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# Borromini, the Casa dei Filippini and the Two-Way Relationship between Representation and Architectural Form

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**Abstract:** The stratified relationship and mutual influence between the representation of the project and the form of built architecture manifest above all in the facade design by virtue of its natural rhetorical vocation. This is the case of the Casa dei Filippini, designed by Francesco Borromini in the second quarter of the 17th century in Rome. The perspective niche in its façade appears to be a literal three-dimensional transcription of a graphic convention adopted in the presentation drawings. To understand the context and the reasons for this "translation", this article historically frames the theme of the facade intended as a mask and its implicit representational qualities, which can configure it as an autonomous work from the building itself; it frames the interferences between architecture and its image in the era of the advent of pseudo-projective representation and the resistance it finds; it focuses on the facade of the Casa dei Filippini and its perspective niche, here surveyed and photo-modeled to determine the size and relationship between the actual and the perceived shape. Through these methodological and operational premises, the article reconstructs the original center of the façade deformation and analyzes the fictitious value of the facade, as testified by Borromini's attempt to orient its perception through the drawings of his *Opus Architectonicum* and those derived from them, eventually confirming the two-way relationship between form and representation.

**Keywords:** Francesco Borromini; Oratorio dei Filippini; solid perspective; architecture drawing



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## 1. Introduction

This article is part of a wider research project on the agency of architectural drawing as a tool that has been orienting and conditioning the development of the architectural design process and built form well beyond its institutional status of representation. It focuses on the niche from a solid perspective. Francesco Borromini designed the façade of the Oratory of the Filippini in Rome, which is here demonstrated to be a literal application of a graphic convention used in the presentation drawings. To frame this sort of historical "evolutionary" event, the theme of the façade and its anthropomorphic relationship with the human face are briefly discussed, as is the concept of the façade as a mask and its connatural fictive attitude. Such a narrative quality of the façade is related to the diffusion of the drawing-based design process and the two-way relationship it instituted with the built form, as eventually testified by the application of decorative schemes derived from the graphic convention used to represent the architectural orders. The case study, the Oratory of Filippini with its perspective niche, is introduced by Borromini and Bernini's previous design for a tomb, in which the perspective niche is still used as a mere graphic convention but is somehow about to evolve into a built form. Concerning the analysis of Filippini's façade, this article has adopted both primary (the building itself and Borromini's *Opus Architectonicum*, which illustrates the project) and secondary sources (the work of the historian Joseph Connors, above all). In particular, the perspective niche in the façade was surveyed and modeled by the authors. The survey was used to restitute the perspective structure of the niche and reconstruct the position of the ideal point of view in the square in

front of it, eventually demonstrating that it coincides with the geometric (and visual) center Borromini formerly designed to trace the curve façade, as well. Parallel to the perspective and geometric analysis, the article discusses the reception of the perspective device on the façade through the work of the artists who generally depicted the building, neglecting the deformations of the perspective niche, and the agency of Borromini's own representations in orienting the experience of his own architecture.

## 2. Facies, Face, Facade

The analogy between the human and the architectural body is remote and ancestral [1]. The rich anatomically derived vocabulary of the architects indirectly confirms that this analogy was rooted in antiquity before Vitruvius, who explicitly speaks of it in his treatise, and was also maintained in the Middle Ages [2]. With the re-reading of Vitruvius' text, and the implicit authority attributed to him [3], Renaissance architects began to conceive their most valuable buildings also from an "anthropometric" (from the Greek *anthropos*, "human", and *metron*, "measure", is the set of statistical data describing body dimensions used to optimize spaces and furniture) and "anthropomorphic" (from the Greek *anthropos*, "human" and *morphe*, "form", is the interpretation of building volumes or surfaces in terms of human characteristics) perspective [4]. The idea of the facade as the "face" (from the Latin *facies*, "aspect") of the building is therefore as obvious as it is primary in any research on the form of historic buildings. This is particularly true for religious buildings. On the contrary, civil buildings have had just "elevations" rather than "facades". Their image resulted above all from volumes built in different eras that pursued an idea of nobleness through size, durable and well-cut materials, and a varied repertoire of complements and decorations that generically recalled antiquity.

The diffusion of drawing on paper in the Renaissance promoted a new design methodology. The criteria of harmony linked to the geometric and visual order, to symmetry, and to the proportions between the parts, which were already important in religious architecture, became central also in civil architecture. Such criteria were largely debtors to Leon Battista Alberti's interpretation of Vitruvius. According to him, "the function of the drawing is therefore to assign to the buildings and to the parts that compose them an appropriate position, an exact proportion, a convenient arrangement, and a harmonious order, so that the whole form of the building rests entirely in the drawing itself" [5].

Drawing can also be conjectured to have helped the architects interpret the facade as an autonomous compositional motif. More than the model, where the three-dimensional and constructive aspects are always predominant, a panel of wood or a sheet of paper offers an abstract place that allows an architect to dissociate himself from the building, to reduce the issue to just two dimensions, to isolate a single formal theme, and, above all, to explore and "generalize", as many of Leonardo's architectural sketches demonstrate [6]. In this process, the facade can be conceived as a representation that is autonomous from the spatial, functional, and structural contents of the building and is free to exhibit the institutional status and ambitions of the client (and of the architect himself), especially in the urban context. In some cases, the facade is literally "depicted" on the external surface of the building. Just to stay in Rome, think of the tradition of the Roman *sgraffio* facades [7]; of Raphael's three-dimensional compositions aimed at finding an original synthesis of the arts in Palazzo Branconio dell'Aquila [8]; or the pilasters used by Antonio da Sangallo the Younger, which occasionally protrude only by a few millimeters from the surface of the wall [9].

The ambition to combine architectural orders and columns, according to the Greek and Roman lessons, with post-medieval compact buildings, often with no porticoes and loggias to justify their use, required a long, creative, and painstaking process of transcription and adaptation. Some of the early rhetorical effects of this process can be seen in Leon Battista Alberti's facade of Palazzo Rucellai in Florence (Figure 1). Built exactly in the middle of the 15th century, it combines three orders of pilasters, possibly inspired by the Colosseum or the lost Septizonium in Rome, with the flourishing tradition of Florentine

ashlar facades [10]. However incomplete, its facade shows two interesting features: It stops shortly after turning the corner and conceals the presence of the staircase in the left corner behind a uniform line of windows. From this point of view, the facade is conceived as a 2 m-thick panel closing the actual building—as will also happen for some of Andrea Palladio's palaces—and through complex variations in section, it connects the urban space with the interiors in an "appropriate", "proportioned", "convenient", and "ordered" way.

