

JOURNAL OF  
THE WARBURG  
AND COURTAULD  
INSTITUTES

LXXVII



THE WARBURG INSTITUTE  
UNIVERSITY OF LONDON

2014

Journal of the Warburg and Courtauld Institutes  
Volume LXXVII

*Edited by* Jill Kraye, Paul Taylor, Guido Giglioni  
*with assistance from* Jenny Boyle

*Production:* Jenny Boyle  
*Images Editor:* Ian Jones

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ISBN 978-1-908590-039  
ISSN 0075-4390  
online ISSN 2044-0014

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## THE LOST OCTAGONS OF THE PANTHEON: IMAGES AND EVIDENCE\*

Carolyn Yerkes

In antiquity, a series of three barrel vaults, each one of a different material, covered the passage into the Pantheon rotunda. The first of these vaults, made of metal, hung from the bronze beams that once supported the portico roof.<sup>1</sup> Probably removed by medieval plunderers, this vault is long gone and no drawings or other images record its appearance.<sup>2</sup> But the second vault still stands over the main door, and its square-coffered masonry appears virtually unchanged in the various representations of it made since the sixteenth century.<sup>3</sup> On the other side of the door, the interior entrance alcove of the Pantheon cuts through the thick cylindrical perimeter wall of the rotunda, creating an area of transition between the lower, darker space of the portico and the high, bright space under the dome. Above it, the third and final barrel vault is also still present today (Fig. 1). Although the brickwork of its intrados is mostly exposed, with white marble veneer only at the edges, several sixteenth- and seventeenth-century representations of the Pantheon imply that it was once covered by an ornamental pattern of octagonal and square coffers. The octagons are discernible, for example, on the ruin of the Pantheon depicted in Jean Lemaire's painting of *Theseus Finding his Father's Sword and Sandals* (c. 1630), now in the Statens Museum in Copenhagen (Fig. 2a-b).<sup>4</sup> There the barrel vault of the exterior entrance alcove looks as it does now, with a square coffer that echoes those set into the dome, but the barrel vault of the interior alcove, on the left, has octagonal coffering that cannot be seen today.

\* Hilary Ballon, David Freedberg, Wolf-Dietrich Löhr, Tod Marder, John Pinto and Mark Wilson Jones all offered suggestions that enriched this project in countless ways. Comments from the Editors of this *Journal* and two anonymous reviewers improved this work immeasurably: the mistakes that remain are my own.

1. For the bronze beams that were removed in the 1620s on the orders of Urban VIII see K. de Fine Licht, *The Rotunda in Rome: A Study in Hadrian's Pantheon*, Copenhagen 1968, pp. 46–58; L. Rice, 'Bernini and the Pantheon Bronze', in *Sankt Peter in Rom, 1506–2006*, ed. G. Satzinger and S. Schütze, Munich 2008, pp. 337–52; and eadem, 'Urbano VIII e il Dilemma del Portico del Pantheon', *Bollettino d'Arte*, CXLIII, 2008, pp. 93–110.

2. Sebastiano Serlio, *Il Terzo Libro*, Venice 1540, p. X, noted that the central bay of the portico was once covered with a vault of bronze, or possibly silver, although he had never seen it himself: 'Questo armamento si trova in essere al presente sopra lo portico del Pantheon, et è tutto di tavole di bronzo come

dimostra la figura, lo circolo non ci è, ma ci era una meza botte di bronzo molto ornata, et ancho si tiene per l'oppenio ne di molti, che vi fusse ornamenti di argento per le ragioni dette piu adietro, ma di che materia egli si fusse non si sà, certa cosa è, che dovea essere opera bellissima, considerando a quel lo che al presente si vede.' Vitruvius does not mention the ornamentation; see the discussion in Licht (as in n. 1), pp. 57–58.

3. Representations of this masonry vault include Raphael's view of the entrance, made in the first decade of the 16th century; of the vast literature on this drawing see at least J. Shearman, 'Raphael, Rome, and the Codex Escurialensis', *Master Drawings*, xv, 1977, pp. 107–96; and A. Nesselrath, 'Raphael's Archaeological Method', in *Raffaello a Roma* (convegno, 1983), Rome 1986, pp. 357–71.

4. On this painting see M. Fagiolo dell'Arco, *Jean Lemaire: Pittore 'Antiquario'*, Rome 1996, pp. 198–99; idem, "'Franzesi che vanno e vengono': Jean Lemaire, Nicolas Poussin e i loro amici a Roma', *Fimantiquari*, xiv, 1998, pp. 48–63. For Lemaire's similar painting



IRINA TOLSTOY

1. The barrel vault over the interior entrance alcove of the Pantheon, seen from below

The present article considers that last decorative surface, tracking its appearance in Renaissance representations to help answer the question of how the vault was decorated at that time and in antiquity, if at all. This process also allows us to observe the ways in which Renaissance architects used drawings and prints as sources of technical information, and the ways that copying could distort that information. I conclude by arguing that the interior entrance alcove of the Pantheon, the final step in the passage to the rotunda, played a vital role in the decorative programme of the building as a whole.

#### IMAGES OF THE COFFERS

Although the Pantheon is largely famous today for its structural qualities rather than its ornament, in the sixteenth century, the building was studied as much for its surface as for its structure. Since the Renaissance, however, the vault over the interior entrance alcove has often been all but ignored. It is represented as blank and unornamented in several sixteenth-century architectural drawings, including a section by Baldassare Peruzzi, executed c. 1532, and a drawing made by Giovanni Antonio Dosio around 1570 for his treatise on Roman antiquities (Fig. 3).<sup>5</sup> Many

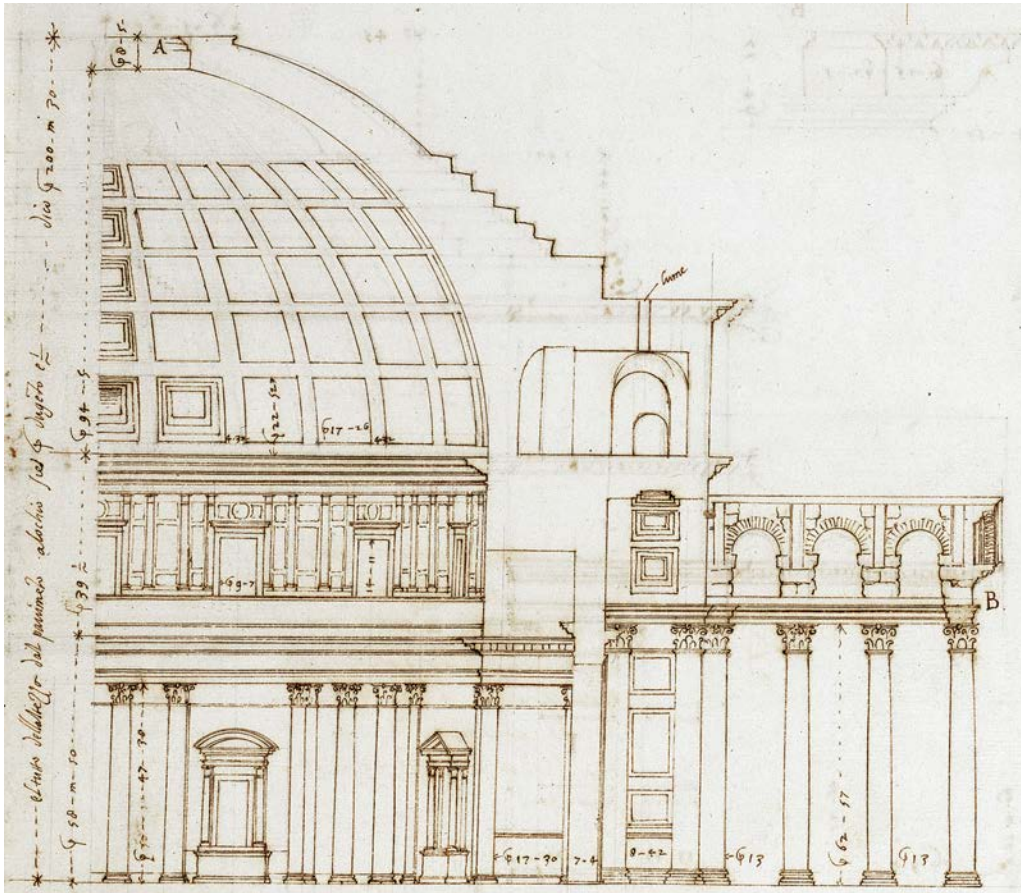
now in the Busiri Vici collection in Rome, see idem, 'Jean Lemaire: Pittore "Antiquario"', *Fimantiquari*, III, 1994, p. 29.

5. See H. Burns, 'A Peruzzi Drawing in Ferrara', *Mitteilungen des Kunsthistorischen Institutes in Florenz*,

XII, 1965–66, pp. 245–70, for Peruzzi's section that shows a blank vault. For Dosio's section see C. Acidini, 'Le Antichità per il "Trattato"', in Giovanni Antonio Dosio, *Roma Antica e i Disegni di Architettura agli Uffizi*, ed. F. Borsi et al., Rome 1976, p. 113, no.



