

1 Peruzzi. Section of the Pantheon. Biblioteca Comunale, Ferrara.

## A PERUZZI DRAWING IN FERRARA

by Howard Burns

In the Biblioteca Comunale Ariostea in Ferrara there is a copy of Vignola's "Regola delli Cinque Ordini d'Architettura" which at one time belonged to the Ferrarese architect Giovan Battista Aleotti, called l'Argenta. ${ }^{1}$ Aleotti's ownership of the volume appears from a note in his hand at the foot of the title page : con molti altri fragm ${ }^{\text {ti }}$ di ciasc ${ }^{\circ}$ ordine ch vagavano per le stampe, et altrove, raccolti dal Argenta Architetto. ${ }^{2}$ These 'fragments', most of them intended to supplement the material on the orders given by Vignola, include numbers of Aleotti's
${ }^{1}$ MS. Classe I, n. 217. The volume is described in G. Antonelli, Indice dei manoscritti della civica biblioteca di Ferrara, I, i884, p. 126-127. Gustave Gruyer, L'art ferrarais à l'époque des princes d'Este, Paris, 1897, Tome I, p. 278, must refer to this volume when he writes of Ligorio, 'et il enrichit de dessins et d'annotations, avec Terzi et Aleotti, un ouvrage de Vignole.' G. Padovani, Architetti Ferraresi, Rovigo, 1955, p. I3I, mistakenly suggests that the volume belonged successively to Terzi, Ligorio, and Aleotti : in fact Aleotti was clearly the collector of all the inserted material.
For a thorough discussion of the volume in relation to Aleotti's drawings see David R. Coffin, Some Architectural Drawings of Giovan Battista Aleotti, in : Journal of the Society of Architectural Historians, XXI, 1962, p. 1i6-i28.
I am most grateful to the Director of the Biblioteca Ariostea Comunale at Ferrara, Dr. L. Capra, for his assistance when I was examining the volume, and subsequently in helping me to obtain photographs.
${ }^{2}$ Quoted by Coffin, op. cit., p. 116 .
own drawings ${ }^{3}$, a few engravings of architectural details, fragments of Pirro Ligorio's writings on architectural antiquities, and some drawings probably by the Ferrarese architect Terzo de' Terzi. ${ }^{4}$

Among these materials there is a sheet of drawings by Baldassare Peruzzi. ${ }^{5}$ The recto (Fig. I) shows a section, and some details (Figs. 2, 3), of the Pantheon; the verso (Fig. 4) a plan of the amphitheatre at Verona. Both the draughtsmanship and the handwriting have the unforced elegance characteristic of Peruzzi, and a confident attribution can be made to him. ${ }^{6}$

The sheet undoubtedly belongs with a group of Peruzzi's studies of ancient buildings in the Uffizi, and, with the other drawings of the group, can be dated between 1531 and $1535 .{ }^{7}$
${ }^{3}$ Coffin, op. cit., discusses these in detail, and publishes them, together with the Aleotti drawings bound up with Ligorio's Oxford MS. (Bodleian, Cod. Canonici Ital., I38).
${ }^{4}$ The engravings of architectural details include some with the monograms A. V. and S. B.; some by the monogrammist PS; and some by the monogrammist GA with caltrop. Aleotti's collection is very similar to that owned by Talman (see K. T. Parker, Catalogue of the Collection of Drawings in the Ashmolean Museum, Vol. II, Italian Schools, Oxford, 1956, p. 552).
There are fourteen Ligorio sheets in the volume. They are mainly pages from his antiquarian writings, and carry drawings of ancient buildings and architectural details, together with some text. One of these sheets shows that Ligorio's antiquarian studies were in progress before May i543, and that he was in touch with Claudio Tolomei's circle in Rome. This contact may well account for the similarity between the range of Ligorio's antiquarian writings, and the programme of studies outlined by Tolomei in his letter of 1542 (cf. David R. Coffin, Pirro Ligorio on the Nobility of the Arts, in : Journal of the Warburg and Courtauld Institutes, XXVII, 1964, p. 191). I intend to discuss this point elsewhere, in a study of Ligorio's drawings and reconstructions of ancient architecture. The attribution of some of the drawings in the volume to Terzo de' Terzi originates with Aleotti himself. On fol. I recto (immediately following Vignola's plate VIII), Aleotti writes Questa cornice A. la Base B. et il capitello C. l'ho trovato nelle scritture dela mun(izio)ne del Duca Alfo. ii di Ferra. Credo fussero di mano di quel Terzo de' Terci che fu Architetto del Duca Ercole, padre d'Alfonso sudetto. (Quoted by Coffin, 'Some Architectural Drawings...', p. in6, note 2). Aleotti adds a similar note to the drawing on fol. 6 verso. - On Terzi see the entry in Thieme-Becker and G. Padovani, op. cit., p. 87-94 (but for the date of his death, cf. Coffin, 'Some Architectural Drawings...', p. in6, note 4). Terzi is almost certainly Cellini's Messer Terzo, see Opere di Baldassare Castiglione, Giovanni della Casa, Benvenuto Cellini, ed. Carlo Cordié, Milan-Naples, 1960, p. 1108 ).
${ }^{5}$ The drawing is pasted into the volume, before the title page, together with ten other drawings: it is the seventh in the group. It measures $279 \times 427 \mathrm{~mm}$; the paper is white; and there are small holes in three of the corners, as if it had once been pinned to a board. The drawings are in pen and brown ink, over construction lines. No watermark is visible.
${ }^{6}$ A few similarities between the Ferrara sheet and Peruzzi's drawings in the Uffizi may be mentioned. The abbreviation for braccia which appears on the Ferrara drawing is that habitually used by Peruzzi. The rendering of the columns and capitals of the portico is similar to that of the columns of the facade of the temple of Minerva at Assisi (UA $476+634$; Alfonso Bartoli, I monumenti antichi di Roma nei disegni degli Uffizi di Firenze, Rome, 1914-1922, vol. II, fig. 315). The detail of the cornice above the door of the Pantheon closely resembles those of entablatures drawn on UA 478 verso +63 I recto (Bartoli, II, fig. 320), a signed sheet. For the exact correspondence between the plan of the amphitheatre at Verona on the Ferrara sheet, and Peruzzi's section of it in the Uffizi (UA 605) see note 9 below.
${ }^{7}$ A. Bartoli, op. cit., 'Descrizione dei disegni', p. 57 , was the first to recognise that UA $476+634,477$, $484,605,478+63 \mathrm{Ir}$, and $632+633$ belonged to a single series. UA 605 is a whole sheet; UA 477 and 484 are half sheets. The other three are whole sheets which have been divided in two, but are now reconstituted. The height of all these drawings ranges between 428 mm and 442 mm ; the width, between 576 mm (obtained by doubling the width of the half sheets) and 590 mm . The variation in either dimension is thus less than a centimetre and a half. All have the same watermark: crossed arrows surmounted by a six-pointed star (cf. Heinrich Wurm, Der Palazzo Massimi alle Colonne, Berlin, 1965, p. I3 note 26). All the sheets of the group carry drawings of ancient buildings, made not directly after the monuments, but on the basis of other drawings. For the most part they are probably based on Peruzzi's original studies, but in some cases (most notably the drawings of Veronese monuments) this is probably not so. Handwriting and drawing style are the same throughout the group.
The handwriting suggests that the drawings are not earlier than 1527 . Peruzzi was resident in Siena by io July 1527 (see Gaetano Milanesi, Documenti per la Storia dell'Arte Senese, III, Siena, 1856, p. 100-10I), and there is no evidence that he returned to Rome before 15 April i53i, when he

The subject, the size of the sheet, and the character of the drawing and handwriting, all connect the Ferrara sheet with this group. ${ }^{8}$ An even more definite link is that the plan of the Verona amphitheatre corresponds exactly, in measurements and configuration, to Peruzzi's section of the amphitheatre in the Uffizi (Fig. 5). ${ }^{9}$

Of the two drawings, the more interesting is certainly that of the Pantheon. It is among the finest of Peruzzi's surviving architectural drawings from the antique; it is also important as being apparently the only detailed section of the Pantheon by Peruzzi which has survived. ${ }^{10}$
was given a month's leave of absence to go there (see Scipione Borghesi and Luciano Banchi, Nuovi documenti per la storia dell'arte senese, Siena, 1898, p. 439). As most of the drawings seem to reflect direct contact with the Roman monuments represented, it is probable that they were made in or after April, 153 I.
The two elements bearing on the date of these drawings mentioned by Bartoli (op. cit., p. 57 and 58) are not very conclusive : Bartoli observes that the note in casa dele l.erede di $M$. melchior baldassino in Roma on UA $476+634$ (Bartoli, II, fig. 3I5) establishes that the drawing was made after Baldassini's death on 12 September, 1525 . (This date is given in the diary of Biagio da Cesena, Vatican, Chigi MSS., L. II. 22, fol. 138 r ; the date 1522 given in the Dizionario Biografico degli Italiani, Rome, 1963 , vol. 5, p. 452, seems to be a mistake). Bartoli further observes that a base drawn on UA $632+633$ is stated by Peruzzi to be nel palazo del Car(dina)le de ancona, who died on 11 December, 1 532. But although it is very possible that the drawing (or at least the original on which it is based) was made before that date, it is also possible that Peruzzi referred to the palace by the cardinal's name even after his death.
Another indication of the date of the group is provided by UA 368, a plan project for the Palazzo Massimi. The paper has the same watermark as the drawings discussed above, and the handwriting shows that it was executed in the same period of Peruzzi's activity. H. Wurm, op. cit., p. 1314, dates UA 368 not earlier than 28 February 1532 and not later than the beginning of 1535 .
(The earlier date is that of the formal registration of an agreement, reflected in Peruzzi's project, as to the division of property between the three brothers Massimi; it is however possible that Peruzzi was asked by Pietro de' Massimi to draw up a project, after the agreement had been reached between the brothers, but before it was notarised).
${ }^{8}$ For stylistic resemblances between the Ferrara sheet and the group in the Uffizi see note 6 above. The Ferrara sheet measures $279 \times 427 \mathrm{~mm}$ and is therefore a half sheet (see note 7 above). If 279 mm is doubled, a width of 558 mm is obtained; $427 \times 558 \mathrm{~mm}$ is close to the minimum dimensions found among the Uffizi sheets ( $428 \times 576 \mathrm{~mm}$ ) and the discrepancy between the two larger dimensions can be accounted for by the loss of some millimetres at each side of the sheet.
${ }^{9}$ UA 605. Pen and brown ink over metalpoint construction lines; $432 \times 578 \mathrm{~mm}$. Measurements are in piedi divided into 16 digiti. It is not published by Bartoli, nor, as far as I know, anywhere else. The recto carries the following notes : queste stilobate son tante quanti son li tramezi dela pianta; qui infra luna e laltra stilobata era $u(\mathrm{n})$ quadro dove si po comodam(en)te sedere ; Li $4 I$ gradi insieme a piedi 2 , digiti 6, larghi ciascuno fan(n)o intucto di largheza pedi $97-e$ in alteza alti ciascuno un pede e digiti 6 - fano pedi 56 - digiti 6 -intucti; tucti li gradi overo scale da saglire son larghe un pe e alte 3/4 cioe dig. I2. In the top right there are details of the steps with the notes: canale p(er) acqua $e$ orina (compare Serlio, III, I540, p. LXXII : ...quei certi canaletti, che vi sono, erano per scolare le acque, E® ancho per le urina del popolo senza nuocere ad alcuno); pende dito uno (Serlio, loc. cit.: $\mathcal{G}^{\circ}$ ancho $i$ gradi erano alquanto pendenti); Incastrati di $q$ (uest)o modo. The drawing is labelled Amphitheatro di Verona, and a scale is given, with the note pedi di questa op(er)a. - In both UA 605 and the Ferrara plan, the dimensions given for the succession of piers and ambulatories read (moving inwards) : p. 7 d. $6 ; p .15 ; p .4$ d. 8 (p. 5 on the plan) ; p. 8 d. $8 ; p .4$ d. $8 ;$ p. 8 d. 8 ;
 roughly sketched the profiles of the second and third orders of the exterior, with the note : porria essere $e$ / demo(n)stra el $4^{o}$ ordine be(n)che no(n) face ${ }^{a}$ di bisogno.
${ }^{10}$ The nearest approach to a section of the Pantheon among Peruzzi's other drawings, though of great interest as a concise statement of the building's basic proportions, is only a small diagram (UA 462; Bartoli, fig. 308). A similar diagram appears on UA 574 verso. It consists of a circle divided into four quarters, and bears the note vano dela ritunda $b$ (raccia) 66 (almi) 2 tutto el vano. UA 570 verso, which Bartoli publishes (fig. 264) as a section of the Pantheon, obviously is not : the dimensions are far too small. There are the following drawings of the Pantheon by Peruzzi in the Uffizi : UA 462 (Bartoli, fig. 308). Plan measured in palmi, and diagrammatic section. UA 482 (Bartoli, fig. 285). Profile of the stilobate of one of the aedicules of the interior (measu-

