

## LA MISURA ALESSIANA DI PERUGIA

### THE ALESSI MEASURE IN PERUGIA

“fare secondo (...) le cose nove, purché elle non se tolgano dalle regole e termini dell'Architettura”. L'inciso, vergato da Galeazzo Alessi in un passaggio di una lettera inviata nel 1570 al cardinale Fulvio della Corgna, tradisce in modo più che eloquente il DNA profondamente classico del maestro umbro. In tal senso, il contributo proposto intende presentare gli esiti di una ricerca dedicata, fondata su una campagna di rilievo architettonico volta a indagare le ragioni estetiche, metriche e geometriche che governano non solo la composizione, ma anche la dislocazione strategica delle microarchitetture disseminate da Alessi nel centro storico perugino. Il che ha consentito di dimostrare che gli edifici alessiani sono tutt'altro che occasionali, in quanto incarnano l'attuazione sistematica di un piano demiurgico, concepito da Paolo III Farnese, perpetrato da Alessi e finalizzato alla trasformazione dell'intricata acropoli medievale in un'intrigante cittadella farnesiana.

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*“fare secondo (...) le cose nove, purché elle non se tolgano dalle regole e termini dell'Architettura” wrote Galeazzo Alessi (1512-1572) in a letter to Cardinal Fulvio della Corgna in 1570. The citation eloquently illustrates the profoundly classical DNA in the Umbrian master architect's background. In light of this observation, here we present the results of a dedicated architectural survey which investigated the aesthetic, metric and geometrical principles underlying the composition and strategic placement of Alessi's micro-architecture in Perugia's historic town centre. These examples show that, rather than being occasional commissions, Alessi's constructions incorporated a systematic plan that was created by Paul III Farnese to transform the intricate medieval acropolis of Perugia into an intriguing Farnesian citadel.*



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parole chiave: Galeazzo Alessi, rilievo architettonico, ragioni geometriche, disegno urbano, Perugia farnesiana

keywords: Galeazzo Alessi, architectural survey, regulating lines, urban design, Farnesian Perugia.



Fig.1 Perugia, aerial view of the acropolis

“fare secondo (...) le cose nove, purché elle non se tolgano dalle regole e termini dell'Architettura” (acting in accordance with the new as long as it changes nothing in the rules and terms of architecture)[1] wrote Galeazzo Alessi (1512-1572) in a letter to Cardinal Fulvio della Corgna in 1570. The citation clearly illustrated the profoundly classical DNA in the Umbrian master architect's background, which is hardly surprising since he was educated by preceptors like Giulio Danti and Giovanni Battista Caporali[2]. It also emphasized the very innovative aspects that permeated all of Alessi's professional activity. Polysemicity is an established characteristic of his work and his early micro-architectural constructions, which are found all over Perugia acropolis, have always constituted an unsolved historical and architectural enigma. Perugia clearly did not have a predominant urban layout, despite the “forma di mano” (hand-like shape) of its town planning which was celebrated by Leon Battista Alberti. At least in the accepted classical meaning of the term. Peru-

gia acropolis incorporated the Hippodamian standard which had been inherited from its Etruscan-Roman nucleus to such an extent that after the Unification of Italy it rejected and buried under an imposing edifice the Papal Fortress that Pope Paul III (1534-1549) had built in the heart of the medieval city[3]. This was done even though the central area of Perugia, running from Landone Hill to Sun Hill, is still considered an exceptional example of town morphology because the atypical building project that materialized in it went far beyond the abstractiveness of town planning design and the concrete reality of buildings as objects. Indeed, reports of the medieval nature of Perugia acropolis contain two errors: they evoke a picturesque climax which, when closely observed, is revealed as really quite bland, based as it is on Ugo Tarchi, Pietro Angelini and Antonino Bindelli's eclectic inventions[4] and they fail to recognize the Renaissance contribution which, by order of Pope Paul III (1468-1549), was implanted in the central area, where many views appear

cloned from Farnesian Rome. These views seem to be based on the principle that a new street can be opened even by means of widespread demolition, where no buildings will be planned or in areas that for several reasons, are unsuitable for any other function but the physical and optical linking of two poles[5]. Rational order was introduced by widening and straightening the network of streets. A hierarchy of perspectives was established by disseminating picturesque micro-architecture to correspond with the main visual axes and the axial perceptual link between Cathedral and Fortress was achieved by regulating the metric planning of the ancient *platea magna*[6]. All this clearly indicates someone drew up a unified plan[7]. Although the Fortress was an innovative breakthrough that combined military and civic functions in one edifice[8] it was an environmental radical change as it swallowed up an entire neighbourhood of the town. It was “nothing but” the spectacular seal of a far-reaching political project that was designed to replace organic austerity

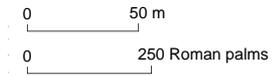


Fig. 2 Re-construction hypothesis of the New Street area in Perugia, plan of the acropolis of Perugia

- works attributed to Galeazzo Alessi (A loggia of the Pauline Fortress; B loggia of the Priors' Palace; C former loggia of Sun Door; D former St. Mary of the People Church; E Most Holy Sacrament Chapel in St. Lawrence's Cathedral; F south door of St. Lawrence's Cathedral)
- works attributable to Galeazzo Alessi (Republic Square, Danti Square, New Square)

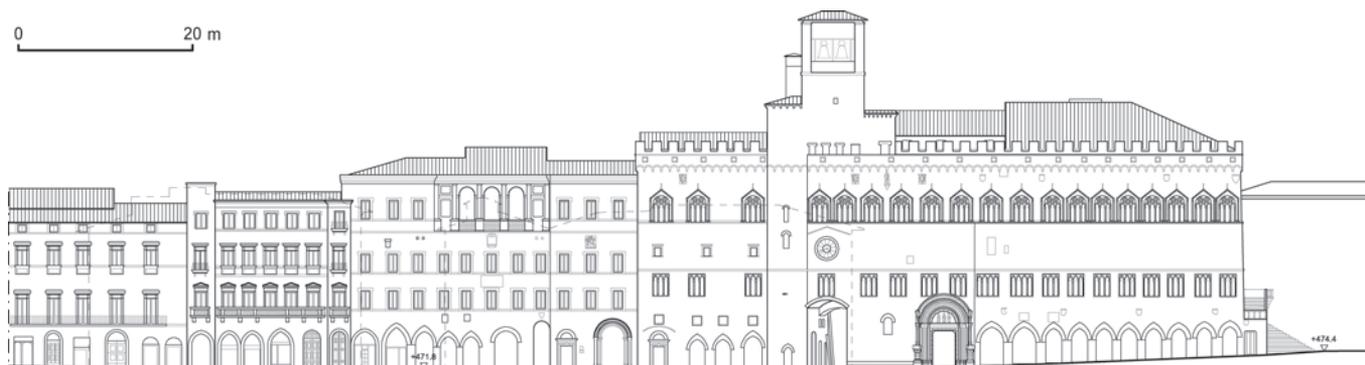


Fig. 3 Architectural survey of the loggia of the Priors' Palace in Perugia, Vannucci Avenue elevation

of the acropolis under the Baglioni family with the rational pomp and splendour of a Farnesian citadel. Furthermore, given the vehement papal reaction to the “guerra del sale” (Salt War)[9] (1540), it is reasonable to suppose that in deciding to reinforce his authority, Paul III did not limit his actions to building a devastating police garrison like the Pauline Fortress[10] which was conceived to annihilate physically and politically “il nido (...) acciocché per lo innanzi Perugia non si governasse a loro talento” (the nest [of the Baglioni family who were the main promoters of the insurrection] lest Perugia be governed by their talent)[11]. He would have wanted to mark out the rebel city with an indelible seal[12]. He radically changed its building materials by introducing the brick and travertine combination. He modified its style with newly designed portals, windows and innovative floor markers and over-turned its spaces by widening streets and squares. It's also reasonable to suppose that in carrying out such an ambitious political programme Paul III would have

got rid of Antonio da Sangallo the Young (who, because of his hesitation over destroying antiquities, was little inclined to tear down pre-existing buildings) and would have intervened personally[13], to ensure the work was supervised by young Galeazzo Alessi (1512-1572). Alessi appeared to be the ideal person for the job. He was born in Perugia, educated in Rome[14] and was very keen to establish a name for himself in his profession. Despite the chronic lack of contemporary records[15], Adamo Rossi described Paul III's impressive building programme and Alessi's role in realizing it in 1873: “Durante la legazione del Cardinale Tiberio Crispo (...) si aprì la via che dal Corso mette al Sopramuro, e le si fabbricò a fianco la chiesa della Madonna del popolo; si fece la piazza della Paglia, la strada che di lì mena alle Prome, e da capo sullo scoperto donde si prospetta la Svizzera perugina, un portico, non guari dopo cangiato in tempio; si acconciò ad uso di residenza governativa, e si coronò di loggia il palagio attiguo a quello del popolo; si spianò il Campo di battaglia;

si costruì il ponte sul Chiagio nel luogo detto la Bastiola. È costante tradizione che per tutte queste opere il cardinale si giovasse de' lumi dell'Alessi, a lui per fortuna raccomandato dal predecessore, e meglio dalle fabbriche che di suo ingegno vedevansi già innalzate” (While Cardinal Tiberio Crispo was papal legate (...) a street was laid out from the main Avenue to above the city wall and the Church of St. Mary of the People was built alongside it; the Straw Square was created together with the road that runs from it to Prome St. and at the top of this open space we had what promised to be Switzerland in Perugia, an arcade that was not improved by transforming it into a little temple. It was dressed up as a Governor's residence and the building next door to the People's Palace was decorated with a loggia; the battlefield was levelled out; a bridge was built over the river Chiagio in a place called Bastiola. It was always said the cardinal availed of Alessi for all these works, because he had luckily been recommended to him by his predecessor [Cardinal Ascanio