2. Jean Lemaire, *Theseus Finds his Father's Sword and Sandals*, c. 1630. Statens Museum, Copenhagen.  
The detail (b) enlarges Lemaire's depictions of partly ruined vaults at the entrance to the Pantheon



3. Giovanni Antonio Dosio, section through the Pantheon showing the interior entrance alcove with a blank vault (centre), c. 1570. Florence, Uffizi, 2023A

printed representations also show the vault as blank, such as Sebastiano Serlio's *Terzo libro* (first published Venice 1540) (Fig. 5).<sup>6</sup> The ceiling remains unornamented in Antoine Desgodetz's *Édifices antiques de Rome* (Paris 1682) (Fig. 4),<sup>7</sup> prior to being redone at least twice in the eighteenth and nineteenth centuries.<sup>8</sup>

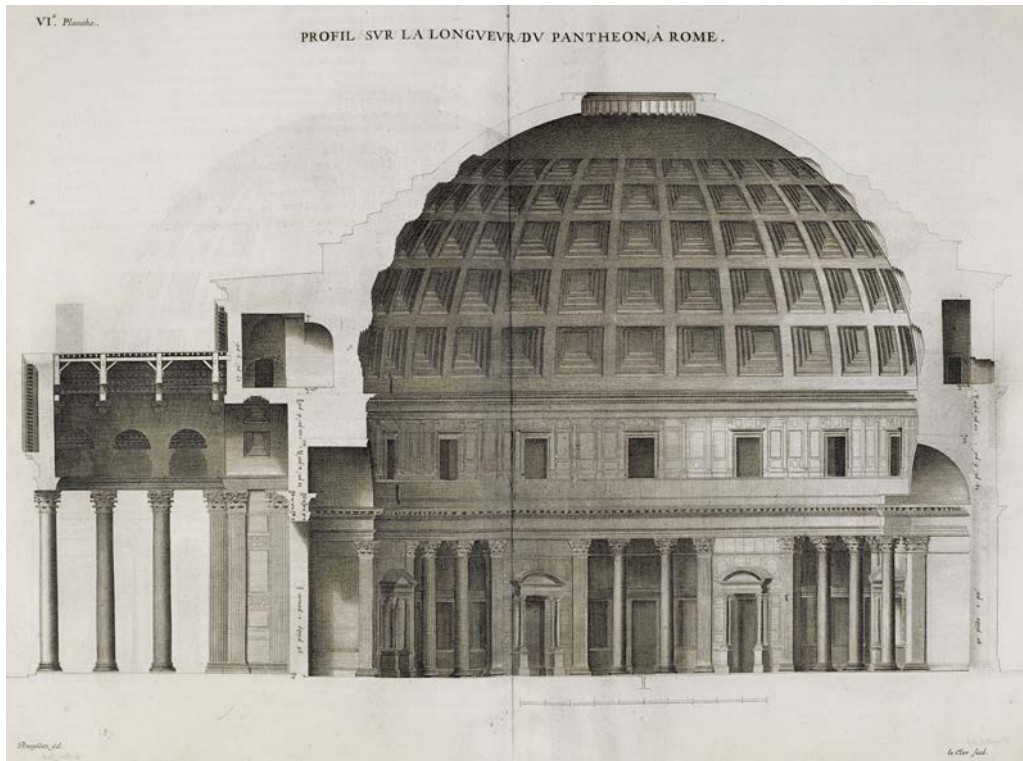
106. Dosio's section and other drawings related to his studies of the Pantheon are also discussed in S. Valori, *Disegni di Antichità dell'Albertina di Vienna*, Rome 1985, pp. 177–96; and I. Campbell, *Ancient Roman Topography and Architecture* (The Paper Museum of Cassiano dal Pozzo, A.9), 3 vols, London 2004, I, pp. 405–15.

6. Serlio (as in n. 2), p. XII (here illustrated from the 1544 edition).

7. Antoine Desgodetz, *Les Édifices antiques de Rome dessinés et mesurés très exactement*, Paris 1682, pp. 22–23 (22).

8. Francesco Piranesi, *Seconda parte de' Tempj antichi che contiene il celebre Panteon*, Rome 1790, tav. X, also shows the vault without ornamentation. By contrast, Giovanni Paolo Panini's paintings of the

interior, of c. 1734, show the vault with a chromatic surface of squares and circles that mimic the pattern of the floor; see F. Arisi, *Giovanni Paolo Panini 1691–1765*, Milan 1993, p. 40, for reproductions of Panini's Pantheon paintings in the National Gallery of Art, Washington DC, and in the Lunde collection, New York. Luigi Rossini, *Le antichità romane*, Rome 1829, tav. 10, shows the vault with square coffers arranged in a single row, recalling the exterior vestibule and dome. These square coffers also appear in Giovanni Battista Piranesi's 'Veduta interna del Panteon', published as part of the *Vedute di Roma*, which were produced as individual plates from the late 1740s until his death in 1778; see J. Wilton-Ely, *Giovanni Battista Piranesi: The Complete Etchings*, 2 vols, San Francisco 1994, I,



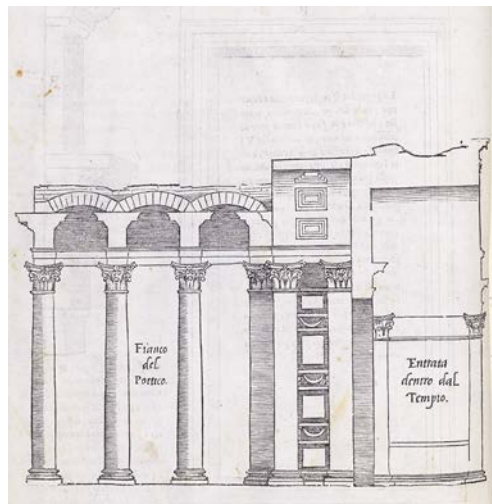
4. Antoine Desgodetz, *Les Édifices antiques de Rome dessinés et mesurés très exactement*, Paris 1682, pp. 22–23, section through the Pantheon showing the interior entrance alcove with a blank vault

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Some Renaissance architectural images, however, show ornamental coffering. Palladio's *Quattro libri dell'architettura* (Venice 1570), for example, has a partial section through the Pantheon showing the vault covered with an octagonal and square pattern (Fig. 6).<sup>9</sup> This design, versions of which we shall encounter in other drawings,

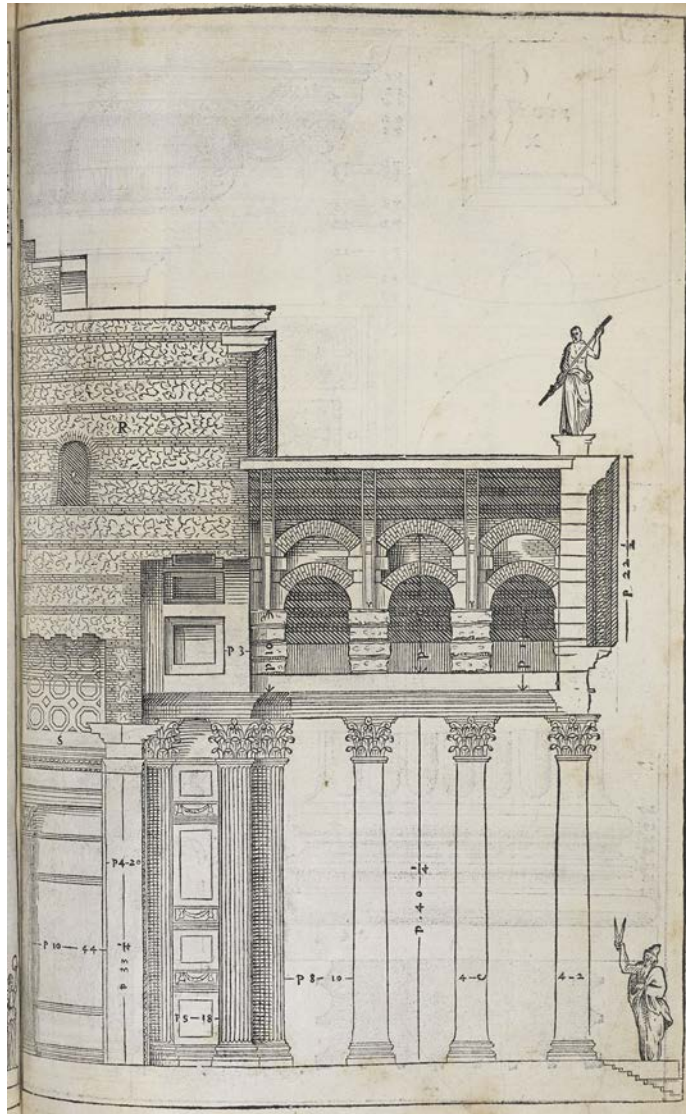
p. 176 for the *Vedute* and p. 262 for the view inside the Pantheon. The square coffers appear again in an 1845 etching by Carlo Piccoli, 'Interno del Pantheon', an example of which is at the British Museum, inv. 1928, 1210.164. By the 20th century this surface too was gone. More recent photographs capture a vault painted with a simple square pattern that echoes the coffering on the barrel vault outside the door; see R. Mark and P. Hutchinson, 'On the Structure of the Roman Pantheon', *Art Bulletin*, LXVIII, 1986, pp. 24–34 (25).