In the sixteenth century the Pantheon was generally considered the most notable example of ancient architecture, and Peruzzi himself put it first when he drew up a list of ancient temples. ${ }^{11}$ It would be very surprising if he had never made any elevation studies of the building. The Ferrara drawing shows how Peruzzi in fact represented the interior of this large and complex structure in elevation.

Peruzzi's analysis is both lucid and detailed (Fig. 2). The section is shown in orthogonal projection, without any admixture of perspective elements which would prevent measurements being taken from the drawing and detract from it as a statement of the proportions of the building. ${ }^{12}$ The principal forms and proportions have been established by construction: the curve of the dome is traced with compasses; the lines of the cornices are ruled. But many other features (as in other drawings in the group to which the Ferrara sheet belongs) are added freehand. Measurements are in Florentine braccia subdivided into 60 minuti, and the drawing is accompanied by a number of explanatory notes. ${ }^{13}$ The drawing is to scale in its main elements, though no scale is actually indicated on the sheet. ${ }^{14}$
red in palmi).
UA 533 (Bartoli, fig. 27I). Profiles of the base of the portico, and of the base of the aedicules. Measured in palmi.
UA 534 (Bartoli, fig. 289). Various details of the portico.
UA 54 I v. (Bartoli, fig. 256). Sketch plan of the portico, measured in palmi.
UA 574 v . Diagrammatic plan (or section).
UA 591 (Bartoli, fig. 300). Profile of the cornice above the door. Probably not by Peruzzi, but a contemporary copy after him. Corresponds exactly to the detail on the Ferrara sheet (See figs. 3 and 8).
UA 630 (Bartoli, fig. 299). Elevation of an aedicule (no measurements).
Bartoli also cites (Descrizione dei disegni, p. 49) drawings of the Pantheon in the Biblioteca Comunale in Siena (Cod. S.II.4, fols. 57 and 58) but these are definitely not by Peruzzi. Nor are the sixteenth century drawings of the Pantheon attributed to Peruzzi (in fact apparently derived from Serlio) at Christ Church, Oxford (C.F. Bell, Drawings by the Old Masters in the Library of Christ Church, Oxford. Oxford, 1914, p. 74). Cod. Vat. Lat. 3439, fol. 179, which shows an elaborate scheme for the redecoration of the upper order, and carries the puzzling note Autographum Balthassaris Petrucci ob instaurationem Scenographia Panthei apud Sebastianum Serlium, is also not by Peruzzi (Rodolfo Lanciani, Notizie degli Scavi, 1882, p. 341, believed that it was by Peruzzi).
${ }^{11}$ UA 489 recto. With the exception of the "temple of Apollo" at Terracina (now the Duomo) and the temple of Castor and Pollux at Naples, all the temples listed are in Rome. - For Renaissance opinions about the Pantheon see Tilmann Buddensieg, Das Pantheon in der Renaissance, in : Kunstgeschichtliche Gesellschaft zu Berlin: Sitzungsberichte, N. S. 13, 1964-65, p. 3-6.
${ }^{12}$ Cf. Serlio, III, I540, p. IX (writing of his section of the Pantheon) : Non si maravigli alcuno se in queste cose che accennano a la prospettiva, non si vede scortio alcuno, ne grossezze, ne piano ; percioche ho voluto levarle da la pianta dimostrando solamente le altezze in misura, accioche per lo scortiare le misure non si perdano per causa de $i$ scorzi. Cf. Wolfgang Lotz, Das Raumbild in der italienischen Architekturzeichnung der Renaissance, in : Mitteilungen des Kunsthistorischen Institutes in Florenz VII, 1956, p. 193-226, passim.
${ }^{13}$ The notes not discussed separately may be given here. The unit of measurement is indicated by a note above the portico roof: misurata $p(\mathrm{er}) \quad b$ (racci)o fiore(n)tino. Between two windows of the upper order is written tucto el vano alto $b .73 \mathrm{~m} . ~ I 2$. In one of the windows is the note clausa. The diameter of the building is recorded in the frieze of the upper order: 74 m .20 el tucto. The lower frieze is indicated as di porfido, as are the decorative panels between the capitals of the lower order. In the segmental pediment of one of the aedicules there is another specification of material : serpe(n)tino. The side of the doorway is labelled antepagm(en)to (a Vitruvian term : see 'De Architectura' IV.6); the doorway itself porta. The hollow above the entrance is indicated by the word vacuo. Of the roof of the portico Peruzzi writes era volta a bocte alcunj credono che fusse di metallo (cf. Serlio, III, I540, p. X : ci era una meza botte di bronzo molto ornata). Beside the pediment there is the note ornato di figure di metallo (Serlio, III, I540, p. VIII: Lo spacio di questo frontespicio si tiene che fusse ornato di figure di argento: quantunque io non l'ho trovato in scrittura, ma considerando a la grandezza di quegli imperatori mi dò a credere che cosi fusse). By following the sheet into the binding one can read the height of the top of the lowest external cornice above the level of the cella floor ( $b .2 I \mathrm{~m} .30$ ) and the distance from the top of the lowest, to the bottom of the middle, external cornice ( $b .15 \mathrm{~m} .30$ ).
${ }^{14}$ A scale was therefore used in constructing the drawing. Peruzzi gives a scale on UA 605 (fig. 5).


2 Peruzzi. Section of the Pantheon (detail of fig. i).

The section, unlike the majority of surviving sections of the Pantheon of earlier date, is along the principal axis. ${ }^{15}$ It thus shows both the cella and the portico, and brings out the problem of their relationship. A note on the drawing (fastigio piu antiquo de op(er)a lateritia: 'older pediment of brickwork') indicates that Peruzzi had concluded that the somewhat incongruous pediment on the face of the main structure, immediately above and behind the portico, was a survival from a facade which preceded the construction of the portico. Palladio and other
${ }^{15}$ Sections along the principal axis, showing the portico, and a little of the interior appear in the Kassel sketchbook (fol. 29) and in a drawing in Vienna (Hermann Egger, Kritisches Verzeichnis der Sammlung architektonischer Handzeichnungen der K. K. Hof-Bibliothek, I, Vienna, 1903, no. 118 verso).
A partial section along this axis, showing only that part of the building which lies between the portico and the cella proper, appears on fol. 33 verso of the Coner sketchbook (Thomas Ashby, Sixteenth Century Drawings of Roman Buildings Attributed to Andreas Coner, in : Papers of the British School at Rome, II, 1904, pl. 38). UA 1956, attributed to Sansovino, is a section along the principal axis, but does not show the portico. Neither this nor the Coner drawing shows the building in orthogonal projection. Dr. Tilmann Buddensieg (who kindly lent me his photographs of the Kassel and Vienna drawings) in an expanded version of the article cited in note II above, to be published in the "Römisches Jahrbuch für Kunstgeschichte" of the Bibliotheca Hertziana, will include a catalogue of Renaissance drawings of the Pantheon. Rod. Lanciani, Notizie degli Scavi, 1882, p. 340-345, discusses numbers of drawings of the Pantheon.
sixteenth century artists came to similar conclusions in their consideration of this classic problem. ${ }^{16}$

Despite the accomplishment of its draughtsmanship (for instance in the rendering of the left half of the lower order) Peruzzi's drawing is analytic rather than pictorial in intention. Some details, including the decoration of the upper order, are omitted, while others are only roughly sketched. But other features are carefully considered. Thus Peruzzi was not satisfied with the treatment of the short vestibule between the inner side of the door and the rotonda proper: he has emended it by adding a pilaster (or rather three quarters of one) in the corner nearest the door, to balance the existing pilaster. He makes his emendation explicit, however, by adding the note questa no(n) ve, 'this is not here'. Serlio, probably following Peruzzi, also adds a pilaster in this corner (Fig. 6). ${ }^{17}$ Peruzzi, furthermore, has noticed and recorded the gentle rise of the pavement towards the centre of the cella. ${ }^{18}$

Other details are shown separately. In the top right (Fig. 3) is a study of the bronze girders which in the sixteenth century still supported the portico roof. The very similar illustration in Serlio is probably derived from Peruzzi (Fig. 7). ${ }^{19}$ On the right of the sheet (Fig. 3) there is a drawing of the cornice above the door - a contemporary copy of this drawing, almost certainly not by Peruzzi, is in the Uffizi (Fig. 8). ${ }^{20}$ Peruzzi also shows a diagrammatic

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3 Peruzzi. Section of the Pantheon (detail of fig. i).
elevation of the door itself (Fig. 3) ${ }^{21}$; a little sketch of one of the decorative panels between the pilasters on either side of the door (Fig. 3); and a section of one of the flutes of the columns of the 'capella maggiore' (Fig. 2). Here he has shown, with characteristic precision, a section of the flute in both the upper and lower part of the column. ${ }^{22}$

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4 Peruzzi. Plan of the amphitheatre, Verona. Biblioteca Comunale, Ferrara (Verso of the sheet fig. i).

