form could be thought of as a concrete constructional element stripped of its covering skin – a cylindrical column, perhaps, without a base or capital – an interpretation which would be taken up later by modernism.

Bötticher's theory had a great impact upon being published. Semper first read *Die Tektonik der Hellenen* during his stay in London in December 1852. He immediately recognized the relevance of the book for his own research although this didn't prevent him from reacting with biting criticism. Nonetheless, his reading spurred him on to refine his own theory on the emergence of artistic forms – which was then less developed than that of Bötticher – and to highlight the differences between his ideas and *Die Tektonik der Hellenen.*

Semper's principle of dressing

Semper used the term "*Stoffwechsel*" in his book *Style* in order to justify the principle of dressing.[18] Textile art was, for Semper, the original art, given that all other technical arts "borrowed their types and symbols" from textiles.[19] For him, there was no doubt that "*the beginning of building coincides with the beginning of textiles.*"[20] The basic motif of textiles is the rhythmic sequencing of the knot, which itself is "perhaps the oldest technical symbol and [...] the expression for the earliest cosmogonic ideas that sprang up among nations."[21] The knot is primarily a "means of connection" and the arrangement of knots creates netting, mesh, felt, and fabric – materials for dressing both human bodies and buildings. [Fig. 8.4] Textiles are strictly structured in line with the rules of artisanship, but the limitations of technique permit a wide range of variations of patterns and colors, a fact which undoubtedly contributed to Semper's enthusiasm. He even suspected that the words, "Naht (stitch)", "Knoten (knot)", and "Not (distress)" were etymologically interrelated; and he used a reference to the Gordian knot to speculate about the "association of ideas [...] between *Naht* and *Knoten* [...] between the tied-up Ἀνάγκη (necessity) and the inextricable entwinement through which again only *Noth* can cut [...]."[22] In this sense, the adage "*aus der Noth eine Tugend zu machen* (make a virtue out of necessity)" is a reference to the contribution of the knot to the creation of a coherent fabric out of individual elements.[23] Hence we can summarize: The necessity of connection is solved by the technical gesture of the knot whose labyrinthine spatial calligraphy is registered in the image of the knot. The decorative fabric, in the form of both dress and spatial boundary, is a product of the rhythmic repetition of knots: Textile substance creates space where there was once void. Order and ornamentation (the terms share the same linguistic root) coincide

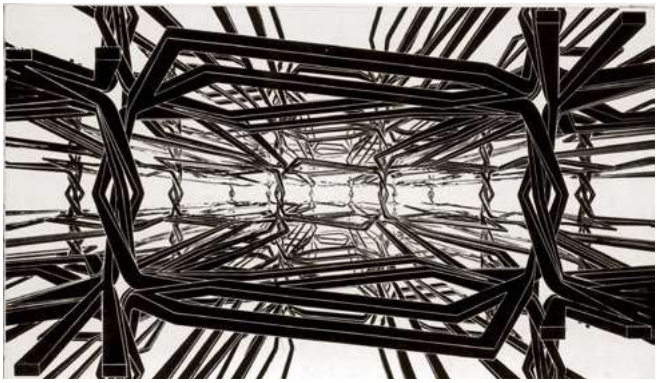
8.4 Drawing of a knot in Gottfried Semper, *Style,* Volume I.

in the act and the motif of the knot. This same knot, portrayed as a spatial figure, went on to play a similarly universal role in the modern constructional teaching of Konrad Wachsmann, which is rooted in mechanization and standardization.[24] [Fig. 8.5]

"In all Germanic languages the word *Wand,* (wall), which has the same root and basic meaning as *Gewand* (garment) directly alludes to the ancient origins and type of the visible spatial enclosure", writes Semper, continuing his etymology.[25] Terms such as "*Decke* (cover, ceiling)", "*Bekleidung* (clothing, dressing)", "*Schranke* (barrier, gate)" or "*Zaun* (hedge, fence)" – which, according to Semper, has the same meaning as *Saum* (hem, fillet) – are "clear indications of the textile origin of these building elements."[26] The first house – which was made of wickerwork – illustrates not only the need to escape the weather but also a certain pleasure in ornamentation: "The dressing of the wall was thus the origin and, in terms of its spatial and architectural significance, the essence; the wall itself was secondary."[27] These are the linguistically founded premises of Semper's theory of dressing which addresses the architectural object not, like Bötticher, by starting with its construction but by emphasizing its anthropological-historical evolution and the role of dressing.

In his manuscript *Vergleichenden Baulehre* (*Comparative Theory of Building*) Semper traces the development of architecture back to the texture and colors of the textiles of the Assyrians. He writes that the dressing of walls only became significant "when these walls were made not of carpet but of alternative materials such as stucco or wooden, alabaster, or metal panels for reasons which included durability, economy, cleanliness, and a fondness for grandeur."[28] These new forms of dressing – painted wood, stucco, stone, ceramics or metal – are imitations of the colorful embroidery of the carpet walls. The overwhelming importance of textile art for Semper can be seen in the fact that he dedicated the whole of the first volume of *Style* to this technique while the other three primeval techniques had to be satisfied with their place alongside metallurgy in the second volume. It was in conjunction with textile art that Semper developed the most important theories about the "Principle of Dressing in Architecture" and the "Masking of Reality in the Arts." In the second part of the first volume he then presented, subordinate to the principle of dressing, his depiction of the forms which emerged from the textile arts in a number of European and non-European cultures.

Architecture begins with dressing: This central thesis of Semper was incompatible with Bötticher's concept of tectonics. However, given that the heyday of classicism-inspired theories had already come to an end by the second half of the 19th century the new aesthetic appeared to be an attractive alternative. "The 'Hellenic renaissance' is over," scoffed Richard Streiter in 1896: "The 'last disciples of tectonics' regard the 'arbitrariness and degeneration' of today's architecture with resentment."[29] The precedence of decoration over construction also meant that the question of space, of its enclosure and structure, became more central than in the architectural theory of the early 19th century. "The need for protection, cover, and spatial enclosure" are emphasized by Semper



8.5 Perspective of a structure using a standard structural element, by Konrad Wachsmann. Academy of Arts, Berlin, Konrad Wachsmann Archive.

as he begins his observations on the *Decke* (cover). "The cover's purpose is the opposite to that of binding. Everything closed, protected, enclosed, enveloped, and covered presents itself as *unified*, as a collective; whereas everything bound reveals itself as articulated, as a plurality."[30] Hence, he displays much more interest in the *Decke* as a horizontal enclosure (ceiling) than in the *Decke* as structure (slab).