9. Andrea Palladio, *Quattro libri dell'architettura*, Venice 1570, IV, ch. XX, p. 79.



5. Sebastiano Serlio, *Il terzo libro*, Venice 1544, p. XII, with section through the Pantheon portico and intermediate block. The interior entrance alcove is shown on the right ('Entrata dentro dal Tempio')

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6. Andrea Palladio, *Quattro libri dell'architettura*, Venice 1570, IV, ch. XX, p. 79, showing the Pantheon portico and intermediate block. The octagonal coffers of the interior entrance vault are shown on the left ('S')

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has elements in common with representations of the bronze beams removed from the portico and the marble ornamentation removed from the rotunda in the seventeenth and eighteenth centuries.<sup>10</sup> Such illustrations may capture a lost state of the building fabric that is now known only through older sources. Yet we need to be

10. For the removal of the beams see above, n. 1. For the 18th-century renovations of the Pantheon see T. Marder, 'Bernini and Alexander VII: Criticism and Praise of the Pantheon in the Seventeenth Century', *Art Bulletin*, LXXI, 1989, pp. 628–45; idem, 'Symmetry and Eurythmy: The Fate of Bernini's Perceptions

from the Seventeenth Century to the Present Day', in *Antiquity and Its Interpreters*, ed. A. A. Payne, A. L. Kuttner and R. Smick, Cambridge and New York 2000, pp. 217–26; and S. Pasquali, *Il Pantheon: architettura e antiquaria nel Settecento a Roma*, Modena 1996.

aware that surviving records of lost element can be unreliable or deceptive, and that depictions of the Pantheon beams differ from each other so much that it is difficult to judge their relative accuracy.<sup>11</sup> Renaissance representations of antique construction features often need to be understood as architectural criticism—images whose purpose is to categorise, classify or evaluate, rather than to precisely document.<sup>12</sup> Furthermore, sixteenth-century images of the Pantheon frequently include details that were not present at the time. Palladio's section, for example, shows stairs up to the portico, an element that did not exist on the building as he knew it.<sup>13</sup> His *Quattro libri* contains nothing to suggest that Palladio had detailed knowledge of the octagonal coffers, such as other representations of or information about them,<sup>14</sup> so his depiction may be a case of antiquarian augmentation rather than observation.<sup>15</sup>

A central question to ask, then, about each painting, print, or drawing that shows the octagonal coffers, is whether the author could have seen the element in person or whether the image instead might be a type of historical reconstruction. In drawing an ornamented vault, were these draughtsmen recording what they saw, correcting a perceived deficiency in the Pantheon, or were they graphically restoring the modern building to a state they considered original? Moreover, how is it possible to judge a draughtsman's intentions if the building itself does not offer a basis for comparison?

One way to categorise images of the coffers is by their authors' degrees of remove from their subject. In certain cases, drawings appear to have been made on site, or at least by a draughtsman who had primary knowledge of the Pantheon. In other cases the images are secondary: that is, the draughtsmen based their representations on other images rather than on personal study. Our knowledge of the degree of remove from the building affects our evaluation of the information that an image contains; but, perhaps more interestingly, it also helps us to judge how a draughtsman valued the information contained in other drawings. The

11. See n. 1 for discussions of 16th-century representations of the bronze beams, esp. Licht, pp. 46–58.

12. For architects who criticised the Pantheon in drawings see T. Buddensieg, 'Criticism and Praise of the Pantheon in the Middle Ages and the Renaissance', in *Classical Influences on European Culture A.D. 500–1500*, ed. R. R. Bolgar, Cambridge 1971, pp. 259–67; and idem, 'Criticism of Ancient Architecture in the Sixteenth and Seventeenth Centuries', in *Classical Influences on European Culture A.D. 1500–1700*, ed. R. R. Bolgar, Cambridge 1976, pp. 335–48.

13. In the 16th century, the stairs leading from the Piazza del Pantheon to the portico were covered with earth. The level of the piazza was lowered to reveal the stairs only in 1666; see R. Krautheimer, *The Rome of Alexander VII*, Princeton, NJ 1985, p. 107.

14. Despite identifying the vestibule barrel vault with the key mark S, he does not elaborate on it elsewhere in the book.

15. T. Buddensieg, 'Raphael's Tomb', in *Sixteenth-Century Italian Art*, ed. M. W. Cole, Malden, MA 2006, pp. 10–24 (17), identifies another pertinent example of this type of augmentation: he notes that the author of the Mellon Codex, an architectural sketchbook dated to the second decade of the 16th century, drew ancient sculptures standing in the empty niches of the Pantheon rotunda, although the building had been emptied of these during the medieval period; on the Mellon Codex itself see H. Nachod, 'A Recently Discovered Architectural Sketchbook of an Intimate Assistant of Bramante in the Construction Office of St. Peter's in Rome', *Rare Books*, VIII, 1955, pp. 1–11; R. Wittkower, 'The "Menicantonio" Sketchbook in the Paul Mellon Collection', in *Idea and Image: Studies in the Italian Renaissance*, New York 1978, pp. 91–108; and S. Storz, 'Fragmente der Innenordnung des Mars-Ultor-Tempels und ihre Renaissance-Darstellungen', in *Kaiser Augustus und die verlorene Republik*, ed. M. R. Hofter, Mainz 1988, pp. 172–84.

distinction between primary and secondary representations is a useful one, but with two caveats. First, primary knowledge does not automatically result in a more accurate drawing: the result depends on the intentions of the draughtsman—primary contact can also inspire a flight of fancy. Second, even if a draughtsman has documentary intent, primary knowledge may not result in an accurate image if, as is the case with Palladio, there is a gap between the site visit and the production of the drawing or print. Palladio published the *Quattro libri* more than fifteen years after he had last seen the Pantheon in person, so he must have been relying on drawings—or perhaps only his memory—to depict this element.<sup>16</sup> Lemaire, in turn, loosely copied Palladio's depiction of the octagonal coffering, substituting a row of two octagons for the three that appear in the *Quattro libri*.<sup>17</sup> Lemaire's painting thus offers evidence of how artists interpreted Palladio's treatise as a historical reconstruction, but it does not offer evidence of the original ornamental surface.

Only two drawings that show the vault as coffered fall into the primary category. Found in groups of drawings that date from the third quarter of the sixteenth century, these are two of the oldest representations of the vault and they also are the most detailed. They offer evidence that this part of the entrance to the Pantheon was once decorated with octagonal coffers, whether ultimately original or not. Preserved in the Goldschmidt Scrapbook at the Metropolitan Museum of Art in New York, the first drawing was done in the 1560s by an anonymous French draughtsman who made extensive studies of the Pantheon (Fig. 7).<sup>18</sup> Precise in some ways but seemingly improvisational in others, his perspectival view of the main entrance is one of the most comprehensive images to survive and is therefore the most useful for reconstructing the appearance of the vault.

The Goldschmidt draughtsman had a particularly acute eye for surfaces: other drawings among his Pantheon series record the dimensions and varieties of stone veneers, suggesting first-hand knowledge of the building. His view of the entrance shows both the overall pattern of the coffers and also their specific ornamentation. As Howard Burns has noted, their arrangement is distinctive in that the octagons do not adjoin each other in horizontal rows parallel with the base of the barrel vault.<sup>19</sup> Instead, they adjoin on their oblique sides, so that they appear to run in