The plan of the amphitheatre at Verona (Fig. 4) shows somewhat less than half of the total circumference. ${ }^{23}$ Both the ground plan and the plan of the seats are shown. And as has been said, the plan corresponds exactly to Peruzzi's section of the amphitheatre in the Uffizi (Fig. 5). ${ }^{24}$ The curve of the amphitheatre is not shown as a true ellipse, but as an approximation, constructed with four centres according to a formula described by Serlio and used elsewhere by Peruzzi. ${ }^{25}$ Measurements are in Roman piedi divided into 16 dita. ${ }^{26}$

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5 Peruzzi. Section of the amphitheatre, Verona. Uffizi A 605.

It is quite possible that the measurements on Peruzzi's drawing of the Pantheon depend on his own surveys; it is clear that the way in which he represented it depends on his own personal observations. But it seems very improbable that Peruzzi had measured, or even seen, the amphitheatre at Verona. He is not documented further north than Bologna. ${ }^{27}$ And more conclusively, none of his drawings of Veronese monuments has the appearance of having been
approximately 0.296 m (this can be calculated on the basis of the dimensions in metres given by Pirro Marconi, Verona Romana, Bergamo, 1937, p. IOI-II4). Moreover, the unit used by Sangallo and Peruzzi is manifestly smaller than the piede moderno in which Serlio in Book III gives the measurements of Veronese monuments (in fact the piede Veronese of 0.340 m ). — The fact that the Sangallo and Peruzzi drawings are measured with the Roman (rather than the Veronese or some other North Italian) foot would indicate that the original studies from which they were derived were not made by a local architect, but by someone trained at Rome.
${ }^{27}$ Peruzzi was in Bologna in 1522, in connection with the projected completion of S. Petronio (Cf. Giov. Gaye, Carteggio inedito d'artisti dei secoli XIV, XV, XVI, Florence, 1840, vol. II, p. 153-154; Angelo Gatti, La Fabbrica di S. Petronio, Bologna, 1889, p. iro; Philip Pouncey and 7 . A. Gere, Italian Drawings... in the British Museum. Raphael and his circle. London, 1962, p. 145-146). There is no evidence that Peruzzi ever did more than send drawings and models to Carpi. On his work there see Christoph L. Frommel, Die Farnesina und Peruzzis architektonisches Frühwerk, Berlin, 196i, p. 144-155.


6 Serlio. Section of the portico of the Pantheon.
made on the spot, while all of them are closely related to a group of drawings by Antonio da Sangallo, and by a collaborator of his, hitherto identified (probably mistakenly) with G. B. da Sangallo. ${ }^{28}$ These drawings, if not Peruzzi's source, at least share a common source with Peruzzi's versions.
${ }^{28}$ The handwriting of Giovan Battista da Sangallo, the brother of Antonio da Sangallo the Younger, is easily recognised, for instance by the way in which the descenders turn sharply backwards (see Carlo Pini and Gaetano Milanesi, La scrittura di artisti italiani..., Rome, 1869-76, vol. II, no. 140). This handwriting appears in many of the drawings attributed to him in the Uffizi. But other hands occur, and particularly numerous are drawings by the unidentified associate of Antonio da Sangallo with whom we are concerned here. There is no resemblance between the hand of this draughtsman (who will be referred to, for convenience, as "G.B. da Sangallo"') and the known hand of Battista (as G. B. da Sangallo signed himself). Unless it can be shown that Battista's hand changed completely at some stage in his life, it must be concluded that this is another artist.
The drawings in which this hand appears are : UA 606, 909, 989, 1331, 1332, 1334, 1374, 1375, 1378,
 1652, 1846, 2057. That the draughtsman was an associate of Antonio da Sangallo is indicated by the notes in Antonio's hand on UA 989 (Gustavo Giovannoni, Antonio da Sangallo il Giovane, Rome, 1959, vol. II, fig. 50), I331, I334, I375, and 1652. The drawings which show contemporary works appear to be sketches after them, rather than projects. Among these are a door by Antonio da Sangallo (UA 989); details of the Zecca di Roma (UA I33I and 1332); and a fireplace by Peruzzi (UA 1374 verso: chamino di baldassar(r)e p(er) lo datario). A possible exception is UA 1399 (Giovannoni, op. cit., fig. 286), a plan of the casa Del Pozzo in Borgo Nuovo in Rome.
The drawings of Veronese monuments by "G. B. da Sangallo" belong to a group of sheets showing ancient and modern buildings in northern Italy. All these sheets have the same watermark: a paschal lamb in a circle (very similar to C. M. Briquet, Les Filigranes, Leipzig, 1923, I, no. 50). The whole group can be dated after 1519 on the basis of UA 1334 verso, a drawing of the Porta di Venezia in Padua, which was finished that year (see M. Checchi, L. Gaudenzio, L. Grossato, Padova..., Venice, 1961, p. 219). - UA 1389, 1392, 1396, 1397, show fortifications, possibly those of Verona (a related drawing by the same hand, UA 1395, carries the note A Verona, and the measurements on UA 1397 are given in

Peruzzi's section of the amphitheatre (Fig. 5) is almost identical with a drawing by "G. B. da Sangallo". ${ }^{29}$ His plan of the amphitheatre (Fig. 4) is also closely related to a drawing
channe veronese). - UA 606, 1386, 1393 (fig. 9), relate to the amphitheatre of Verona; UA I382 (fig. i2) to the Arco dei Gavi at Verona; UA 1394 verso to the Roman theatre at Verona. - UA 1394 recto shows the mausoleum of Theodoric at Ravenna; UA 1334 San Vitale at Ravenna and the Porta di Venezia at Padua; UA 2057, the Porta Aurea at Ravenna (published by Heinz Kähler, in: Mitteilungen des Deutschen Archäologischen Instituts, Römische Abteilung, vol. 50, 1935, p. 177, fig. 3); UA 1391, S. Lorenzo in Milan (published by Ugo Monneret de Villard, in: Bollettino d'Arte, V, 1911, p. 275, fig. 4). - Related to the group, but with different watermarks, are UA 1383 (the Arco dei Leoni, Verona, and S. Antonio, Padua); and UA 1395 (fortifications at Verona).
${ }^{29}$ UA 1386. - $293 \times 440 \mathrm{~mm}$, pen and brown ink. Watermark: a paschal lamb in a circle. A cross drawn over a circle associates it with UA 606 (a view, without measurements, of the 'Ala') and UA I393 (fig. 9) on which the same mark occurs. It is measured, like Peruzzi's UA 605 (fig. 5), in (Roman) piedi divided into 16 dita. The measurements in the two drawings exactly correspond, as does the general rendering of the monument, including the implausible reconstruction of a massive colonnade above the seats. It differs from Peruzzi's drawing in being drawn freehand, and in not showing the outside of the amphitheatre (though it is possible that this part of the drawing has been torn off). It does not give, as does UA 605, the height from the ground to the top of the groundfloor piers. The notes on Peruzzi's drawing are rather fuller, and reflect the latinising tendencies of his architectural vocabulary: stilobate (cf. Vitruvius, III.4.2.) instead of "G. B. da Sangallo", 's zocholi; pedi and digiti instead of piedi and dita. On the verso of UA 1386 are the profiles of the second and third orders of the exterior, corresponding to those on UA 605 verso. There is also a plan of two piers of the exterior, whose measurements agree with those given on Peruzzi's plan (fig. 4). Some details are also given here which do not occur on either Peruzzi's plan or his section.
The content of both UA 1386 and UA 1393 (see note 30 below) is repeated by Antonio da Sangallo on UA 1336 and 1337 (divided halves of a single sheet).
UA 3974, which is in fact by Battista, shows an elevation of the three orders of the exterior. The rustication is rendered only very approximately and the drawing does not look as if it were based on direct observation. The only measurement given (piedi 13 , for the width of the arch) corresponds to that given by Peruzzi and "G. B. da Sangallo".


7 Serlio. The girders of the roof of the portico of the Pantheon.


8 After Peruzzi. The cornice of the doorway of the Pantheon. Uffizi A 59I (detail).


9 "G. B. da Sangallo". Plan of the amphitheatre, Verona. Uffizi A 1393.
by "G. B. da Sangallo" (Fig. 9). ${ }^{30}$ Peruzzi's drawing, constructed with compasses, has certainly a more finished appearance than the other, but it is less informative (in not showing
${ }^{30}$ UA 1393 (fig. 9). $289 \times 366 \mathrm{~mm}$, pen and brown ink. Watermark : a paschal lamb in a circle. The measurements agree with Peruzzi's plan, but the ground plan, and the arrangement of the stairs, are represented in greater detail and much more accurately (see A. Pompei's plan of 1877, reproduced by L. Beschi, in: Verona e il suo territorio, 1960, p. 461, fig. 29). On the amphitheatre in general, see P. Marconi, Verona Romana, Bergamo, 1937, p. Ioi-114; and L. Beschi, op. cit., p. 456-475. Other sixteenth century representations of the amphitheatre include: Falconetto, in the Palazzo d'Arco, Mantua (T. Buddensieg, in : Jahrbuch der Berliner Museen, V, 1963, p. I46 and fig. 25); Torello Sarayna, De origine et amplitudine civitatis Veronae, Verona, 1540 , fols. 15 verso - 16 recto, 17 verso-18 recto. The illustrations to Sarayna's book are based on drawings by Giovanni Caroto, who republished them in his "De le Antiquita de Verona," Verona, 1560 (fol. 20 verso, and fol. 21 recto, the plan and view of the amphitheatre). Serlio, III, ${ }^{5} 540$, p. LXXII-LXXV; Palladio, London, R.I.B.A., VIII, 18 and 19 (Giangiorgio Zorzi, I disegni delle antichità di Andrea Palladio, Venice, 1959, figs. 233 and 234); Lafrery's engraving of 1560 (see Christian Huelsen, Das Speculum Romanae Magnificentiae des Antonio Lafreri, in : Collectanea Variae Doctrinae Leoni S. Olschki, Munich, 1921, p. 146 no. 22); Archivio di Stato, Turin, Ligorio MSS, vol. is s.v. VERONA (Ligorio's plan of the amphitheatre seems to be based on Serlio; his section is closely related to Palladio, R.I.B.A., VIII, 19).


