

The church of St. George in Velabrum in Rome. Techniques of construction, materials and historical transformations

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The episodes of terrorism which happened in Italy in 1993 —directed towards the buildings on Georgofili street in Florence, the building of Ignazio Gardella on Palestro street in Milan, the Loggia of the Benedictions in St. Giovanni in Laterano and towards the church of St. George in Velabrum in Rome, Figures 1–2— resulting in a vast damage to its architectural patrimony, has raised the immediate and important issue of restoration with its various solutions.

In the case of church of St. George in Velabrum political authorities wanted the reconstruction to erase the wound inflicted on its artistic and architectural patrimony. The people wanted, in fact, to reclaim one of the most ancient monuments of the city, situated in a place called *Velabrum*, where, symbolically speaking the history of Rome had its beginning with the rescue of Romolo and Remo from the «lupa» (wolf), or rather «Acca Larentia».

The subsequent restoration phase of the church has provided, through an architectural survey and the structural analysis of the construction, an intense study of the church and its successive historical phases. The analyses of the techniques of construction, of the materials, of the construction anomalies, the direct analysis of the masonries and the building elements have all helped to specify the different phases of a complex church like St. George in Velabrum.

We have proceeded with a reading of the archaeological type of the building front, with the

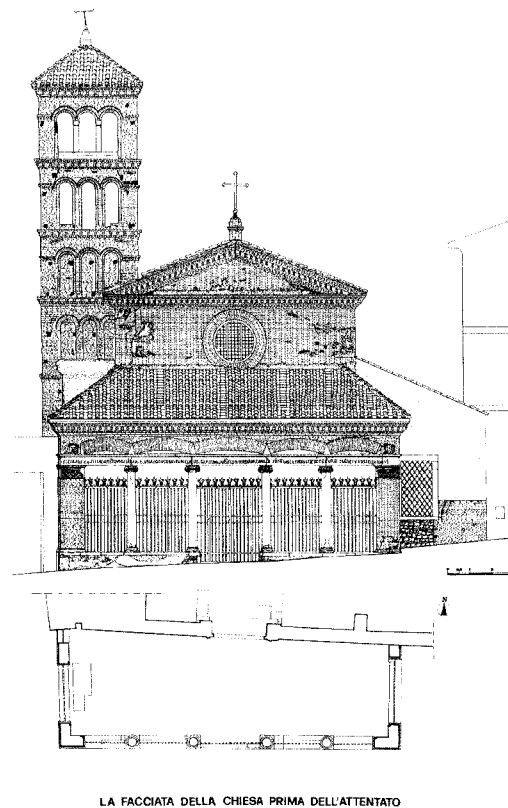
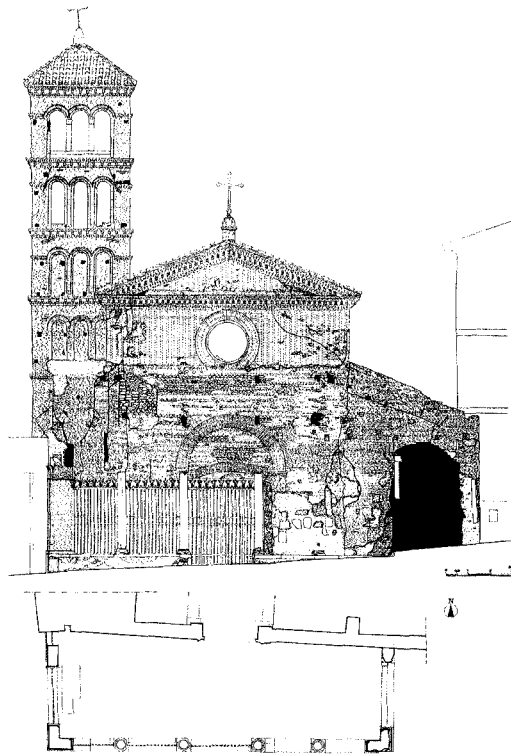


Figure 1
The front after the attack of 1993(Author's survey)



LA FACCIATA DELLA CHIESA DOPO L'ATTENTATO

Figure 2
The front after restauration of 1993 (Author's survey)

purpose of individualizing the different building typologies and of clarifying the relationships of the parts through the analysis of the different building techniques. The examination of the façade has been privileged, with the fall of the plaster caused by the terrorist event, as has the examination of the bell tower, which is the key for the comprehension of the building's development. The study has faced the problem of the relationship with pre-existent Roman houses, before the actualization of the church.

The research on the building typologies has individualized a connection between the construction phases, from the foundation of the church in the VIIth century when Pope Leo II (682–683), on the pre-existing structure of a civil building of the classical

age and a diaconate, consecrated the primitive church in memory of the two saints Sebastianos and George. In the IXth century (Gregorio IV 827–844) important changes in the architectural structure of the church to its present day appearance. The portico was added in the middle of the XIIIth century as a donation of the prior Stephen Stella, testified by the incision on the architrave. Other interventions are realized in the XVth and XVIth century, Figures 3–4; Pope Clemente IX (1667–1669) intervened on the portico eliminating a span of it, Figure 5. During the XVIIIth century, after a period of carelessness, the church was the object of numerous transformations under the