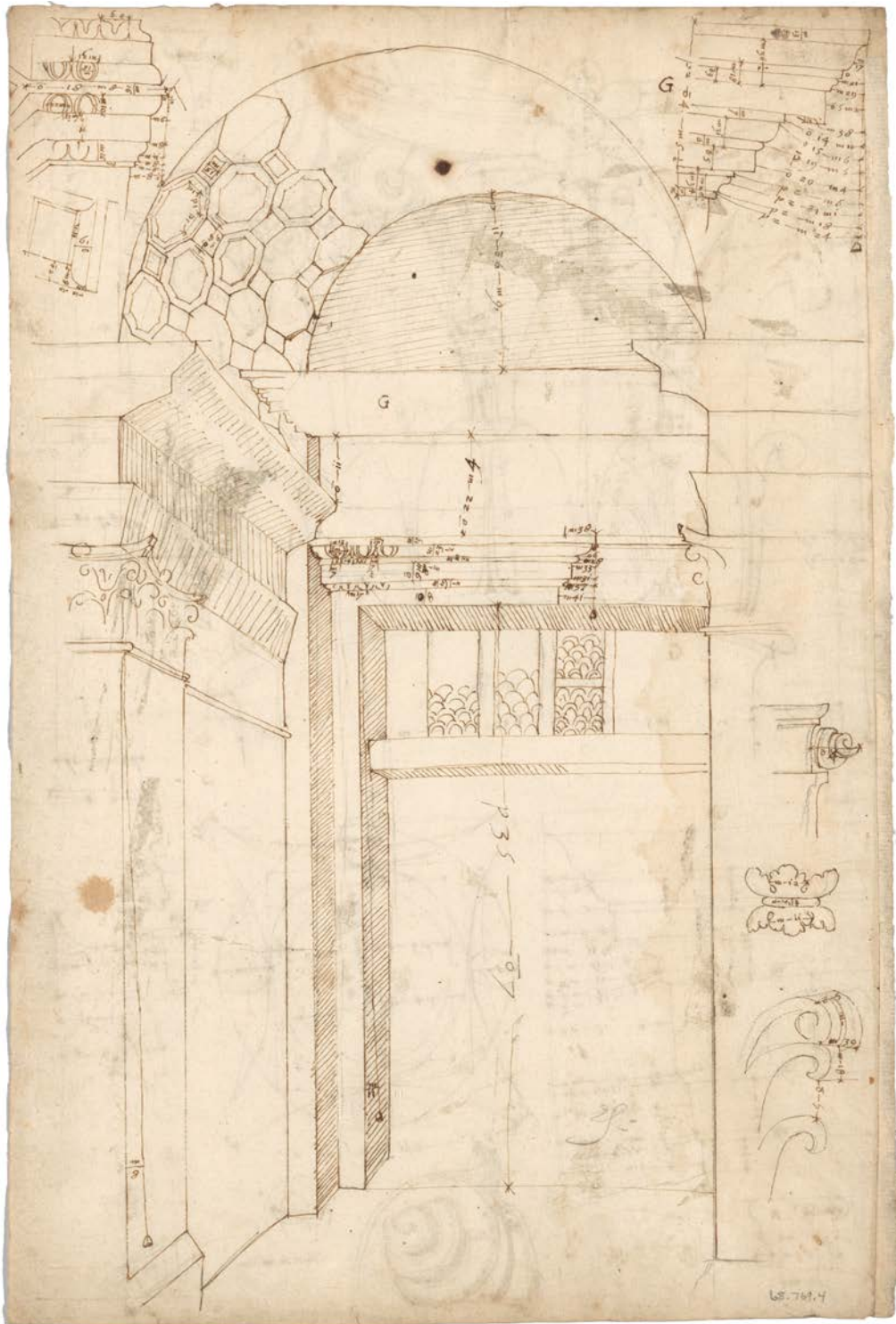
16. Palladio's latest known trip to Rome took place in 1554, and he often relied on other drawings of ancient architecture to produce his own; see H. Burns, L. Fairbairn and B. Boucher, *Andrea Palladio 1508–1580: The Portico and the Farmyard*, London 1975, p. 84.

17. For Lemaire's use of Palladio's treatise see Fagiolo dell'Arco (as in n. 4), pp. 56–57 and 198; for his incorporation of source material more generally see A. Blunt, 'Jean Lemaire: Painter of Architectural Fantasies', *Burlington Magazine*, LXXXIII, 1943, pp. 236 and 240–46.

18. New York, Metropolitan Museum of Art, Goldschmidt Scrapbook, fol. 68.769.4<sup>v</sup>; see H. Burns, 'Research for Architectural Drawings' (unpublished catalogue of the scrapbook), in the Metropolitan

Museum's Department of Drawings and Prints, p. 24; É. d'Orgeix, 'The Goldschmidt and Scholz Scrapbooks in the Metropolitan Museum of Art: A Study of Renaissance Architectural Drawings', *Metropolitan Museum Journal*, xxxvi, 2001, pp. 169–206 (177); and C. Yerkes, 'Drawings of the Pantheon in the Goldschmidt Scrapbook at the Metropolitan Museum of Art', *ibid.*, XLVIII, 2013, pp. 87–120 (100–04, 118). On the scrapbook itself, a collection of 16th-century drawings of ancient Roman architecture, see also G. Taylor, 'Euclid's *Bacolo* and Tholos' *Compasso: Architectural Survey in the Scholz and Goldschmidt Scrapbooks*, D.Des. thesis, Harvard Design School, Cambridge, MA 2004.

19. Burns, 'Research' (as in n. 18), p. 24.



7. Anonymous 16th-century French draughtsman, view of the Pantheon interior entrance vault seen from the rotunda, c. 1560–70. New York, Metropolitan Museum of Art, Goldschmidt Scrapbook, fol. 68.769.4v (Purchase, Rogers Fund, Joseph Pulitzer Bequest and Mark J. Millard Gift, 1968)

diagonal rows across the vault, creating a sense of movement as the eye follows the octagons up and around the arch. Uncommon in both antique and Renaissance buildings, this pattern indicates that the representation is a primary one, because there are few places from which the draughtsman might have copied it. Another such indication is the sketch to the left, where the octagons' mouldings are drawn with measurements.<sup>20</sup> It is one thing to add a statue to a building as a hypothesis about a lost architectural past, as Palladio did; it would be another to supply dimensions for fictional details.

In discussing the relative accuracy of the Goldschmidt drawing, it is important to note that its draughtsman depicted the octagonal coffering pattern as covering the entire barrel vault, from edge to edge. The broad, arch-shaped marble veneers that today cover each edge (see Fig. 1) may not be ancient, because the rest of the attic marbles were added during the eighteenth-century renovation of this storey. But most of the representations that show the octagons in a horizontal arrangement, like Palladio's, depict the pattern as framed by a bordering edge. The sides of the barrel vault do not run parallel, because the inner side curves along its intersection with the rotunda. A bordering edge on a coffer pattern would have accommodated this curve. That the Goldschmidt draughtsman did not draw one may be an example of his partly improvisational approach to his subject-matter.

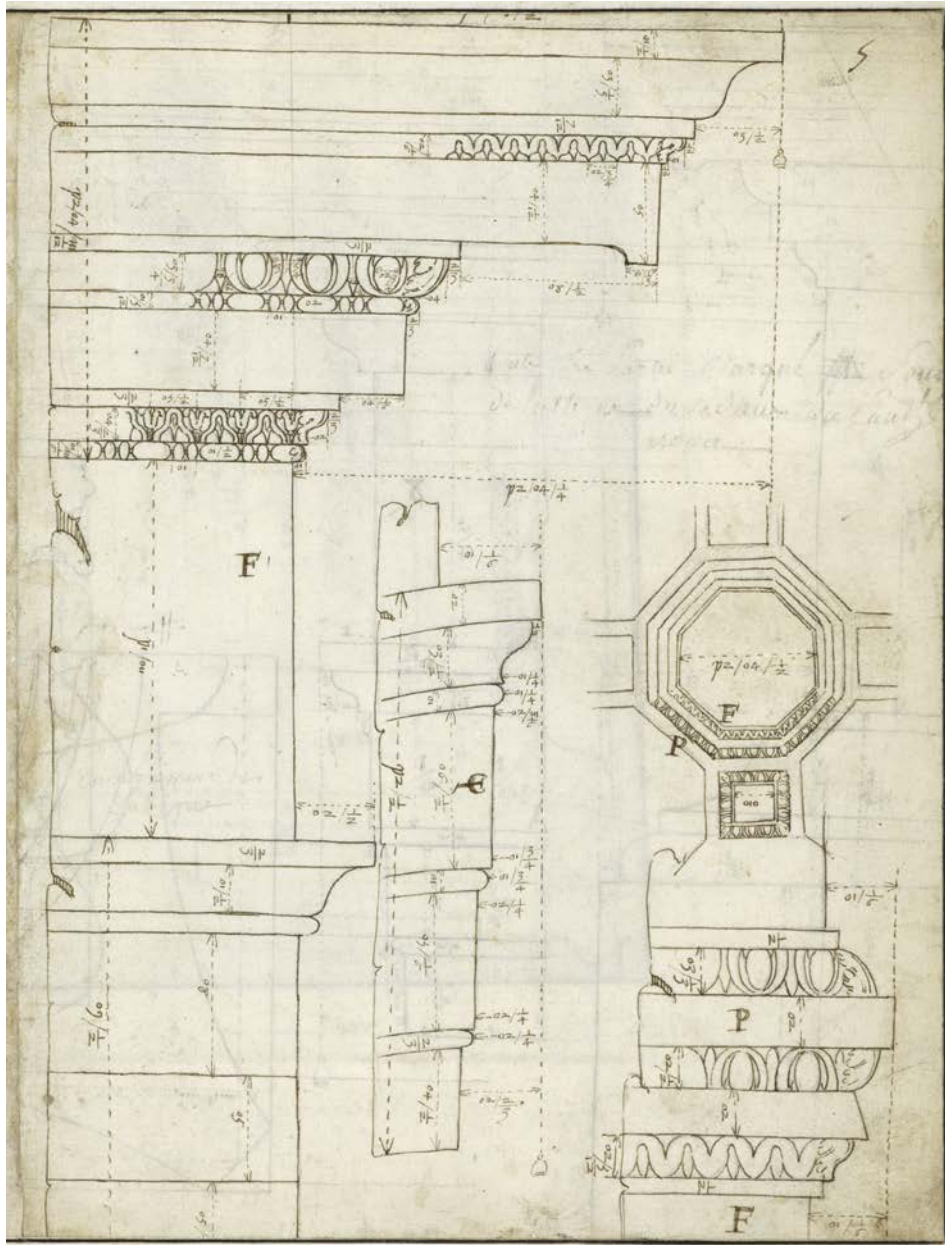
The moulding details present on the Goldschmidt view are represented again, and others are added, in a roughly coeval drawing, now in the Berlin Kunstbibliothek's Codex Destailleux A (Fig. 8).<sup>21</sup> The entablature at the left is from the side wall just below the barrel vault, and the archivolt next to it delineates where the vault meets the rotunda. It makes sense, then, that the two drawings in the lower right corner of the sheet, immediately adjacent to these details, also depict aspects of the barrel vault—specifically the coffering. The top drawing shows one octagonal coffer and its four adjacent square coffers in elevation, and the bottom drawing shows the octagonal moulding in profile.<sup>22</sup> The studies of the Pantheon in Codex Destailleux A are orthogonal and measured, but they show only small elements, not whole areas of the building. Yet the additional details they provide are significant, because they indicate that the Destailleux sheet does not derive from the Goldschmidt one. Although the coffers are not depicted *in situ*, the Destailleux