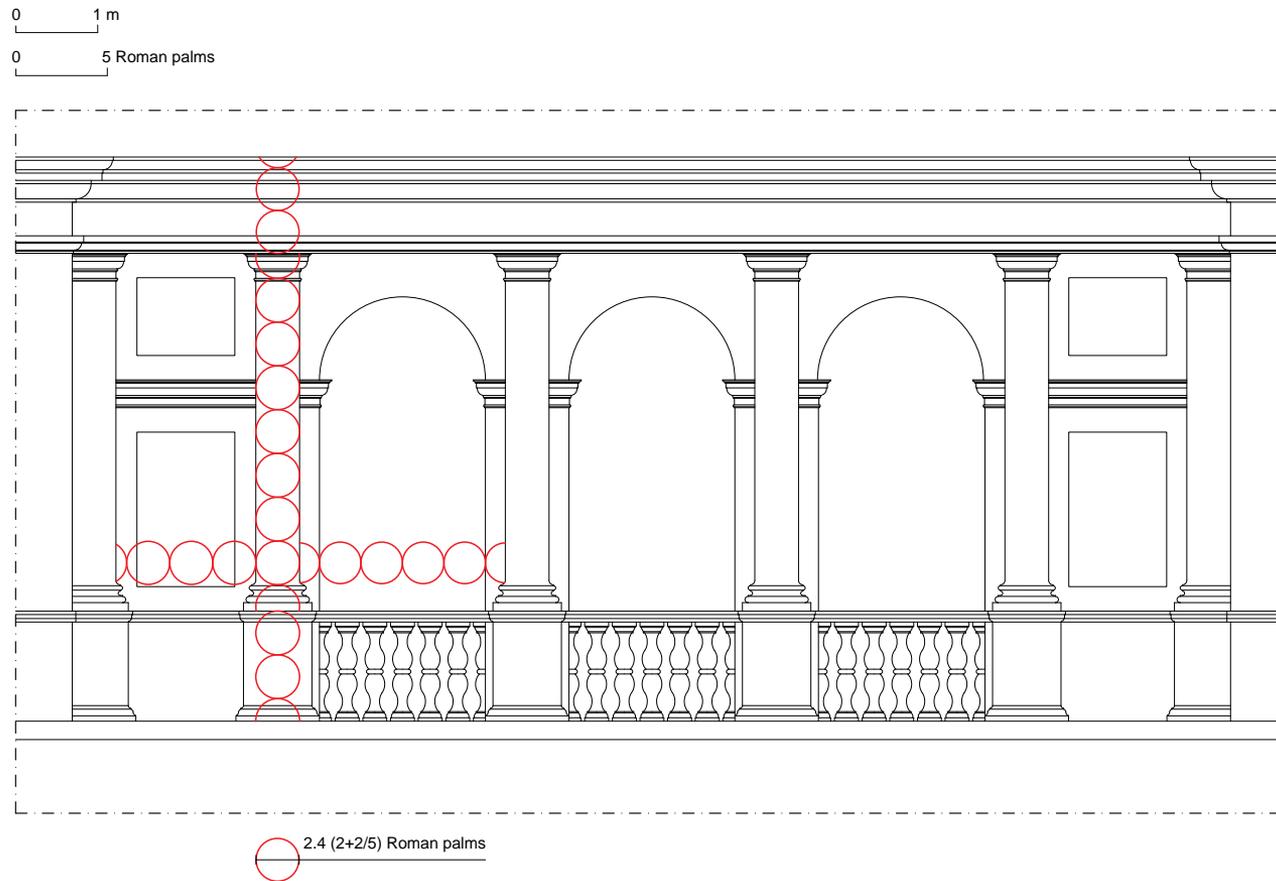


Fig. 4 Architectural survey of the loggia of the Priors' Palace in Perugia, regulating lines of the elevation

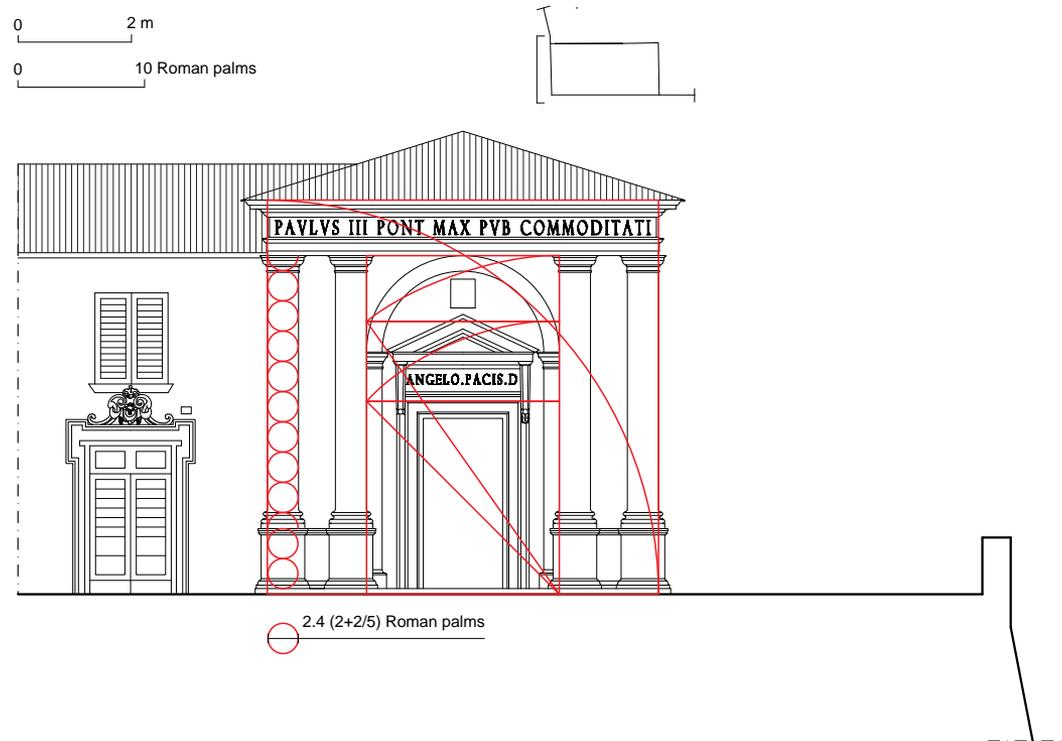


Fig. 5 Architectural survey of the former loggia of Sun Door in Perugia, regulating lines of the Prome Street elevation

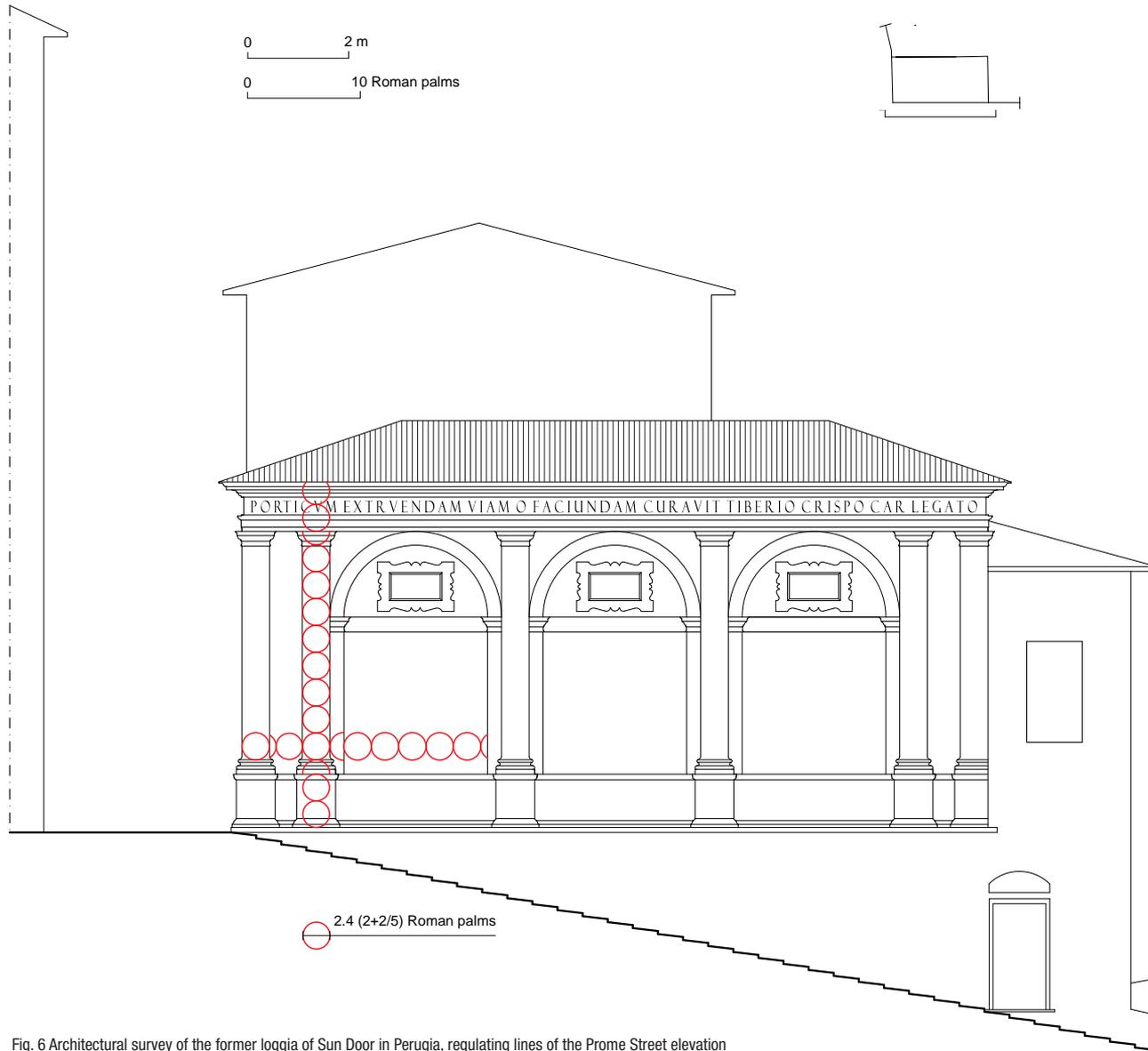


Fig. 6 Architectural survey of the former loggia of Sun Door in Perugia, regulating lines of the Prome Street elevation