10 Peruzzi. The Arco dei Gavi, Verona. Uffizi A 478r + 63 Iv (detail).
the arrangement of the stairs and the direction of ascent) and much less accurate (it shows only two rows of piers in the principal entrance to the arena, instead of four). Peruzzi could scarcely have made this mistake had he inspected the building personally: it perhaps arose from his knowledge of the corresponding part of the Colosseum, where in fact there are only two rows of piers.

Peruzzi's drawing of the Arco dei Gavi in Verona (Fig. io) also suggests that he had no direct knowledge of the monument. ${ }^{31}$ He shows the decoration of the pilasters incorrectly, places

[^3]the columns too far apart, and rationalises numbers of features, for instance by giving a $2: 1$ proportion to the area enclosed by the aedicule. ${ }^{32}$ Peruzzi gives the impression of seeking to recreate a monument which he had never seen, from someone else's more pedestrian rendering of it. In fact two other drawings of the arch, closely related to Peruzzi's, by Antonio da Sangallo (Fig. II) and by "G. B. da Sangallo" (Fig. 12), are in the Uffizi. ${ }^{33}$ A comparison of all three drawings suggests that Peruzzi's sketch is derived from Antonio da Sangallo's drawing, or from its source. ${ }^{34}$
${ }^{32}$ The Arco dei Gavi is represented with fair accuracy by Antonio da Sangallo and "G. B. da Sangallo" (figs. II and 12). Peruzzi's alterations, apparently introduced unconsciously, are an interesting indication of his architectural predilections, and an example of what Dr. Buddensieg calls (op. cit., p. 6) 'a conflict between the architectural aesthetic of the Renaissance, and that of Antiquity'. Divergences between the Renaissance tendency to rationalise and systematise, and the less systematic, but often more monumental, compositions of ancient Roman architecture, are particularly noticeable in Renaissance versions of the triumphal arch.
Peruzzi has aligned the tops of the capitals of the aedicules with those of the pilasters supporting the arch; he has shown the bottom of the cornice of the small window-like panel above the aedicule as level with the top of the columns; and he has given a 2 : I proportion to the vano of the aedicule, whose dimensions he states as $p .6 \mathrm{~d} .8 \times \mathrm{p} .3 \mathrm{~d} .4$ (as opposed to the correct p. $8 \mathrm{~d} .6 \times \mathrm{p} .3 \mathrm{~d} .4$ given in the Sangallo drawings). It is likely that he first noted the width given on the drawing he used as his source, and then unconsciously transposed the 8 and the 6 of the correct height to give a height which is exactly twice the width. For a not dissimilar mistake in transcribing measurements, see note 21 above. - For a detail of the pilaster decoration, here given incorrectly by Peruzzi, see L. Beschi, op. cit., p. 442 fig. 23 .
${ }^{33}$ Antonio da Sangallo, UA 815 (Fig. iI) : elevation of the right half of the Arco dei Gavi, and details. The drawing of the arch occupies only the top right quarter of the sheet (which measures $440 \times 574$ $\mathrm{mm})$. The rest of the sheet shows an elevation of the Arco dei Borsari, and a richly decorated square antique pillar nel chortile del domo di verona (now in the Museo Maffeiano : see L. Beschi, op. cit., p. 454, fig. 26; Sarayna, fols. 33, 33 verso - 34 recto; Caroto, fol. 39). - Antonio writes on his drawing questo $e$ di mano di vetruvio $i(\mathrm{n})$ verona ed e bellissimo, thus concurring in the view that the architect whose name is inscribed on the arch (C.I.L., V, Pt. I, 3464) was the author of the De Architectura himself. Mantegna in his now destroyed "St. James led to Martyrdom" in Padua incorporated the famous Vitruvius inscription in an arch of his own invention; Serlio, III, I540, p. CXXXI, does not accept that the architect was the great Vitruvius, basing himself on the difference of initials, and on stylistic grounds; Peruzzi gives the inscription, but makes no comment. - On UA 1229 Antonio sketches the lower part of one half of the arch.
"G. B. da Sangallo", UA 1382 (fig. 12), measures $283 \times 215 \mathrm{~mm}$, and is more or less identical to Antonio's drawing, save that it is executed without the help of ruler and compass.
${ }^{34}$ Antonio's drawing is almost certainly not derived from that of "G. B. da Sangallo", though it seems very possible that the latter may be derived from it. This is suggested by the one instance of divergence between the measurements on the two drawings. Antonio gives 3-4 (i.e. piedi 3, dita 4) as the height of the aedicule above the plinth of the column bases. The 4 however, is almost hidden by the inscription, and someone copying the drawing might well overlook it. And in fact "G. B. da Sangallo" gives this measurements as pie(di) 3. As it is very unlikely that a copyist would write 3-4 when his original gave 3, it would seem that Antonio's drawing is the source, the other the copy. - Peruzzi also gives pe 3, and so could have copied from either drawing. But it is unlikely that this happened, as some features are given on Peruzzi's plan of the arch which do not appear in either of the other two drawings, and Peruzzi gives, as Antonio and "G. B. da Sangallo" do not, detailed measurements of the cornice. - But it is also true that Peruzzi's drawing is closer to Antonio's than to UA 1382. Antonio gave the width of the pilaster, both on his plan and his elevation, as 2-6. This he changed subsequently to $2-7$. "G. B. da Sangallo" gives only $2-7$, but Peruzzi gives pe due d. 6. - Then with regard to the two flat outer moulding of the archivolt, Antonio gives the width of the outer of these as 2 , the inner as $I$; he also writes the total of 3 on the latter (as "G. B. da Sangallo" does not). Peruzzi, as if copying from a drawing identical to Antonio's, but overlooking the $I$, gives the outer moulding as 2 , the inner moulding as 3 .
It thus appears that though Peruzzi's drawing is not derived from Antonio's (unless the details which appear on the former and not the latter were on a separate sheet of Antonio's which is now lost), and Antonio's not derived from Peruzzi's (because of Peruzzi's mistakes which are not reproduced by Antonio), both Peruzzi and Antonio derived their drawings, at least ultimately, from the same source.


11 Antonio da Sangallo. The Arco dei Gavi, Verona. Uffizi A 815 (detail).

It is easy to conjecture how a drawing by Peruzzi came into the hands of Aleotti. In the same volume as Peruzzi's drawing there are numbers of Ligorio fragments, and it is known that the whole of Ligorio's Oxford manuscript at one time belonged to Aleotti. Moreover, Ligorio in his many years at Rome was certainly in a good position to acquire drawings by Peruzzi. He and Peruzzi's son Sallustio worked together as architects in the Vatican, and Ligorio appears also to have known another son, Honorio. ${ }^{35}$ In his writings Ligorio shows that he admired Peruzzi and was well informed about him. ${ }^{36}$ It thus seems likely that Ligorio brought Peruzzi's drawing with him when he moved from Rome to Ferrara in ${ }^{1569}$, and that at his death in ${ }_{5} 5_{3}$ it passed, together with some of his other papers, to Aleotti. ${ }^{37}$ The hypothesis that Ligorio owned the drawing is confirmed by the article PANTHEON in vol. 13 of the massive encyclopaedia of classical antiquities which he compiled at Ferrara, and which is now in Turin. The article PANTHEON itself was certainly written in or after $1574 .^{38}$ On a double page of the article (fols. 48 verso +49 recto) Ligorio copies Peruzzi's section of the Pantheon (Fig. 13). Then on fol. 49 verso (Fig. 14) he copies Peruzzi's study of the cornice above the door. ${ }^{39}$

The measurements in the two drawings exactly correspond. Thus Peruzzi notes (between two windows of the upper order) tucto el vano alto 6.73 m.I2, and Ligorio below his drawing writes ALTO TUTTO IL VANO B.LXXIII et minuti xii. In many cases measurements are entered at exactly the same place in both drawings. In both there is a capital $S$ immediately
${ }^{35}$ On payments to Sallustio Peruzzi and Ligorio for their work in the Vatican, see fames S. Ackerman, The Cortile del Belvedere, Vatican, 1954, p. 85, n. 5; Walter Friedländer, Das Kasino Pius des Vierten, Leipzig, 1912, p. 123-124; and David R. Coffin, Pirro Ligorio... at Ferrara, in : The Art Bulletin, XXXVII, 1955, p. 169, n. 17.
A possible reflection of contact between Sallustio and Ligorio is the similarity of two drawings of a curved portal surmounted by a heavy, ornate cornice: UA io6 (Bartoli, fig. 693) by Sallustio Peruzzi, and Windsor, Inv. 10.797, by Ligorio.
In one of his numismatic volumes Ligorio indicates "Honorio Peruzzi" as the owner of a coin (Naples, Biblioteca Nazionale, Cod. XIII.B.6., fol. 321 verso). On Peruzzi's Dominican son Onorio, see L. M. Martini, Le fonti storiche per la vita e le opere di Baldassarre Peruzzi, in: La Diana, IV, 1929 p. 132.
${ }^{36}$ Two references to Peruzzi in Ligorio's Oxford manuscript are quoted by Coffin, in : The Art Bulletin, XXXVII, 1955, p. 184, n. 106. Ligorio (Turin mss. [see note 38], vol. 5, fol. 84) draws an antique terracotta bowl which he says belonged to Peruzzi. On fol. 48 verso of his article PANTHEON Ligorio records the restoration by Raphael and Peruzzi of one of the tabernacles.
${ }^{37}$ On the date of Ligorio's arrival in Ferrara see Coffin, op. cit., p. 168, n. 13.
${ }^{38}$ Turin, Archivio di Stato, Ligorio manuscripts vols. 1-18. That the volumes were compiled in Ferrara is indicated by their provenance (Erna Mandowsky and Charles Mitchell, Pirro Ligorio's Roman Antiquities, Studies of the Warburg Institute, vol. 28, London, 1963, p. 35); by their dedication to Alfonso II d'Este, and by their detailed references to Ferrara (for example the article FERRARA in vol. 8, or the first page of the article CVMACHIO in vol. 6). Moreover Ligorio was working on the dictionary until very late in his life : the article CVMACHIO was written after 25 May 1581 (there is a reference to a strange fish caught on that date) and in the article RAVENNA (vol. 15, fol. 18 verso) there is a reference to the destruction of the Porta Aurea in questo anno del 1583 (but cf. Heinz Kähler, op. cit. [see note 28], p. 181, where the date of demolition is given as 1582). Ligorio died in October 1583 (see Girolamo Baruffaldi, Vite de' Pittori e Scultori Ferraresi, vol. II, Ferrara, 1846, p. 393, n. i). The dating of the article PANTHEON is discussed below.
${ }^{39}$ On the left Ligorio draws the capital and (internal) architrave of the portico, in the centre a study of the outer volutes of the capital, and on the right the cornice above the door. The measurements of the cornice and frieze agree with Peruzzi's drawing, except for the height of both the two uppermost members of the cornice; given as $23 / 4$ ). The measurements of the architrave are derived from Dosio (see Appendix I, under 3 d ). A clear indication, however, that Ligorio did have Peruzzi's drawing in front of him is the height of B. I et minuti 63 which he gives for the frieze. This is clearly wrong, as there are only 60 minutes to the braccio. Ligorio has simply copied what he found on Peruzzi's drawing. Peruzzi meant to add to his detail of the cornice the height of the frieze given on his section ( 63 minutes). But in converting this into braccia and minutes ( 63 minutes is i braccio, 3 minutes), after writing $b$. I he has repeated the original 63 minutes.