20. The mouldings consist of (working from the centre of the coffer to its edge) a small fillet, a *cyma reversa* with an abstracted floral pattern, a broad fillet or fascia, and an ovolo decorated with eggs. Another fillet separates the octagons from each other and from the squares, which are shown with a fillet and plain ovolo.

21. Berlin, Staatliche Museen, Codex Destailleux A, Oz 109, fol. 3<sup>r</sup>. The left side and verso of this sheet include other elements of the entrance vestibule. Part of the collection of architectural drawings donated to the Kunstbibliothek by Hippolyte Destailleux in 1879, Codex Destailleux A awaits thorough study. It was compiled from drawings made by at least 11 draughtsmen (including Dosio) and has six sheets of drawings

of the Pantheon. The hand responsible for the studies of the Pantheon coffers on fol. 3<sup>r</sup> has been named Anonymous Destailleux A 1 in the online *Census of Antique Works of Art and Architecture Known in the Renaissance* of the Humboldt-Universität zu Berlin. The other drawings of the Pantheon assigned to this draughtsman are on fols 2<sup>r-v</sup>, 3<sup>v</sup>, 4<sup>r-v</sup>, 5<sup>r-v</sup>, 6<sup>r</sup> and 7<sup>r</sup>. (The drawings on fol. 6<sup>v</sup> are assigned to the same hand but they are not of the Pantheon, and the drawing on fol. 7<sup>v</sup> is assigned to hand 4, a hand that is unique to this sheet.)

22. The *Census* (as in n. 21) identifies the entablature and archivolt of the barrel vault but not the two details of its coffering.



8. 'Anonymous Destailleur A 1' (16th century), studies of elements from the interior entrance alcove of the Pantheon. The drawing on the right shows one octagonal coffer and its adjacent square coffers, as well as a study of the coffers' mouldings. Berlin, Staatliche Museen, Codex Destailleur A, Oz 109, fol. 3<sup>F</sup> (detail)

studies provide more clues to their ornamentation than the Goldschmidt sketch does: this draughtsman included information that the other did not.<sup>23</sup>

23. In the Destailleur drawing the octagon has a canted fascia and a more fleshed-out leaf-and-dart pattern on the *cyma reversa*, the ovolos of both the

octagon and the square have egg-and-dart bands, and each ornamental strip ends with a leaf flourish.

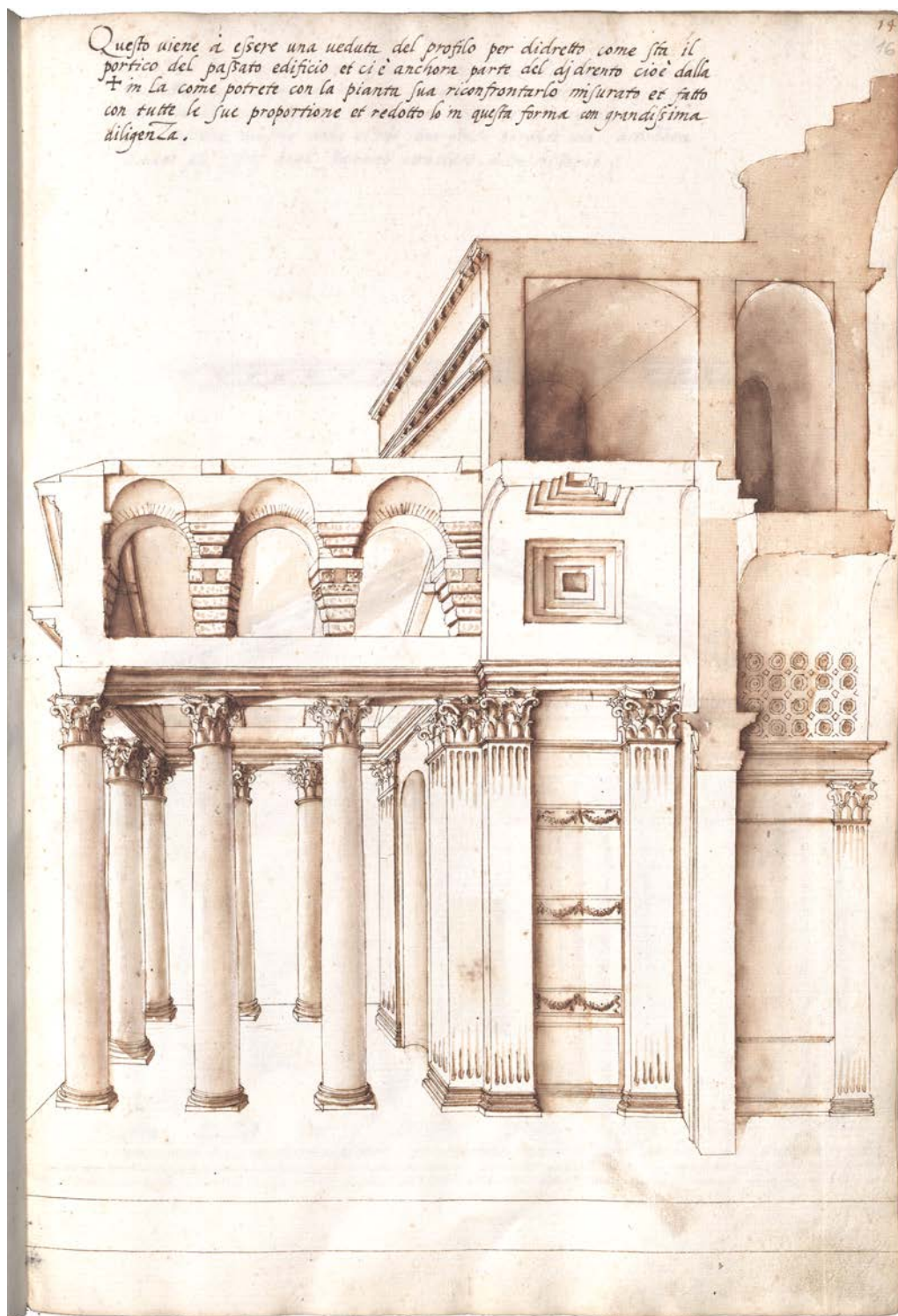
The differences between these two sixteenth-century drawings corroborate what is implied by their similarity. That is, the general likeness of the two drawings reinforces the idea that both draughtsmen captured this element accurately, while the small variations between them suggest that they worked independently. The draughtsmen also produced plausible data. The dimensions on the drawings give the impression that their authors had primary knowledge of the building. Data and duplication differentiate the Goldschmidt and Destailleur drawings from historical reconstructions, for example, or from ‘critical’ renditions of ancient architecture—two representational types that rarely, if ever, supply measurements to reinforce their visual fictions and that are of little help as corroborative documents.<sup>24</sup> The differences between Palladio’s representation of the coffers and that of the roughly coeval Goldschmidt draughtsman are immediately apparent. Although Palladio’s section does show the coffers *in situ*, his version has the octagons in horizontal rather than diagonal rows—a more static, and more commonly found, arrangement than the one seen in the Goldschmidt view. This may be attributed to Palladio’s simplification of certain aspects of the building: the interior chambers of the intermediate block, for example, are also noted schematically.

Images associated with the considerably more detailed Goldschmidt view of the coffers necessarily have a more complex relationship with the building. This is the case with a drawing from the ‘Libro dell’architettura’ in the Stuttgart Württembergische Landesbibliothek, a collection of architectural studies by a single artist, recently linked to the circle of Giovanni Antonio Dosio (Fig. 9).<sup>25</sup> The ‘Libro dell’architettura’ has watermarks in common with the Goldschmidt Scrapbook and its companion album the Scholz Scrapbook, both of which include drawings copied from studies by Dosio, and it has versions of the same drawings. So although the Stuttgart section is not a copy of the Goldschmidt view, the two images are nevertheless related, perhaps deriving from the same circle of draughtsmen. Whereas the Goldschmidt Scrapbook includes annotated studies, the Stuttgart manuscript contains finished drawings with captions. Probably intended as a presentation album, the ‘Libro dell’architettura’ is, too, a compilation book: the author made it by collecting information available from other sources. In this case, however, many of the illustrations have been reformulated and some of their details have been rendered haphazardly. The author of the Stuttgart book seems to have been interested in conveying the general appearance of the ornamental programme rather than its specifics. Extant elements can be easily checked: the number of rows of coffers in the dome of the Pantheon is incorrect, as is the number of coffers on the

24. Palladio’s section, for example, does not include a dimension for the hypothetical portico stairs, although he provides measurements for other elements within the image (Fig. 6). See n. 12 above for discussions of other critical renditions of ancient architecture and their character.