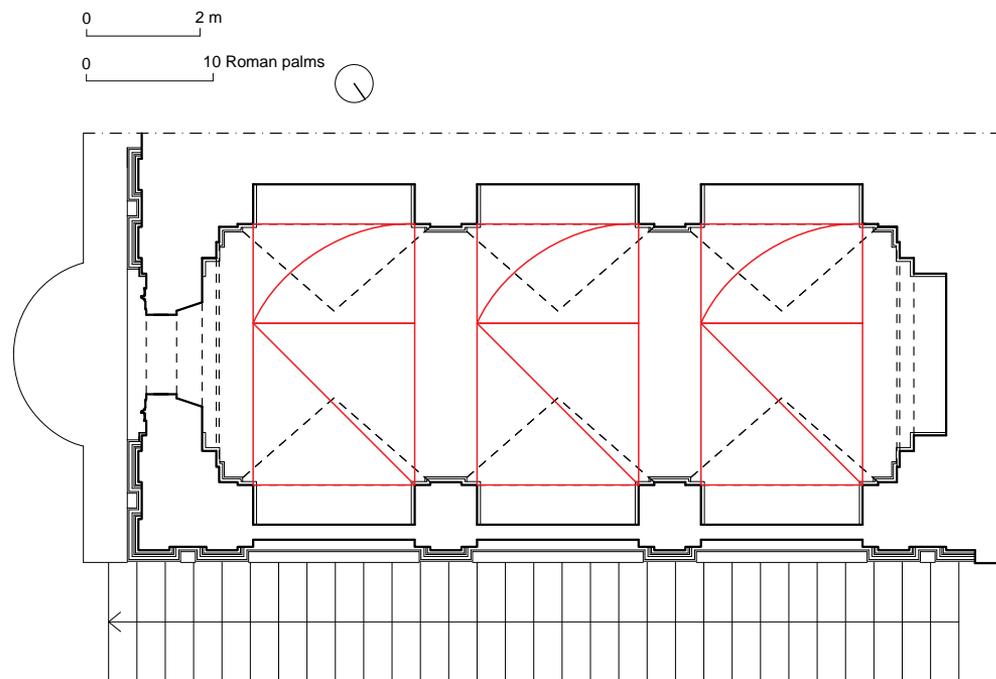


Fig. 7 Architectural survey of the former loggia of Sun Door in Perugia, regulating lines of the plan

Parisani], but even more because of the buildings he had already designed and constructed)[16]. As part of the teaching and research activities of the Dept. of Civil and Environmental Engineering in Perugia University an architectural survey was started[17] to investigate the formal, metric and geometric principles that governed the construction and strategic placement of Alessi's micro-architectural structures in the historic town centre of Perugia[18]. Techniques and instruments were selected case by case, according to the object under study. They ranged from a measuring tape to a laser scanner, georadar and video-endoscopy, so as to create detailed uniform graphics that were suitable for formal and cognitive metric analysis. In Perugia the first building to be constructed under the auspices of Tiberio Crispo which is attributed to Alessi, was the front loggia of the Priors' Palace (1545-1547). This Doric loggia was part of an extensive renovation that transformed part of the building (*piano nobile*) into an apartment for the Papal Legate[19]. Measurement analysis showed the pilaster diameter could be expressed as the decimal of an integer ( $2+2/5$ ), if expressed as Roman palms[20] and was confirmed in several readings as constituting the basic module (like column and pilaster diameters in the former St. Angel of the Peace and St. Mary of the People Churches). Thus one may hypothesize that Alessi adopted this unit of measurement in his building plans, which is even more likely when one remembers that Antonio da Sangallo the Young also used palms as his units of measurement in his Pauline Fortress plans[21]. Moreover, soon afterwards, Alessi again had to deal with the relationship between external and internal spaces in the loggia (1545-1548) on Sun Hill, later the St. Angel of the Peace Church[22]. With a feature commanding a fine view (*belvedere*) the loggia terminated the present Prome Street axis which started from Straw Square (now Danti Square), one of the hinges of Paul III's plans for Perugia and ended at the city walls' highest point[23]. The arches, which had evoked a striking visual link with the surrounding countryside, were bricked up but the "PORTICUM" inscription on the side frieze provided evidence of what they had originally been. The former St. Angel of the Peace Church plan consisted of three parts. Analysis of survey drawings showed the side facing the city walls has regularly spaced Doric half-columns marking the arches which,

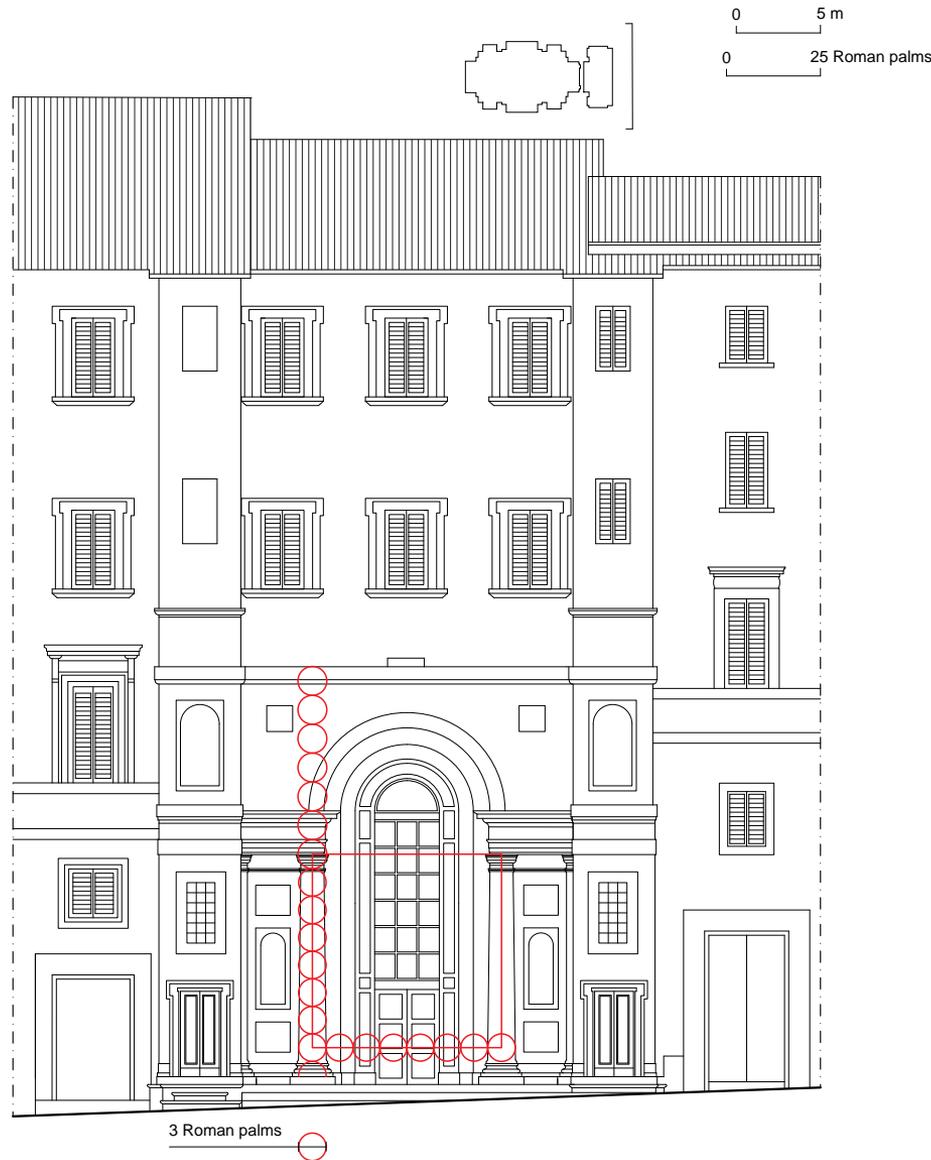


Fig. 8 Architectural survey of the former St. Mary of the People Church in Perugia, regulating lines of the Giuseppe Mazzini St. elevation

in turn, were characterized by a closely linked series of Doric columns, with two pairs of columns at each end. Doric pillars also divided the internal space of the Church, rising up to the barrel vault base. They were intersected by three pairs of nails corresponding to holes: three niches faced the arched openings which are now bricked up. The Doric capitals, the half-column bases and their decorative bands were made of travertine and the rest was in brick so the contrasting materials emphasized the chiaroscuro effect and the richness of the colour scheme. While working on the layout of New St. (now Giuseppe Mazzini St.) Alessi planned the St. Mary of the People Church (1547)[24]. Its Serlio-style entrance, as used by the Sangallo school, included a narrow-arched portico between two buildings[25]. Capitals and bases were Doric in style while the body of the column was smooth and the frieze had no alternating metopes and triglyphs. Column bodies were very slender and indeed the survey found the height was seven times the diameter.

