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# The *Lume Materiale* in the Architecture of Venice

Marco Frascari

*"Knowledge is the material cause of poesis"*

Antonio Conti, PROSE AND POESIE

This is an ontological storytelling of architectural events, a theoretical reflection, a narration of a technological *mythos* where stones change themselves in light through architecture, and architecture exists because of light. It is a Venetian tale <sup>1</sup> about the most undefinable of substances: light – the light which can only exist through the substances of Venetian architecture. It is a story about the Venetian light. This *mythos* is embodied in the words of an enigmatic sentence devised for his own tombstone by Carlo Scarpa, a Venetian architect, with the intent of describing the nature of his architectural *oeuvre* to posterity:

*"I am a man of Byzantium who came to Venice  
by way of Greece."*<sup>2</sup>

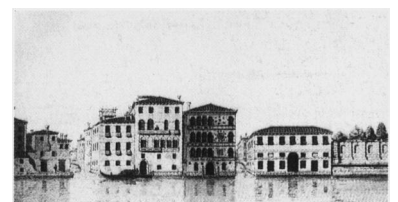
This sequence of geographical denomination reflects an essential commonality of place. In each of these places the constructed world is conceived as a vehicle for the revealing of light through its embodiment in the material dimension of architecture. Scarpa's architecture embodies light. In his architecture there is a playful confluence of the oriental with the western light, as both kinds of light are embodied in the built world of Venice. This embodiment of light in Scarpa's work is so dominant that one can imagine etched in each of his buildings the same inscription carved by a Byzantine architect on a stone in the Archbishopric Chapel at Ravenna:

*"Light is either born here, or imprisoned,  
reigns here in freedom."*

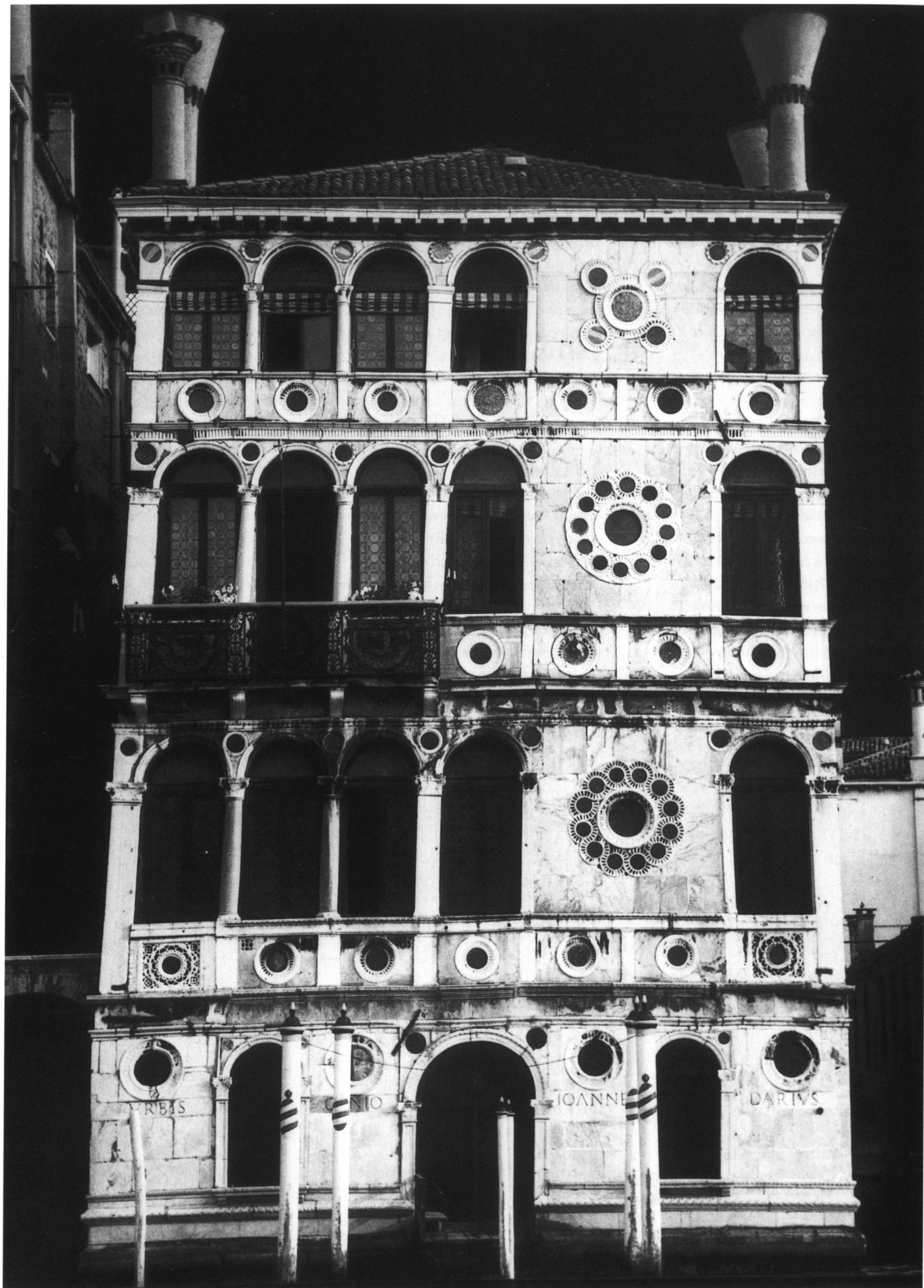
This light is an entity that can be named using an Italian locution of a Venetian flavor: *lume materiale*. Such a locution is intended to point out the palpable presence of light – something born in the materials of construction and imprisoned in the body of an edifice as the mind is imprisoned in the body of a man. This palpable material light, however, is free to express itself, and rules the construing of architectural events posited by the