Semper, however, was not alone in the mid-19th century in regarding architecture as a form of spatial dressing: Hermann Weiß, a professor at the Akademie der Künste in Berlin, published his *Kostümkunde* (*The Lore of Dressing*), whose first double volume was subtitled *Handbuch der Geschichte der Tracht, des Baues und des Geräthes der Völker des Alterthums* (*A Handbook of the History of the Traditional Costumes, Buildings and Tools of the Peoples of Antiquity*), in 1860. Semper refers to this publication in *Style*.[31] The French architects and archaeologists Georges Perrot and Charles Chipiez, who were less well-known in architectural circles, published an eight-volume history of the art of antiquity between 1882 and 1903. This is opulently illustrated with drawings showing large-scale reconstructions of Egyptian, Assyrian, Phoenician, and Roman art.[32] Perrot and Chipiez refer to Semper's *Style* and also find confirmation for his theory in the ornamental decoration of Egyptian tombs.[33] These drawings, which underline the textile character of ancient façades, subsequently found their way into many handbooks of architectural history. [Figs. 8.6, 8.7]

It is not easy to be more precise about the similarities and differences between the theories of dressing of Bötticher and Semper, especially given the breadth of interpretations of the positions of the authors by their contemporaries. They were generally presented as rivals: Bötticher as the protagonist of a clear system which was determined by frameworks and subservient to the classicist idea of beauty and Semper as the advocate of the decorative surface effect of the colorful dressing of the façade and of its ability to determine space. These are different approaches but these differences should not be overestimated. For example, their positions regarding the interaction between envelope and core appear to be essentially similar. Bötticher tends more towards the interplay between core form and art form, which guarantees the coherence of the "total form," while Semper emphasizes: "But masking does not help when the thing *behind* the mask is not right or when the mask is no good."[34] Clearly this doesn't

8.6 Detail of the ceiling of the hypostyle hall of Xerxes in Persepolis. Georges Perrot and Charles Chipiez, *Historie de l'art dans l'antiquité*, Volume V, Paris, 1890, Plate VI.

explain everything: When is "the thing not right," when is the mask "no good"? There is nothing easier than understanding Semper's principle of dressing in terms of the decadent Habsburg obsession with pompousness, of the ceremonial processions devised by Hans Makart, but also by Otto Wagner.

The architect Rudolf Redtenbacher, son of the founder of the theoretical study of machines, Ferdinand Redtenbacher, responded brutally to Semper's theory of dressing in his book *Tektonik* (*Tectonics*): "To name the principle of dressing rather than construction, material, and purpose as the highest principle of tectonics, as *Semper* has done, is to deny the products of nature their right to be regarded as beautiful, and to suggest that a rose or a melon would only be beautiful if it had been coated in oil paints; and it would also mean sliding backwards and falling into barbarism […]. Tectonics retains everything of value that the past has produced as long as it is still of use and everything else is cast into the waste bin of history".[35] This is the birth of the modernist rhetoric of unveiling.[36]

8.7 Isometric view of the ceiling and upper wall surface in the tomb of Ptah-Hotep. Georges Perrot and Charles Chipiez, *Historie de l'art dans l'antiquité*, Volume I, Paris, 1882, Plate XIII.

It was Josef Bayer, the art historian mentioned at the start of this chapter, who took upon himself to interpret Semper's principle of dressing as the theoretical groundwork for the establishment of a new style. In 1879, the year of Semper's death, he published the first in-depth analysis of the theory and the built oeuvre of the architect in the *Zeitschrift für bildende Kunst*.[37] He emphasized Semper's definition of necessity as the only one master of art[38] as a means of demonstrating that this program was motivated by the "desire for freedom of the age": A "dominated people" is not aware of its own need. Bayer states that the "built organism" is a "symbolic representation of the social organism": The driving forces within modern society differ significantly from those that caused the great buildings of the past to soar skywards.[39] In his short article "Stilkrisen der Zeit" ("Stylistic Crises of the Present", 1886) he went further, quite in the spirit of Semper's theory of dressing: "Our repository of available forms is richer because much more building history lies behind us; a much *greater variety* of articles of dress is at our disposal for use in our buildings. But at the same time the new building-organism requires an alteration in the cut of the adapted raiment of forms; there are times when even stylistic dressing bursts at the seams and one must somehow seek help."[40] This figurative formulation finds its architectural counterpart a decade later in the exhibition building for the Vienna Secession (1897/98) by Joseph Maria Olbrich: a cube, whose outer façade layers, profiled like fragments of a "classical" building, peel away from the core under the vegetable pressure of a gold-incrusted layer of floral ornamentation. What could better visualize the impossibility of representing bursting stylistic dressing as this solution (which Adolf Loos would then immediately toss into the waste bin of superfluous artistic ornament)? [Fig. 8.8]

The potential for an almost unlimited metaphorical extension of the terms "fabric" and "textile" into other areas of culture and human life is already mythologically expressed in, for example, the figures of the three Fates (Moirai or Parcae), who weave and cut the threads of the life of man. But the idea also lives on in modern literary theory and philosophy. "The text is a tissue [fabric] of quotations drawn from innumerable centers of culture", writes Roland Barthes.[41] Viktor Shklovsky, the literary critic of Russian formalism, also speaks of the web-like nature of texts, of their generative behavior or, in short, of texture.[42] The French philosopher Maurice Merleau-Ponty describes the phenomenological materiality of the world as a network of the seeing and the visible.[43] From this perspective, Semper's Caribbean hut appears not only as a house with wickerwork walls but as an element of the global spatial network.