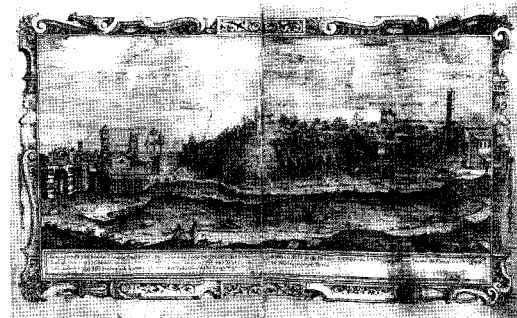


Figure 3
Etienne Du Pérac (around 1577). View of the Velabrum with the church of St. George and the Arches of the Argentaris and Giano (Du Pérac 1950, pl. 20)



Figure 4
Antonio Tempesta (around 1593). The church and the convent of S. George in Velabrum seen by the apse (Frutaz 1962, pl. CXXXIV, 4)

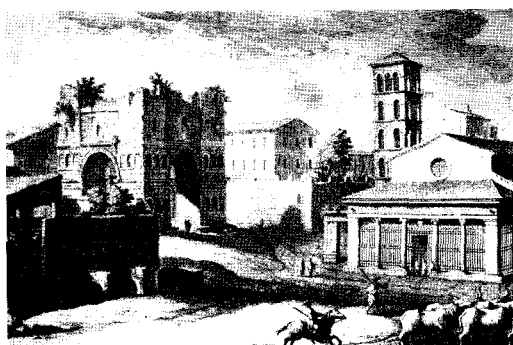


Figure 5
Giuseppe Vasi (1773). Image of the portico after the intervention of Pope Clemente IX 1667–1669 (Vasi 1753, pl. 55)

pontificates of Leo XII (1823–1829) and Pious IX (1846–1878); but Pope Gregorio XVI (1831–1846) proceeded with the elevation and the changing of the façade with the construction of the tympanum. Subsequently, in the years 1924–1925 Antonio Muñoz (Rome 1884–Rome 1960), Figure 6, proceeded with a radical restoration of the medieval *facies* of the church, removing the Baroque additions.

This study, a preliminary and fundamental moment for the following restoration of the church,¹ has been undertaken through the architectural survey and the morphological analysis of the building. The research during the survey has allowed the clarification of some moments of the church's building history and



Figure 6
The church, inside, after the intervention of Antonio Muñoz (1924–1925) (Muñoz 1926, pl. XXXII)

the elaboration of a new hypotheses about the times and the ways the church was realized during the centuries. This is based on the direct analysis of the structures, made necessary and possible following the damages to the monument from the disastrous terrorist event.²

From here the scientific opportunity of the initiative of the Superintendence for the Environmental and Architectural Property in Rome to have the restoration proceed with ample research on the different construction aspects of the church, spreading to an ulterior verification of the existing written and documentary sources; also, the construction techniques, the materials, the construction anomalies and the identification of the preceding interventions have been all recorded and evaluated during the survey phase. These elements, in fact, with the archived construction documentation, have constituted the base both for the evaluation of the condition of the building and for the consequent project.

Due to the analysis of the archaeological type of the façade, it has become possible to identify the diverse structures and to clarify their relationship; a sample of building structure just in those parts that had always been covered by plaster were able to be used arriving in this way to enucleate groups of homogeneous samples of materials, type of mortar and laying in work, such as to individualize single construction interventions.

The fundamental problem of the present study has been to specify the parts and the age of the original construction, a rather difficult enterprise as a result of the lack of documentary references and impossibility to excute excavations and investigations in the most ancient structures, discovered by Antonio Muñoz during the restoration in the years 1924–1925 (Muñoz 1926) and studied by Richard Krautheimer (Krautheimer 1971, vol. 1, 256–57).

According to Krautheimer, the church, built on pre-existing structures which explains the irregularities of the present building, had been definitely completed in the IXth century, as the *Liber Pontificalis* confirms (Duchesne 1892, 2: 79–80) in the biography of Pope Gregorio IV (827–844). The most significant building structure, discovered under the actual pavement, is surely a trace of a small apse, placed in front of the actual one, belonging to a complex of pre-existing buildings; the other

structures, discovered under the left colonnade and the right aisle, are, instead, traces of the foundation-walls of the ancient *schola cantorum*.

The very same complex building articulation has appeared in the front of the church, Figure 7, under the fallen plaster following the explosion caused by the terrorist attack. The wall has shown, in fact, a complex variety of structures, a testimony of interventions undertaken in different periods. The



Figure 7
The complex building articulation has appeared in the front of the church, under the fallen plaster following the explosion caused by the terrorist attack (Author's photo)

building sizing of the façade, up to the moment of the attack, had been known only through burdens photos taken during the restoration of Muñoz.³ From the interpretation of these photos, historians have drawn different impressions, assigning only the building portion to the left in the façade to the IXth century, characterized by the irregular lines and the jade work of the building walls typical of that period, Figures 8.

The present study has confirmed that on the sides of the actual entry two openings are still traceable, situated at different quotas, already studied by Muñoz and Krautheimer, Figure 9: to the left we can see the window-post of an opening that still preserves traces of painting and its wooden lintel; the other wood beam that, on the top part, delimits another probable window, now closed, is identifiable at 2.00 mt from the left post of the actual portal. At 0.80 mt from the right door-post of the entry we have also found a third wooden lintel of a similar opening, even this is closed.

According to Muñoz, Figure 9, they are two windows (Muñoz 1926, 30): one on the left which portrays in the right window-post some painted circles; Muñoz considers this opening to reflect the original front of the church that was modified, taking on its present day appearance, probably during the same period as the construction of the portico, in the XIIIth century.