<sup>1</sup> As Moshe Barasch has pointed out in his discussion of Italian art theory (see *THEORIES OF ART*, New York, 1985), in Venetian art literature, the tradition is that the presentation of theories is not organized following a logical structure or systematic arrangement of concepts. Alternatively, the presentation is done in an urban tone by the Venetian theoreticians in free dialogue, or in a story-telling format. The main theories are presented colloquially in a casual manner, with a rich mythological overtone which hides a sophisticated theoretical framework. This essay intends to belong to this Venetian tradition.

<sup>2</sup> See Giuseppe Zambonini, "Process and Theme in the Work of Carlo Scarpa," *PERSPECTA 20: The Yale Architectural Journal*, (Cambridge: MIT Press, 1983).



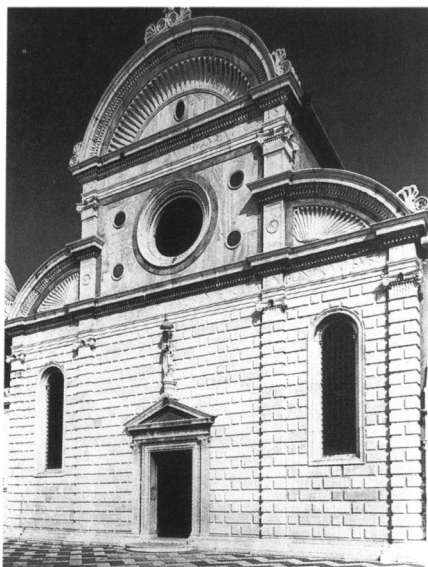
2. Grand Canal, Venice, fifteenth century engraving.



material resolution of elements and the detailing of construction. In this way, the *lume materiale* is a tangible essence of architecture which can be used as a touchstone for the discovery of the true nature of the substances composing a constructed world. An understanding of the material qualities embodied in this *lume materiale* will allow us to decipher the metamorphosis of that constructed world, bringing to light the hidden and peculiar nature of a visual alchemy concealed in Venetian architecture.

Architecture is co-existent with light. Absence of light effaces architecture; without light it ceases to exist in a real sense. A mound of stones, a splendid Venetian home, a wonderful Byzantine dome, and the most extraordinary Greek temple are the same inert matter without light. Conversely, there is no light without the architectural material which makes up the constructed world. The color of elements made up of *pietra d'Istria* (Istrian limestone), placed in a brick wall and covered with a thin veneer of *intonaco di coccio pesto*<sup>3</sup> (red plaster), remains inert and unchanged – showing a constant texture throughout the varied play of natural and artificial light – unless an architectural presence exerts itself. This presence transforms the materials, framing them in a meaningful dialogue and bringing forward through an almost metamorphic process the nature of a playful Venetian light.

<sup>3</sup> The *intonaco di coccio pesto* is typical of Venice and is made with crushed old roof tiles, sand, and quick lime.