**Figure 1.** Leon Battista Alberti, the façade of Palazzo Rucellai in Florence, half of 15th century (photo by F. Colonnese).

Palazzo Rucellai demonstrates that Alberti, centuries before the psychoanalytic implications evoked by Adolf Loos in his houses [11], had already conceived the facade as a mask. Its facade is a visual (and obviously symbolic and metaphorical) two-dimensional (or better, three-dimensional) system of negotiation that does not faithfully manifest what is happening inside and can become (partially) autonomous from the "content". In its rhythmic display of pilasters and ashlars freed from their ancestral structural and defensive missions, such a facade looks like a rhetorical device that also attributes a fictitious value to the building it shields—an issue widely explored by Robert Venturi in his celebrated *Complexity and Contradiction in Architecture* [12]. On the one hand, it raises a series of expectations on the outside that need to be verified in the interiors; on the other, it evokes a series of models from the past that, to some extent, contribute to its experience. In this sense, it presents (at least) two representational levels: A "figurative" level, as an autonomous work

that conveys a message more or less linked to the spatial contents of the building; and an "intertextual" level, in its imitative and rhetorical relationship with buildings distant in time and space—by the way, according to Peter Eisenman, this role of a simulacrum of past buildings is a central theme of the Renaissance culture [13]. In this somewhat institutional mission, the façade also became the privileged place for a series of formal experiments that arise directly from the practice and codification of architectural drawing. Thus, elements that work on paper as figures and graphic conventions happen to be transposed onto the facade as signs capable of evoking, through the code of architectural representation, distant meanings, and referents.

## 3. From Drawing to Building

The history of architecture is rich in episodes in which projects of particular complexity or size have led to borrowing representation techniques from other sectors—from Eero Saarinen's topographical contour drawing for the TWA Terminal to Katia aeronautical software used by Frank O. Gehry's office from the 1990s on—or to developing original ones, like the celebrated Antoni Gaudì's reverse funicular models for the Sagrada Familia in Barcelona [14]. Rarely, it has been pointed out that the opposite is true as well. The drawings, with their symbolic and metaphorical charge, have mutually influenced the architectural form, not only as formal research and reproduction tools that orient the creative processes of artists but also as "figures" that can be taken literally and transcribed in the project.

Mario Carpo has abundantly demonstrated the historical role played by illustrated architectural literature since its inception [15]. Moreover, thanks to the plates where the architectural orders appear "decomposed", Sebastiano Serlio's illustrated books have contributed to the development of an architectural process conceived through the assembly of pre-constituted parts, along the lines of movable type printing, centuries before the Industrial Age. At the same time, those drawings have slowly shaped the collective imagery and provided some "visual models" that have influenced all architectural iconography.

In the context of facades, interpreted above all in a rhetorical key, precisely the elements of architectural orders have been subjected to infinite manipulations. One of the earliest and most related to this study concerns some applications from the second half of the 15th century. This is the case of Palazzo Prosperi Sacrati in Ferrara (1497), the earliest of the famous Herculean additions to be built. Besides the monumental portal, its brick facade is characterized by terminal pilasters on ashlar pyramidal bases, which in the corner form a monumental pillar in white Istrian stone supporting a balcony (Figure 2). In addition to the familiar emblems, the shaft also shows two semicircular frames above the base and below the collar and a circular one in the middle. It appears evident, although very difficult to prove and document, that these decorative motifs derive directly from the early graphic representations of the architectural orders in pseudo-orthogonal projections. The early illustrated treatises show the practice of overturning the horizontal section of the column shaft in the middle or at some key points (generally the *imoscapo*, *entasi,* and *collarino*). This graphic stratagem made it possible to show in a single drawing that the column, ambiguously represented by two pseudo-vertical lines, is cylindrical and presents slight dimensional variations. It is interesting to note that this sort of syncretic drawing, which combines *ichnographia* and *orthographia* together through the transparency of the linear drawing, is not an Italian invention but comes from the most advanced Northern European building sites. It was already used to control the formal development of the spiers on the Gothic facades and the complex operations of the stereotomy of Northern cathedrals [16], and it is no coincidence that it explicitly appears in a drawing of fortifications by Albrecht Dürer [17]. In addition to this graphic convention, there is also the habit, always in the treatises, of using the horizontal section of the column to visually show the relationship in modules between the base and the height, a visual alternative to the Albertian numerical fractions [18].

**Figure 2.** Biagio Rossetti (?), corner view of Palazzo Prosperi Sacrati in Ferrara, end of 15th century (photo by L. Rendina).

The corner pillar of Palazzo Prosperi Sacrati can therefore be interpreted as a stone representation of a column staged with the contribution of conventional "signs" used in the architects' drawings. The same "signs" are also in the pilasters that frame the marble emblem of Palazzo Schifanoia (1470), designed by Pietro di Benvenuto degli Ordini; the portal of Palazzo Roverella, built in Ferrara a few years later (1508) and attributed to Biagio Rossetti; and the façade of the Scuola Grande of S. Marco in Venice (1490), by Mauro Codussi and Jacopo Sansovino. It is also plausible that, within a few decades, the graphic origin of the decorative motif was lost, and it also became available to decorate other elements, such as door leaves and furnishing panels.

This example is symptomatic of the two-way relationship between the represented and the constructed forms. Another example, from this point of view, is provided by the diffusion of the projective principles of representation [19], a reworking of medieval practice through the experience of Florentine perspective and the work of painter-theorists such as Piero della Francesca. It is no coincidence that the idea of projection, which is so central in Brunelleschi's architectural project, will regulate the figurative relationship between the free columns and the pilasters on the walls.

In the practice of drawing, the projective canon, which derived from Vitruvian readings, from Bramante's experiences, and, indirectly, from Leonardo's studies, asserted itself at the beginning of the 16th century, especially in the Roman area, and is formalized in Raphael's provisions for the survey of Roman monuments [20]. Here he proposed to use a combination of plan, elevation, and section, which ideally replaces the Vitruvian *scaenographia*, formerly relegated by Alberti to painters.

The projective canon was accompanied by the massive adoption of linear drawing, designed to represent only the edges and apparent contours of the architectural bodies. The pictorial treatments in chiaroscuro or with ink and white lead were limited to the presentation drawings and were no longer helpful to the architect, who had to express the

spatial values of his project. Architects increasingly relied on linear drawing also because it simplified the reproducibility of their drawings in print, while, circularly, the early printed images were subtly influencing the graphic language of the architect. In this operative field, the rendering of curved surfaces such as cylindrical drums or spherical domes, which in the orthogonal projection lose any evident curvature, was a problem [15]. Sebastiano Serlio must have meditated long on the opportunity to represent St. Peter's Basilica in a rigorous orthogonal projection, depriving the reader of any perspective foothold to correctly interpret its curved surfaces.