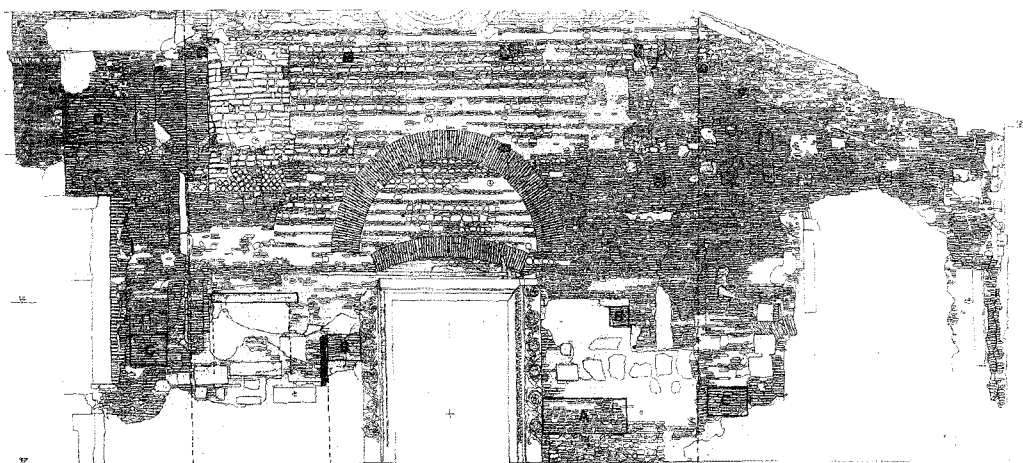
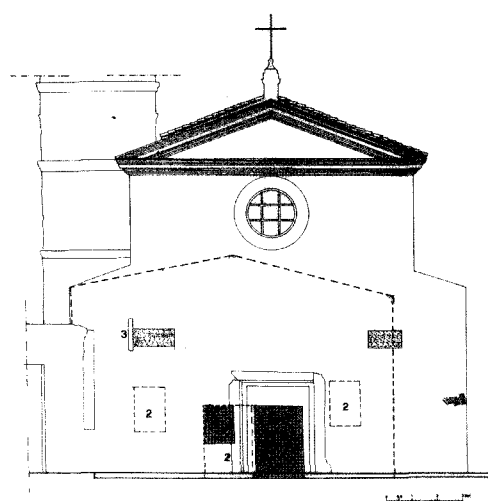




Figure 8
The principal front of the church up to rates 10.35 mt (Author's survey)



LEGENDA

	Ipotesi di Muñoz	3	Finestra
	Ipotesi di Krautheimer	---	Ipotesi di ricostruzione della facciata

FACCIATA DELLA DIACONIA FINO AL VI SECOLO

A sinistra del portale, a mt 1,54 da questo, è visibile la spalla sinistra di un'apertura con architrave lignea che conserva ancora tracce di pittura, a mt 2,90 al di sopra dell'attuale livello della facciata.

A. Muñoz individua in questa apertura una finestra simmetrica all'altra, posta a destra del portale della quale si conservano ancora le tracce. Queste due aperture dovevano trovarsi ai lati di una porta collocata nel vano dell'ingresso attuale. Secondo R. Krautheimer, invece, questo vano corrisponderebbe ad una porta con ai lati le due finestre.

Questo prospetto è riferibile ad una facciata di tipo laico, probabilmente ad una casa comune o un edificio diaconale anteriore alla costruzione della chiesa.

Figure 9
Hypothesis reconstruction of the diaconate according to Antonio Muñoz (1) and Richard Krautheimer (2) (Author's graphic)

In that time the actual door was probably opened in place of the preceding one that was smaller.

Instead, Krautheimer gives a different interpretation, Figure 9; he thinks that the opening on the left of the portal is not referable to an ancient window (Krautheimer 1971, vol. 1, 250). He considers it to be a door, probably, the original entry of the church.

With this study to third window has been discovered in the bell tower, on the left; façade structured in such a way, either as pointed out by Muñoz or as proposed by Krautheimer, that it is however referable to a pre-existent building, a common house or diaconate.⁴ In conclusion we can affirm that the lower part of the actual front can surely

be attributed to a historical period before the actualization of the church.

The front, therefore, up to the VIth century, Figure 8–A, at least in its lower extremity, is referable to a Roman laic façade as also testifies the good workmanship of the masonry, characterized by only bricks arranged in regular lines. The same form, of 5 lines of brick and 5 layers of mortar, that varies between 32–34 cm, also confirms the attribution of some lower building tracts on the right of the entry to the VIth century (Rovigatti Spagnoletti 1976–77, XXIII–XXIV: 124–25; 149).

After the VIIth century we Khan assumes that the façade of the pre-existing house was used for the construction of the church, with the opening of a new door and the closing of the window to left of the actual entry.⁵ From the analysis of the bricks that close the two openings identified on the sides of the actual door we can deduce its attribution to the VIIth century, Figures 8–B, the period in which we can see the progressive lowering of building form due to the meager width of the lines of mortar.