12 "G. B. da Sangallo". The Arco dei Gavi, Verona. Uffizi A 1382.


13 Ligorio. Section of the Pantheon. Archivio di Stato, Turin.
below the portico roof, referring to the detail in the top right of the drawings. Both Ligorio and Peruzzi omit the pilasters and the decoration of the upper storey, and Ligorio repeats Peruzzi's mistake about the dimensions of the door. ${ }^{40}$ Ligorio's occasional errors of transcription themselves show that he was almost certainly copying, not merely another version of Peruzzi's drawing in Ferrara, but the drawing itself. ${ }^{41}$
${ }^{40}$ Fol. 49 verso : Et il vano della porta è largo Palmi tredici e un terzo, et alta Palmi ventisei et duoi terzi. For Peruzzi's mistake, see note 2 r above.
${ }^{41}$ Ligorio gives $B .3 \mathrm{~m}$. I6 as the width of the flat ring on the upper surface of the dome, surrounding the opening. Peruzzi gives $b .3 \mathrm{~m} .25$. But in fact his 2 could easily be mistaken for a $I$, especially as there is a fortuitous dot above it, and Peruzzi and Ligorio normally wrote the number one as $i$, with a dot. Peruzzi's 5 could also easily be mistaken for 6 .

At the base of the dome, on the left, where Peruzzi writes pe(n)de m. 30, Ligorio writes I Pieno m. 30 . On Peruzzi's drawing there does appear to be a $I$ in front of pende, which itself could be interpreted as $p i e(\mathrm{n}) o$ (if the $d$ were read as a rather cursive way of making the abbreviation for $n$ ).

It is unlikely that even in a more or less identical version of the Ferrara sheet made by Peruzzi himself (far less by someone else) just these possibilities for misunderstanding would be offered : it can safely be concluded that Ligorio copied the Ferrara sheet itself, and not merely another version of it.


14 Ligorio. Details of the Pantheon. Archivio di Stato, Turin.

Ligorio's plan of the Pantheon, on fol. 47 verso (Fig. 15), also corresponds in its measurements to Peruzzi's section. Thus the opening in the dome is shown in Ligorio's plan, as in Peruzzi's section, as having a diameter of 15 braccia, 46 minuti. Ligorio calls attention to the rise of the pavement towards its centre by writing Il colmo nel mezzo del Pavimento alza minuti 20; Peruzzi's note reads m. 20 alza el pavimento. And as Ligorio could not have taken all the dimensions on his plan from Peruzzi's section, it is possible that he also owned and used a

Peruzzi plan of the Pantheon, measured in braccia. Peruzzi in any case must have made such a plan, in order to construct from it his section in orthogonal projection. ${ }^{42}$

None of the other illustrations to Ligorio's article, however, is derived from Peruzzi. They correspond almost exactly, in measurements and configuration, to Dosio's in pulito studies of the Pantheon in the Uffizi. ${ }^{43}$ There is, moreover, no doubt that Ligorio's drawings derive from Dosio and not vice versa: Dosio's letters to Niccolò Gaddi show that he made a survey of the Pantheon during Lent 1574, and that the in pulito drawings based on it were finished by 8 May of that year. ${ }^{44}$ Such divergences as there are between Dosio's and Ligorio's measurements are clearly the result of errors of transcription on Ligorio's part (usually by reversing the order of two digits) and in all these cases the correct measurement is that given by Dosio. ${ }^{45}$ It is true that Ligorio gives many measurements down to a quarter or a third of a minute, whereas Dosio nearly always rounds off his measurements, giving them only to the nearest minute or half minute. But this only shows that Ligorio copied from Dosio's preliminary drawings (or from copies after them) and not from the final versions, ready for possible publication, which are now in the Uffizi. ${ }^{46}$
${ }^{42}$ All measurements on Peruzzi's section which relate to the plan of the building are exactly repeated on Ligorio's plan : the diameter of the columns, the width of the pilasters and intercolumniations of the portico, the width of the pilasters of the interior, the maximum thickness of the cella wall (I2 braccia), the overall diameter, and the diameter of the lume. Ligorio also adds on his plan, as Peruzzi does on his section, a pilaster just inside the door. Moreover Ligorio's plan and section are the only illustrations in his article relating to the Pantheon in which dimensions are given in braccia: all the rest are measured in palmi. (The few measurements given on the plan of the "Tempio di Bonevento" on fol. 55 are in braccia; but there is no reason to suppose that in this case too Ligorio's source was Peruzzi).

It is improbable (though not impossible) that Ligorio copied onto his plan all the relevant measurements from Peruzzi's section, and then added others from a plan, measured in braccia, but not by Peruzzi. It is also conceivable that Ligorio himself measured, in braccia, those parts of the plan which were not given on Peruzzi's section. But the most likely hypothesis is that he copied a lost Peruzzi plan of the Pantheon which corresponded to the section in Ferrara.
${ }^{43}$ Dosio's detailed and accurate studies of the Pantheon, UA 2020, 2021, 2022, 2023, are published by Bartoli, figs. 846-86r, and are discussed by Chr. Hülsen, Das Skizzenbuch des Giovannantonio Dosio, Berlin, I933, p. XIV-XVII. There is no doubt that the four sheets in the Uffizi are by Dosio; the handwriting is identical to that of the Dosio autograph published by Pini © Milanesi, op. cit., vol. III, no. 239. As Hülsen noted, they are quite probably the same four sheets which Dosio mentions in his letter to Niccolò Gaddi (see note 44 below).
${ }^{44}$ On 24 April, 1574, Dosio wrote from Rome to Niccolò Gaddi in Florence : Equesta quaresima ho misurato la Rotonda, che già la cominciammo a tempo dello Spina, e cosi la metto in pulito per ordine, nel modo dell'altre, e presto gliele manderò con altre cose fatte (Bottari-Ticozzi, III, p. 300; quoted by Hülsen, loc. cit.).

On 8 May, 1574, Dosio wrote to Gaddi : Per Baccio procaccio si manda a V.S. sette fogli d’architetture di mia mano. In quattro ho messo tutta la Ritonda ordinatamente, e misurata con diligenza. E gran tempo ch'io n'avevo voglia, e questa quaresima sono stato parecchi giorni occupato per farla bene, e l'ho messo insieme, e ne mando a V.S. la prima. So che ne resterà sodisfatto, essendo molto regolata e secondo le regole di Vitruvio. V.S. si potrà pigliare piacere di vitrovare le proporzioni, che invero per un ordine corinto non si può megliorare. In questo mezzo non mancherò del continuo seguitar di far sempre qualcosa. Le mando ancora tre altri fogli di vari frammenti di basi e cornicioni. Ora voglio fare parecchi capitelli ionici e dorici, e di varie sorte ; e cosi farò tutte le cose di Bramante che sono in Belvedere. Partimenti, e altre simili cose ne ho assai, dove si potrà fare un libro, come desidera V.S. Potrà vedere che differenza è dalle cose che descrive il Serlio a queste che le mando. Io non l'ho ombrate, parendomi che servino più così, non si curando d'ornamenti di carte, ma che sieno con le sue misure più intelligibili, perché l'acquerello offusca i numeri (Bottari-Ticozzi, III, 300-301; quoted by Hiulsen, loc. cit.).
${ }^{45}$ See Appendix I.
${ }^{46}$ That Dosio had in mind the possibility of publishing his drawings appears from his letter of 8 May 1574 (quoted in note 44, above).
All four sheets of Dosio's drawings of the Pantheon are pricked. The prickings are very fine, and would indicate that the main outlines of the drawings were transferred to the Uffizi sheets by pricking, rather than transferred from them to other sheets (in which case the holes would be rather larger).


15 Ligorio. Plan of the Pantheon. Archivio di Stato, Turin.

Although Ligorio was copying from Peruzzi, he made certain interpolations on the basis of his own knowledge of the building, his direct or indirect knowledge of the ancient sources relating to it, and his acquaintance with Dosio's drawings of it. ${ }^{47}$ Immediately behind the Pantheon he added a reconstruction of the facade of the Basilica of Neptune (which he mistakenly identified with the "Tempio del Bonevento"), and he replaced the haloed figure which Peruzzi drew above one of the columns of the 'capella maggiore' by a statue of Minerva. ${ }^{48}$ He also shows the arches supporting the portico roof, and the steps leading from the roof behind the portico up to the base of the dome, details not given by Peruzzi ${ }^{49}$.

There are also more fundamental differences between the two drawings. Ligorio's drawing, like the text of his article, aims at a general treatment of the building and its appearance in

[^4]antiquity, rather than at a specifically architectural analysis. He has finished all the parts of his drawing to the same level, and heightened it with wash so that the result is much more pictorial than that of Peruzzi's drawing. He has paid much less attention to accuracy than has Peruzzi. The bases of the columns, especially those of the portico, are out of scale; the cofferings sink too deeply into the vault; the clarity of Peruzzi's rendering of the interior cornices is lost; the slight downward slope of the large steps which on the exterior surround the base of the dome has been ignored. Ligorio copies the pilaster which Peruzzi added just inside the door, but not the note which indicates that it is in fact not there. Moreover, the aedicules of the interior hesitate awkwardly between the demands of orthogonal projection and those of normal perspective, while a further discordant perspective element is added by the representation of the floor of the side chapels. Of the three pilasters which Peruzzi shows in the portico, Ligorio has made the one furthest to the right appear as the forward face of that in the centre. A glance at the plan would have prevented this mistake.