The same issue involves the representation of niches. In folio 70r at the Uffizi, Antonio da Sangallo the Younger presents his ideas on the future basilica in an elevation divided by the axis of symmetry between section and elevation [21]. On the right, niches are both in orthogonal projection and in perspective, with the curved cornice and the shadows to show the visual and chiaroscuro effects (Figure 3). Quite the same can be seen in the presentation drawing of a Doric order elevation made by his Sienese colleague and friend Baldassarre Peruzzi (Florence, Uffizi, 1884A). Drawings such as these, which are found up to the Baroque era, testify to the resistance of intuitive or pseudo-perspective criteria of representation to overcome the ambiguities and uncertainties of the projective canon.

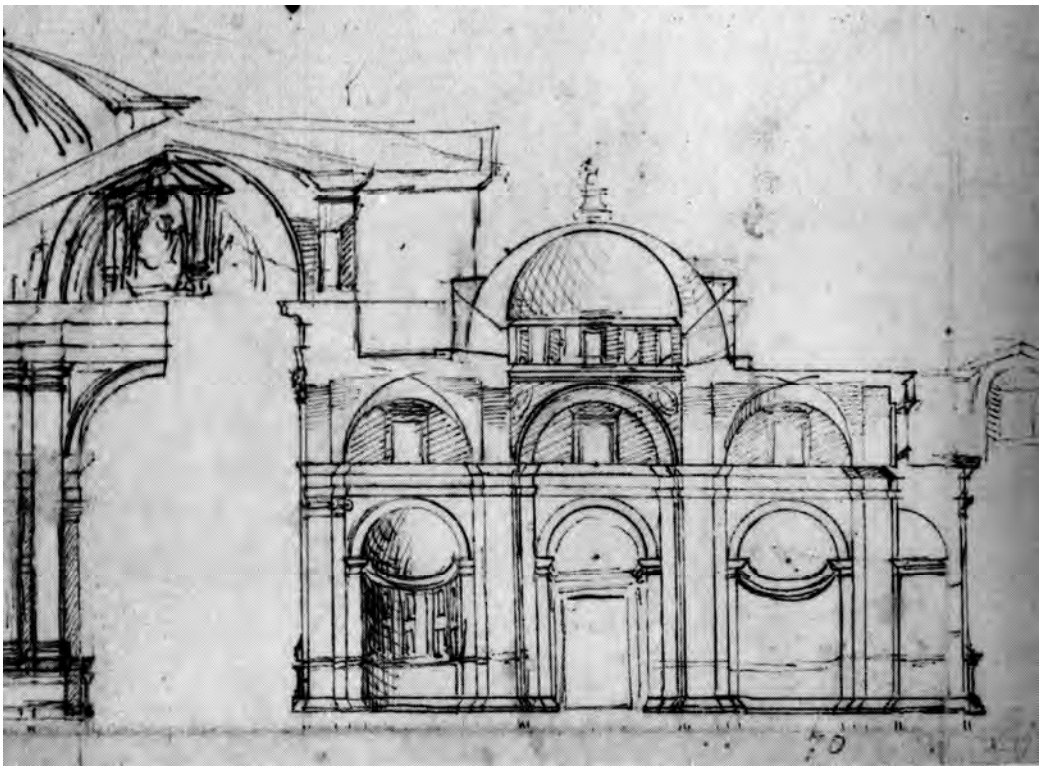

**Figure 3.** Antonio da Sangallo the Younger, Design for St. Peter's, 1530s. Florence, Uffizi, f. 70r.

## 4. Borromini's Perspective Niches

Other effects of this system of communicating vessels between design activity, representation systems, and architectural images can be found in a design by Gian Lorenzo Bernini (1598–1680) and Francesco Borromini (1599–1667). In 1627, Bernini, who was already engaged in the long and complex construction of the Vatican Baldacchino [22], was commissioned to design the tomb of Pope Urban VIII [23]. After some alternative projects, Bernini placed the monument, which was not completed until 1647, in the niche of one of the pillars of the transept of St. Peter's Basilica.

The sheet RCIN 905602 from the Windsor Royal Collection depicts one of these projects. It shows a niche flanked by Corinthian columns with the statue of Urban VIII placed on a base and the figures of Charity on the left and Justice on the right (Figure 4). Borromini is

supposed to have made this painstaking pen drawing, and Bernini is supposed to have added the human figures and winged skeleton—and this collaboration could already be enough to make this sheet outstanding. This drawing follows the method that is currently defined as "orthogonal projection", like most of Borromini's graphic production. It is enough to observe the drawings he made for the canopy of St. Peter's to understand his extraordinary ability to control complex shapes such as the Solomonic columns and to draw them in plan, elevation, and section, also thanks to his pioneering use of graphite [24].

**Figure 4.** Gian Lorenzo Bernini, Francesco Borromini, Design for the Tomb of Urban VIII in St. Peter's. Windsor, Royal Library, RCIN 905602.

However, the cornice inside the niche is curved, as if that part of the tomb were represented in a perspective seen from below. This kind of projective derogation or hybrid

was still common in the case of presentation drawings, where the correct visual transmission of the architectural form could take priority over its consistent canonical representation. And yet, while in a 16th-century sketch, such a detail appears to be the norm, here it seems out of place. This judgment finds a reason both in Borromini's extreme awareness of architectural drawing in "orthogonal projection", and his parallel research on perspective devices and solid perspective in particular. One might think that the curved frame was explicitly requested by Bernini to make the project more understandable to the Pope, but this is a unique case among the drawings attributed to them. This choice raises some questions, especially in light of the perspective niche that Borromini himself will create some ten years later in the upper part of the facade of the Casa dei Filippini in Rome, where the frame is really curved as in the drawing. Does the drawing of the tomb show only a graphic device, which was still used in the presentation drawings? Or rather, does it allude to a real niche in solid perspective to optimize the visual perception of the statue?