The *Liber Pontificalis* states that Pope Gregorio IV (827–844), during his pontificate, other than enriching the church with gifts, realized important works which include not only the reconstruction of the apse from the foundations and of the sacristy, but also the elevation of a «porticus quos etiam . . . variis ornavit picturis» (Duchesne 1892, II: 79–80; 83).⁶ The word «porticus», in this passage, has led to different and conflicting interpretations. Krautheimer refers this passage to the total erection of the side aisles in addition to their decoration with frescos (Krautheimer 1971, vol. 1, 245; 262). Therefore while Krautheimer thinks that Gregorio IV had rebuilt the church «su scala più vasta», other historians as Giannettini and Venanzi, who have written a monograph on the church (Giannettini and Venanzi 1967, 19–20; 34–35) and who also agree upon the realization of the side aisles, don't think that this operation has concluded the total remaking of the church. Muñoz (Muñoz 1926, 14), instead, attributes the passage from the *Liber Pontificalis* to the construction of decorated porticos with the paintings all around the church.

To this phase of reconstruction probably we must attribute the side extremities of the front, still visible, since the structures have been fully preserved under the plaster, Figure 8–C. This survey has, in fact,

highlighted, at about 4.20 mt from both of the actual door-posts, the combination of two different building structures assignable to the realization of the side aisles, as can be read in the biography of Pope Gregorio IV. The masonry is constituted by a brick curtain that presents irregularity in the brick line and in the same not suddenly surface of the walls. The brick form (5 recurrences) has a dimension of about 26–29 cm; in addition to the height of the bricks, rather diversified, —between 2.5 and 5 cm— the length also shows different dimensions —from 9 to about 35 cm. The mortar, a greyish white color and without a finishing touch, has a height varying between 1.5 and 3 cm.

In the following periods, or rather until the end of the XIIth century, no significant interventions were realized on the front, but only near the Arch of the Argentari, Figure 8–D, where the masonry has an irregular course typical of the medieval period. The XIIIth century proceeds with not only the construction of the portico, a gift from the prior Stephen Stella as it appears engraved in the lintel, but also the partial change of the front; in fact, the original entry was closed to realize the actual door in the center of the front.

One important document is the Code of san George (1309–1343),⁷ Figure 10, where, in a letter head is represented a figure of the church of St. George in Velabrum during the time of pope Zaccaria (741–752): a building with three aisles, three entries and a round window aloft corresponding to the central aisle, still at this time without the portico. In this figure, however, the height of the façade is different and lower than the actual one; it is, in fact, in the XIIIth century, during the construction of the portico, that it come subsequently modified: the actual entry was opened —its portal was realized utilizing Roman marble fragments⁸ and the oculo was realized in the front— its frame, Figures 11, now in the leading wall of the left aisle, was also obtained from to pluteus of the IXth century. In the same image shown in the Code, on the portal, an arch is visible, however, this element does not correspond with the present day arch in the front; this arched structure, dated by historians to the XIIIth century, in reality, as we will subsequently see, has been attributed, by the present study, to the elevating of the church front in the XIXth century.

At least two of the restaurations, realized in the XIXth century, have, in fact, concerned the upper part



Figure 10
Image of the church from the Code of san George (1309–1343), in a letter head is represented a figure of the church during the time of pope Zaccaria (741–752) (Muñoz 1926, pl. X)

of the front; according to the historical documents, the realization of the tympanum was commissioned, in 1825, by Anthony Santelli. Probably, in this period the front must have been made higher as it is also testified by some ancient documents. Also, the plaster in this portion of the front, that simulates bricks (it is treated like brick- «finta cortina»), is also attributable to this phase and precisely to the pontificate of Gregorio XVI (1831–1846). The plaster that simulates bricks, required by the rough building materials, was spread on brick structures. In this same period, the circular opening of the front was deprived of its original marble frame which was exposed inside the church.

Of interest is the building curtain located in the upper part of the front —above the entrance door to



Figure 11
Marble frame of the oculo in façade, now in the leading wall of the left aisle (Author's photo)

the tympanum— characterized by the succession of hewn tuff and two brick lines, Figure 12; this masonry is dated back by historians to the VIIth or maximum to the XIIIth century, but is really to be attributed to the elevation of the front in the XIXth century.

The direct analysis of the masonries, this survey and the documentation from public records, have, in fact, together revealed that the whole portion of the front with striped masonry had been totally reconstructed in the years 1823–1829, according to a project subsidized by the «Adunanza of S. Maria del Pianto» which, with the pontifical Bull (11 July 1823) of Pious VII (1800–1823) was granted to the basilica of St. George in Velabrum. The Pope, in fact, on that occasion, authorized the reparation of the roofs and the reconstruction of the falling façade; these works, however, were to be completed only during the pontificate of Leo XIII (1823–1829).⁹

The possibility to examine directly the masonry that had always been hidden from the plaster has

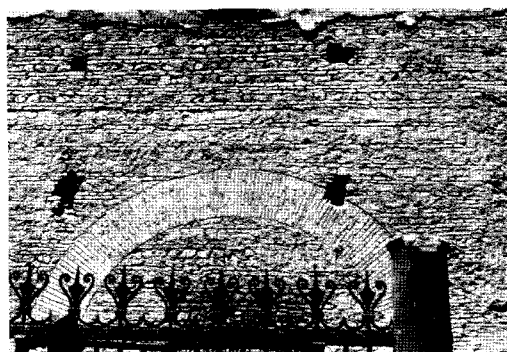


Figure 12
Image of the church, particularly the round arch (Author's photo) above the entry (author's photo)

finally furnished accurate data on the historical and construction phases of the upper part of the front and of the two arches in the entry, Figure 13, attributed by current historiography to the interventions undertaken between the XIIth and XIIIth centuries.