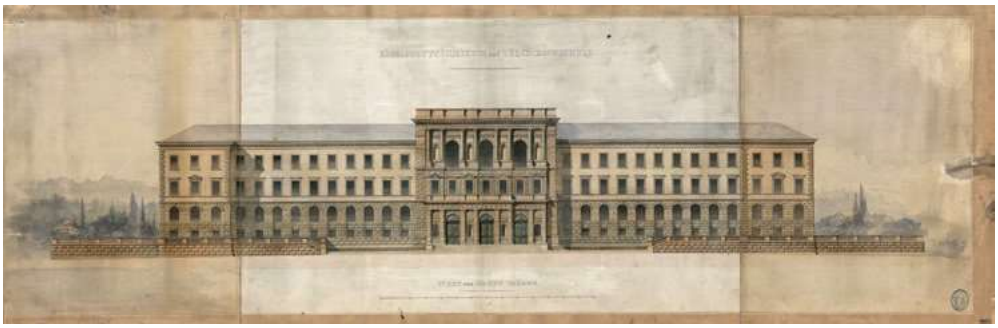
The aesthetic of dressing in Semper's work

"Proud Genoa is glowing most unexpectedly in sober Zurich," was Josef Bayer's comment about Semper's building for the Zurich Polytechnikum (with Johann Caspar Wolff, 1859–1863), which is now the main building of the ETH Zürich.[44] The north façade demonstrates how Semper implemented the theory of dressing in his own work.[45] The building stands on a broad terrace which enjoys views of the city on the Limmat, Lake Zurich, and the mountains. The terrace, with its dressing of huge blocks of stone, detaches the building somewhat from

8.8 Vienna Secession exhibition building, detail of the portal. Joseph Maria Olbrich, 1897/98.

its surroundings while increasing its monumentality in the cityscape. Bayer speaks of the "bold earthiness of the bossage" which is comparable with the fortified gateways built by Michele Sanmicheli in the Late Renaissance.[46] The ground-floor façade has a rusticated dressing similar to that of the Florentine Renaissance palace. In contrast with the west façade, which is dominated by an *avant-corps* with powerful pilasters, the two upper stories of the north façade are covered with extremely rich sgraffito decoration. [Figs. 8.9, 8.10]

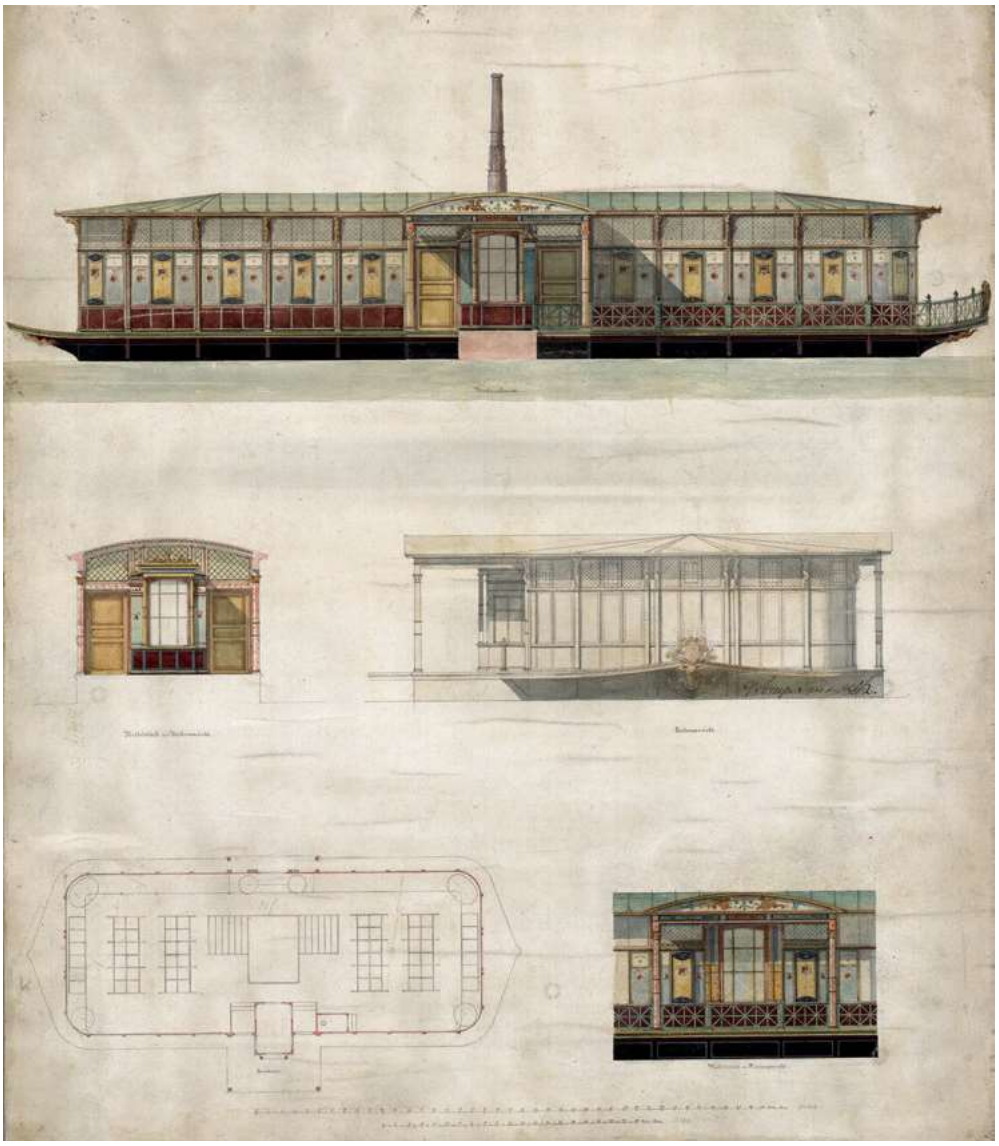
The visitor climbing from the city center to the Polytechnikum between 1864 and 1872 would also have been able to see the Treichler, the laundry ship which was also designed by Semper, lying at anchor on the Limmat before he saw the north façade of the Polytechnikum. The ship served as a laundry for the housewives of Zurich due to the fact that the city had no running water before 1869. Semper designed it with a light superstructure of iron profiles dressed on the inside with wooden planking and on the outside with metal panels inspired by Pompeian wall paintings. Semper may have been unable to give Zurich the imperial forum that he built in Vienna but he still managed to string a narrative thread through the streets of the city on the Limmat up to the Confederate Observatory (1860–1864) above the Polytechnikum. [Fig. 8.11]



8.9 West façade of the Eidgenössisches Polytechnikum in Zurich. Gottfried Semper, around 1859, gta Archiv, Zurich.
8.10 North façade of the Eidgenössisches Polytechnikum in Zurich. Gottfried Semper, 1859–1868.