3. Chiesa di S. Michele in Isola, Venice (1527).  
Mauro Codussi.

The *pietra d'Istria* is a salt-white stone, more coarse than marble, which gradually dims to a neutral grey when exposed to regular washing by occasional rains in a comparatively clean air. Without benefit of these washing rains, however – protected by overhangs or recesses in elevation – it blackens under layers of accumulated soot. Palladio masterfully uses this dual quality of the light of the *pietra d'Istria* in the design of the facades of his Venetian churches. Each of these churches explores the conflating and interpenetrating of two facades – one low and squat, the other tall and monumental. The implication of, and the relationship between, these low and tall facades is emphasized by the reaction of the *pietra d'Istria* to the effects of weathering. The color of the tall facade is light; its colossal order, friezes, and pediment are washed clean by the rain and come to represent the sacred temple of God. The low facade, however, is dark and unwashed; it is the house of nature and the representation of human dwelling. This possibility of converting stone in light through architecture is beautifully acknowledged by Pietro Delfino, a monk of the Camaldolese branch of the Benedictine Order, in a letter describing the work of Mauro Codussi concerning the facade of San Michele in Isola (the church of the cemetery of Venice):

“... *lumina in se convertat...ubi consistam.*”<sup>4</sup>  
 [“*The facade, now complete and perfect, shiner of such a beauty  
 so that in turns in itself the light of the eyes (lumina in se  
 convertat) of all those who walk or sail by.*”]

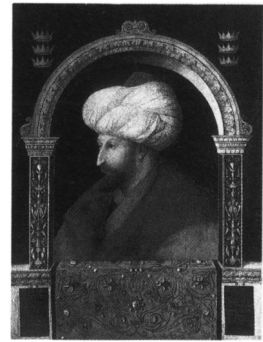
Man has used the refractory qualities of material to define mythological times (the Gold, Silver, Bronze, and Iron Ages), and to mark the intervals of marriage (paper, silver, gold, and diamond anniversaries). In Venice, the nature of material is still related to this temporal signifying power. Here the past, the present, and the possible future are marked by an appropriate use of material. The light of different ages is marked within the public and private spaces of Venice; the stones tell stories of when the city was *Serenissimo*, the *Dominante*, the *Regina dell'Adriatico*. They are what John Ruskin called the sacred stones of the past, the worked matter which brings to light the past of our fathers.

This account of the Venetian use of material as a basis for the construing of artifacts has been a preamble to the Venetian tale of the *lume materiale*. The story begins in Byzantium, toward the end of the fifteenth century, during an era marked by a profound fascination with the qualities of oriental life – a fascination embraced by one of the most powerful of Venetian diplomats, Giovanni Dario. Dario had been sent on frequent diplomatic campaigns as cultural and political advisor to the Venetian *Bailo* residing in Byzantium, to assist in his dealings with the labyrinthine Ottoman government. A Venetian born in Crete, Dario had been greatly acclaimed following his return to Venice in 1484 for having successfully coaxed the Turks to ratify a peace treaty after a long and disastrous war. In appreciation for this extraordinary achievement, the Venetian Republic rewarded Dario with generosity. This made possible the realization of Dario's dream: the construction of a free-standing and exceptionally beautiful palace on a narrow lot in the Sestiere of Dorsuduro, at San Vio, where the Rio delle Toreselle meets the Canale Grande.

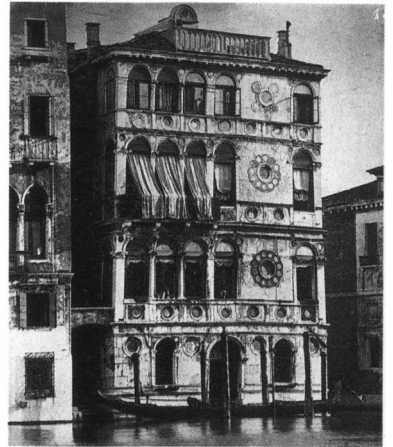
Ca'Dario is the best representative of *lume materiale* in the city of Venice. It is a building about Venice. Early in its construction, Dario had an inscription carved in the lower story of the building:

*URBIS GENIO JOANNES DARIUS*  
 (Giovanni Dario to the Genius of the City)

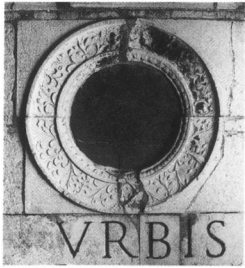
<sup>4</sup> See L. Olivato Puppi and Lionello Puppi, MAURO CODUSSI E L'ARCHITETTURA VENEZIANA DEL PRIMO RINASCIMENTO (Milan: 1977).