Ligorio's learned interpolations, then, are combined with an insensitivity to precise configuration. On the one hand he seeks to give an antique flavour to the building (the reconstructed facade of the "Tempio del Bonevento", the statue of Minerva, the rosettes in the cofferings); and on the other, he is not greatly concerned with the accuracy of his representation. Admittedly he gives considerable attention to details in the other illustrations to his article (see for instance Fig. 14), but even these, although they too were copied from an accurate source, are often rendered carelessly. ${ }^{50}$ Ligorio's sense of what is most relevant in the discussion and representation of an ancient building thus differs considerably from the outlook implicit in Peruzzi's (or Dosio's) drawings, or explicit in Serlio's discussion of the Pantheon. For Serlio, what Pliny said about the Pantheon was of less importance than its principal dimensions; after summarising the information about the Pantheon given by ancient writers, he continues: "but leaving aside these narrations, which have little importance for the architect, I shall come to the particular measurements of all the parts". ${ }^{51}$

But Ligorio attributes less importance to the individual architectural characteristics of the Pantheon which Peruzzi sought to elucidate in his drawing. Instead he tends to interpret the building in terms of literary sources and of his general conception of the antique, certainly based on wide knowledge, but also highly subjective. As a result, even the Pantheon, in Ligorio's rendering, loses some of its individuality, and approximates in style to all the other antique buildings drawn by him..$^{52}$ And in matters of detail, too, Ligorio's preconception of what is truly antique takes precedence over individual cases of antique practice. He criticises the bases of the portico as belonging to a type which he considers appropriate only to the composite order, and hence not to be used in conjunction with corinthian capitals. ${ }^{53}$ His rigid and unhistorical grammar of the orders takes small account of the flexibility of classical usage, and can,

[^5]as in this case, be invoked to condemn it. Peruzzi, in contrast, certainly considered ancient architectural detail within a framework ultimately derived from Vitruvius (his use of the terms antepagmento and sopercilium on the Ferrara drawing itself indicates this) but his attitude, as reported by Cellini and in part reflected in Serlio's Book IV, was undogmatic, and he was guided among the great variety of ancient detail by his own cultivated taste, rather than by fixed rules. ${ }^{54}$

In his drawing, Peruzzi does make references which can be considered antiquarian (to the building history, to the vault of the portico, to the lost reliefs of the pediment). But in fact they are all matters which arise directly from his architectural analysis of the building; and they are only recorded in notes, and do not affect the graphic representation of the building. Peruzzi's drawing not only is more accurate than Ligorio's, but does not differ in kind from a record of an interesting contemporary building. ${ }^{55}$ Peruzzi draws the Pantheon, as it were, in the present. But Ligorio draws it in the past, by furnishing it with a rich antique decor, and by partially ignoring modern conventions of representation. By using similar methods, he had sought to represent his project for the Cortile del Belvedere as if it were itself a part of antiquity. ${ }^{56}$

[^6]
## APPENDIX

## 1. The sources of the illustrations to Ligorio's article on the Pantheon.

Ligorio makes mistakes in transcribing measurements from his source in $3 \mathrm{~b}, 4,5 \mathrm{a}, 6 \mathrm{a}$, and 11 of the list of his drawings of the Pantheon given below. (The folio references refer to Ligorio's article PANTHEON; the Uffizi drawings cited are all by Dosio).
I) Fol. 47 verso. Plan of the Pantheon (Fig. 15). This is measured in braccia and probably derives from a lost drawing by Peruzzi (see note 42 above).
2) Fol. 48 verso -49 recto (Fig. 13).
a) Reconstruction of the facade of the "Tempio del Bonevento". Almost certainly not copied from any other drawing.
b) Section of the Pantheon. Based on Peruzzi's Ferrara sheet. The arches which support the portico roof, and the steps leading from the upper pediment to the dome, are not represented by Peruzzi : Ligorio probably derived the former from Dosio (UA 2023; Bartoli, fig. 851).
c) Study of the girders of the portico roof. Combines elements to be found in Peruzzi's drawing, and in Dosio's section of the portico (UA 2020 verso; Bartoli, fig. 849).
d) Study of the mouldings on the underside of the architrave of the lower order of the interior. Corresponds to Ligorio's drawing at the bottom of fol. 51 ; and to Dosio UA 2020 (Bartoli, fig. 855).
3) Fol. 49 verso (Fig. 14).
a) Architrave in the interior of the portico. The measurements tally with UA 2020 verso (Bartoli, fig. 849).
b) The capital of the portico. Corresponds to UA 2023 verso (Bartoli, fig. 853). Dosio only gives a very simplified rendering of the capital; whereas Ligorio's is detailed and elegant. Ligorio writes beside his drawing B. 2. 56 tutta l'altezza del capitello : this measurement is derived from Peruzzi's section. Ligorio also gives the total height of the capital as palmi 47 m .28 ; Dosio gives it as palmi $7 \mathrm{~m} .28 \mathrm{I} / \mathrm{z}$. Ligorio's palmi 47 is clearly derived from the 47 (minutes) which appears on Dosio's drawing in the same place as on Ligorio's, but which indicates the projection of the lower leaf, not the height of the capital.
c) Study of the outer volutes, and the corner of the abacus. Corresponds to UA 2023 verso (Bartoli, fig. 853). Ligorio's rendering is more detailed than Dosio's.
d) Profile of the cornice above the door. The general rendering, and the measurements of the cornice and frieze, are derived from Peruzzi. The measurements of the architrave agree with those on UA 2020 verso (Bartoli, fig. 849).
4) Fol. 50 recto. Frontal view of the Pantheon. The general treatment obviously owes nothing to either Peruzzi or Dosio (UA 2020; Bartoli, fig. 848. Dosio, for instance, prudently refrains from reconstructing the arrangement of the steps leading up to the portico). The braccia measurements for the columns, architrave, frieze, entablature, and the height of the pediment are derived from Peruzzi's section. The measurements in palmi given on the right side of the building agree with those given on UA 2023 verso (Bartoli, fig. 850). Ligorio, however, has given the height of the middle cornice as that of the upper cornice, and vice versa.
5) Fol. 50 verso. Details of the portico.
a) The entablature. Ligorio's measurements agree with those on UA 2023 (Bartoli, fig. 852). The height of the gola riversa below the upper fascia of the architrave is given correctly by Dosio as 12 minutes, but by Ligorio as 21 I/3: a clear instance of Ligorio's reversing the order of two numbers when transcribing them. Ligorio shows the rosette as suspended below the lower surface of the corona, and not as contained within it, as it is in fact, and as Dosio shows it.
b) Detail of the rosettes and the modillions. Again shown incorrectly.
c) Base of the portico. Corresponds to UA 2023 verso (Bartoli, fig. 853).
6) Fol. 5I recto. Details of the lower order of the interior.
a) The entablature. Corresponds to UA 2020 (Bartoli, fig. 855). The height of the lowest fascia of the architrave is given correctly by Dosio as 32 I/2 minutes; Ligorio, reversing the numbers, gives it as $23 \mathrm{I} / 2$.
b) The capital. Corresponds to UA 2020 (Bartoli, fig. 855) and UA 2022 (Bartoli, fig. 856). Ligorio represents the capital in more detail than does Dosio.
c) Section through the lower part of the architrave. See 2 d .
7) Fol. ${ }_{51}$ verso. Details of the lower order of the interior.
a) Elevation of the column. Corresponds to UA 2020 (Bartoli, fig. 855) and, for the details of the top of the column, UA 2022 (Bartoli, fig. 856).
b) The base. Corresponds to UA 2020 (Bartoli, fig. 855).
c) Plan of the capital. Corresponds to UA 2022 (Bartoli, fig. 856).
8) Fol. 52 recto. The tabernacles.
a) Elevation of a tabernacle. Corresponds to UA 2021 verso (Bartoli, fig. 860). The proportions of Ligorio's drawing are far from correct : in particular, the cornice and basement of the pedestal are shown as far too large.
b) The base. Agrees with UA 2021 (Bartoli, fig. 861).
c) Profile of the pedestal. Agrees with UA 2021 (Bartoli, fig. 861), save that Ligorio inserts a moulding between the corona and the ovolo of the cornice.
d) Detail of the top of the column shaft. Agrees with UA 2022 (Bartoli, fig. 859).
e) Profile of the moulding which frames the niche. Agrees with UA 2021 (Bartoli, fig. 861).
f) Plan of the capital. Agrees with UA 2022 (Bartoli, fig. 859).
9) Fol. 52 verso. Details of the tabernacles.
a) The entablature. Agrees with UA 202 ( Bartoli, fig. 86i). Ligorio, however, incorrectly shows the scima as resting on the corona, instead of forming the lowest member of the curve of the pediment.
b) The capital. Agrees with Dosio, UA 2022 (Bartoli, fig. 859).
c) Detail of the outer volutes.
io) Fol. 53 recto.
a) Profile of a capital and entablature. This does not correspond in its measurements to any part of the building as given by Dosio.
b) Rough sketch of a tabernacle (i). The three measurements given do not agree with the actual dimensions of the tabernacles.
ir) Fol. 53 verso. The two upper cornices of the exterior. These are related to UA 2023 verso (Bartoli, fig. 850), save that Ligorio has confused the heights of the upper and the middle cornice (see 4 above).

## II. The Templum Boni Eventus, and the statue of Minerva in the Pantheon.

The Templum Boni Eventus was inserted by Pomponio Leto in his version of the Regional Catalogues (Cod. Vat. Lat. 3394) on the basis of Ammianus Marcellinus, XXIX, 6, 19 (see Roberto Valentini and Giuseppe Zucchetti, Codice Topografico della Città di Roma, I, Rome, 1940, p. 234, n. 3), while in notes based on Pomponio Leto's spoken observations the temple is stated to have been near the Pantheon : Prope supradictum Pantheum fuit templum Boni Eventus (ibid., IV, p. 426). Andrea Fulvio, Antiquitates Urbis, Rome, 1527 , fols. xciiii verso - xcv recto, seems to have been the first to identify what are probably the ruins of the Basilica of Neptune, immediately behind the Pantheon, with the Templum Boni Eventus. (On the Basilica of Neptune see Guglielmo Gatti, Il Portico degli Argonauti e la Basilica di Nettuno, in : Atti del III Convegno Naz. di Storia dell'Architettura [9-13. ott. 1938], Rome, 1940, p. 6i-73; and G. Lugli, op. cit. [see note 16], vol. III, p. 105-107).