## 5. The Niche of the Casa dei Filippini

The design and construction events of the Casa dei Filippini (Figure 5), built between 1637 and 1667 adjacent to the Chiesa Nuova and the original oratory created by Filippo Neri, were reconstructed by Joseph Connors forty years ago [25] and updated by other scholars [26]. The facade is made up of a protruding part and two lower wings. The central part, on two orders, is a strange typological hybrid between a brick building and a church with a broken pediment that masks the internal organization. While accepting the general arrangement of his predecessor, the architect Paolo Maruscelli, Borromini in fact created a central axis, marked by the convex door and the concave niche, which has no correspondence with the internal layout. Anyone looking at the facade (Figure 6) is induced to imagine that the door leads to a central gallery and not to a transversal hall, which receives light from the windows to its left. As in the case of Palazzo Rucellai, Borromini's facade is an independent element of the building that stages a largely fictitious architecture. Connors himself underlines that "the facade of the oratory had developed [. . .] with changes made during the construction [. . .] like a living organism", indirectly emphasizing how the language of the architects (and their exegetes) continues to be full of anthropomorphic metaphors.

**Figure 5.** Francesco Borromini, Casa dei Filippini (on the left) in Rome, 1637–1667 (photo by M. Carpiceci).

**Figure 6.** Francesco Borromini, Façade of the Casa dei Filippini in Rome (photo by M. Carpiceci).

The two orders of pilasters and the curvature of the facade contribute above all to this. It alludes to the presence of a perspective and/or circle center in the square and is all contained within the thickness of the facade itself. In the middle of the facade, above the portal, there is a curved balcony inserted in a niche, whose apparent depth is accentuated by the perspective deformation of the cornice, the lacunars on the basin, and the portal. This perspective device, designed in the late 1630s, was meant to be seen from the square in front of the building and is rather difficult to identify and decipher from below. Even a representation specialist would be tempted to say that the cornice is horizontal and the niche has a semicircular plan. The question changes drastically when observing the niche, for example, from the third-floor window of the opposite building (Figure 7).

This perspective niche is connected to the studies on complex geometries, on solid perspective [27], and on the so-called "oblique architecture" endorsed by Juan Caramuel Lobkowicz [28] in the first half of the 17th century. However, it appears to be closely related to the idea of a theatrical representation of architecture itself and, most of all, to the practice of architectural drawing [29]. As commented by Connors, "the central niche and the illusion of depth it entails can be traced back to Borromini's extraordinary ability to manipulate the conventions of architectural design" [30].

To better understand this aspect, the authors have carried out a survey of the niche and a geometric study of its perspective structure in relation to the square in front of it. The overhangs of the elements of the niche and the presence of a tree in front of it have limited and conditioned the survey. The niche was subjected to a photographic survey from the windows of a building beyond the street. A photo-modeling procedure made it possible to produce an interrogable model from which to obtain the guide sections of the niche itself and other general data (Figure 8). However, the considerable distance from the subject, the short distance between the windows from which the photographs were taken, and the deformations to which the frames were subjected conditioned the quality of the model, which is partial and low resolution but still useful for assessing the type of perspective deformation applied by Borromini to the elements of the niche.

**Figure 7.** Francesco Borromini, Casa dei Filippini in Rome, detail of the deformations of the upper part of the niche (photo by M. Carpiceci).

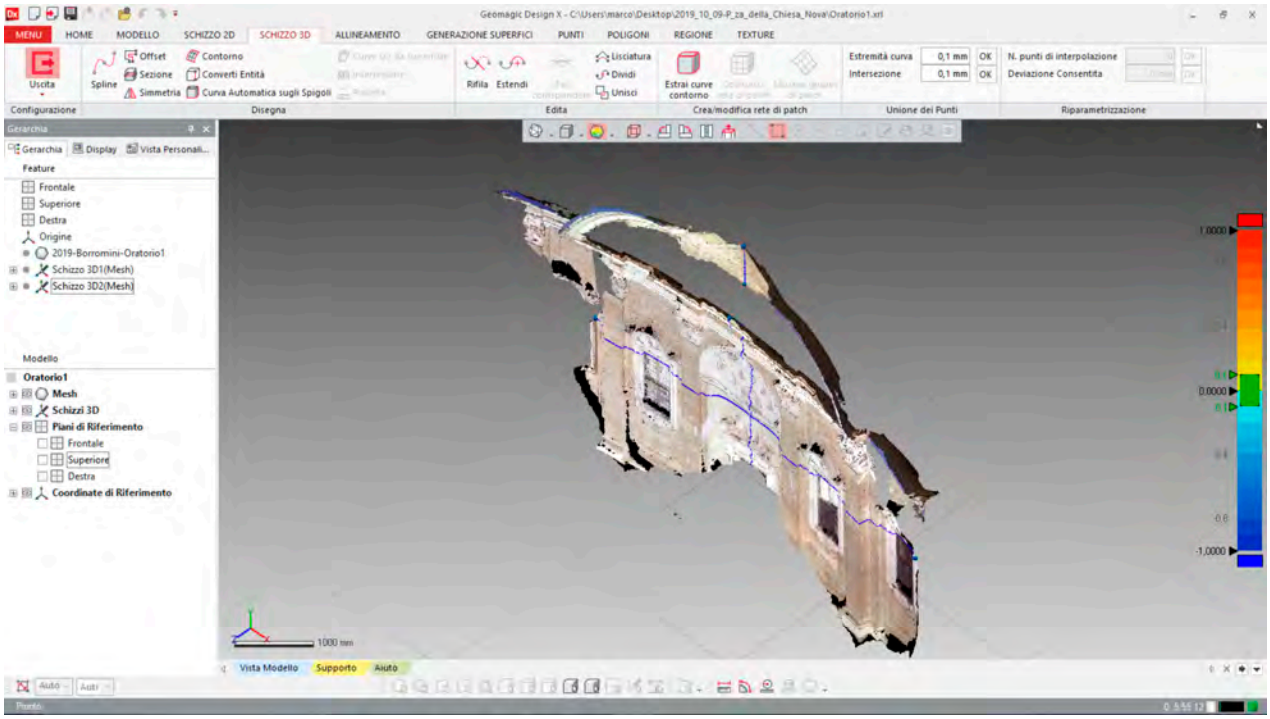


**Figure 8.** Photo-modeling of the upper part of the façade and the niche (elaboration of the author). In blue, the vertical and horizontal sections (image by M. Carpiceci).

The first result from the photographs taken at the balcony level is the discovery of considerable deformations, which especially affect the upper part of the balcony portal and which decrease as one descends and approaches the line of the horizon of an ideal observer by the ground. The complex design of the portal top is manipulated according to an inverted arch curvature, at least up to the architrave, whose height at the key is about 4 cm lower than that at the shutters. This deformation, which in some parts is truly

ridiculous but still present, testifies to the awareness with which the artist prepared his deceptions. The top of the portal is, in fact, the main reference that an observer would use to evaluate the true shape of the upper niche. If the architrave had been straight, it would have compromised the effectiveness of the artifice (Figure 9).