4. Portrait of Mehmed II, Sultan of the Ottoman Empire [1451-81], Gentile Bellini.



5. Ca'Dario, Venice (1487-97), view before restoration.



6. Ca' Dario, detail.



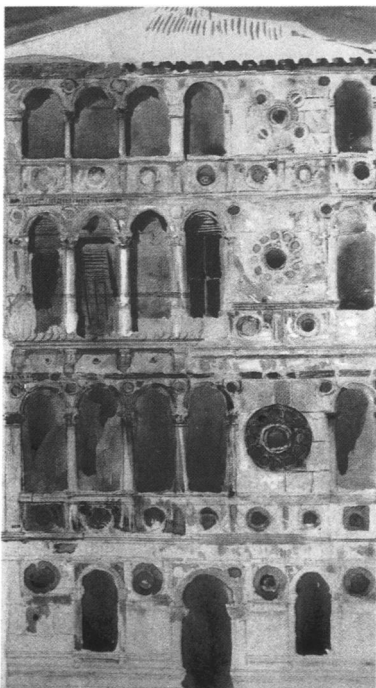
7. Ca' Dario, detail.

This inscription is fundamental for understanding the role of this building in our story. With this inscription, Dario dedicated the building to the genius of the city (*Urbis Genio*). The grandeur of the palace and the radiant surfaces of its marble were not intended to celebrate Dario but the city of his fascination.

Ca' Dario is a hybrid – or “monstrous” – building. It is a combination of bold, Gothic elements, Tuscan traditions, Lombardic decorations, and Byzantine memories. It dominates the aim of a *restituti ad pristinum*. This is the desire of a perspicuous representation of the past in the present. The “monstrous” Ca' Dario is an expression of the multi-faceted culture of Venice. It is a real monster of architecture – understood not in the sense of abnormality, but in its ethnological meaning of an extraordinary event. “Monster” derives from the latin verb *monstrare* – to show the way – which in itself, derives from *moneo* – to give guidance. In this way, Ca' Dario is an extraordinary hybrid that combines the architecture of the West and the East with the influences of Rome and Greece. It results from a dialogue between a refined understanding of classical composition and a rich taste for the arabesque. Ca' Dario is a material representation of the Venetian enchantment with voyages and memories.

The construction of the palace began in 1487 and terminated a decade later. Although the design of Ca' Dario has been attributed to Pietro Lombardo and his school, there is no record of an architect, or *proto*, being placed in charge of its construction. Indeed, Ca' Dario correlates with no other building in Venice, except perhaps the church of Santa Maria dei Miracoli, known to have been designed by Lombardo. Many inconsistencies of facade and plan, however, occur throughout the building design, suggesting the inattention of a trained architect. Furthermore, the peculiar inscription in the lower story could be taken as indirect proof that Dario himself designed and built the edifice, perhaps with the help of a late Gothic masterbuilder and a group of Lombardic stonecutters.

A positivistic interpretation of the nature of the material used for facing the brick wall at Ca' Dario will conclude that this facade is the product of a peculiar site situation – as are most buildings on the islands of the Venetian lagoon. Such an interpretation insists that due to the extreme constraints of space (with little room for the site fabrication of elements, the low bearing capacity of Venetian soils, and the remote location of working quarries with a suitable marble), the traditional methods of stone and brick construction could not be implemented. It was for this reason, such an argument maintains, that many Venetian buildings were routinely constructed of second-hand materials, pillaged from abandoned sites throughout the city. Alternatively, one could argue that the Venetians developed this system of construc-



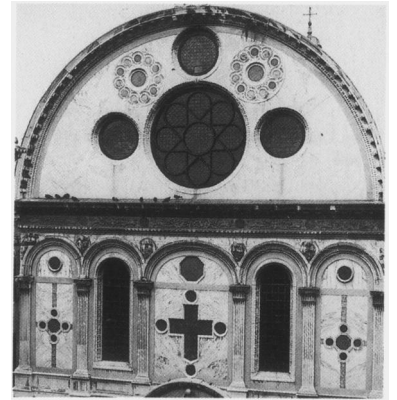
8. *Ca' Dario* (1849), John Ruskin, watercolor.