After 1548 archive records show that Galeazzo Alessi was absent from Perugia. Constantly on the move, he was only occasionally in town. His ability to oversee works "a distanza" (from a distance)[26] make eminently plausible attribution of some buildings, like, for example, the Most Holy Sacrament Chapel in St. Lawrence's Cathedral (1557) which was constructed while he was out of town[27]. What most suggests Alessi was involved is its position because it faces on to the former Straw Square at the start of the Farnesian Prome Street axis. Finally, the south door of St. Lawrence's Cathedral in Perugia (1568)[28], which is clearly reminiscent of decorative motives found in the Marino Palace, seems to be the Umbrian building which most approaches the figurative solutions that Alessi adopted for facades in Milan[29]. Consequently, in this specific case, survey techniques were flanked by laser scanning so as to elucidate the Alessi-style exuberant plasticity[30]. The smooth jambs which are decorated with bosses and tips of quadrangular pyramids, contrast with a rustic quoined lintel. The system is framed by two embedded half-columns intersected by bands. They thin towards the base, rest on pedestals and have two mask-like anthropomorphic capitals at the top: one with its eyes wide open and the other with them half-closed[31]. Below the masks are two smaller faces. The one under the mask with wide open eyes smiles while

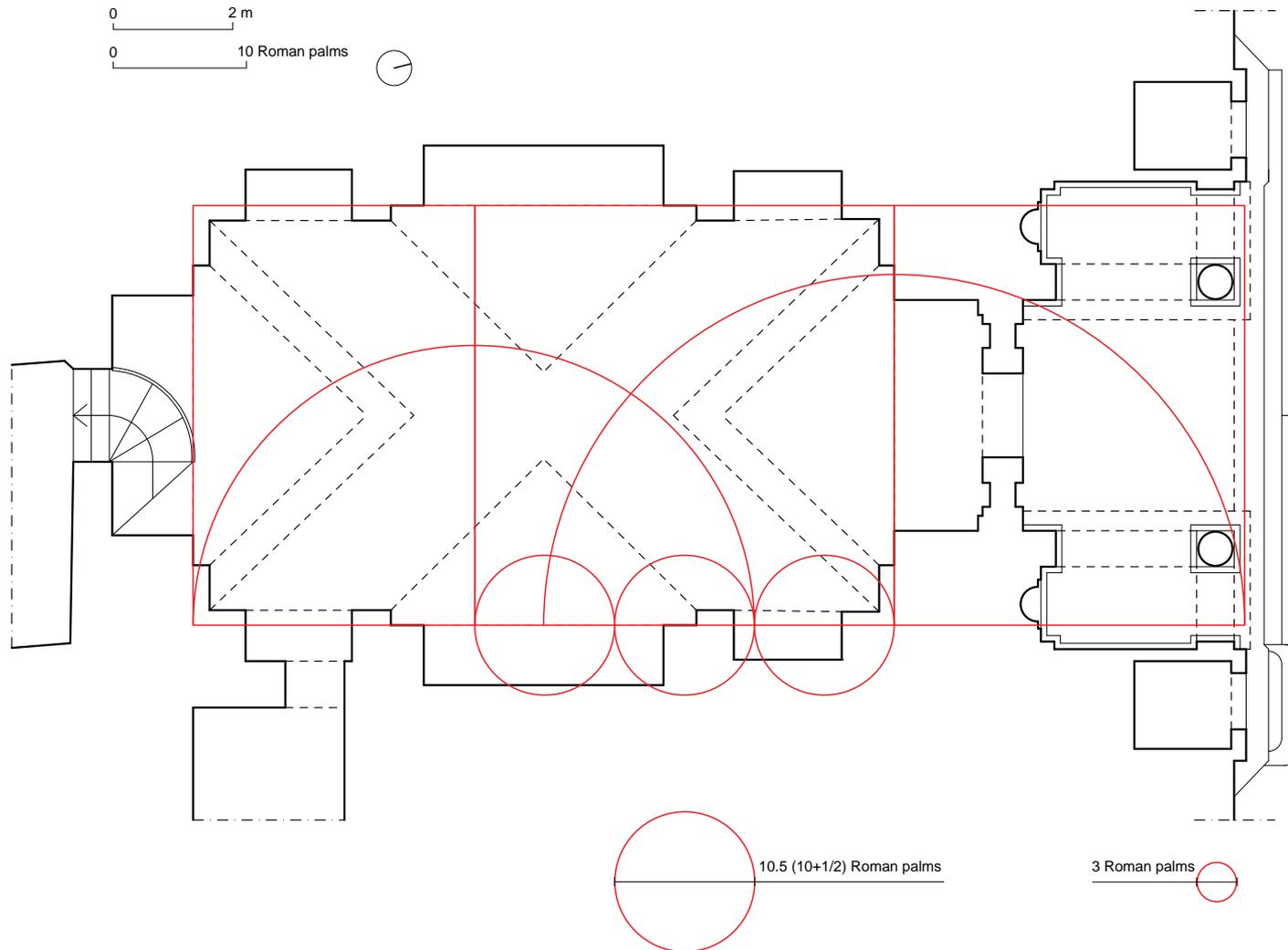


Fig. 9 Architectural survey of the former St. Mary of the People Church in Perugia, regulating lines of the plan

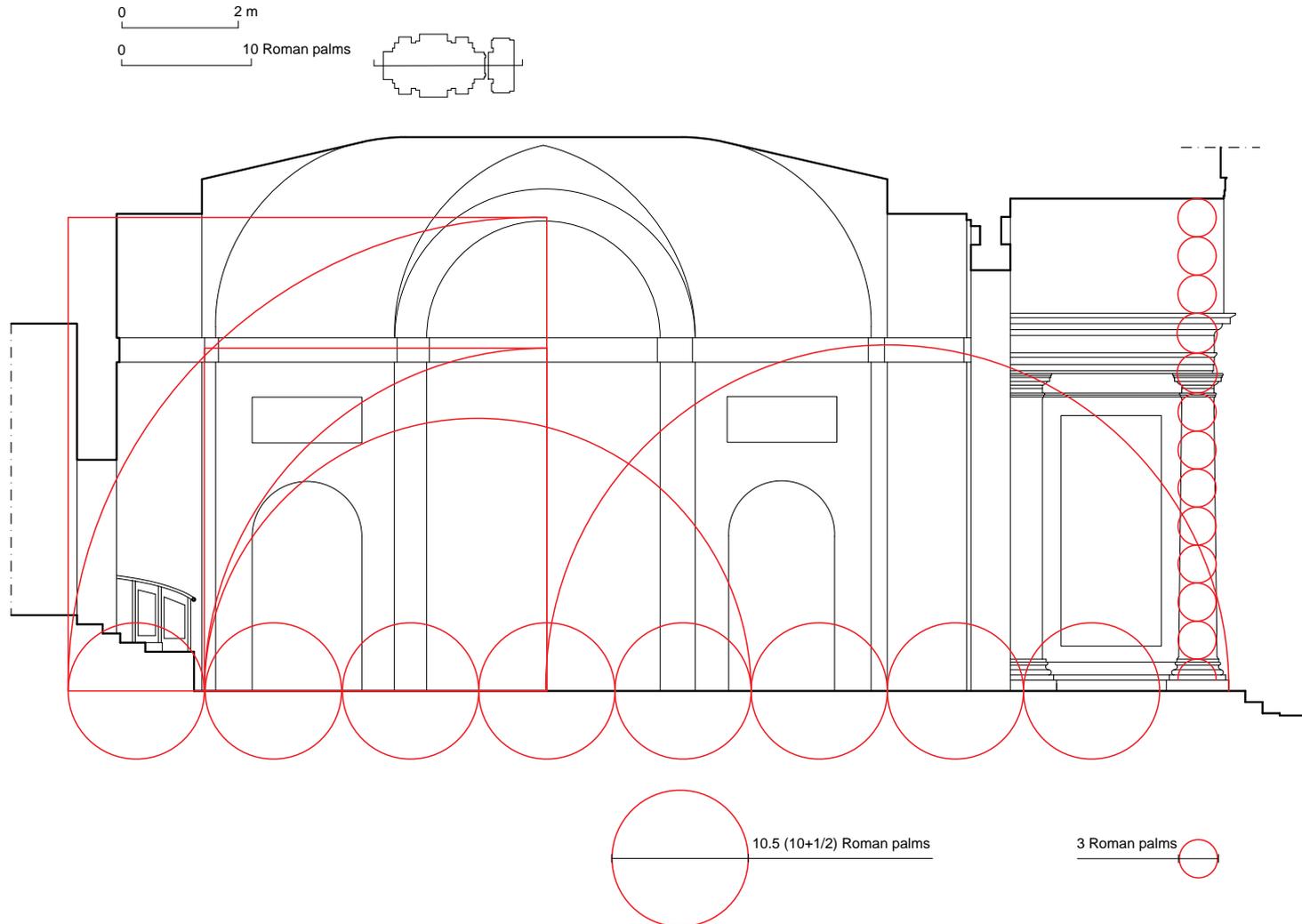


Fig. 10 Architectural survey of the former St. Mary of the People Church in Perugia, regulating lines of the longitudinal section