The round arch on the door has been, Figure 12, in fact, always unanimously dated to the XIIth century for its building characteristics: the arched lintel realized with whole bricks, its height and regularity without sfracing have always been referred to a past period in the height of the Middle Ages. The arch close near the frame of the door, Figure 13, realized with partly whole and partly fragmented bricks to regularize the extrados of it, has been, instead, attributed to the beginning of the XIIIth century; also

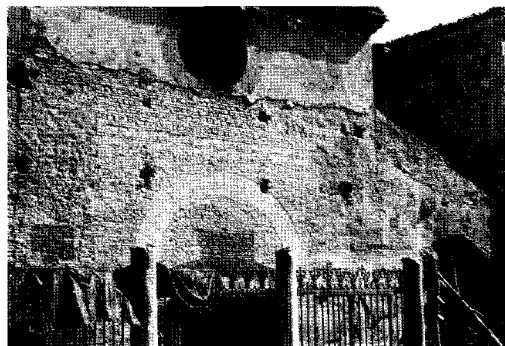


Figure 13
The two arches above the entry (Author's photo)

the striped masonry, between these archs, has often been compared with similar Roman examples, as the remaking of St. Clemente in the XIIth century.

Krautheimer (Krautheimer 1971, vol. 1, 247) exclusively includes the upper part of the roof of the portico to the interventions of XIXth century; Giannettini and Venanzi (Giannettini and Venanzi 1967, 47–48; 73) identify the striped masonry located above the door as structures of the VIIth or maximum of the XIIth century, dating attributed to comparisons made with other roman churches.

Besides the visual investigation of the masonry between the two archs and the extreme sides of the portico, that have already during this survey shown a technique and a workmanship different from that which characterizes other roman churches between the XIIth and XIIIth century, both a document, preserved in the Historical Archives of the Vicariato, and some chronicles of that time have been determinant for a new dating that attest that works were undertaken in August 1823 (*Diario di Roma* 1823, 96: 6–7).¹⁰ These works involve, not only the rebuilding of the front, but also its elevation with a tympanum over the roof of the central aisle. The works were partly financed by the «Adunanza of S. Maria del Pianto» that had asked the pontiff Leo XII (1823–1829) for economic aid to undertake the works in the church which had gone to ruin; the situation appeared rather serious, in fact the roof was completely devastated and the front appeared already «fuori equilibrio di un palmo e mezzo; ed il soffitto, ed i tetti, ed il pavimento avevano necessità di sostegno». ¹¹ The works, realized by the architect Giovanni Azzurri (Rome 1792–Rome 1858), were finished only in march 1824;¹² also on this date the document testifies that the new «travatura» realized was solid and «ben guarnita di staffoni di ferro: il tetto quasi ricoperto in ogni parte». The document continues confirming the realization of the new façade «pressoché del tutto riedificato con due archi in costruzione, e adornato di cornicione, di timpano, e di croce di ferro: il soffitto risarcito, e stabile renduto»; previously, in december 1823, the *Diario di Roma* had recorded the demolition of the front «fino all'architrave di pietra della porta» (*Diario di Roma* 1823, 96: 6–7).

So we have been able to confirm that the whole structure above the entry is due to the works in the years 1823–1824; it is exactly on this occasion that

the two archs above the actual entry are realized: the arch above the door, Figure 13, is manufactured with bricks of different dimensions but of the same color; some bricks, 40 cm long, are alternated in a discontinuous manner with others, fragmented or whole, but sets of head (12 cm around) that they define a uniform line extrados. The same regularity of extrados, Figure 12, characterize also the upper round arch composed by bricks 60 cm long alternated with others, of the same red-yellow color, but sets, within the height of the arch and with a recurrent rhythm, two of head (12–14 cm around) and one in the center back (25–30 cm around). Further more, while the bricks of the arch above the door are divided each other by thickness of mortar, those of the round arch have some very thin layers.

While to the right the two arches are connected to the ancient masonry of the VIth century, to left and in the building portion between them they are connected to a striped masonry, it also attributable to the nineteenth-century works, composed of alternate lines of blocks of tuff (from 1 to 2 lines) and bricks (from 2 to 3 lines), connected with light grey mortar with yellow elements.

In the façade we find, therefore, three different masonry: the brick work (VIth-IXth century), the striped work (XIXth century) and another masonry with little tuff blocks aloft left near the bell tower, at 5.40 mt from the actual pavement of the portico; this last masonry, not easy to date, is composed of pyramidal tuffelli (little blocks of tuff) with the greatest base in the façade and the sides tilted to 45° on a horizontal plan. This masonry identifies a limited area with only 5 lines of tuffelli —around 1.40 mt of length × 0.50 mt of height— placed in a rather irregular connected manner, with the same disorder, to lines of bricks and lines of parallelepiped blocks of tuff. The building masonry realized with blocks of tuff appears rather rough and with horizontal layers of clear grey mortar with big elements. All this portion near the bell tower, of a rectangular dimension —3.20 mt of height × 1.80 mt of width— characterized by a different and a slightly regular building masonry, has, during the survey phase, posed both great interest as well as doubts and perplexity. As is visible today, the interventions during the centuries, aimed at harmonizing and integrating the different parts of the complex, have, in fact, made difficult the recognition of the different building masonry phases. Yet