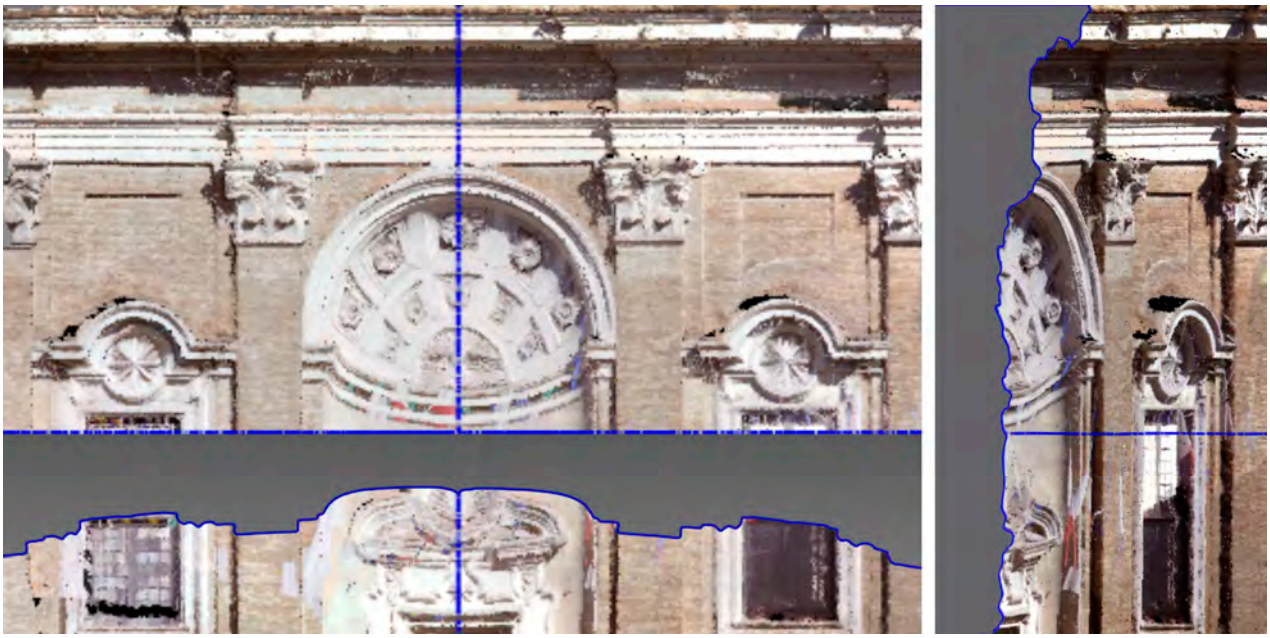

**Figure 9.** Elevation, plan, and section after the photographic model (elaboration of the author). In blue, the vertical and horizontal sections (image by M. Carpiceci).

The perspective niche, just less than four meters wide, has a maximum depth of about 50 cm. Its vertical profile reveals all the expertise necessary for the construction of the lacunars in a solid perspective, aimed at the construction of an illusory image for the observers down below. Its horizontal profile can be approximated to a half-oval with five centers, resulting in an almost flat central part.

To restitute the perspective structure in its true form, a geometric or dimensional hypothesis is demanded. In this case, the authors conjectured that the vertical curve of the basin was originally conceived as an arc of circumference and then deformed into an ellipse, eventually traced as a five-center oval (Figure 10). Consequently, they proceeded in the restitution process by placing the point of view necessary to achieve this perspective artifice. After constructing a simplified section after the photographic model, the position of the point of view, 170 cm high off the ground of the square, was identified with the following procedure. The optical deception is activated when an observer standing on the ground considers, more or less consciously, that the edges of the frame on the side capitals and those on the back are at the same height or belong to a horizontal plane. Given this premise, the line that connects the upper drip of the cornice actually on the bottom of the niche with its virtual position on the horizontal plane passing through the same drip on the capitals identifies the inclination of the visual ray useful for placing the position of the actual point of view. The visual ray, whose inclination is about 45°, identifies, along the axis of the building's entrance, a point located about 33 m away from the façade. On the basis of this hypothesis, the perspective niche, which would have appeared more than 120 cm deep, was conceived for an observer who was to enter the square from the alley. He or she would have seen the facade in all its extensions, right on the axis of the fake entrance and the upper niche. Such a vision is today made impossible not only by the different shape of the reservoir but also by the presence of the large plane tree that screens the facade itself.

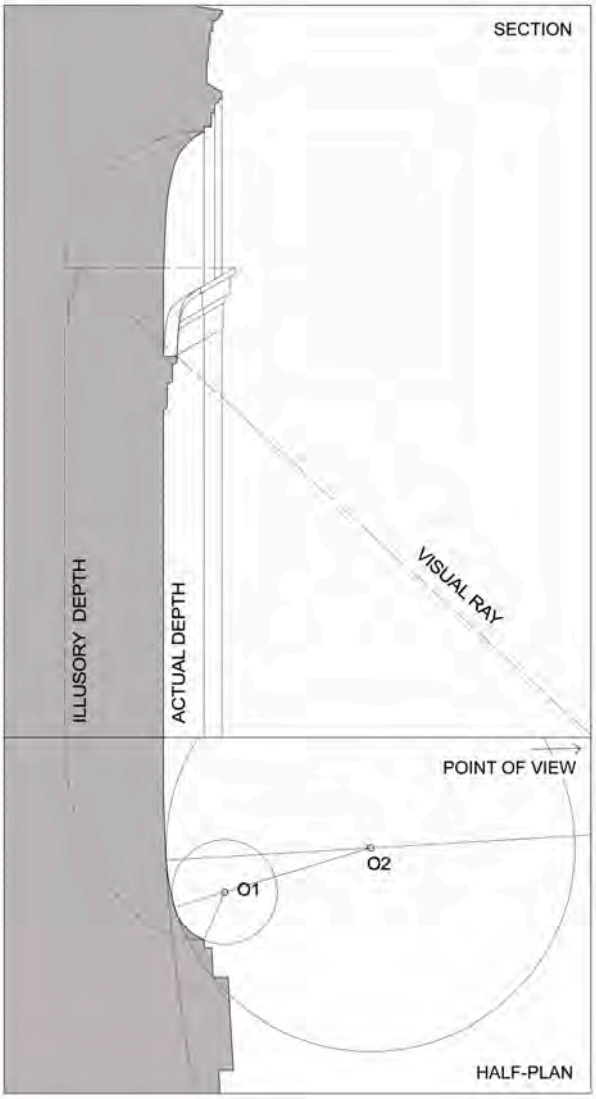


**Figure 10.** Half plan and section profile of the niche. The dashed line represents the perceived form (drawing by F. Colonnese).