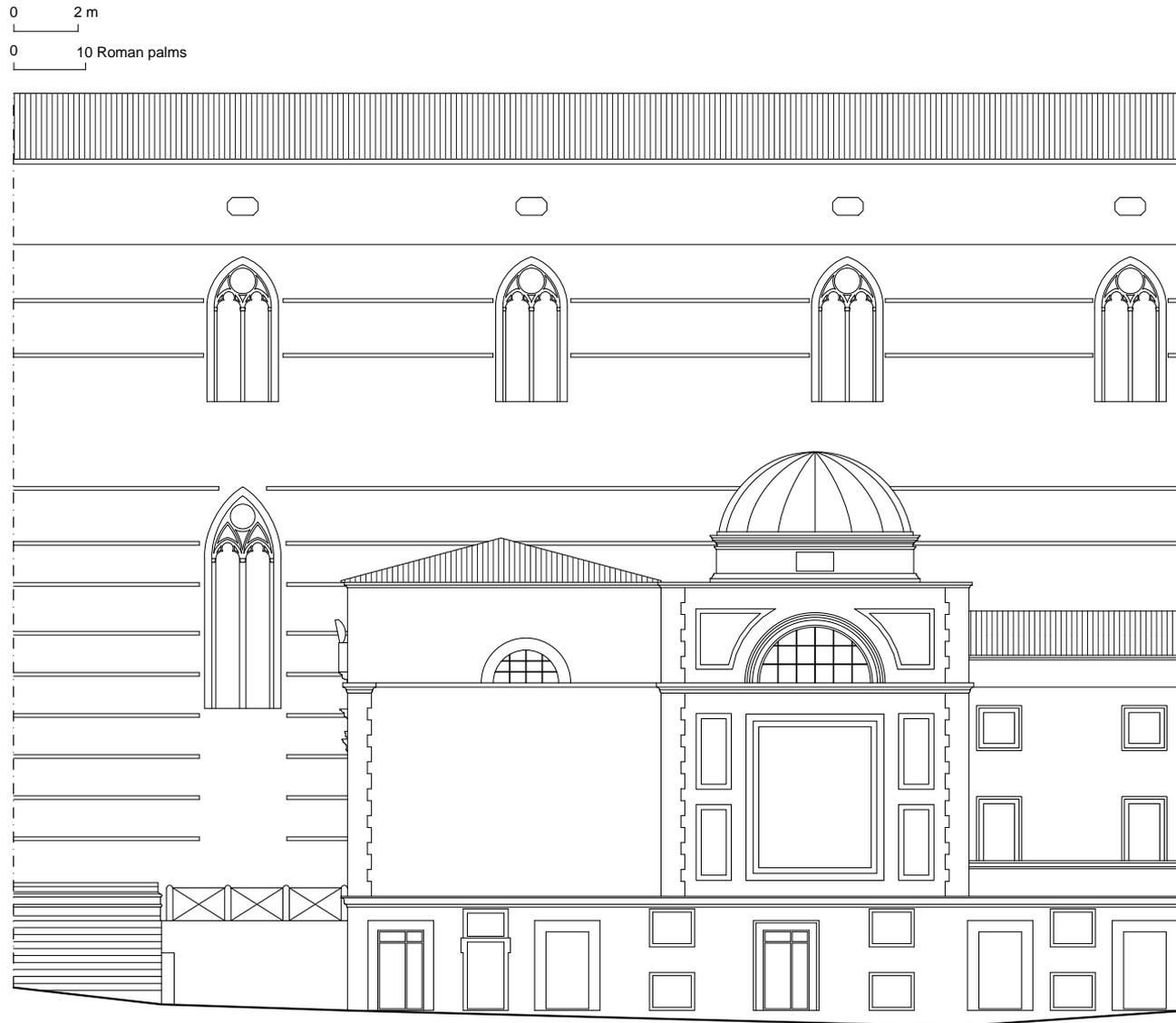


Fig. 11 Architectural survey of the Most Holy Sacrament Chapel in St. Lawrence's Cathedral in Perugia, Danti Square elevation

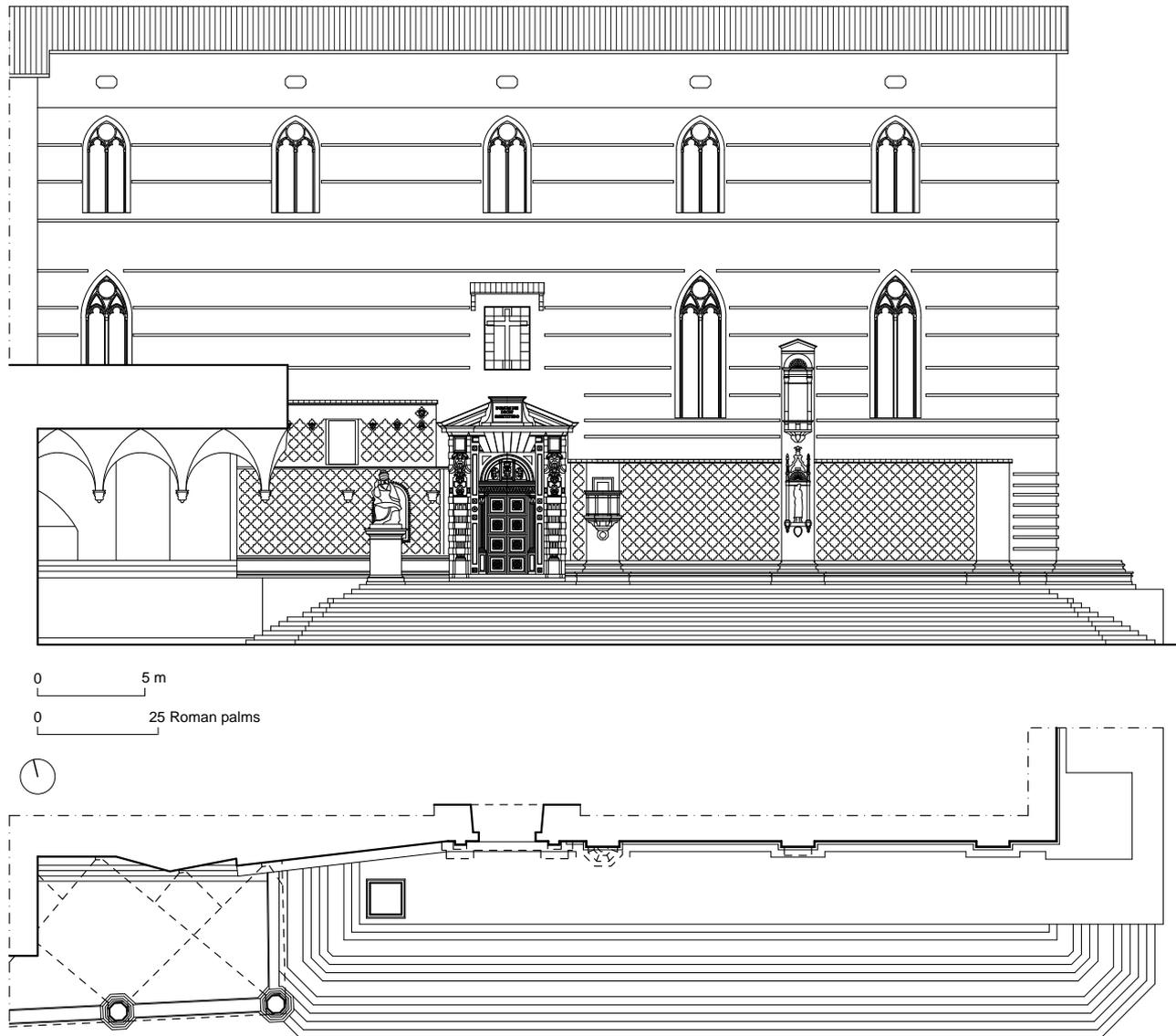


Fig. 12 Architectural survey of the south door of St. Lawrence's Cathedral in Perugia, plan and IV November Square elevation

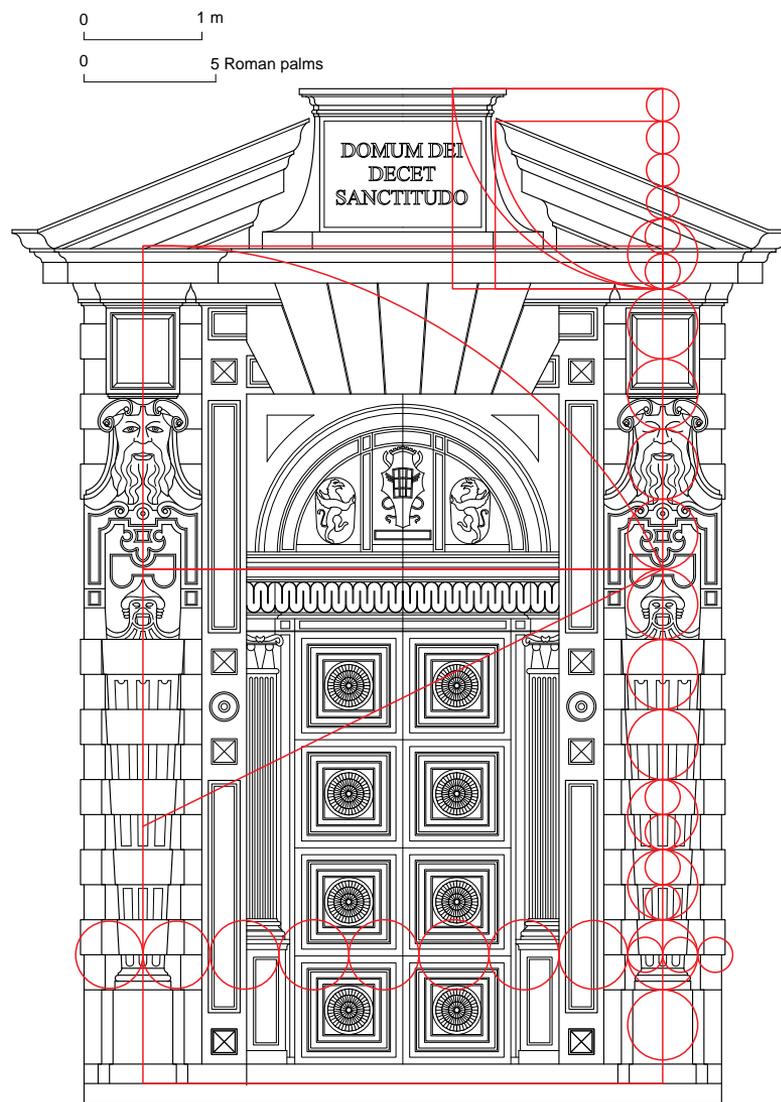


Fig. 13 Architectural survey of the south door of St. Lawrence's Cathedral in Perugia, regulating lines of the elevation