Otto Wagner and his school

Semper's theory was interpreted in Vienna by Otto Wagner and Wagner's employees and pupils in the form of a modern aesthetic of dressing. The effect of the theory of dressing is ever-present in Wagner's architecture. Such early buildings as the Orthodox Synagogue in Budapest (1868–1873) already displayed richly textured surfaces: in this case a façade carpeted with glazed blue ceramic tiles and stone-like areas of plaster which suggest the influence of the



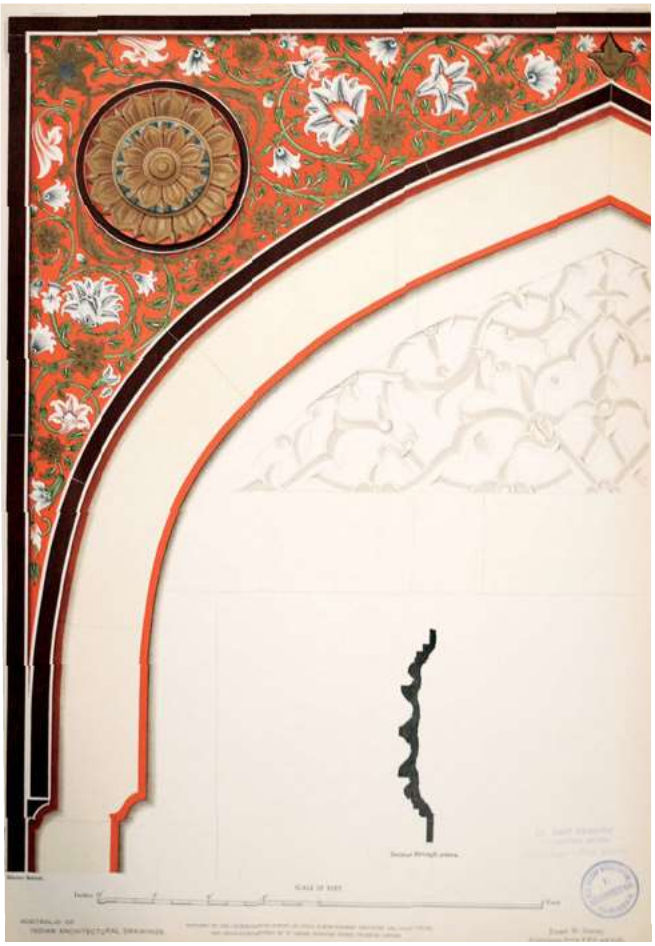
8.11 Colored design of the Treichler laundry ship in Zurich. Gottfried Semper, 1862, gta Archiv, Zurich.

Dresden Synagogue where Semper had employed similarly orientalized detailing (1838) and the study of (principally British) pattern books on Moorish ornamentation. [Fig. 8.12] The second half of the 19th century saw the appearance of such important pattern books as Owen Jones' *Grammar of Ornament* (1856) and Edmund W. Smith's *Portfolio of Indian Architectural Drawings* (1897), which also included oriental examples.[47] [Fig. 8.13] Simplifying somewhat, one could suggest that the transition from Bötticher's tectonics to Semper's theory of dressing also represented a shift from ancient and Christian models in the

8.12 Orthodox synagogue in Budapest. Otto Wagner, 1868–1873.

direction of a form of orientalism, a phenomenon which was also reflected in various fields of culture ranging from philosophy to literature.

Wagner's early designs include such festive decorations as the marquee for the silver wedding of Kaiser Franz Josef I and Elisabeth (1879) and the baldachin for the arrival of the Belgian Princess Stephanie in Vienna (1881), where the architect even suggested incorporating "electric flames" and girls clad in white below the pergola of the Elisabethbrücke.[48] [Fig. 8.14] The bridges for the Stadtbahn (City Railway) that Wagner designed during the last decade of the 19th century were "engineering-like" riveted iron structures wrapped in a layer of floral details combined with the trophies of the imperial capital. The dressing-like nature of these elements emphasizes metal fixings which imitate textile forms such as ribbons or ropes. The stations of the Stadtbahn on Karlsplatz or the imperial pavilion of the Stadtbahn in Vienna are metamorphoses of provisional tents in the sense of Semper's theory of *Stoffwechsel* and display a wide range of forms with textile origins. The dualism of a framework with an ornamental cover is articulated with great clarity in every detail of the columns, railings, and candelabras. [Figs. 8.15, 8.16]



8.13 Detail of the tomb of Salim Chishti, Fatehpur Sikri. Edmund W. Smith, *Portfolio of Indian Architectural Drawings*, London 1897, Plate XXXIX.
8.14 Festive decorations for the arrival of the Belgian Princess Stephanie in Vienna. Otto Wagner, 1881. Joseph August Lux, *Otto Wagner. Eine Monographie*, Munich, 1914.

8.15 The Court Pavilion of the Stadtbahn, Vienna. Otto Wagner, 1898/99.
8.16 Central hall of the Court Pavilion.
8.17 Apartment building on the Linke Wienzeile (Majolikahaus) in Vienna. Otto Wagner, 1898/99.
8.18 Detail of the façade of the Majolikahaus.
8.19 Cornice detail of the Majolikahaus.

Wagner's aesthetic of dressing is most richly developed in the apartment building on Linke Wienzeile known as the Majolikahaus (1898/99), the Church of St. Leopold, which is known as the *Kirche am Steinhof* (1904–1907), and the Postal Savings Bank (1904–1906), all of which are in Vienna. In the description of the façade of the Majolikahaus that he wrote in 1907 the art historian Josef Strzygowski commented that Wagner "is attempting to awaken the impression that a colorfully painted curtain has been fixed in front of it", and compares this solution with the façade of a mosque in the Turkish city of Konya.[49] Crowned with a widely projecting Florentine cornice, the façade of the Majolikahaus

is separated from its neighbors by deeply recessed bays with balconies which further emphasize the autonomy of the building and the layered nature of the façade. This is finished with shimmering tiles which are arranged in such a way that the floral decoration is densest below the cornice. Below this point, the number of undecorated tiles increases and the ornamentation is concentrated on the façade's central axis. Cut into the façade without regard to the ornamentation, the window openings convey the impression of a hanging carpet. This only serves to increase the emphasis on the lions' heads below the cornice which Strzygowski interprets as hooks for the symbolic hanging of