The photographic model also shows that the overall curvature of the façade at the height of the second order can be referred to a center about 45 m away, which roughly corresponds to the width of the façade itself, indirectly confirming the radius of 200 palms (1 Roman palm = 22.34 cm) that Borromini also wrote in his plans. In this sense, the ideal point of view of the illusory niche and the geometrical center of the curved façade are two distinct points. But others of his drawings reveal a different story, which is intertwined with the communication of his project for the Filippini.

## 6. Representations of Representations

Despite the numerous requests, Borromini was reluctant to produce copies of his drawings or explain his inventions. Yet, he dedicated himself for years, even after the end of the works [31], to preparing descriptions and illustrations of the Casa dei Filippini for his *Opus Architectonicum* [32]. This circumstance allows us to investigate not only how he considered his work but also the relationship between the project, the building, and its reception over the years. In this sense, Borromini's treatise can be considered an attempt to control and influence the way in which his work is perceived. This intention can be observed, for example, in the curvature of the facade and the urban space in front of it.

The 200-palms (about 45 m) radius of the circle used to trace the façade identifies a center (C1) that is not found in the square but in the building in front of the Casa dei Filippini (Figure 11). At the same time, some documents reveal Borromini's attempts to accentuate the curvature of the facade itself. Martinez Mindeguia has demonstrated that the client did not accept the larger curvature proposed by Borromini, who had to reduce it and straighten the frames of the first order [30]. Yet, in the half-perspective view he drew for the treatise in the 1660s—now held in the Albertina Collection in Vienna (AZRom291; Figure 12)—he reduced the radius from 200 to 150 palms [33]. The 150 palms (about 33 m) ray of this alternative curvature identifies a center (C2) that is not only closer to the façade but also a physical point of the square, approximately the furthest from the façade itself on its main axis. This demonstrates that the ideal point of view of the illusory niche and the geometrical center of the curved façade were originally designed to coincide at a single point. It also demonstrates that this was a physical point of the square that could be experienced by the beholder at the very entrance to the square, in front of the Casa dei Filippini. Retrospectively, it also suggests that Borromini's method needed a physical point to design, trace, and adjust the façade and the perceptive effects of its illusory devices.

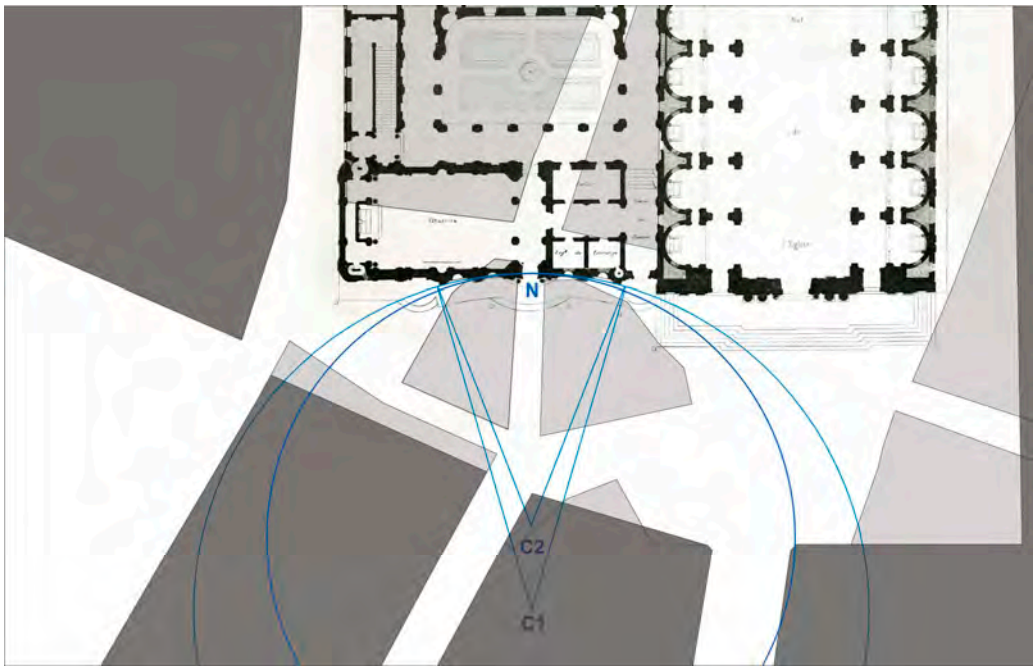


**Figure 11.** General plan of the area of the Casa dei Filippini (**left**) and Chiesa Nuova (**right**). Light grey indicates the situation before the construction of the Casa; dark grey denotes Borromini's late project for the square; the large circle represents the built façade curvature (200-palms ray) and refers to the center C1; the small circle represents the designed 150-palms ray façade curvature and refers to the center C2. Note that in the preexisting square, C2 is a point that can be physically occupied by a beholder and is also the farthest from the façade on the main axis (drawing by F. Colonnese).

Indirectly, the discrepancy between the constructed work and its "a-posteriori" representation reveals not only the artist's original intention of creating a consistent perspective-based fictive project but also his successive attempts to influence the experience of it through his treatise. Added to this, one also has to consider that Borromini also attempted to reshape the square [34], but probably for other goals. In fact, according to his design, an observer who walked through the square could place himself or herself at a maximum distance of about 30 m from the façade.

**Figure 12.** Francesco Borromini, Half-perspective view of the casa dei Filippini, 1660s. Vienna, Albertina, AZRom291.

The consequences of the "orientation" agency exercised by the images conceived for his *Opus Architectonicum* were incidentally amplified by the work of his colleagues. Many of his drawings were known even before the posthumous publication of his treatise in 1725. Artists and engravers engaged in reproducing the built works used them to gather the necessary information and were influenced by them. From this point of view, the perspective niche, one of the most bizarre elements of the whole building, constitutes a significant indicator of these influences as well as of his efficiency. In particular, the depictions of the building show that the cornice of the niche was systematically "straightened". In 1650, Fioravante Martinelli's *Roma ricercata* [35] offered an early description of the Casa dei Filippini when it was still under construction. It includes three etchings drawn and engraved by Dominique Barrière, a collaborator of Borromini himself, in which the cornice of the niche is straight. As often happens in this kind of work, they are idealized images—for example, one of the engravings shows the facade isolated both on the right by the Vallicella and on the left by the corner *avantcorps*—which seem to respond more to the logic of the project design than that of (modern) surveying. According to Connors, "the degree of idealization present in the print makes the hypothesis probable that this, like other engravings in the series, was based on a drawing supplied by Borromini himself: the print in fact preludes the revisions of the project, which go in the direction of greater drama, reported in a drawing of 1660 [the half-perspective] and in a number of prints deriving from this" [25].