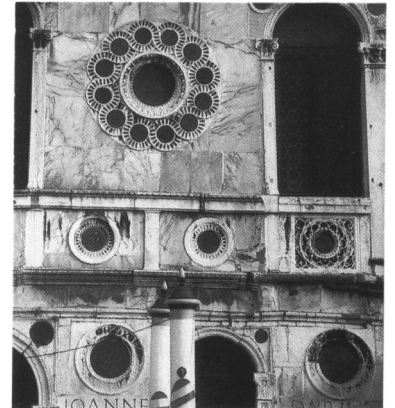
tion not in response to the peculiar condition of their city, but rather as a consequence to their understanding of the “maternal” nature of materials. The material itself becomes the matrix of the order of construction. The use of second hand marble is not a clever solution to the problem of space and cost, but is rather a use of the material itself as the measure of the *cosmesis* of the facade. In the Venetian palace, this marble *cosmesis* of bare brick walls is the principle of a cosmos – the stating of a Venetian Measure. From this point of view, *cosmesis* is both ornament and decoration. When identified in the formal qualities of a material, it becomes the matrix of architecture itself.

At Ca’Dario, this process of identification and transformation is represented by the use of the *patere*, or stone patens – the ornamental circles of porphyry obtained by the slicing of a column in horizontal segments. This is, indeed, a different process for achieving architectural signification within the guise of the *lume materiale*. Decoration – the human search for a proper decor, a dignifying representation – has always been achieved by the substitution of a more for a less dignifying material. The Venetians, however, do not adhere to a traditional process whereby the tectonic expression evolved in association with the less dignifying is retained in the new. This phenomenon is well known in connection to the Doric temple – a representation of wood construction in stone. This is not to be found at Ca’Dario. The dignifying materials of the facade are transformed within the logic of the materials themselves. Stone elements taken from other buildings are transformed by technical operations proper to stone work, producing tectonic figures of wonder and ingenious variety in contrast to the purely functional aspects of the built artifact. In this transformation of materials, technology is directly identified with the tectonic dimension of architecture. These qualities result from the union of specific formal characteristics (the lines and planes of the composition) with the fundamentally visual (the glittering), engaged with the tactile (the smoothness). The *lume materiale*, in this sense, is a rich substance producing a tangible built poetry out of elemental knowledge.

The elements of this palace stem from the visual world of materials, but the light embodied in them transcends their limits as built anecdotes within the tale of construction and brings their reality to a surreal game. Arrigo Rudi, a pupil and collaborator of Scarpa’s, once said that “you cannot walk in a building designed by Scarpa with your hands in the pockets.”<sup>5</sup> In Venice one experiences the same sensation. The stones of its *campi* and *calli* invite touch; if they are refused, they will touch you through their light. In this way, the senses of vision and touch are inseparable in construing the material nature of architecture. Vasco Ronchi concludes his historical survey documenting a physicists understanding of the nature of light:



9. S. Maria dei Miracoli, Venice (1481-9), Pietro Lombardo, detail.



10. Ca’Dario, detail.

<sup>5</sup> Statement made in a Ph.D. seminar, University of Pennsylvania, Spring, 1985.

<sup>6</sup> See Vasco Ronchi, *THE HISTORY OF LIGHT*, p. 284.

*“To the word light, therefore, only one meaning remains: absence of darkness, the very same meaning attributed to it by philosophers two thousand years ago. That ‘there is light’ simply means that the psyche is not idle but produces phantoms, even if only in a dream.”*<sup>6</sup>

Light is a palpable presence in the Venetian dream to the extent that we believe what was once said by the Greek philosopher Leucippus of Miletus:

*“... every modification, either produced or received, is due to a contact: all our perceptions are due to the sense touch and all our senses are but variations of the sense of touch. As a consequence, since our soul does not come out to touch the objects of the outside world, it is necessary that these objects themselves come to touch our soul by passing through our senses. Now, we do not actually see the objects coming near to us when we perceive them; therefore, they must send to our soul ‘something’ that represents them, some image, some eidiola, some kind of shadow or material simulacrum which envelops the bodies, quivers on the surface and can detach itself from them in order to bring to our soul the shape, the colors, and all the other qualities of the bodies from which they emanate.”*<sup>7</sup>



11. Ca'Dario, detail.

<sup>7</sup> *Ibid.*, p. 7.