the other weeps. The half-columns support a pediment framing a plaque with the following inscription in capital letters "DOMUM DEI DECET SANCTITUDO"[32]. Once again the door acquires a highly significant value in the urban setting as it is the real focus of a perspective on the heart of Perugia acropolis, as the survey elevation drawing showed, of the axis linking the Pauline Fortress and the Great Square (now IV November Square)[33]. Two readings emerged from analysis of the individual works: a formal value on the architectural scale and an additional positional value on the urban scale, from which one may infer that the content of the Farnesian building programme was intended to be very ambitious indeed. Besides the occasional early works that were identified as being by Alessi, morphological analysis provided more information. A precise design underlay the planned system that was installed in the Perugia acropolis after it was changed following construction of the Pauline Fortress (although records were lost over time, physical evidence still exists). The plans were characterized by a masterly geometric composition made up of mixed, broken lines and sinuous loops. They joined up two opposing funnels[34] and they revealed a propensity for the type of town planning reform that took place in Rome in the early 1500s under the artistic aegis of Raffaello Sanzio[35]. This propensity was also revealed in the myriad of portals with ashlar that spread throughout the historic centre of Perugia in the second half of the XVI century. This precious series of design samples was investigated in a dedicated survey[36]. As a series it is evidence of a consensus on planning while its order presupposes a precise prototype, which implicitly suggests Alessi was responsible for it.

Evidence of the town re-planning work is even more marked in the Great Square area because it involved a space that had already been enlarged at its origin. Records of specific cases testified to modernisation of the Baldeschi Palace in 1570 and the Graziani Palace in 1585. They also described work to straighten streets like Maestà delle Volte (finished in 1584 with the homonym church facade by Bernardino Sozi), Riarra (1582, now Baglioni Street) and Pinella (1591, now Guglielmo Calderini Street). All these building experiments followed a common plan of action to regularize the intricate medieval fabric of the town with the aim of merging non-homogeneous buildings. The whole was then

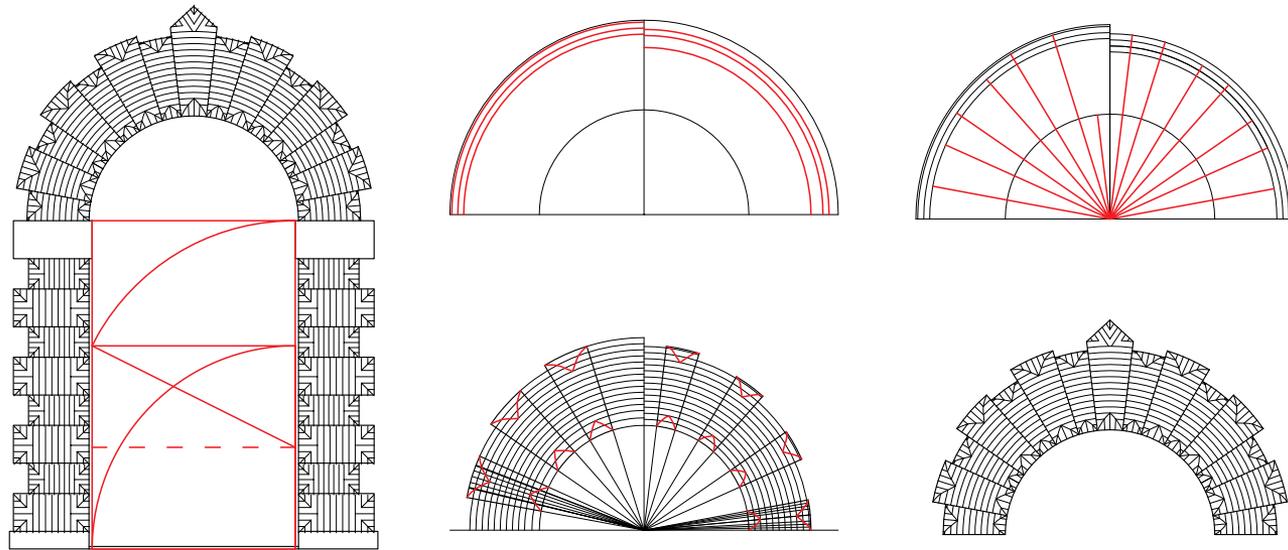


Fig. 14 Architectural survey and catalogue of portal type in Perugia, regulating lines of the elevation

rendered harmonious by re-designing the facades in accordance with street alignment criteria, with measured placement of openings, floor markers to regulate heights, and plastic ashlar as corner markers, as seen in the above-mentioned Baldeschi and Graziani Palaces which were designed respectively by Ludovico Scalza and Valentino Martelli. Applying this facade restyling criteria and widening streets like Maestà delle Volte, Riaria and Pinella (the last by Valentino Martelli) [37] tore the heart out of the pre-existing urban network.

To throw some light on the regulatory criteria underlying this work of re-designing the city, another step in this research project involved testing a hypothesis on re-building after the first urban demolition recorded in the area, that is Alessi's New Street (1547)[38]. This step was based on two premises. The first was that the study had identified the axes in Pope Paul III's new Perugia as the almost perfectly right-angled configuration of New Street and Vannucci Avenue (which stretched

out to Prome Street). It had also shown that their intersection point lay practically half-way between the public square and the Pauline Fortress. The second premise linked the new public space with the Priors' Palace enlargement, making Alessi's loggia the fulcrum of the new street-square. Speculations that the changes had been made solely to satisfy military needs arising from construction of the Pauline Fortress were thus opened up for debate[39]. To test this hypothesis new technologies were combined with traditional direct and indirect architectural survey methods to explore the complex stratigraphy of the study area, with its pre-existing layers dating back to Perugia's ancient Etruscan origin[40]. By means of a laser scanner[41] the present study was able to define the formal features of the facades that delineate the public space linking the *platea magna* and the *platea minor* (now Giacomo Matteotti Square). Frontal views, the graphic synthesis of cognitive activity, showed street features like protruberances with ashlar at entrances, surmounted by

heraldic stone coats-of-arms dating back to Paul III's papacy. It is worth noting that New Street was the first to link the two squares in Perugia as only a labyrinth of narrow, winding lanes had previously existed between them. As was typical of town planning in the 1500s, the intention to impose order seemed clear and was confirmed by the practically rectilinear progress of the two sides of the street, particularly the south side, by the protruberances with ashlar and by the floor markers which set the heights of the buildings bordering it[42]. Moreover judicial use of georadar[43], synergically combined with a series of video-endoscopic images, defined the underground historical configuration below the study area buildings. Having, at this point, validated our two premises we had grounds to advance a completely new hypothesis on Alessi's original genesis of the public space. In fact, in the guise of a "surveyor-detective" it appeared clear that if the street had widened towards its northern end it would have framed Alessi's loggia in front of the Priors' Palace, making it

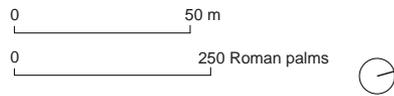


Fig. 15 Re-construction hypothesis of the New Street area in Perugia

- 1 current configuration, plan
- 2 re-construction hypothesis, regulating lines
- 3 re-construction hypothesis, plan

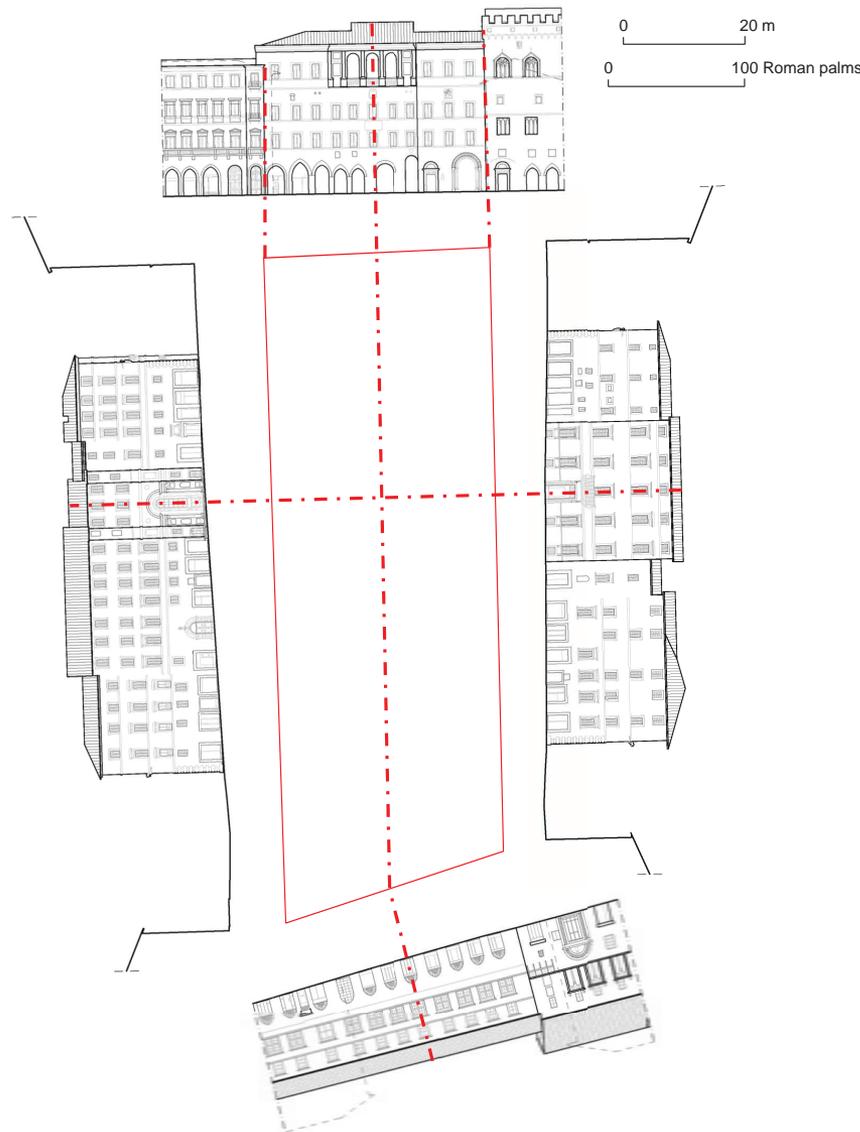


Fig. 16 Re-construction hypothesis of the New Street area in Perugia, re-construction hypothesis, elevations