In the Windsor Royal Collection, there is also an autograph elevation (RCIN 905594) dated to 1638 that was used as a model by various artists who reproduced the façade. It

presents a curved cornice in the niche, yet this curvature has generally been ignored, or rather, straightened, by those who were depicting the building. For example, the cornice is straight in Giovan Battista Falda's view of 1665, which shows the facade in the context of the square. Even more sensational is the case of Giovanni Giacomo de'Rossi. In his *Insignum Romae Templorum Prospectus*, published in 1684 [36], de'Rossi designed a facade of the oratory based on the plates owned by Bernardo Borromini, the artist's nephew, which Barrière had created on behalf of the artist. In addition to the general stiffening of the decorative elements reported by Connors [25], de'Rossi's elevation, although enriched with chiaroscuro treatments aimed at revealing the curved surfaces of the facade, shows a straight cornice (Figure 13). Generalizing, it seems that whoever designed the building from life did not grasp the perspective device or decided to ignore it to simplify the work or to eliminate a detail that could be unpleasant or inappropriate in an engraving or painting; those who reproduced and reworked Borromini's drawings probably interpreted it as a graphic expedient for presentation drawing, which could and should be neglected.

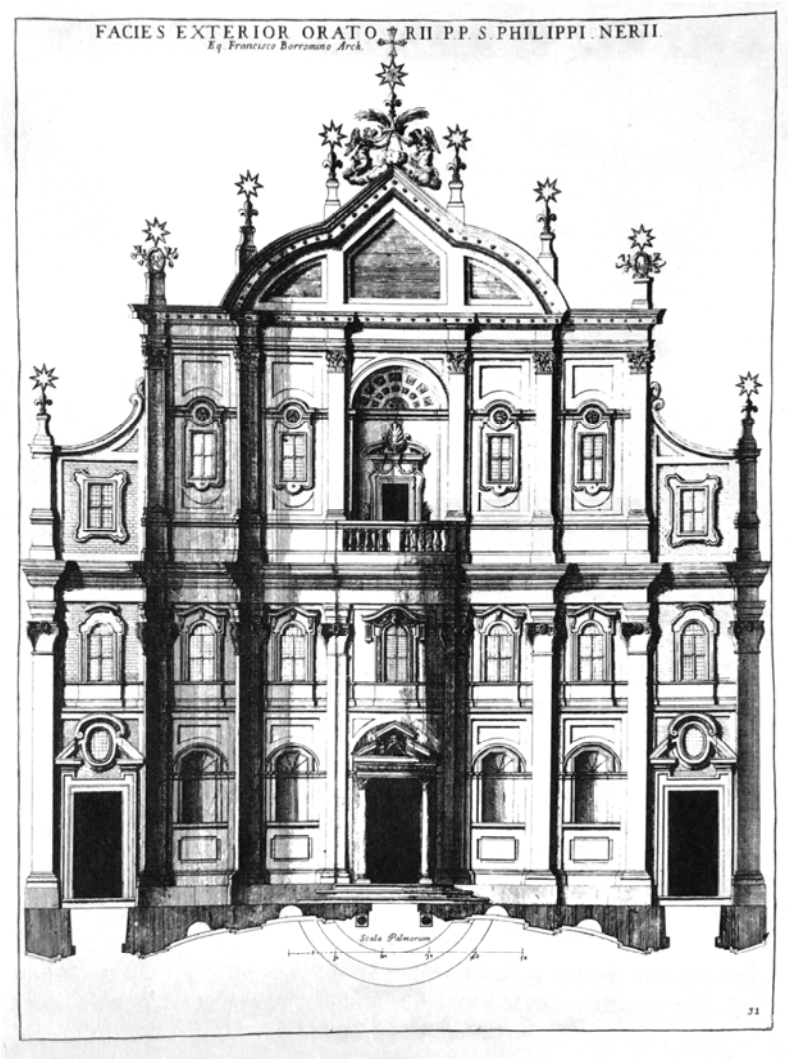


**Figure 13.** Giovanni Giacomo de' Rossi, Insignum Romae Templorum Prospectus, 1684, pl. 31.

Only in the following century did the ploy begin to be revealed. Sebastiano Giannini, who took care of publishing Borromini's *Opus Architectonicum* in 1725, created four views of the facade, also inserting a perspective view of how Borromini would have wanted it, "with more ornaments not executed" [25] (Figure 14). The deformation of the portal in the niche is evident in the plate that Borromini dedicated to it in the design documents but is instead censored in Giannini's *Opus* and, in particular, in the plate XX dedicated

to it [37]. Conversely, its facade in orthogonal projection, always idealized, is still based on the engraving of Borromini and Barrière, and this time the curvature of the cornice is explicit, as in the original drawing of 1638. However, as demonstrated by comparing it with the photographic model (Figure 15), this drawing is also an artifice designed to guide the perception of the work. On the one hand, the basin, the cornice, and the lacunars are represented with a deformation that is smaller than the real one; on the other, the deformations of the portal are completely censored. Borromini himself was aware that in a drawing, a slightly deformed portal in the part of the tympanum and the entablature would have surely appeared unpleasant and wrong, unable to explain their supporting role in the complex of the optical illusion prepared by. In this sense, even his drawings keep on representing the curved cornice of the niche as a graphic convention of the presentation drawings.