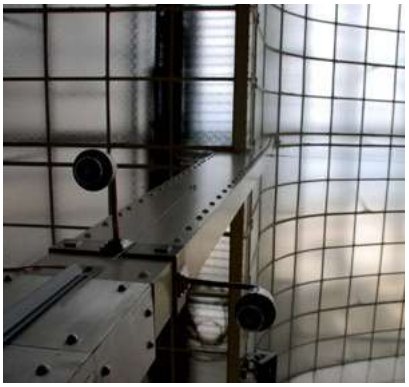
8.20 Granite dressing to the base of the Postal Savings Bank in Vienna. Otto Wagner, 1903–1906.
8.21 Stucco dressing to the base of the apartment building at Döblergasse 4, Vienna. Otto Wagner, 1911/12.

the dressing. Wagner mentions that "the installation of elevators" will make "the rental values of the individual floors […] almost identical," as a result of which the hierarchy of values between the *bel étage* and the attic level will be a thing of the past. Architectural treatments "that seek their motives in the architecture of palaces are completely inappropriate to such cellular conglomerates, simply because they contradict the interior structure of the building."[50] Like his contemporary Ödön Lechner in Budapest, Wagner uses the smoke and soot in the city air to justify his choice of ceramic as a dressing: "they can be [countered] only by employing the simplest possible forms and smooth surfaces; by using materials such as porcelain and majolica, stone and mosaic pictures; and by systematically cleaning the artworks."[51] [Figs. 8.17–8.19]

The development of Wagner's architecture from the orientalizing synagogue in Budapest via the major Vienna palaces in the "free Renaissance" style to the objectively ornament-free apartment buildings can certainly be interpreted in the sense of a tabula rasa. At the same time, however, even those buildings that he most radically "cleansed" of ornament are articulated in line with Semper's theory. As the stereotomic element of the building their bases are always reinforced – albeit through the use of ever simpler techniques: from plastered rusticated blocks or bands in the early works (building in Universitätsstraße, 1888) to irregular sandstone masonry (Church of St. Leopold, 1904–1907), granite slabs (Postal Savings Bank, 1904–1906) or horizontal-grooved plasterwork (apartment building on Döblergasse, 1911/12) in the later ones. [Figs. 8.20, 8.21]

The façade of the Church of St. Leopold am Steinhof (1904–1097) is also developed in line with Semper's theory of the four elements which, following the abandonment of the classicist concept of tectonics, came to serve as the basis for a clear structure. The *opus incertum* of the base underlines the origin of this component in the geological matter of the earth. The dressing of the upper part of the façade with alternating layers of 2-mm-thick marble panels and 4-mm-thick marble strips which are held in place by fixing bolts with visible heads establishes a clear contrast with the weight of the base. The portico is a baldachin which is spanned between thin iron beams and pierced by four columns supporting angels sculpted by Othmar Schimkowitz. The idea of the tent also determines the interior. The ceiling consists of a light lattice construction made from T-shaped iron profiles suspended from the load-bearing iron framework of the high dome. The undersides of the iron profiles are gilded and panels of plastered wire mesh span between them. The floating effect of this light shell is principally explained by the stained glass windows which slice through the walls in places which would not

8.22 Church of St. Leopold am Steinhof, Vienna. Otto Wagner, 1904–1907.
8.23 Plasterboard ceiling suspended from the dome structure of the Church of St. Leopold am Steinhof.
8.24 Ceiling of the banking hall of the Postal Savings Bank, Vienna.

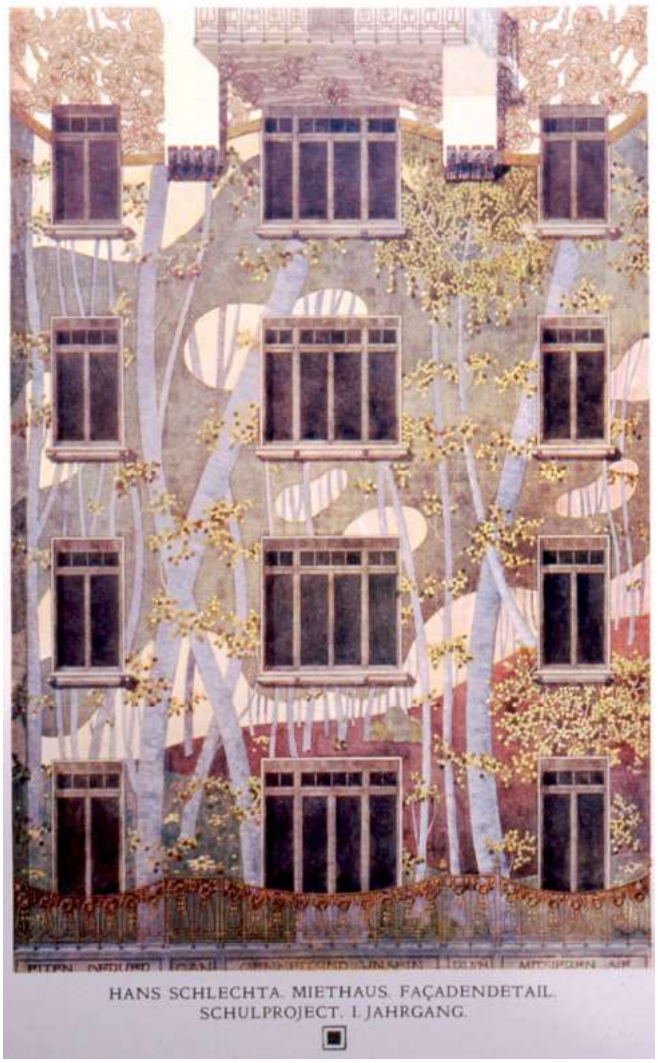


have been permitted by a load-bearing dome structure. [Fig. 8.22, 8.23] Wagner finds another, no less effective solution for the banking hall of his Postal Savings Bank. Here, the columns slice through the glass skin of the ceiling which is similarly suspended from an iron roof structure, remaining visible through the translucent glass panels. [Fig. 8.24]

The wall surface also retained its textile character in Wagner's later works. The fact that this consists of surface texture rather than load-bearing elements in-filled with panels is demonstrated by such elements as the visible heads to the fixing bolts on the façade of the Postal Savings Bank or the fine gridlines on the façade of the apartment building in Neustiftgasse (1910) where the only ornamentation is provided by a thin frame of glazed blue tiles. The presence of roofs is principally emphasized by cornices supported by consoles modeled in line with the machine aesthetic.