a real focal point in the perspective of the new urban order[44]. Thus one could hypothesize that Alessi's original intention was to create a new public square linking the Pauline Fortress and the Great Square with the aim of soldering together the *platea magna* and *platea minor* of the medieval town in a spatial continuum which would, perhaps, have constituted the first modern public space in the history of architecture. It would certainly have been the first modern public space in the history of Perugia. Why the work was not carried out is still unknown. In fact, the partial rectifying that was effected, created an incomplete, interrupted space that is surprisingly visible even today. Alessi's "New Square" came alive in the figures which support our reconstruction hypothesis. The new configuration of its sides, which was obtained by symmetrically mirroring the south side position of what is now Mazzini Street with the axis that cross-cut the Priors' Palace loggia, appeared to overlap closely enough with consolidated historical boundaries of private property within the urban island to be rectified[45], as reported by the Gregorian Land Registry. Furthermore, this configuration matched up with the new seat of Perugia University which had been erected a few decades earlier (1520). Finally, a cloister that might correspond hierarchially to the facade of a new urban palace was found in appropriate correspondence to the monumental entrance of the former St. Mary of the People Church. Consequently, the sides of the square were hypothesized to be the following: to the west the Priors' Palace enlargement with Alessi's loggia in the centre, to the south what is now Mazzini Street with Alessi's St. Mary of the People Church, to the east side the monumental module of the Perugia University facade, to the north a new side that was hypothesized to start where the present one is positioned by placing a new public building in correspondence to the church and its internal cloister. It would have been constructed Alessi-style, like the *Ludovicus Golius* Palace in Perugia. The three-dimensional model showing the virtual views of the New Square which illustrates the present essay was developed from our two-dimensional analysis. Moreover, the space it defines as creating an ordered system of public squares, concurs in size with the area that stretches in front of the Pauline Fortress to the Great Square.

In light of these findings it is certainly neither unrealis-



Fig. 17 Re-construction hypothesis of the New Street area in Perugia, re-construction hypothesis, graphic editing of Gregorian Land Registry [1835]

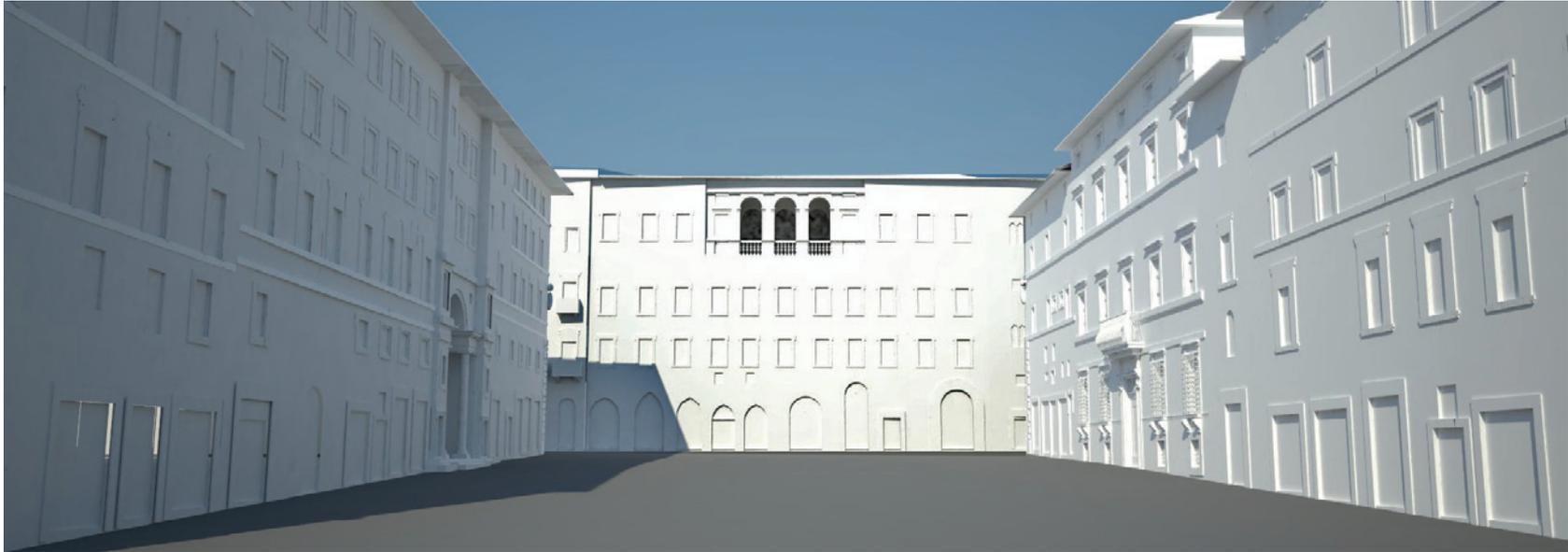


Fig.18 Re-construction hypothesis of the New Street area in Perugia, re-construction hypothesis, render view

tic nor over-ambitious to hypothesize that, once Alessi had completed the Pauline Fortress, Paul III asked him for a detailed plan, that would transform the medieval acropolis into a Farnesian citadel[46]. Although archive records provide no evidence to support this hypothesis, it is supported by physical evidence like Alessi-style buildings that could not be attributed to him and the strong Alessi-style influence on many later works by Valentino Martelli and Bernardino Sozi. It might

account for the perplexity of many researchers upon encountering these constructions[47]. Indirect evidence supporting the present hypothesis derives from Alessi's professional commissions in Valsesia where he planned the re-order of the Holy Mount of Varallo[48]. And it comes above all from Genoa city which, following Bartolomeo Sauli's[49] recommendation, commissioned Alessi in 1548, to create "la Strada Maggiore" (Greater Street, later New Street, now Garibaldi Street)

which was "uno dei più emblematici e originali interventi urbanistici della metà del 500" (one of the most emblematic and original interventions in town planning in the mid-1500s)[50]. Indeed, who would ever have risked involving an unknown, young architect without having checked the outcome of similar, previous work? The magnificent splendour of the Farnesian citadel in Perugia was evidently sufficient guarantee for the notoriously diffident Genoa commissioners.

## NOTES

[1] The citation was taken from Alessi's letter to Cardinal Fulvio della Corgna which was enclosed with Alessi's lost proposed design for the Church of Jesus, Rome. Cfr. Burns 1975, p. 166.

[2] Cfr. Rossi 1873, p. 7; Belardi 2013a and Belardi 2001, p. 167.

[3] Cfr. Belardi, Ceccucci 2006; Belardi 2011; Belardi, Bianconi, Armeni, Menchetelli, Merli, Sperandio 2012; Belardi 2013a; Belardi 2013b; Chiuiini 2011 and Chiuiini 2012.

[4] A biased clichè from the Fascist era is known to have made a decisive contribution to the medieval myth surrounding Perugia acropolis. Cfr. Di Nucci 1992, pp. 59-85.

[5] Cfr. Guidoni, Marino 1991, p. 278 and Guidoni 1981.

[6] Now the area between Italy Square, Vannucci Avenue and IV November Square.

[7] Cfr. Belardi, Ceccucci 2006.

[8] On top of the Pauline Fortress was a Doric loggia which was traditionally attributed to Alessi. Cfr. Algeri 1975, p. 193.

[9] Cfr. Grohmann 1981, pp. 89-91.

[10] Cfr. *La Rocca Paolina* 1992 and Lattaioli, Lattaioli 2004.

[11] Cfr. Girolamo di Froliere 1851, p. 473.

[12] Cfr. Grohmann 1981, p. 94. On the architectonic and urban transformation of Perugia after construction of the Pauline Fortress cfr. Camerieri, Palombaro 1988; Camerieri, Palombaro 1992 and Galmacci 2006, pp. 151-180.

[13] Cfr. Galmacci 2006, pp. 151-156.

[14] Cfr. Bonelli 1975 and Miarelli Mariani 1975. Other clues that support this hypothesis derive from the debate that raged in Rome while Alessi was living there. The greatest architects of the time discussed plans for St. Peter's Dome and the Campidoglio Square. A few decades earlier the Castel Sant'Angelo loggia had been constructed. All these works, which tended to move beyond architecture and involve the entire city, were planned by the same group, like Sangallos and Michelangelo, with whom the young Alessi studied and interacted. For information on the relationship between Alessi and Antonio da Sangallo the Young cfr. also Algeri 1975, pp. 193-196; Bozzoni, Carbonara 1975, pp. 212, 217; Burns 1975, p. 151; De Negri 1975, p. 293 and Lotz 1975, p. 12. For information on the relationship between Alessi and Michelangelo cfr. also Burns 1975, pp. 149, 157 (note 49), 163 (note 84) and Puppi 1975, p. 67. For information on the relationship between Alessi and Bramante cfr. Bonelli 1975, p. 56 and Pane 1975, p. 39.