Fulvio writes: Boni Eventus Templum satis constat fuisse iuxta Pantheon, sed quo in loco, diu dubitatum est. Verum cum illud ego curiosius investigarem, subito eius templi quadrata, atque oblonga, adhuc integra forma inter ruinas occurrit, Magistris viarum excitantibus novam illic viam a platea nunc S. Eustachii, usque in plateam Minervae peragendam inter proximum Pantheon, $\mathcal{E}$ amplissimas, quas nunc a fundamentis excitat aedes, $\mathcal{E}$ palatium Magnificus vir, ac praedives, D. Marius Peruscus fisci procurator, qui per mediam boni eventus templi longitudinem eiecit fundamenta, reliqua vero pars occupatur via, de qua supra dictum est.

Fulvio is followed by Marliani, 1544, p. 102; L. Fauno, 1552, fol. 135; L. Mauro, 1556, p. 99; B. Gamucci, ${ }^{1565}$, p. 164. Ligorio shows the Templum Boni Eventus next to the Pantheon in his archaeological map of Rome of 1553 (E. Mandowsky and C. Mitchell, op. cit. [see note 38], pl. 74) and in his engraved reconstruction of $\mathrm{r}_{5} 6 \mathrm{r}$. On fol. 55 recto of his article PANTHEON Ligorio gives the plan of the building (measured in braccia) and on the verso of the same sheet he draws the entablature (measured in palmi and once), with the note : Adi nostri havemo veduta questa cornice del sudetto Tempio in opera: et ancora tolta dall'opera dove era.

On his plan he shows the portico (as the note Da questa parte è la Piazza della Minerva indicates) on the side furthest from the Minerva; in his section he shows it as facing the Minerva.

On fols. 48 verso - 49 recto, Ligorio writes : Nel tergo del pantheon, era un altro Tempio bellissimo, che faceva pontello ad esso Pantheon, ristretto in meggio del Tempio et delle Therme di Marco Agrippa, pure di ordine corinthio, del'ordine chiamato Tetrastylos Antas, dall'essere comprese le quattro colonne dalle due Anteridi, che'l vulgo dice Pilastrate: lo quale sendo tutto rovinato, ne havemo veduto cavare molte rovine nel farvi la strada perlo mezzo. Egli havea di dentro tre gran celle ò vogliamo dire Hapsyde, ò Hemicycli, che l'uno facea Testa del Tempio dove era il colosso del Bonevento, con le spiche et papaveri da una mano, et dall'altra la Tazza come scrive Plinio in esso Dio de gentili. Nell'altri duoi posti nelli mezzi de' fianchi, come havemo (fol. 49) disegnato più oltre nella Pianta, con altri piccioli nicchetti, ch'erano sei per banda, per li iddij consenti come è detto al suo luogo della pianta.

Ligorio's reconstruction of the facade (Fig. 13) is similar to his reconstruction of the facade of the Curia (Oxford, Bodleian, Cod. Canonici Ital. 138, fol. 21; reproduced by 7. H. Middleton, The Remains of Ancient Rome, London, 1892, vol. I., p. 240).

With regard to the statue of Minerva, Ligorio writes (fol. 48) : Didentro al Tempio poscia erano bellissime statue, nella Cella principale incontro all'Hemicyclo che corresponde alla versura della entrata, vi era il Colosso di Iove Vltore... et altre due (statues), come di Iunone et di Minerva sopra alli duoi risalti delle due colonne, poste nei lati della Hapsyda ò cavea e cella di Iove.

Ligorio and other sixteenth century writers were led by the then accepted reading of Pliny, Nat. Hist., XXXVI, 102 (see R. Lanciani, Notizie degli Scavi, 188r, p. 259), to believe that the principal dedication of the Pantheon was to Jupiter Ultor : Landino in his translation of Pliny (Venice, 1476, XXXVI, c. XV) writes El Pantheon a Iove vendicatore facto da Agrippa; the Aldine edition of 1535 (III, fol. 257) reads Pantheon Iovi ultori ab Agrippa factum. Accordingly, notwithstanding a knowledge of Dio Cassius, LIII, 27, where it is stated that the Pantheon was dedicated to Mars, Venus, and other gods, Ligorio begins his article (fol. 47) : PANTHEON, fu detto il bellissimo Tempio di Iove Vltore nel Campo Martio.

Quite reasonably, therefore, Ligorio concluded that a colossal statue of Jupiter occupied the large semicircular niche opposite the entrance (Piranesi in his reconstruction of the interior shows such a statue there) and conjectured, again quite reasonably, that statues of the other two deities of the Capitoline
triad, Juno and Minerva, were placed above the projecting columns which flank this niche. Of these he shows Minerva, with helmet, spear, and shield. (For similar renderings of Minerva by Ligorio, derived from ancient coins and reliefs, see Mandowsky and Mitchell, op. cit., pls. 24c, 25c, 56a)

There is no reason to think, however, that Ligorio subscribed to the contemporary belief that there was an ivory statue of Minerva by Pheidias in the Pantheon. B. Marliani, Urbis Romae Topographia, Rome, 1544, p. 102, writes : Idem (Pliny) commemorat, fuisse in hoc templo... Minervam ex ebore, opus Phidiae. Marliani (or his source) clearly derives this statement from Pliny, Nat. Hist., XXXIV, 54 : Phidias... fecit ex ebore aeque Minervam Athenis, quae est in Parthenone, stans. But he must have read this passage either in a corrupt manuscript version (the printed fifteenth and sixteenth century editions and translations all give the correct reading) or have understood Pantheone instead of Parthenone. Marliani was followed by Lucio Fauno, 1552, fol. 133 verso; B. Gamucci, 1565, p. 160; Palladio, 1570, IV, p. 73.

## RIASSUNTO

Nella Biblioteca Comunale Ariostea di Ferrara si trova un volume contenente numerosi disegni d'architettura, raccolti dall'architetto ferrarese Aleotti. Fra questi è un foglio di disegni, finora sconosciuto, di Baldassare Peruzzi, raffigurante sul recto uno spaccato del Pantheon e sul verso una pianta dell'anfiteatro di Verona. Si può datare il foglio fra il 1531 ed il 1535, mentre diversi elementi indicano la sua appartenenza ad un gruppo di rilievi di antichi edifici fatti dal Peruzzi, gruppo del quale gli altri fogli si trovano tutti negli Uffizi.

Il disegno del Pantheon è fra i più bei disegni del genere eseguiti dal Peruzzi, ed è l'unico suo studio particolareggiato dell'alzato del Pantheon stesso, di cui offre un'analisi limpida e penetrante. Alcuni dei suoi accorgimenti in questo disegno sembrano essere riportati nel libro del Serlio, e si nota anche che il Peruzzi, come altri artisti del Cinquecento, riteneva che il portico fosse un'aggiunta posteriore.

La pianta dell'anfiteatro di Verona ha minori pregi, e le sue inesattezze, e i rapporti stretti che ha con disegni di Antonio da Sangallo il Giovane e di uno suo collaboratore, fanno pensare che Peruzzi conoscesse i monumenti di Verona soltanto attraverso disegni altrui.

Il disegno di Ferrara apparteneva quasi certamente a Pirro Ligorio prima di passare all'Aleotti. Infatti, sotto la voce PANTHEON nel massiccio dizionario delle antichità classiche che Ligorio compilò a Ferrara fra il 1569 ed il 1583 si trova una copia del disegno del Peruzzi. (Per quasi tutte le altre illustrazioni riguardanti il Pantheon, tranne la pianta, forse anch'essa copiata dal Peruzzi, Ligorio attingeva ai rilievi fatti dal Dosio nel 1574)

Le divergenze fra l'originale del Peruzzi e la copia di Ligorio rispecchiano diversità rilevanti fra i due artisti come studiosi dell'architettura antica. Quella del Peruzzi è soprattutto un'analisi precisa dell'edificio attuale. Ligorio invece dà un rilievo molto meno fedele, e tenta di riportare il Pantheon al suo stato originale, aggiungendo, tra l'altro, una ricostruzione del Tempio del Bonevento e di una statua di Minerva.

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Walter Segantini (for the Biblioteca Comunale, Ferrara): figs. 1, 2, 3, 4. - Soprintendenza alle Gallerie, Florence: figs. 5, 8, 9, IO, II, 12. - The Victoria and Albert Museum, London: figs. 6, 7. - Giustino Rampazzi (for the Archivio di Stato, Turin): figs. 13, 14, I5.