uncertainties on the probable dating of such masonry have been immediately removed due to the documents of the archives that testify demolition works during the nineteenth-century: the demolition of the crumbling front and the definition of the actual prospect, the recovery of ancient marble elements inserted in the ancient front: two marble railings and two small columns; an inventory, dated to 1824, so describes the church: «Nel fondo della navata destra quando si entra ossia a cornu evangelii si veggono due colonnette di marmo bianco, con capitelli gotici antichi, e base e pilastro di stucco trovate nella riedificazione della facciata fatta l'anno 1923 . . . Al lato delle due colonnette nel muro della stessa navata sono incassate nel med[esim]o muro poco alte dal pavimento due antichissime cancellate di marmo che erano sepolte l'una sopra la porta grande della Chiesa, e l'altra verso l'arco degli Argentieri, e fra l'una e l'altra si ergevano a parapetto le due colonne di cui si è già parlato non scorgendosene all'esterno contrasegno alcuno».¹³ Evidently the present day tamponades, now in the front near the bell tower, were built on this occasion to fill the empty space obtained from the moving of the marble fragments.

The discovery of the marble railings and the small columns in the masonry would confirm the hypothesis that the front of the church has absorbed a civil roman house or a diaconate, antecedents of the foundation of the church.

The same document records the discovery of the

marble frame of the round window in the front, that was be arranged in the left aisle: «nel prospetto della navata sinistra, ossia a cornu epistolae evvi un gran circolo di marmo intagliato gotico barbaro, che forse anticamente aveva un altro uso: in quest'ultima rinnovazione della facciata rinvenuto per stipite circolare della finestra sul tetto del portico; situato però in guisa che la superficie piana era nell'esterno, e l'intaglio sepolto trovasi nel muro: onde nella calce interiore trovasi l'impressione dell'intaglio . . . Vi si veggono ancora varie parti di musaico ritrovate nella demolizione dell'antica facciata che la rozza ignoranza dei muratori avea dissipati siccome oggetti di niun conto». The writer of the inventory realized that the frame reemployed for the round window originally had another destination; in fact, the element presented sculptural decorations in the interior part, closed in the masonry, that with its new use, didn't make sense be left in sight anymore.

Therefore, in the early years of the XIXth century, the façade reached its definitive appearance; precisely in this phase, in order to conclude the works of the elevation, the iron cross, present even today, was put up with «base di travertino intagliata: cornicione gotico e timpano con lastre di lavagnone . . . il tutto fatto di nuovo nel restauro del corrente anno 1824».¹⁴ On this same occasion, with the elevation of the façade, the triangular pediment was also realized, Figure 14; this structure took on same element known as «wolf teeth» that characterizes the frame of the



Figure 14
The big eardrum realized in XIX century (Author's photo)

medieval portico. The masonry materials inside the tympanum, realized during the works conducted by the architect Azzurri, is constituted in sum by a wall curtain set in work with whole fragmented bricks, covered with plaster that imitates bricks —«finta cortina»— required by the rough work of the masonry. The form of five lines is set on a dimension of 25 cm; the masonry is built using long tiles from 20 to 27 cm and around 4 cm thick. The mortar is a clear grey color with brown pale yellow and red yellow components. The tympanum is, instead, made of rather long whole yellow bricks —around 30 cm—; the bricks are around 4 cm thick and with a mortar coat of a rather thin, clear, grey color.

The plaster that imitates brick-work, above the portico, was chosen in order to dignify the little refined masonry; for this reason a plaster protection that simulates lines of bricks was preferred —5–6 cm of thickness, 35 cm of length and 17 cm of width— alternating in head and list, staggered among themselves and linked according to a scheme defined from the handbook, «gothic». The choice of the «gothic» sizing wants to intentionally suggest a technique, even if simulated, similar, at least in «type», to that of the portico and of the bell tower.

The bell tower, Figures 15–16, built partly on the Arch of the Argentaris and partly on the first span of the left side aisle, owes its structure to the XIIth-XIIIth century, even if the top tiers could be attributed to an earlier period.¹⁵ The bell tower, with its irregular base, is divided into plains by dividing frames constituted from brick lines alternated to fillets with indentations and small marble modillions, Figure 15. In the Romanesque style of lombardy region derivation, the tower is developed in height on four orders made light by three-mullioned windows that in the last tier are opened like a loggia. The bell cell has, on every side, a three-mullioned window whose small archs, with double arched lintel, are sustained by mullions with capitals like a «clothes hanger». Alberto Serafini (Serafini 1927, 167–69) identifies the mullions of the bell cell as «spolia», as almost all the marble corbels inserted in the frames that divide the floors of the tower. The mullions introduce, not only a different material, but also diameters, workmanships and dissimilar treatments; some mullions have smooth shafts others, instead, show grooves in the entire height, others also show a stumpy rudentatura in the inferior part. Contrarily the