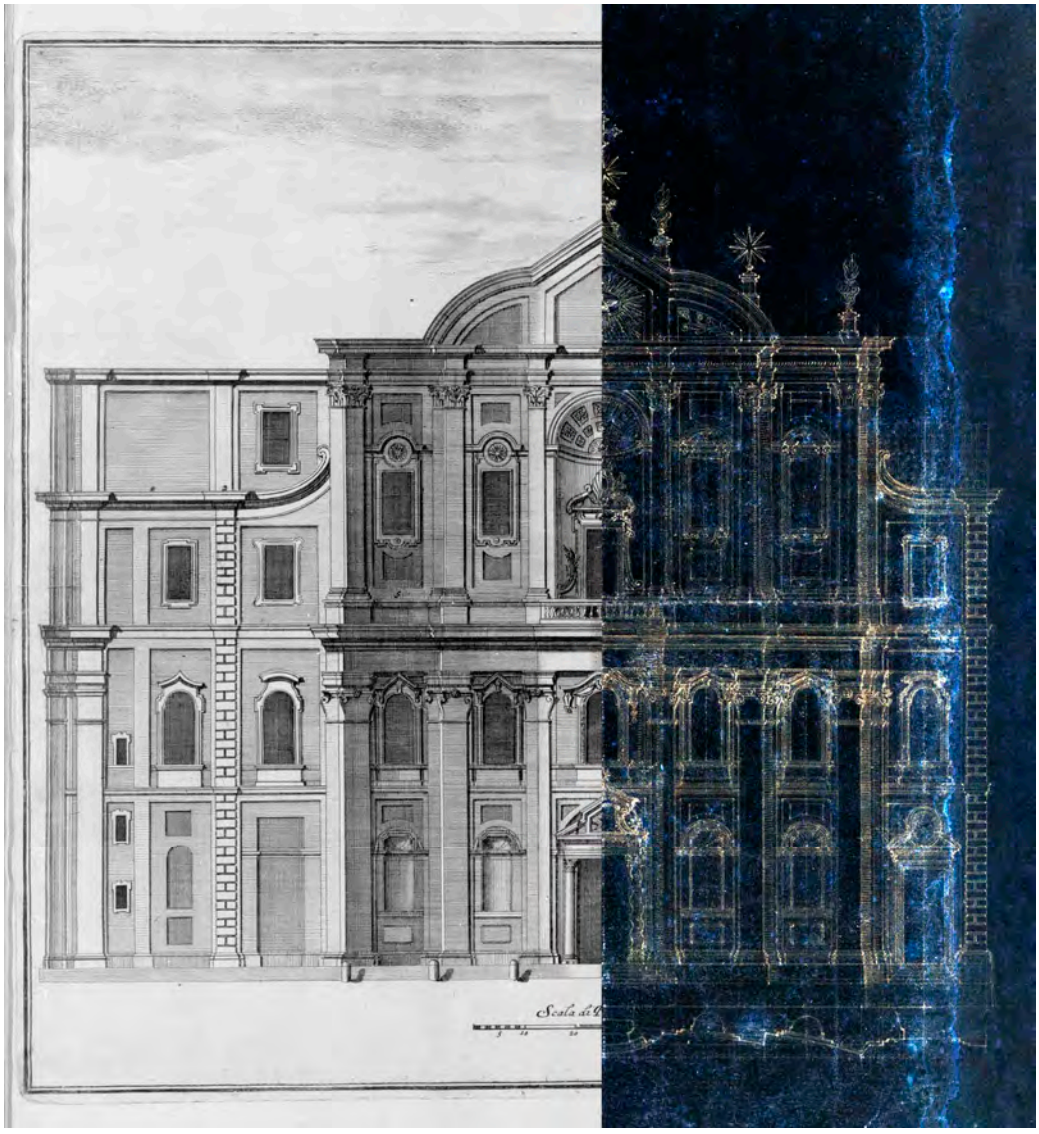

**Figure 14.** Comparison on the symmetry axis between Sebastiano Giannini's plate of the façade for the Opus Architectonicum and Francesco Borromini's original (inverted) drawing of 1638. Windsor, Royal Library, RCIN 905594 (elaboration of F. Colonnese).

**Figure 15.** Comparison between Sebastiano Giannini's plate of the portal in the niche and the orthographic elevation after the photographic model (elaboration of the authors).

## 7. Conclusions

While the meaning of the facades of civil and religious buildings in the modern era was strongly influenced by the anatomical analogy of Vitruvian descent, their shape was marked by the diffusion of drawing-based design, which favors the definition of a facade as a work capable of mediating between the urban space, the structure behind it, and the client's requests for representativeness. At the same time, a façade conceived as an autonomous artwork appears to be the privileged place to experiment with forms that come directly from the drawing board, such as certain graphic conventions linked to the representation of the columns.

On an intertextual level, the façade of the Casa dei Filippini binds civil and religious models of the past. It takes the form of a sort of conceptual metamorphosis in progress, which is amplified, on the perceptual level, by the concave-convex surfaces, which constantly change the perceived shape. On a figurative level, the facade stages a complex scenography that involves the viewer in a game of illusions that "virtualizes" its perception and multiplies the spatial reading levels of the building.

The prospective niche is a tangible manifestation of these intentions. Its illusory effect takes its strength from the perceptive habits and expectations of a public educated in the canon of Renaissance architecture. It finds its reason in not occupying the space behind the wall and works particularly well for a series of reasons: First of all, it is located very high up, and the size of the square does not allow the observer to move too far away to have a more "orthographic" and revealing vision of it. The continuity of the band of the frame with that above the nearby windows and the deformation of the underlying portal reinforce its illusory depth. The restitution of the (conjectural) true form of the niche after the photographic model revealed that the position of the ideal point of view at the square level coincides with the geometric center that Borromini had chosen to control the façade curvature in plan and to stage a consistent overall illusory project, eventually aborted for the opposition of the clients.

In Borromini's case, the relationship between representation and built form develops (at least) on two parallel levels. On the one hand, Borromini elaborated a rhetorical facade, a mask conceived as a representation, in some ways cinematic, which reaches its apex in the perspective niche. On the other hand, he narrated the design and construction process, which, with its numerous plates, has the task of further orienting the reception of the architecture itself, as seen in the images produced by the artists who followed him. It is precisely his knowledge and awareness of the graphic medium that allowed him to conceive of this sort of media campaign. It is therefore natural that, with this circulation of ideas, shapes, and procedures between the representation of architecture and architecture as a representation, we found the transcription of a graphic device used in presentation drawings in a real form. Borromini took a "figure" out of the representational practice and assumed it in a "literal" sense, just as artists and actors do to make their public reflect on the inconsistencies and paradoxes of language. And everybody knows well how strongly a language can shape the way of thinking of those who use it.

And what about the tomb of Urban VII? The conditions in the transept of St. Peter's, where the tomb of Urban VIII is located, are radically different. Here, the band of the frame would have been much closer to the observer, whose field of vision would not have been controllable, as in the case of the square. This place lacks the conditions to stage a prospective deception and to maintain it for long. Moreover, there was not even a need to optically widen the depth of the compartment intended to house the statue of the pontiff. In that case, Borromini's drawing should therefore be considered a mere visual stratagem, capable of inspiring innovative architectural solutions over time. At the same time, the direct experience with Bernini and his many formal adjustments to make the baldachin look proportioned within the dramatic interior of St. Peter's—"the distance is an enemy that must be fought in the open field", Bernini said once—might have influenced Borromini's approach to the perception of architecture. But this is another story.

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