12. Ca'Dario, interior.

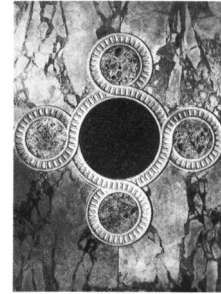


Through light, architecture becomes a corporeal figure, transforming material into intellectual pleasure. In these materials are present the cosmos and the *cosmesis* of the constructed world, the bare structure and its pleasurable reclothing, the skeleton of an edifice and its necessary decorative flesh.

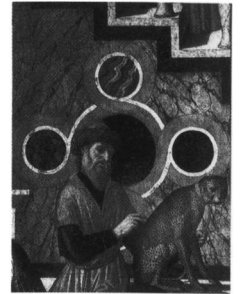
The lower portion of the facade at Ca'Dario and the structural elements at each level are composed of Istrian limestone. In the upper levels the dominant decorative materials are large and small patens of porphyry from Byzantium. Occasionally, the larger of the patens are surrounded by smaller varieties in green serpentine. All of these patens are set in a surface of *bardiglio* slabs – a mottled red marble from Verona – and *giallo antico* – a yellow marble from Numidia. The relationships to be found among the second-hand pieces of this construction are not based on syntactical principles of tolerance, but rather on poetic plays in this giant marble puzzle. These marble and glass features are defined by a piercing light, which engraves their lines and sublimates them to a symbol of repose, certitude and solemnity. This is a light-filled, playful world. Void predominates over solid in such a way that light may penetrate deeply the walls of the palace; its material elements are plunged in light, taking part in its abundance and its watery reflections.<sup>8</sup> The glass panes of the windows built with the traditional glass circles mounted in lead participate actively in this material puzzle. This Venetian glass is a material which can imprison light. Indeed, these glass patens act as do the marble patens, transforming the nature of light and making it a material of construction. Furthermore, the round shape of these patens is transformed by way of a technology which transforms the nature of the material; each disk of glass is formed as it is dropped in a hot, molten state onto a spinning wheel, whereupon it is allowed to cool and solidify. Through this transformational process, a new tectonic figure is cast, perspicuously presenting the colloidal nature of glass.

This same, round shape – animated by precious, polished, and glittering materials – dominates the architectural imagery of a book published by Aldo Manuzio a decade after the completion of Ca'Dario.<sup>9</sup> Manuzio's book, which has been defined as a fifteenth century FINNEGAN'S WAKE for its peculiar use of vernacular language, bears a transliterated Greek title, HYPNOHEROTOMACHIA POLIPHI (Poliphio's Strife of Love in a Dream). The images of material used in Ca'Dario can be the formal reference in reading Poliphio's descriptions of buildings seen in his architectural dream, and especially in the description of the temple of Venus Physizoa:

*"Around this entire abandoned construction there was an inner belt; that is, of empty steps, which were made of excellent, heavy, continuous, oriental jasper, perhaps from Cyprus. The color was mottled and*



13. Ca'Dario, detail of marble paten.



14. *The Miraculous Healing of the Daughter of Benvegnudo da San Polo* (c. 1500), Giovanni Mansueti, detail.

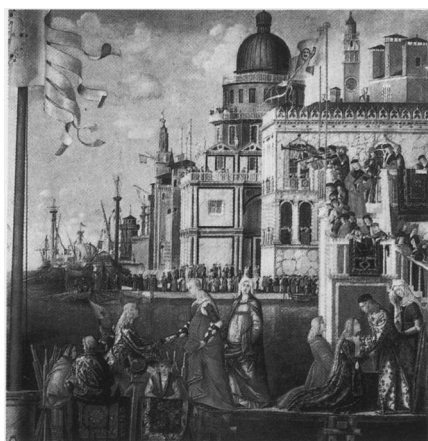
<sup>8</sup> In its present state, unfortunately, many of the side openings have been filled up because of static reasons. A succession of owners have presided over the building's slow decay. The first to extensively renew the building was Rawdon Lubbock Brown, a respected scholar of Venetian history and a friend of John Ruskin, who undertook this work between 1837 and 1842. In 1942 the palace was rescued from near collapse by repairs which kept the tilt built by the passing of time in the walls. There were additional repairs in 1960. Except for a late nineteenth century iron parapet and the addition of a few new marble patere, the facade above the ground floor is seen in its original state. On the ground floor the openings were modified by Brown. The original arrangement here is not known.