The proliferation of narrative decoration which went so far as to transform entire façades into engraved panels in the designs of Wagner's pupils around 1900 is clear evidence of the crisis of ornament in conjunction with the principle of dressing. The flocks of migratory birds, beech forests, and flower meadows appear interchangeable, as if they could be simply wiped away. [Fig. 8.25] One of the most radical examples is the Portois & Fix apartment and commercial building in Vienna (1899/1900) which was the work of Max Fabiani, the Karst-born pupil of Wagner who was active in both Vienna and Trieste. [Figs. 8.26, 8.28] Clad in green and brown Zsolnay ceramic tiles the façade has the appearance of a geometric-abstract Majolikahaus. It traces its texture back to their shared prototype, the façade of the Doge's Palace in Venice, which was admired by many architects of the Wagner school for the way in which it appeared to be floating on the lagoon. In his book *The Stones of Venice* John Ruskin described such façades as 'wall veils' (see p. 139).[52] Fabiani continued this approach to façade design in his Slovenian National Hall in Trieste (1904/05). And in Vienna, where Venice and Byzantium were never lost from view – a fact to which Gustav Klimt is the main witness –, many variations on the theme were built. Josef Hoffmann (1870–1956), a pupil of Wagner between 1902 and 1905, dressed the façade of the Palais Stoclet in Brussels (1905–1911) with white marble panels from Norway. Floating above a base, these areas of façade are edged with embossed, ornamented, and gilded metal profiles which appear like jets of water cascading downwards from the tower-like structure which rises from the building. These framing profiles break down the façade to such an extent that it appears like a house of cards whose smooth surfaces have been fully relieved of any load-bearing function. [Fig. 8.29, 8.30]

The relationship between the dressed façade and such other elements as the roof and the canopy was a specific conceptual challenge for Wagner's circle that demanded considerable amounts of both empathy and fantasy. Given that non-tectonic façade dressing can carry no loads, canopies require their own load-bearing structures which mostly consist of thin metal bars that support the glass or copper baldachins. A particularly interesting detail is the junction between the ceramic-clad façade and roof cornice of the Portois & Fix apartment and commercial building, which optically relieves the façade. The roof structure resembles a form of airship which has landed on the building while the dynamic, snaking ornament of the cornice strongly recalls the framing metal bordures of Hoffmann's Palais Stoclet. [Fig. 8.27] For Wagner, this clear



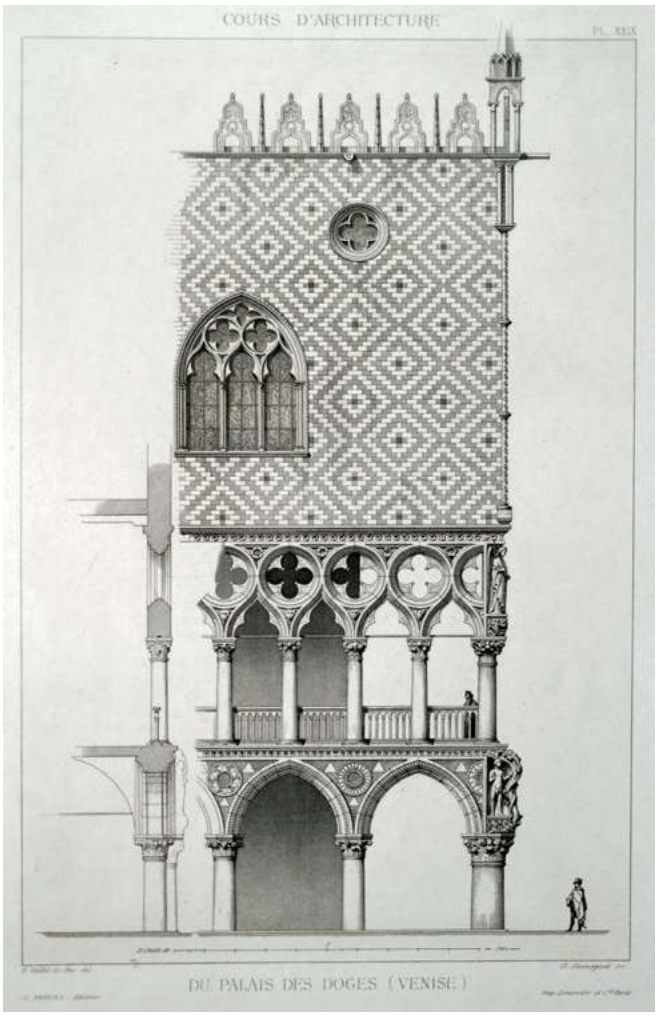
8.25 Façade design for an apartment building. Hans Schlechta, 1900. *Aus der Wagner-Schule MCM,* Vienna 1901.

upper edge to the façade with its "Florentine" cornice is important because it reinforces the perspective effect of the street, the "major gesture" of the modern city. Those amongst his pupils such as Hoffmann who were happy to experiment with non-tectonic, decorative effects often omitted the cornice altogether. The upper windows of the Palais Stoclet rise above the marble-clad area of the façade while the bordure meanders to continue around their lintels. Further inventions resulting from Hoffmann's creative freedom and the suspension of the structural legibility of the volume are the fluting of entire surfaces of façade or the equal treatment of load-bearing and in-filling elements.

The question of the materiality of the façade was intensely addressed in the Viennese architecture of the late 19th century. The buildings of the Ringstraße convincingly illustrated the potential and scale of the attainable polychrome effects. In other cities, particularly in the Hungarian half of the Danube

8.26 Portois & Fix apartment and commercial building in Vienna. Max Fabiani, 1899/1900.

Monarchy, the colored city became a theme for architects such as Ödön Lechner (1845–1914),[53] a theme which was taken up again in the 1970s by his compatriot the Op Art artist Victor Vasarely from his home in France.[54] Lechner wanted Budapest to differentiate itself as a national capital from the other, gray major cities of the time through its colorful, shimmering ceramic façades, which were particularly resistant against pollution. He worked with Vilmos Zsolnay, the owner of the Zsolnay ceramics factory in Pécs and inventor of pyrogranite, a ceramic material that, burnt to a higher temperature, was not only hard but also frost-resistant.[55] [Fig. 8.31] Pyrogranite products such as decorative objects, ovens, and constructional ceramics were marketed around the globe and used by Vienna architects including Wagner and Fabiani in the dressing of the façades of their buildings.



8.27 Cornice detail of the Portois & Fix building.
8.28 The Palazzo Ducale in Venice, from E. E. Viollet-le-Duc, *Entretiens sur l'architecture. Atlas*, Paris, 1864.