[15] Which was partly due to the suppression of the Priors' magistrature from 1540 to 1553.

[16] Cfr. Rossi 1873, p. 10.

[17] The architectural survey investigated the front loggia of the Priors' Palace (1545-1547); the former loggia of Sun Door, later St. Angel of the Peace Church, now the "Walter Binni" Room in the Augusta Municipal Library (1545-1548); the cutting New Street (via Nuova), now Giuseppe Mazzini St. (1547); the former St. Mary of the People Church which is now the "Galeazzo Alessi" Chamber Service Centre (1547); Most Holy Sacrament Chapel in St. Lawrence's Cathedral (1557) and the south door of St. Lawrence's Cathedral (1568). The architectural surveys were con-

ducted during a "Civil Engineering" PhD programme (XXIV cycle) at the University of Perugia, which started in the academic year 2008-09 (co-ordinator: Prof. Claudio Tamagnini; advisor: Prof. Paolo Belardi; PhD students: Marco Armeni, Luca Martini); "Architectural survey" module in the Architectural engineering degree programme which started at the University of Perugia in the academic year 2008-09 (Lecturer: Prof. Paolo Belardi; co-ordinators: Engineers Simone Bori and Valeria Menchetelli; tutors: Engineers Marco Armeni, Luca Martini, Francesca Rogari, Cecilia Scaletti, and Architect Francesca Seghini); 3-year degree thesis in Civil Engineering, which was entitled *Architectural Survey of the former St. Angel of the Peace Church by Galeazzo Alessi in Perugia (Rilievo architettonico dell'ex chiesa di Sant'Angelo della Pace di Galeazzo Alessi a Perugia)* and it was presented at the University of Perugia in the academic year 2005-06 by undergraduate Massimo Tomassini (thesis supervisor: Prof. Paolo Belardi); 3-year degree thesis in Civil Engineering, which was entitled *Architectural Survey of St. Mary of the People Church by Galeazzo Alessi in Perugia (Rilievo architettonico della chiesa di Santa Maria del Popolo di Galeazzo Alessi a Perugia)* and it was presented at the University of Perugia in the academic year 2005-06 by undergraduate Francesco Rossi (thesis supervisor: Prof. Paolo Belardi); and from a research project entitled *Walking through history. Making the most of Perugia acropolis by means of system of innovative spaces and linking pedestrian walkways (Camminare nella storia. Valorizzazione dell'acropoli di Perugia attraverso un sistema di spazi e collegamenti pedonali innovativi)* which was conducted in 2009 by the Dept. of Civil and Environmental Engineering, University of Perugia (principal investigator: Prof. Paolo Belardi; co-ordinator: Prof. Fabio Bianconi; research team: Engineers

Marco Armeni, Simone Bori, Luca Martini and Cecilia Scaletti). Cfr. Martini 2012; Belardi 2009 and Armeni, Bori, Martini, Scaletti 2009.

[18] Cfr. Algeri 1975, Ascani Maddoli 1975, Belardi 1987, Belardi 2001 and Ceccucci 2011.

[19] This work was done a few years after Alessi planned the Pauline Fortress loggia. Cfr. Algeri 1975, p. 195. For information about Alessi's early work in Umbria also cfr. Belardi 2001, pp. 167-171.

[20] A Roman palm corresponds to approximately 22,34 centimetres, cfr. Docci, Maestri 2009, pp. 25, 15-32, 146-148.

[21] Cfr. Camerieri, Palombaro 1992, p. 10 (fig. 1); Grohmann 1981, p. 102.

[22] Now the "Walter Binni" Room in the Augusta Municipal Library, Perugia. Cfr. Lotz 1975, p. 11 and Algeri 1975, pp. 195-196.

[23] Cfr. Rossi 1873a, p. 10. Please note that the bastions of the picturesque ramp linking what is now Rossi Scotti Square and Bartolo Street are decorated with a cartouche which could well once have had a heraldic coat of arms (since removed). These armorial bearings are reminiscent of the Farnese Papal coats of arms on the ash-lars that line what is now Mazzini Street. Cfr. manuscript below.

[24] Later the Commodity Exchange, now the "Galeazzo Alessi" Chamber Service Centre. Cfr. Algeri 1975, pp. 193-194; Ascani Maddoli 1975, p. 223; Lotz 1975, p. 11.

[25] As reference see one of Serlio's Doric facades, cfr. Serlio 1537, p. XXX. For information on the relationship between Alessi and Serlio cfr. Wilinski 1975.

[26] Cfr. Belardi 1997a.

[27] Cfr. Rossi 1873a, p. 22.

[28] Cfr. Belardi, Bianconi, Armeni, Menchetelli, Merli, Sperandio 2012; Belardi 2001, p. 172; Algeri 1975, p. 197. The architectural survey of south door of St. Lawrence's Cathedral in Perugia was conducted in 2012 by the Interdisciplinary Drawing and Architecture Section, Dept. of Civil and Environmental Engineering, University of Perugia (Principal Investigator: Paolo Belardi; Co-ordinator: Fabio Bianconi; Survey team: Marco Armeni, Valeria Menchetelli).

[29] Cfr. Algeri 1975, p. 197.

[30] Images were obtained by means of a Faro LS 880HE laser scanner, with a 155°x360° scanning window, velocity 122000 pixels a second and 8000 pixel resolution every 360°.

[31] Since a "herma" refers to a half-bust sculpture grafted on to an upside-down pyramid, use of the term in this context is not completely correct. The doorway does not have any bust plasticity but rather a geometric-floreal design with spirals. Arm plasticity is reduced to two rectangular grooves.

[32] For in-depth analysis of the door see cfr. Belardi, Bianconi, Armeni, Menchetelli, Merli, Sperandio 2012.

[33] Cfr. Belardi, Bianconi, Armeni, Menchetelli, Merli, Sperandio 2012.

[34] Originating, respectively, in the present Republic Square and IV November - Danti Squares. Trifurcations branched off towards Bonazzi Street, Fort Street and Vannucci Avenue at one end and towards Bon-tempi, Prome and Bartolo Streets at the other.

[35] Cfr. Tafuri 1984 and Guidoni, Marino 1991, pp. 204-208.

[36] The architectural survey and catalogue of portal type in Perugia were carried out by Francesco Aureli, Manuela Boccali, Laura Piazzoli and Gabriele Prenni during the "Architectural survey Laboratory" module in the Civil Engineering MSc degree programme, which started in Perugia University in the academic year 2008-09 (Lecturer: Prof Paolo Belardi; tutor: Engineer Valeria Menchetelli).

[37] Cfr. Chiuni 2012, pp. 26-29.

[38] Cfr. Algeri 1975, p. 195; Lotz 1975, p. 11.

[39] Cfr. Belardi 1997b, p. 57.

[40] Cfr. Belardi 2009 and Armeni, Bori, Martini, Scaletti 2009.

[41] Images were obtained by means of 3D Cyrax 2500 laser scanner (range: 103,5 metres), scanning window 195°x360°, velocity 1000 pixels a second. 1x1 centimetre scanning slices were used in the present study.

[42] Cfr. Puppi 1975, p. 73.

[43] Images were obtained by means of IDS georadar, antenne 200-600-cross 600 Mhz, and were analysed by IDS GRED 3D software.

[44] Research into the re-construction hypothesis of the New Street area in Perugia was performed in 2012 by the Interdisciplinary Drawing and Architecture Section, Dept. of Civil and Environmental Engineering, University of Perugia (principal investigator: Paolo Belardi; co-ordinator: Luca Martini; survey team: Paolo Belardi, Luca Martini, Nicola Dreij).

[45] Cfr. State Archive of Perugia, Ufficio Tecnico Erariale di Perugia, *Catasto Gregoriano, Perugia*, map 99.

[46] The following note by Ugo Tarchi appears interesting: "Con l'aiuto dell'Alessi intanto il cardinale Crispo tentò di iniziare un nuovo piano regolatore, aprendo nuove strade e nuove piazze" (With Alessi's aid Cardinal Crispo attempted to begin work on a new town plan, by opening up new streets and squares). Cfr. Tarchi 1954 (tab. CCXXXI). This may have been Alessi's opportunity to develop his extraordinary capacity for *remote control*, which he later used to supervise his work-sites from a distance, by supplying his trusted collaborators with letters containing repeated details and instructions. Cfr. Belardi 1997a and Belardi 2001, p. 167.

[47] Cfr. Magliani 1993. The following passage by Tarchi about Alessi is also rather interesting: "seppe (...) insegnare ad uno stuolo di oscuri modesti esecutori, prodigare con la generosità del genio i suoi disegni e i suoi progetti che furono eseguiti anche molti anni dopo la sua morte" (he knew how to teach a group of simple obscure workmen with such intelligence and generosity that his designs and projects were carried out even many years after his death), cfr. Tarchi 1954 (tab. CCXXIX).

[48] Cfr. Stefani Perrone 1975.

[49] Sources state that from 1546 to 1548 brothers Girolamo and Bartolomeo Sauli managed the Apostolic Treasury of Perugia. It is entirely plausible they met Alessi and appreciated his ability to plan a series of works that implemented the papal will to transform the image of Perugia. Cfr. De Negri 1975, p. 290; Lotz 1975, p. 11; Puppi 1975, pp. 67-68.

[50] Guidoni, Marino 1991, p. 532. Cfr. also Poggi 1968 and Puppi 1975.

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