25. Stuttgart, Württembergische Landesbibliothek, shelfmark HB XI. 32, fol. 14<sup>r</sup> [16<sup>r</sup>]. See S. Fitzner, ‘Das Stuttgarter *Libro dell’Architettura* römischer Antiken

und Palazzi: Ein neu entdeckter Architekturtraktat des 16. Jahrhunderts von Giovanni Antonio Dosio’, in *Kunstgeschichte: Open Peer-Reviewed Journal*, www.kunstgeschichte-ejournal.net, 2012. I am grateful to Kerstin Losert and Magdalene Popp-Grilli of the Württembergischen Landesbibliothek for allowing me to examine the manuscript, enlarged colour reproductions of which are available online through the library’s website.



9. Anonymous 16th-century draughtsman in the circle of Giovanni Antonio Dosio, section view through the Pantheon portico and intermediate block showing octagonal coffering on the interior entrance vault (right). Stuttgart, Württembergischen Landesbibliothek, 'Libro dell'Architettura', shelfmark HB XI. 32, fol. 14<sup>r</sup> [16<sup>r</sup>]

exterior entrance vault.<sup>26</sup> The octagonal coffering on the interior entrance vault is noted as a pattern sketched over its lower part, with five coffers to a row; but the credibility of this rendering needs to be viewed in the context of the entire album. By comparison, the pages of measured sketches that constitute the Goldschmidt Pantheon series indicate that the artist visited the building and studied its elements, including the coffers, carefully. The Goldschmidt and Stuttgart views of the octagonal coffering support the conclusion that, in this case, the drawing's level of finish bears an inverse relation to its reliability.

The thoroughness of the Goldschmidt Pantheon series allowed other draughtsmen to represent the building without visiting it in person. The drawings of the Worcester College Album, a bound volume of architectural drawings made by an anonymous French draughtsman in the late 1630s and early 1640s, derive in part from the Goldschmidt Scrapbook, made about eighty years earlier.<sup>27</sup> Yet although other drawings of the Pantheon in the Worcester College Album were based directly on Goldschmidt sheets, its two studies of the entrance alcove coffers were not (Figs 10–11).<sup>28</sup> One of them, a cutaway section through the building, is a pastiche of various drawings and prints, including a well-known section published as part of the *Speculum Romanae magnificentiae* and in Palladio's *Quattro libri*.<sup>29</sup> The other sheet collects details of the entrance. Perhaps because he began his manuscript in France, the Worcester College draughtsman seems not to have understood everything that he copied. First there is the overall pattern of the coffers. In his section (Fig. 10), he drew the coffers in much the same way as the author of the Stuttgart volume did: as horizontal rows of octagons. This differs from the unusual diagonal arrangement shown in the Goldschmidt drawing, which suggests that the Worcester College draughtsman used either another drawing, perhaps related to the Stuttgart one, or else Palladio as his source. His separate study of the coffer mouldings (Fig. 11) includes more detail than the earlier Goldschmidt drawing does,<sup>30</sup> yet on the elevation of four coffers that appears on the same page, he drew these coffers without any mouldings at all. Apparently the Worcester College draughtsman did not realise that the two drawings he copied—the coffers and their mouldings—depicted the same element.

Because the evidence of watermarks and copied drawings links both the Stuttgart volume and the Worcester College Album to the Goldschmidt Scrapbook, the source of their information about the octagonal coffering is known. Other

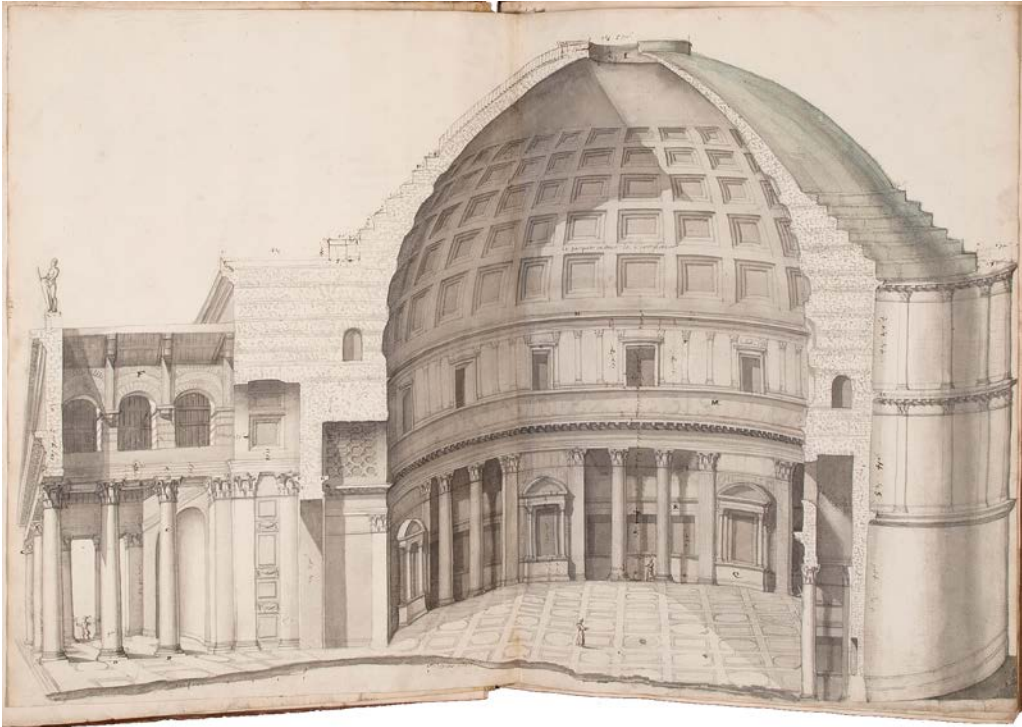
26. See fols 16<sup>r</sup> [18<sup>r</sup>] and 18<sup>r</sup> [20<sup>r</sup>] for drawings where these elements are rendered incorrectly. By comparison, most other draughtsmen got these basic details right; see Figs 10, 12b and 13a for the rows of coffers in the Pantheon dome and Fig. 5 for the coffers on the exterior entrance vault.

27. C. Yerkes, 'Worcester College Ms B 2. 3 and Its Sources: Seventeenth-Century French Drawings of Ancient and Modern Roman Architecture', *Annali di Architettura*, xxiii, 2011, pp. 115–51.

28. Oxford, Worcester College Library MS B 2.3, fols 4<sup>v</sup>–5<sup>r</sup> and 12<sup>v</sup>–13<sup>r</sup> respectively.

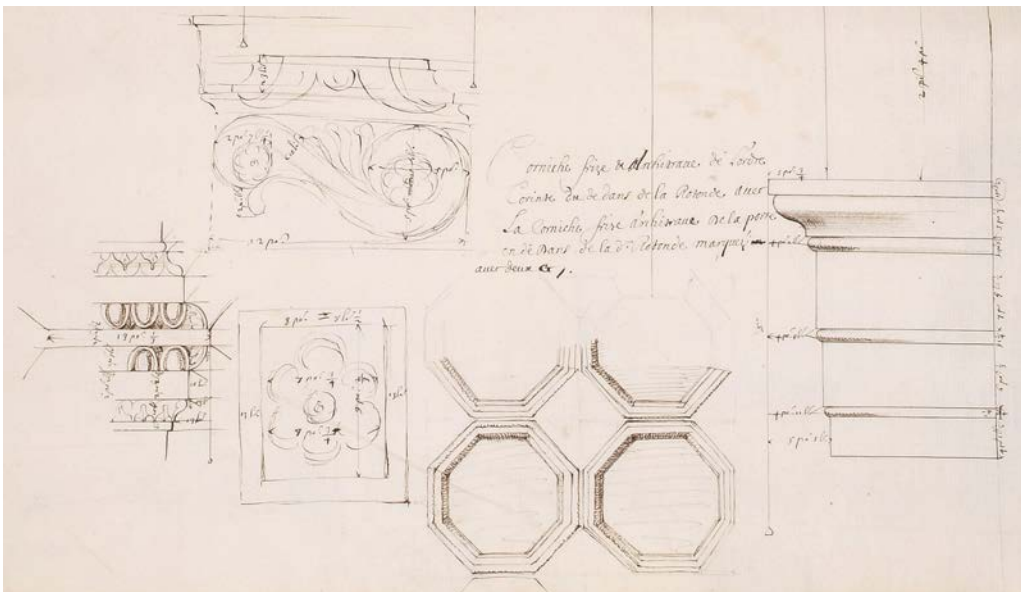
29. The *Speculum Romanae magnificentiae* Pantheon section was published first by Antonio Salamanca and then by Antoine Lafréry (Antonio Lafreri) in 1553. Examples of Lafréry's version can be found in the British Museum, inv. 1947, 0319.26.37, and in the Metropolitan Museum of Art, inv. 41.72(1.21).