[^0]:    ${ }^{16}$ The idea was not uncommon at the time : nec desunt, wrote Andrea Fulvio, qui asserant, non ab Agrippa, sed Augusto antea conditum templum, Porticum vero ab Agrippa postea superadditam (Andrea Fulvio, Antiquitates Urbis, Rome, 1527, fol. xciii verso). Vasari in his life of Andrea Sansovino (Vite, ed. G. Milanesi, vol. IV, p. 512) writes : Nondimeno molti artefici, e particolarmente Michelagnolo Buonarroti, sono stati d'openione, che la Ritonda fusse fatta da tre architetti,... il terzo si crede che facesse quel portico,... (cf. T. Buddensieg, op. cit., p. 6). Palladio, Quattro Libri, 1570, IV, p. 73, writes: io credo che il corpo del Tempio fusse fatto al tempo della Repubblica, e che M. Agrippa vi aggiungesse solo il portico ; il che si comprende dalli due frontespicij che sono nella facciata. But in fact there seems little doubt that rotonda and portico were conceived, and executed, together : see Giuseppe Lugli, I monumenti antichi di Roma e Suburbio, Rome, 1938, vol. III, p. 126-142; Luigi Crema, Il pronao del Pantheon, in : Hommages à Albert Grenier, vol. I, 1962, p. 457-461.
    ${ }^{17}$ A similar note, cornjce no(n) ve, appears in Peruzzi's section of the cella wall of the temple of Mars Ultor (UA $632+633$, Bartoli, op. cit., fig. 317). In his plan of the Pantheon (UA 462; Bartoli, fig. 308) Peruzzi shows this corner as it is, without a pilaster. The Coner draughtsman also shows no pilaster (fol. 33 verso; Ashby, op. cit., pl. 38). Nor does Palladio, Quattro Libri, 1570, IV, p. 79. Dosio shows a quarter pilaster (UA 2023; Bartoli, fig. 851). Serlio, III, 1540, p. XII, adds a threequarter pilaster (fig. 6). He makes no reference to it in his text, which suggests that he did not himself make this emendation, but merely copied it unquestioningly from another drawing (quite possibly by Peruzzi). A similar pilaster is added in the drawing in Vienna cited in note 15 above, which in this and other respects is very close to Serlio's illustration. But whether it is derived from Serlio, or is in fact related to his source, is not clear: despite its somewhat archaic appearance the first hypothesis seems the more likely.
    ${ }^{18}$ Peruzzi indicates in his drawing the difference in level between the middle and the edge of the pavement, and adds the note $m$. 20 alza el pavimento. This could simply be a guess; alternatively it could have been arrived at by sighting between two opposite points over the summit of the rise. It is also conceivable that Peruzzi took advantage of one of the fairly frequent floods to measure the difference in height between the centre and the side of the floor. On the floods of the Tiber, see Rodolfo Lanciani, The Golden Days of the Renaissance in Rome, London, 1906, p. 90-95.
    Most Renaissance drawings do not show the convexity of the pavement. It is shown, however, on fol., 33 verso of the Coner Codex (T. Ashby, op. cit., pl. 38). And Bernardo Gamucci, Libri quattro dell'antichità della città di Roma, Venice, 1565 , p. 162, writes of the Pantheon: Il suo pavimento è di varij marmi, © ritirato intorno con una linea curva in tal modo, che nel mezo del suo piano si va tanto. alzando, che egli s'agguaglia al pari delle base delle colonne, si come nel disegno della parte di dentro vi si dimostra. Gamucci's illustration in fact does not show the floor as convex.
    ${ }^{19}$ The note reads Incavallatura di bro(n)zo / doppie tavole di metallo. Serlio's figure is on p . X of Book III ( 1540 ). It is, as one would expect, reversed with respect to Peruzzi's drawing.
    ${ }^{20}$ The notes on Peruzzi's detail read : cornjce dela porta di pantheon; misurata con palmo romano $p$ (ar)tito in 12 e ogni $i \ldots$.. The measurements are in palmi, though the height of the frieze is also given in braccia (see note 39 below). The note on the architrave, $\operatorname{sop}(\mathrm{er}) c j l i u(\mathrm{~m})$, is another instance of Peruzzi's use of Vitruvian terminology (see Vitruvius, IV, 6).

[^1]:    UA 59 I (fig. 8) is clearly derived from this drawing, or one identical to it. Though it is attributed to Peruzzi in the Uffizi, the clumsiness of the draughtsmanship (particularly in the ovolo) and
    ${ }^{21}$ of the handwriting strongly suggest that it is in fact a copy, perhaps by some associate of Peruzzi. Here Peruzzi has given the dimensions (in palmi) incorrectly. In transcribing them he has written pal. $262 / 3$ as the height; in fact it is the width, which he gives correctly as palmi 26 dita 7 on UA 462 , and p. 26 d. 6 g .3 on UA 54I verso. Peruzzi knew that the opening has a $2: 1$ proportion, and by dividing $262 / 3$ by two, he arrived at a width of pal. 13 I/3.
    ${ }^{22}$ He has also recorded the number of flutes on the columns (strie 24) and on the pilasters (strie 9).

[^2]:    ${ }^{23}$ The verso is in effect somewhat less than half the size of the recto ( $279 \times 186 \mathrm{~mm}$ ), because the rest of the back of the sheet is pasted onto the sheet behind it. Not much of the plan, however, is lost. There are only two notes on this hidden part of the drawing : distano li centri laterali pedi 184; tucta la longheza da un lato allaltro... pe 506 ( $1 / 8$ ?).
    ${ }^{24}$ See note 9 above.
    ${ }^{25}$ The plan of the Verona amphitheatre discussed below (fig. 9) shows clearly this method of approximating to an ellipse by using two radii and four centres. Several variants of this method of constructing the forma ovale are shown by Serlio, I, 1560, fol. 13. It is also explained by N. Tartalea (or Tartaglia), General trattato di numeri e misure, Venice, 1556 , Bk. I, ch. vii. Peruzzi constructs an oval in this way on UA 598. For the oval in Peruzzi's architectural projects, see Wolfang Lotz, Die ovalen Kirchenräume des Cinquecento, in : Römisches Jahrbuch für Kunstgeschichte, VII, 1955, p. 19-30.
    ${ }^{26}$ Peruzzi's plan of the amphitheatre at Verona, and indeed all the drawings of Veronese monuments discussed below, are measured in piedi. The mere fact that it is not specifically stated by Peruzzi or by Antonio da Sangallo what foot they are using strongly suggests that it is the Roman foot, which was for them a standard unit. - The foot used in the drawings of the amphitheatre was of

[^3]:    ${ }^{31}$ UA 478 recto +63 I verso (Bartoli, fig. 319). Peruzzi's plan, elevation, and sketches of details occupy the bottom part of the right half of the sheet. They are drawn freehand. In his elevation Peruzzi shows the side of the arch which now faces the Adige. The figure which he gives for the width of the principal arch ( pe 20 digiti I3 I/2) is certainly too large, and is probably the result of his having copied, as the width, a figure which in his original referred to some other dimension (perhaps the height of the arch). To the right of the Arco dei Gavi, Peruzzi has drawn part of the lower order of the Arco dei Leoni. - On the Arco dei Gavi see P. Marconi, op. cit., p. 95-Ior ; L. Beschi, op. cit., p. 433-444. Sarayna, Caroto, and Serlio illustrate the arch. Drawings of it by Palladio formerly in the Biblioteca Civica in Verona, and now lost, are known from photographs (Zorzi, op. cit., figs. 28, 29, 30, 32). Other Palladio drawings of it are in London (R.I.B.A. XII, in recto and in verso; Zorzi, op. cit., figs. 31 and 33). Pietro Sgulmero, L'Arco dei Gavi rappresentato a Padova da Michele Sanmicheli, Verona, 1896 , prints a contemporary description of the wooden replica of the arch which Sanmichele built at Padua in 1556 (cf. Pietro Gazzola, Michele Sanmicheli, Venice, 1960, p. 199-200, nos. 66 and 67; C. Anti, L'Arco dei Gavi ricostruito, Verona, 1932, p. Io).

[^4]:    ${ }^{47}$ Ligorio in his text writes several times as if from personal experience. Thus he writes of the "Tempio di Bonevento": lo quale sendo tutto rovinato, ne havemo veduto cavare molte rovine nel farvi la strada per lo mezzo (fol. 48 verso). He was also involved in the restoration of the bronze doors of the Pantheon (see David R. Coffin, Pirro Ligorio on the Nobility of the Arts, in : Journal of the Warburg and Courtauld Institutes, XXVII, 1964, p. 193, n. 10; cf. R. Lanciani, Storia degli Scavi, III, Rome, 1907, p. 238).

    The information given about the Pantheon by ancient writers (particularly Pliny, Nat. Hist. IX, 121; XXXIV, 13 ; and XXXVI, 38 ; and Dio Cassius, LIII, 27) had already been diffused, by the time Ligorio wrote, by Andrea Fulvio, Serlio, Marliano, Fauno, and Gamucci. But there is no reason why Ligorio should not have known the relevant texts at first hand.
    ${ }^{48}$ See Appendix II.
    ${ }^{49}$ UA 2023 (Bartoli, fig. 85 1), Dosio's section of the Pantheon, shows the arches supporting the portico roof; Ligorio probably copied this detail from Dosio.

[^5]:    50 Thus Ligorio is very inaccurate in his representation of a tabernacle and its details on fol. 52. For other instances of his inaccuracies see Appendix I under 5a, 8c, and 9a.
    ${ }^{51}$ Serlio, III, I 540, p. VI : Ma lassando da banda queste narrationi, le quali poco importano all'Architetto, verrò alle particolar misure di tutte le cose.
    ${ }^{52}$ Ligorio also tends to represent ancient sculpture in a uniform style (see E. Mandowsky and C. Mitchell, op. cit., p. 44).
    ${ }^{53}$ Fol. 50 verso : ...le quali (bases of the portico) sono del composito, et no(n) del'ordine Corinthio, come si deve osservare, onde essendo la spira Composita non è del Corinthio, ma bastardamente posta in esso ordine, il che manco quell'antico Architetto, et forsi sforzato dalle colonne, ch'erano già fatte di quella durissima pietra, per havere qualche avantaggio, d'altezza, ò pure per non sapere più oltre, si servi della Spira Composita perla Corinthia. Ligorio considered the true Corinthian base to be that with a single scotia; the Composite base was that with two scotiae, and astragals between them. Ligorio's Composite base does appear with Composite capitals (for instance in the Arch of Titus). But it is also used with Corinthian capitals, not only in the Pantheon, but in the temple of Castor and Pollux in the Forum, and elsewhere.

[^6]:    ${ }^{54}$ B. Cellini, ed. cit. (see note 4), p. IIIO. An expression of Peruzzi's taste in the antique is the note on UA 478 verso +631 recto (Bartoli, fig. 320) relating to the order of the Temple of Castor in the Forum. Peruzzi writes: Questa e la piu bella e meglio lavorata op(er)a di roma.
    ${ }^{55}$ It is a characteristic of Peruzzi's age that ancient buildings and the most notable modern works are treated as of equal relevance to the architect, and appear side by side in architectural anthologies such as the Codex Coner, and Serlio Book III. Peruzzi himself, on UA 483 verso (Bartoli, fig. 280), draws the cornice di mactonj a belvedere verso prata / $p(\mathrm{er})$ brama $(\mathrm{n})$ te ordinata e co $(\mathrm{m})$ posta, together with details from ancient works. On UA $632+633$ (Bartoli, fig. 318) he draws details of the Forum of Augustus, and a measured profile of the Basam(en)to di San pietro in la parte exteriore.
    ${ }^{56}$ fames S. Ackerman, The Cortile del Belvedere, fig. 32. Ackerman dates this drawing 1560-61 (op. cit., p. 222-223). Ligorio's design, for a very important work, at the height of his architectural career, is similar in treatment to his drawing of the Pantheon : the peculiarities of the latter cannot therefore be dismissed as the effects of an old age in which a growing absorption in erudition was accompanied by an increasing indifference to aesthetic considerations.

    The eccentric manner in which Ligorio represented space must be regarded, as Professor Coffin has said, as a conscious imitation of the spatial conventions of Roman reliefs (David R. Coffin, The Villa d'Este at Tivoli, Princeton, 1960, p. 76-77). For a characterisation of Ligorio's use of antique motifs in his built architecture, see Ackerman, op. cit., p. 138-140.