Jože Plečnik's Zacherlhaus in Vienna (1903–1905) continues the dressing aesthetic of Wagner and Fabiani. [Figs. 8.32, 8.33] A special feature of the dressing of the façade is the way in which the polished granite slabs are held in place. In contrast with the fixing bolts with visible heads used by Wagner, Plečnik anchored the slabs invisibly with the help of nickel-plated iron castings which were fixed into the masonry with wedge-shaped wooden dowels. The vertical joints are covered by round granite strips which lend a rhythm to the façade. In contrast to the "Nordic" granite façades discussed in the chapter "The Nature of Matter", Plečnik takes his motif directly from textiles. By positioning copper tassels over the mezzanine windows he interprets the granite-clad surface of the façade as a "curtain wall."[56] Ornaments, which still played an important role in his competition entry, were very sparingly used on the façade.

8.29 Palais Stoclet in Brussels, Josef Hoffmann, 1905–1911, from *Moderne Bauformen,* Vol. XIII (1914).
8.30 Detail of the framing metal profiles on the façade of the Palais Stoclet.

The principle of dressing continued to inform the work of Wagner's former pupils during the interwar period and beyond. The façade of Plečnik's University Library in Ljubljana (1936–1941) appears to be crafted from a fabric woven from stone and brick which is perhaps intended to symbolize Slovenia's dual relationship with the building traditions of both Central Europe and the Mediterranean. [Fig. 8.34] Plečnik's pupils in Ljubljana and, in particular, Edvard Ravnikar (1907–1993), whose buildings of the 1960s and 1970s shaped the image of the city, pursued the aesthetic of dressing of their master in the direction of an expressive concrete and brick architecture.

Iron and the covering of façades in France

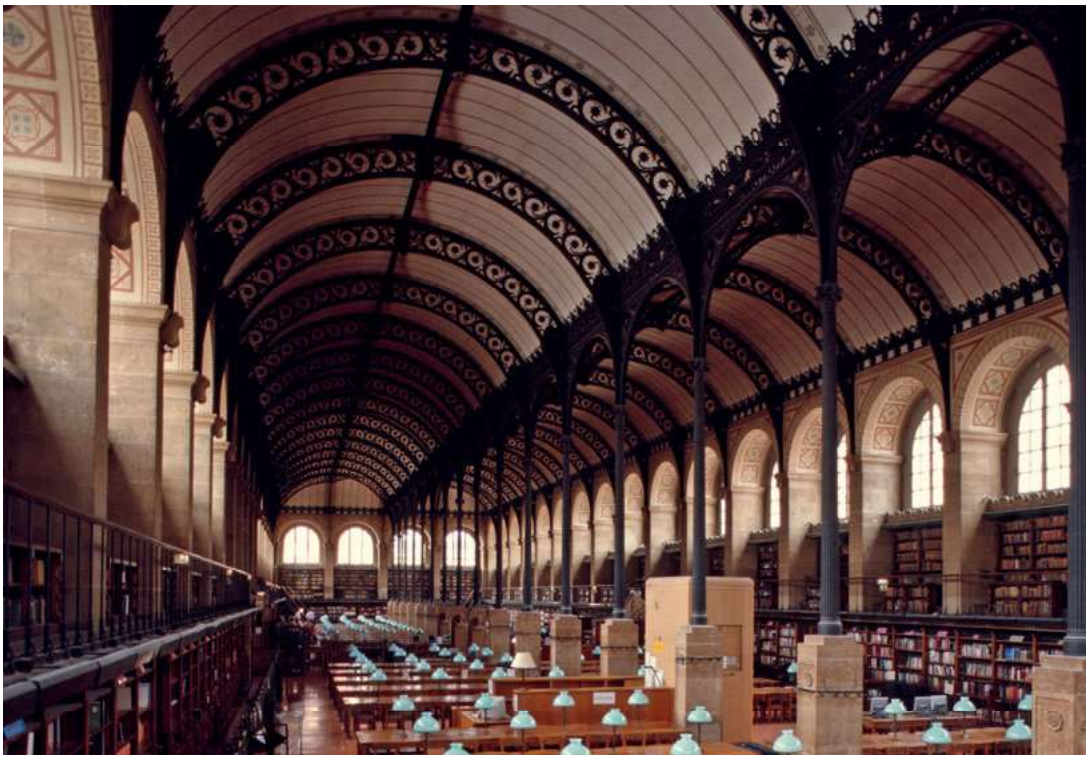
Between 1825 and 1830, the years of Semper's studies in Paris and travels in Italy, a small group of architects was forming at the French Academy in Rome. On the basis of their studies of ancient monuments in Pompeii and Paestum this group was developing the idea of structural rationalism which held that the dissociation between the load-bearing framework and the space-defining surfaces should be clearly apparent. An important early work in this direction is Henri

8.31 Detail of the main façade of the Museum of Applied Arts in Budapest. Ödön Lechner, 1893–1896.
8.32, 8.33. Zacherlhaus in Vienna. Jože Plečnik, 1903–1905.

8.34 Façade of the Slovenian National and University Library, Ljubljana. Jože Plečnik, 1936–1941.

Labrouste's Bibliothèque Sainte-Geneviève in Paris (1843–1851). [Fig. 8.35, 8.36] The duality of the prefabricated iron frame and external masonry skin is modulated here by a broad range of materials including cast iron, forged iron profiles, sheet iron, bronze, ceramic, porcelain, and plaster that ensures finely graded light and color effects in the interior. The arcade of the façade is inspired by Leon Battista Alberti's Malatesta Temple in Rimini (see p. 42) and the parapets below the windows are inscribed with the names of great authors. Together with the Pantheon the library thus forms a sort of sacred precinct dedicated to the outstanding minds of the world and, above all, the nation. Labrouste's reading room in the Bibliothèque Nationale in Paris (1854–1875) is a space divided into a square 3 x 3 grid; the light domes formed of panels of terracotta are supported by thin cast iron columns. The glazed surface of the skin of the domes created the reflections and color effects which added intensity to the vision of antiquity described by Gau, Hittorff, and Semper. [Fig. 8.37]

Semper took a critical view of slender iron structures; he regarded the Bibliothèque Sainte-Geneviève as a failure because the reading room "lacked the comfortable seclusion required for serious study."[57] In *Style* he writes derisively that it is not possible to speak of a monumental iron or cast-iron style because "their ideal is *invisible architecture!* For the thinner the metal tissue, the more perfect it is."[58] This explains why the architecture of the Crystal Palace – in comparison with the Caribbean hut that is exhibited within it – is ignored by Semper in the book, despite the fact that Paxton's building should not be so far removed from his way of thinking. However, according to Wolfgang Herrmann, Semper was thoroughly complimentary about the Crystal Palace in his unpublished manuscripts.[59] Paxton described the basic idea of his building – the relationship between the load-bearing framework and the envelope of iron



8.35, 8.36 Bibliothèque Sainte-Geneviève in Paris. Henri Labrouste, 1843–1851. Façade and reading room.