30. For example, the Worcester College drawing includes the darts of the leaf-and-dart band on the *cyma reversa*, a detail that does not appear in the Goldschmidt drawing.



10. Anonymous 17th-century French draughtsman, cutaway section through the Pantheon, c. 1637–40.  
Oxford, Worcester College Library MS B 2.3, fols 4<sup>v</sup>–5<sup>r</sup>

COURTESY OF THE PROVOST AND FELLOWS OF WORCESTER COLLEGE, OXFORD



11. Anonymous 17th-century French draughtsman, studies of elements from the Pantheon entrance, c. 1637–40.  
The profile view on the left shows the mouldings of two adjacent octagonal coffers. The elevation view in the  
centre shows these coffers without mouldings. Oxford, Worcester College Library MS B 2.3, fol. 12<sup>v</sup> (detail)

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secondary representations of the coffers appear to be similarly derivative but their exact sources are not as readily apparent. A section drawing which I have attributed elsewhere to Jean Sautereau, a seventeenth-century French sculptor and architect from Nevers, depicts the coffers in an arrangement similar to that of the Palladio and Worcester College Album versions (Fig. 12a-b).<sup>31</sup> Here, the depiction of the coffering on the interior barrel vault is almost identical to that in Palladio's woodcut, but the rest of the drawing differs widely from that source. The draughtsman, whoever he was, may have seen another image where the coffering was drawn this way, or he may have observed it on the building himself.<sup>32</sup>

A longitudinal section through the Pantheon by Pirro Ligorio presents another conundrum (Fig. 13a-b).<sup>33</sup> Made around 1574, soon after Palladio's *Quattro libri* appeared in print, this drawing is based on Peruzzi's section of c. 1532, supplemented by Dosio's more recent drawings.<sup>34</sup> Yet both of these sources show the interior entrance vault without ornamentation,<sup>35</sup> whereas in Ligorio's drawing, alone among known representations of the vault, the large coffers appear as squares, arranged in horizontal rows of three. Because he so often supplied his drawings of ancient architecture with details from his own imagination, Ligorio's studies are not always considered reliable sources for the sixteenth-century appearance of the buildings.<sup>36</sup> Like Palladio's print, his drawing of the Pantheon is partially schematised and inventive. His rendering of the coffers could derive from a stylised view of the vault's ornamentation, perhaps from Dosio's circle, like the Stuttgart album (cf. Fig. 9). Even if Ligorio knew that he did not have the coffering right, he

31. This drawing is part of an album which is familiar to me only through photographs, generously provided by Michael Waters. Once owned by the architect Sir Albert Richardson (d. 1964), it was inherited by his grandson Simon Houfe and has been referred to in the literature as the Houfe Album. It is catalogued in full on the Biblioteca Hertziana Fotothek website and the online Bildindex der Kunst und Architektur, and is now in a private collection. See A. Nesselrath, 'I libri di disegni di antichità: tentativo di una tipologia', in *Memoria dell'antico nell'arte italiana*, III, *Dalla tradizione all'archeologia*, ed. S. Settis, Turin 1986, pp. 87–147 (103–04); idem, *Der Zeichner und sein Buch: die Darstellung der antiken Architektur im 15. und 16. Jahrhundert*, Mainz 2014, pp. 79–107; G. Scaglia, 'Drawings of Roman Antiquities in the Metropolitan Museum of Art and in the Album Houfe, Amptill', *Annali di Architettura*, IV–V, 1992–93, pp. 9–21; and Campbell (as in n. 5), I, pp. 86–88. Most of the drawings in the album are datable to the second half of the 16th century but three folios have drawings by a 17th-century hand, including the album's only two drawings of the Pantheon: the section illustrated here and a ground plan. For my attribution of the two Pantheon drawings to Sautereau see Yerkes, 'Worcester College Ms B 2. 3' (as in n. 27), pp. 119 and 125 nn. 52–54. My attribution is based on apparent similarities between the ground plan and a drawing by Nicodemus Tessin the Younger (1654–1728), which bears the inscription

'Jan Sauterau F l'an 1649' (indicating the drawing from which Tessin copied it). I am, however, not aware of any section drawing by Tessin that corresponds to the one in the Houfe Album.

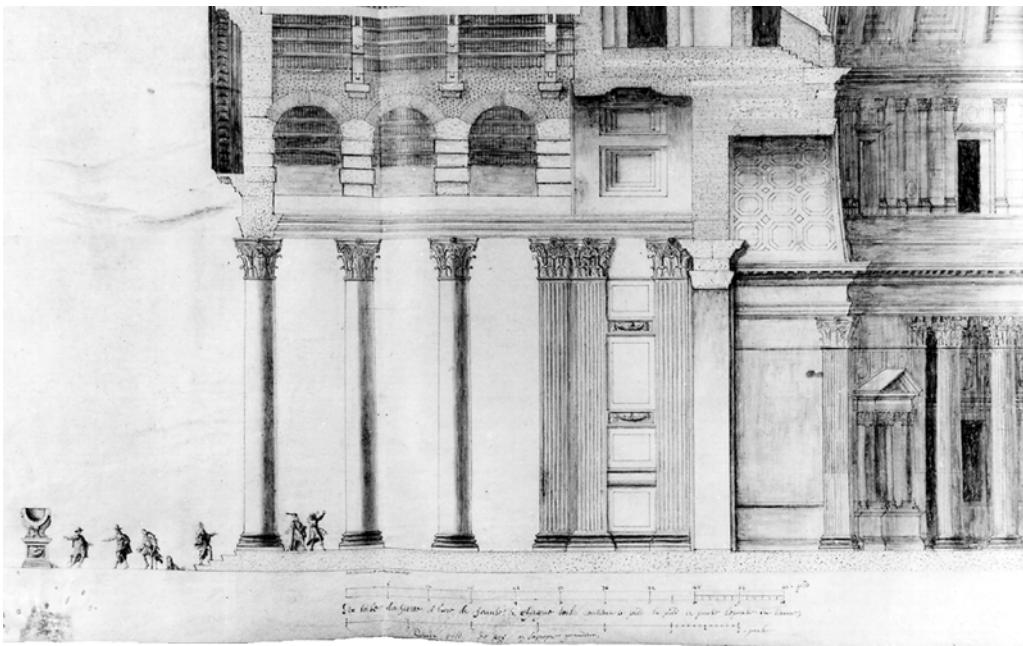
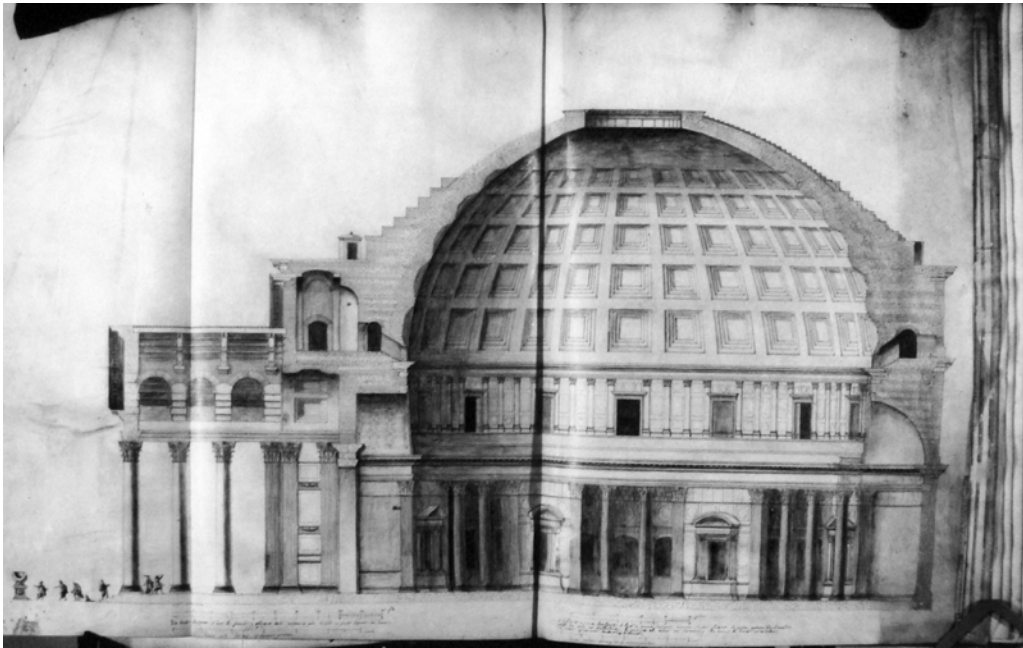
32. Little is known of Sautereau, but in his drawings of the antiquities of Arles made in the 1640s and 1650s, he used the Roman foot as a unit of measure, suggesting that he might have visited Rome, in which case he probably saw the Pantheon. Whether or not he ever did so, this particular drawing may have been based on other representations of the building rather than on personal experience. See Yerkes, 'Worcester College Ms B 2. 3' (as in n. 27), p. 119 (Arles) and for bibliography on Sautereau p. 125 n. 52.