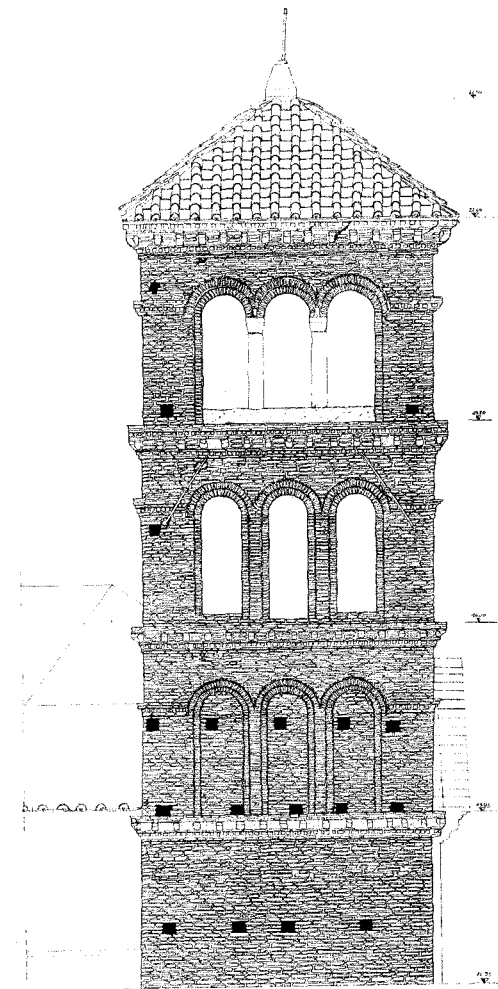


Figure 15
The bell tower-north (Author's survey)

big capitals which looks like «clothes hanger» seem to have been realized inst for this occasion: they have a conformation of «flattened sides» that Serafini likens to the type of St. Rufina and St. Cecilia in Rome (Serafini 1927, 168).

The inferior tier of the tower has only decorative blind arcades sustained by brick pillars. On the front of the church, in the lower zone, a blind three-mullioned window on pillars appears that doesn't have any correspondence in the other three sides of

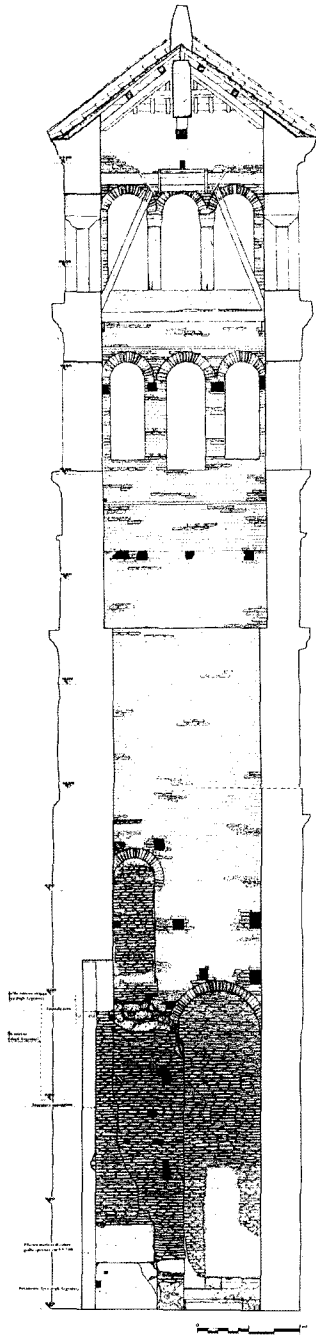


Figure 16
The bell tower inside-north (Author's survey)

the tower; this three-mullioned window differentiates from the others due to its simple arched lintels with only one archivolt adorned on the top with a simple frame of small brick fragments that also characterizes the superior three-mullioned windows, however, with a double bricks arched lintel. Besides, there don't exist any ornamental elements that horizontally tie the other openings, even if they too are closed. A thin decoration of bricks, in fact, accompanies in the upper rows the bending of the small archs and it continues horizontally on the four sides of the tower.

In the basis of the study of the masonry typologies we have been able to individualize, also for the bell tower, an alternation of building phases of at least three separate periods. In fact some differences are evident in plan and in volume, as well as considerable differences on its levels. Such construction characteristics derive from the need to adapt different and chronologically tied projects.

The first structure of the bell tower is referable to the intervention of Gregorio IV in the phase of amplification of the preceding building of Leo III; these works centered around the south and west sides of the tower that in the IXth century delimited part of the building front and of the left aisle of the church. Between XIIth-XIIIth century, the real bell tower was built set up directly on the Arch of the Argentaris and on the first span of the left side aisle that was closed due to its with inside a column.

The upper building conformation, especially in the last tier, could be attributed to a different moment from the primary resolution, as some sixteenth century prints testify, even if currently we have not found difference in materials and workmanship.

As it appears, on the ground of the reflections exposed until here, the existence of pre-existent structures has favoured, but at the same time bound, the construction of the church.

This study has wanted, therefore, to understand many enigmatic construction aspects of the building, but above all to arrive to the formulation of chronological and interpretative hypothesis sustained by a greater evidence of facts, through the direct, architectural and archaeological investigation, operations aimed at specifying the meaningful points of the complex and its relationships with the pre-existing structures.

NOTES

I want to thank the managers of the works that have kindly allowed me to introduce this study that derives from the charge received from the Office for the Cultural and Environmental Property-Superintendence for the Environmental and Architectural Property in Rome, for the survey, the graphic elaboration and the historical-documentary research on the church of St. George in Velabrum (Rome).

The present article on the masonries of St. George in Velabrum probes part of a study published in the *Bollettino d'Arte*, Ministero per i Beni e le Attività Culturali, special number, 2002.