8.37 Bibliothèque Nationale in Paris. Henri Labrouste, 1854–1875.

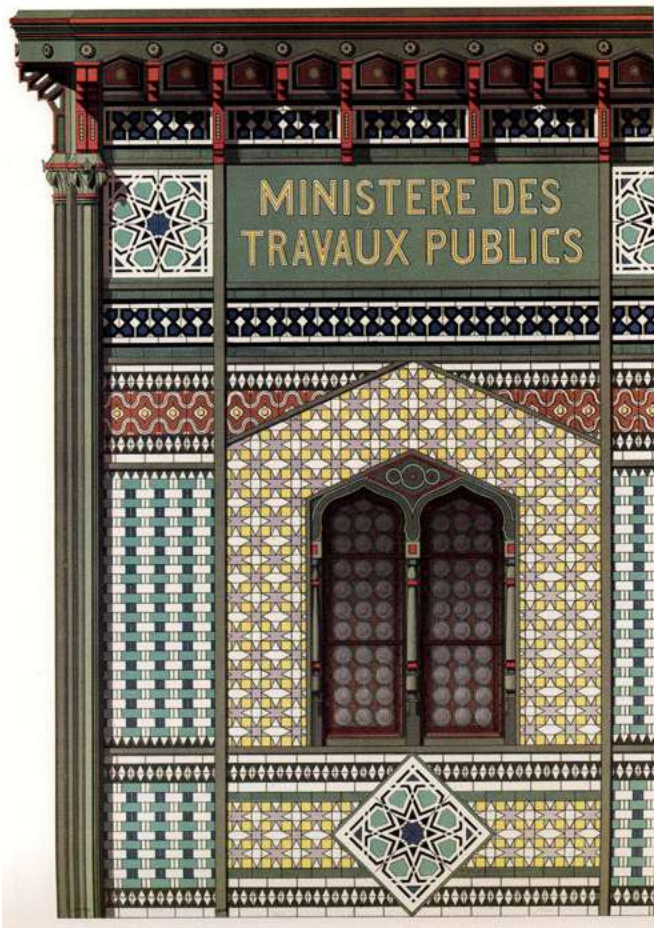
and glass – with the image of a table and a tablecloth, which led Adolf Max Vogt to comment that the Crystal Palace was itself an enlarged Caribbean hut, "the embryonic or original form or, in short, the egg of the Crystal Palace within which it itself was exhibited."[60] Semper could have been inspired by more than the idea of the glass façade as a textile wall. Owen Jones' color scheme for the structural elements of the hall in the primary colors of red, yellow, and blue which served to increase the transparency and the levels of light reflected his own preference for polychrome architecture. And he used cast iron columns himself in a "utilitarian structure," the scene dock of the opera house in Vienna (1874–1877).

Labrouste had visited the Crystal Palace in London and met Owen Jones and his libraries attest to these influences. The clear differentiation between load-bearing structure and dressing, which evidently also corresponds with the

8.38 Residential building and studio of the Agence Perret in Rue Franklin, Paris. Auguste Perret, 1903/04.

position represented by Viollet-le-Duc, is rediscovered in the architecture of Auguste Perret who constructed his building in Rue Franklin in Paris (1903/04) using a reinforced concrete frame in-filled with brick. He dressed both the load-bearing structure and the masonry infill, first with tiles decorated with a sunflower pattern and then with sculpted ceramic foliage and small discs embedded in cement mortar. [Fig. 8.38]

Brick pattern books from the 19th century such as Bernhard Liebold's *Ziegelrohbau* (1879), Pierre Chabat's two-volume *La Brique et la Terre* (1881, 1888) or Jean Lacroux's *Constructions en briques* (1878) demonstrate the diversity of decorative possibilities that arise from the use of colored, and often also glazed, bricks. [Fig. 8.39] Such façades are fruits of the same artistic period as pointillism in French painting: Georges Seurat painted his famous work *A Sunday Afternoon on the Island of La Grand Jatte* between 1884 and 1886. Around the



8.39 Terracotta dressing of the Ministry of Public Works in Paris. Fernand de Dartein, 1878, from Pierre Chabat, *La brique et la terre cuite*, Paris, 1881.

turn of the century many companies were offering a broad selection of such ceramic dressing elements as tiles, profiles, and a vast range of sculptural forms – or would produce these in line with an architect's specific wishes. The experiments of the architect Henri Sauvage with tile cladding on the façades of dwelling houses which step back at every story in order to allow more sunlight and fresh air to reach street level are particularly important in this context. In January 1912 Sauvage patented his system for the construction of terraced apartment blocks (*système de construction en gradins)*. He justified the terracing with reference to the hygienic improvement of living conditions in the large city. His system was first used in his apartment building in Rue Vavin, a terraced block with a projecting central part (1912/13). Constructed as a reinforced concrete frame in-filled with brick, the façade was dressed – also in the spirit of hygiene – with blue and white glazed tiles known for their use in Paris' metro

8.40 Apartment building in Rue Vavin, Paris. Henri Sauvage, 1912/13.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8.41 Wainwright Building in St. Louis. Louis H. Sullivan, 1890/91.
8.42 Cornice detail of the Wainwright Building.

stations. This reflective material had previously only been used as a façade dressing within lightwells.[61] [Fig. 8.40]

Woven façades in America

Semper's theory was well-known in the large architectural offices of Chicago, not least due to the fact that many architects were, like Louis Sullivan's partner Dankmar Adler, migrants from Germany. John Wellborn Root translated the text of Semper's final lecture in Zurich, "Ueber Baustile" (On Architectural Styles, 1869), for the Chicago-based architectural magazine *The Inland Architect and News Record* in 1889 while Bernard Maybeck, who was principally active in San Francisco, began his translation of *Style* the following year. It was never completed.[62]

Sullivan's Wainwright Building in St. Louis (1890/91) and Guaranty Building in Buffalo (1894–1896) are early examples of high-rise buildings whose