<sup>9</sup> The author of this fabulous book is Francesco Colonna. Although the front page does not state any name, the name of the author is embodied in the text by the initials of the chapters of the book. Placed in line they read: *Polliam Frater Francisicus Columna Peramavit* (Francesco Colonna Loved Pollia). The identification of Colonna is still an open question. It has been suggested he could have been a Venetian monk or a Roman prince.

<sup>10</sup> This is a rough translation, since it is impossible to render the layering of material in the language of Colonna. The original text reads: "Di questa disertata fabbricaturra il cinto interiore, cioe gli vacui gradi constavano facti di optimo diaspro, ponderoso continio ed orientale, e forse Cyriaco, Di coloramento confuso, cum varicante undicule diversissimo. Gli labii dille quali capsule, e il socco bellissimamente erano infimbriate in circuito continio di Oro obrizio, indule gululatione, sopra la cohaesione dilla justa divisione dille tabelle, Cum operatura transcendente lo humano cogitato, et exactissimo expresso et ultimo conato."



15. *The Meeting of S. Ursula with the Spouse* (1495), Vittore Carpaccio, detail.



16. *The Healing of Anianus* (1499), Cima da Conegliano, detail.

*extremely wavy and varied. The contours of the niches and the paten of the plinth were beautifully fringed in a continuous circle with grooved and fluted Obrizio gold, above the joints of the justly proportioned squares, with craftsmanship and refined, precise expressions that transcend human knowledge, and with limitless ambition . . . .*<sup>10</sup>

Ca'Dario is indeed the embodiment of this limitless ambition. It represents the nature of intellectual pleasure in the metamorphosis of construction, through the power of signification latent in material.

The metamorphosis of Venetian light is embodied in architectural material as the *lume materiale* is embodied in the pigments of the paintings of Giorgione and Titian – or any other accomplished painter of the Venetian School. This is so even to the extent that a building composed of colored marble and a painting in oil both will fundamentally change with the passage of time. Just as these oils fade through exposure to natural light and the chemical affects of ambient air, so will a colored marble oxidize and transform itself over time. This relationship of light and material in both painting and construction is further understood if one considers the theoretical writings and architectural landscapes which populate these paintings of the Venetian School. The concept of *regola* (rule) which is the very focus of the Renaissance Florentine School of painting is fully neglected in Venice. The Venetians rejected the search for a rationalization of site in favor of a phenomenology of site. The most evident phenomenon is the fusion of light and color known as *lume veneziano* or *colorito veneziano*. This concept of light as the soul of color has guided the painters of the Venetian School throughout their search for a representation of texture – that is, the rendering of light in relationship to the material quality of the painted subject.

This Venetian interest in the *colorito* and *lume* in material presence is even more evident in the connection between the stone decoration and ornament of the facade of Ca'Dario and the architectural elements and marble inlays appearing in the paintings of Vittore Carpaccio. It has been suggested that the major events of Dario's diplomatic career were the source of two episodes – the *Arrival of the Ambassadors* and *The Dismissal* – treated in the painting of the *teleri* of the legend of Saint Ursula by Carpaccio. The *lume materiale* transforms the nature of Carpaccio's representations from a surreal, painted event to a real, constructed world. Paradoxically, the edifices in these paintings can be seen as architecture, while the built Venetian palaces themselves can be regarded as huge, painted backdrops – beautiful wall veils, in fact. The materials to be found in these paintings represent the material qualities of architecture, whereas the materials in the Venetian facades repre-

sent the light necessary to bring architecture into a corporeal presence – a transformation based on *phantasia*. Consequently, Palazzo Dario – as any other true Venetian building – is first and foremost a construction of *phantasia*.

This Venetian tale of materiality and architectural poetry thus ends with a Latin word which cannot be translated. *Phantasia* cannot be rendered using the word fantasy. Its meaning must be explained through an appeal to its etymological Greek root, *phos*, which means light. It is the light advocated by Louis Kahn – a silent light which tells the real story of architecture, inventing its nature. Light is indeed the most intangible of the materials of architecture, existing only through the stones of the built world. These stones have a meaning, however, only by the force of light that is *phantasia* in their use. Light is the alchemic catalyst of the tectonics of the constructed world. The technology of light is the dignifying and sometimes ironic procedure by which we transform the constructed world into a corporeal reality.



17. *The Dismissal of the Ambassadors* (1495), Vittore Carpaccio, detail.