1. The planning and the direction of the restauration have been coordinated by the architects of the Office for the Property and for the Cultural Activities-Superintendence for the Environmental and Architectural Property in Rome: Laura Cherubini, Maria Constanza Pierdominici and Pier Luigi Porzio.
2. The disjunction of the plaster on the front, in fact, has point out the building structures allowing to probe the study of it.
3. Antonio Muñoz (Rome 1884–1960) took care of the restauration of St. George in Velabrum as Superintendent to the Monuments of Rome and the Lazio; in the same years he undertook other works: the isolation of the Temple of the Fortuna Virile in the Foro Boario and restaurations in St. Prassede and St. Balbina. From 1929 he worked for the Governatorato in Rome as manager of the Division Antiquity and Belle Arti.
4. The church of St. George in Velabrum is built probably on a pre-existing diaconate used as a storehouse or a laic roman building, transformed later in the church. The use of «spolia» supports the presence of buildings predisposed already for the use, rather than specific ornamental pleasure. The poor quality of some of the building masonry, in fact, justifies not only on the general level, rather low, of the contemporary skilled workers, but also in the «poor» use of the diaconates, that imposed economical works for the urgency of the preparation.
5. From the biography of pope Leo II (682–683), in the *Liber Pontificalis*, the following is noted: «huius almi pontificis iussus aeclesiam iuxta velum aureum in honore beati Sebastiani edificata est nec non in honore martiris Georgii» (Duchesne 1892, I: 360).
6. «Fecit autem in ecclesia beati Christi martyris Georgii . . . hinc inde porticus quos etiam. . . variis ornavit picturis. Absidam vero eiusdem diaconie a fundamentis . . . cum summo studio composuit . . . quod eiusdem venerabilis diaconiae secretarium prae nimia temporum vetustate marcesceret, noviter pro ipsius amore sec gratia aliorum ad meliorem erexit honorem. Obtulit itaque sanctissimus papa ubi supra haec dona: vestem de fundato una cum Cristo clabro habentem imaginem Salvatoris et martyrum Sebastiani atque Georgii . . . fecit autem in confessionem rugas de argento» (Duchesne 1892, II: 79–80; 83).
7. The Code of san George, manuscript of the cardinal Stefaneschi realized in Avignone where he follows the papal court, is decorated with miniatures attributed to Simone Martini or one student of his.
8. Door-post and lintel are arranged with big fragments of trabeation, decorated with leaves, derives, evidently, from roman buildings.
9. Archivio Storico del Vicariato (AV), Pia Adunanza di S. Maria del Pianto, b. 485.
10. AV, Pia Adunanza di S. Maria del Pianto, b. 485. In the *Diario di Roma*, 3 december 1823, the church is so described: «Era in grave pericolo di rovinare la famosa basilica di S. Giorgio In Velabro, se per la vigilanza dei Direttori dell'adunanza de' giovani di S. Maria del Piano non fosse stato in tempo scoperto il danno, e con grave dispendio riparate. Quattro incavallature del tetto di palmi 46 di lunghezza erano per cadere, la prima per essere sgavezzata nel mezzo, e le altre tre come fradice nelle teste. Non fu questo il solo danno prodotto dall'abbandono in cui trovassi codesto tempio per circa 20 anni: tutti gli staffoni di ferro appartenenti alle passine della navata media furono allora derubate, onde i paradossi senza ritegno alcuno . . . le fradice intacche delle corde facevano temere ad ogni momento la distruzione del tetto intero. Trovassi inoltre riempito di calcinaccio e di altre materie estranee il muro della facciata, ed inclinato verso la parete esterna di once 18 circa: esso è stato demolito fino all'architrave di pietra della porta, ed innalzato nuovamente con due archi in costruzione. Ora si adorna di timpano con cornicione gotico corrispondente, e croce di ferro. Il lavoro si eseguisce sotto la direzione del sig. Giovanni Azzurri romano ingegnere pe' lavori di fabbriche camerale. Nella demolizione della facciata si sono trovate due ferrate di marmo antichissime, due colonnette con capitelli di marmo ed alcuni frammenti di mosaico» (*Diario di Roma*, 1823, 96: 6–7).
11. The «Adunanza of S. Maria del Pianto» receives from the pope 350 scudi of 1000 scudi asked in the memorial.
12. Giovanni Azzurri was born in Rome in 1792; he, student of Raffaele Stern, has been one of the exponent of the roman Neo-Classicism. He was a teacher in the roman Academy of Beautiful Arts. Your works are: the Casino of the Wood Parrasio on the slopes of the Gianicolo in Rome. buildings Galitzin

and Guglielmi in Civitavecchia (near Rome); besides he restored the barberiniano mosaic of Palestrina (near Rome).

13. AV, Pia Adunanza di S. Maria del Pianto, Inventario, b. 485.
14. *Ibidem*.
15. The following extracts are the opinions of different historians; they agree on the bell tower structures of the XII-XIII century. «L'uso della stilatura scompare nella seconda metà del XII secolo . . . Il campanile nelle mura visibili presenta la stilatura» (Muñoz 1926, 37; 42). «La sua muratura [del campanile] è simile a quella impiegata nel portico, benché questo, essendo chiaramente addossato al campanile, sia di data posteriore. Ad ogni modo, sia il campanile, che sembra del secolo XIII, che il portico sono di data posteriore al corpo principale della chiesa» (Krautheimer 1971, vol. 1, 247). «Il campanile presenta nelle murature visibili della parte inferiore la stilatura dei letti di malta . . . l'uso della stilatura ci dà la certezza che il campanile fu costruito non ai primi del XIII secolo . . . ma nel corso del XII, dato che già dalla fine del XII secolo questa tecnica . . . non è più usata» (Giannettini and Venanzi 1967, 48).

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