33. Turin, Archivio di Stato, Archivio di Corte, Biblioteca Antica, MS Pirro Ligorio, *Il libro delle antichità*, Ja. II. 10, vol. XIII, fols 48<sup>v</sup>–49<sup>r</sup>.

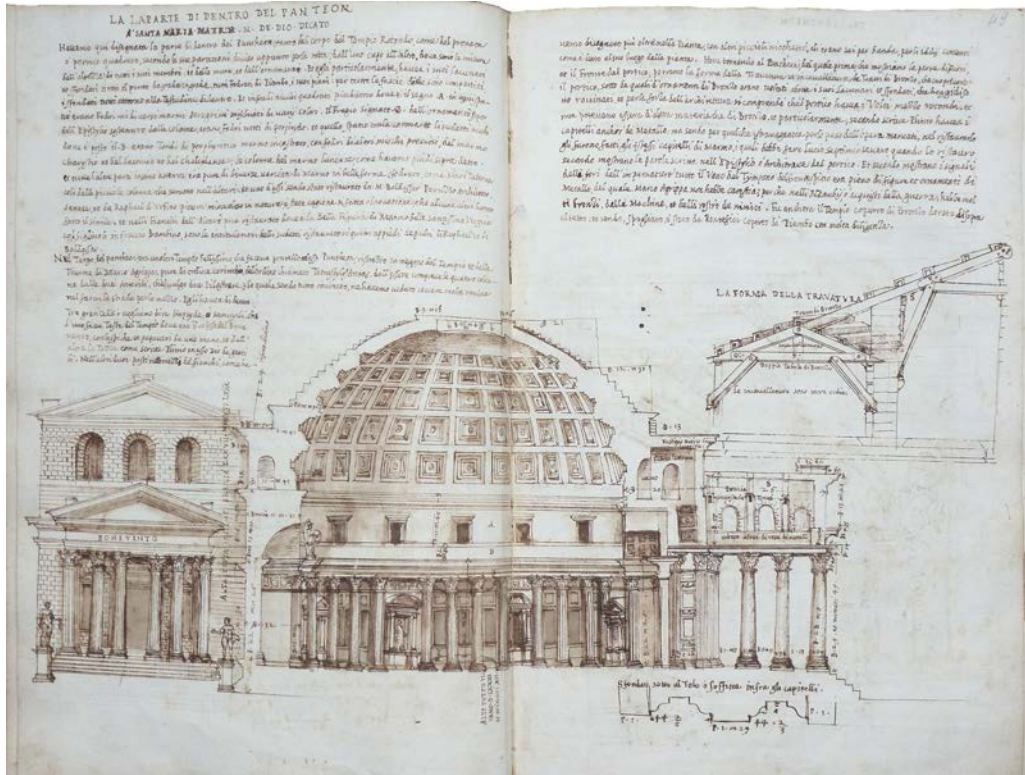
34. This is established by Burns, 'A Peruzzi Drawing' (as in n. 5), pp. 260–67. Ligorio's last documented visit to the Pantheon had been in 1565, as noted below, n. 47.

35. See above, n. 5 and Fig. 3.

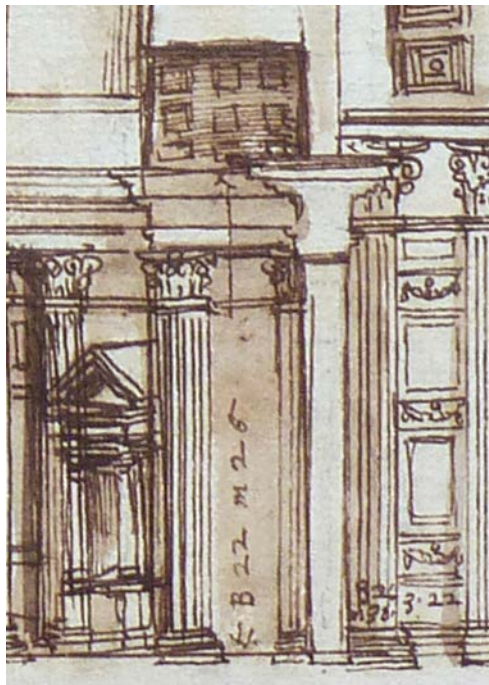
36. For Ligorio's graphic restorations of antiquities see A. Schreurs, *Antikenbild und Kunstanschauungen des neapolitanischen Malers, Architekten und Antiquars Pirro Ligorio (1513–1583)*, Cologne 2000; and Pirro Ligorio's *Roman Antiquities: The Drawings in MS XIII. B.7 in the National Library in Naples*, ed. E. Mandowsky and C. Mitchell, London 1963.



12. Anonymous 17th-century draughtsman (Jean Sautereau or a copyist?), section through the Pantheon. The enlarged detail (b) shows octagonal coffers arranged in horizontal rows of three on the interior entrance vault. From the 'Houfe Album' (formerly in Ampthill, Bedfordshire), now in a private collection

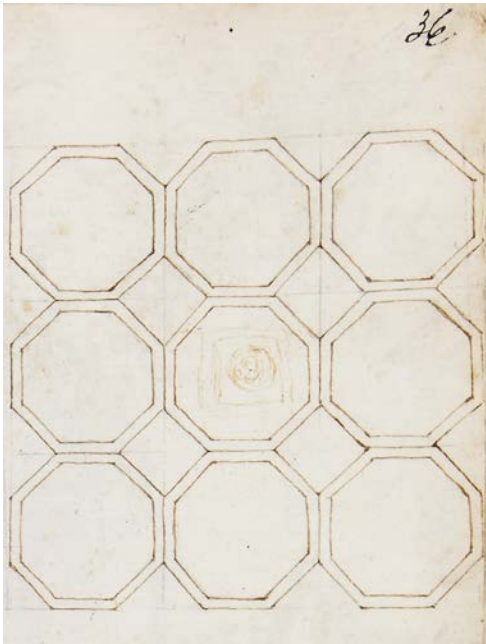


13. Pirro Ligorio, longitudinal section through the Pantheon, c. 1574, based on drawings by Peruzzi and Dosio. The detail (b) enlarges Ligorio's rendering of the interior entrance alcove. Turin, Archivio di Stato, Archivio di Corte, Biblioteca Antica, MS Pirro Ligorio, *Il libro delle antichità*, Ja. II. 10, vol. XIII, fols 48<sup>v</sup>-49<sup>r</sup>

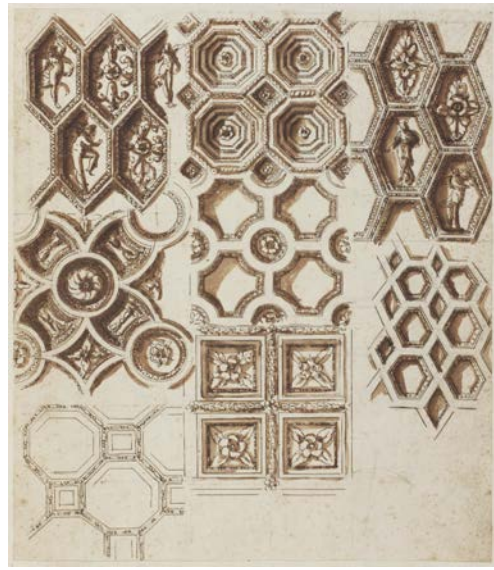


presumably did not care: he made this drawing as part of his larger encyclopedic project on antiquities, to illustrate how he supposed the Pantheon had looked when it was built. His is a Ligorian Pantheon, an ancient building restored with what the sixteenth-century architect considered appropriate ornament.

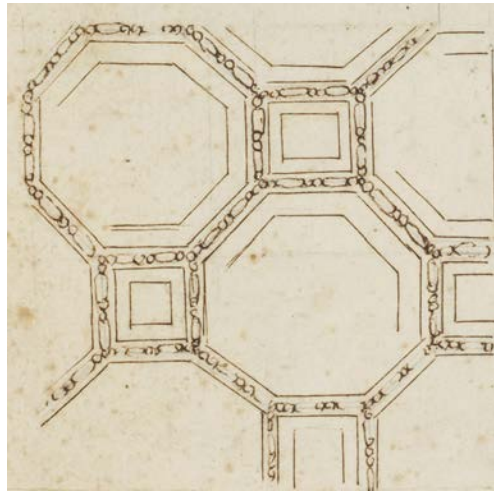
Finally, although they do not specifically identify the Pantheon, two other drawings may depict the octagons on the interior entrance vault and so deserve mention. The first of these is found in the Codex Escorialensis, a book of drawings attributed to the circle of Ghirlandaio and dated to the first decade of the sixteenth century. In this



14. Anonymous draughtsman in the circle of Ghirlandaio, study of seried octagons, first decade of the 16th century. Codex Escorialensis (El Escorial MS 28-II-12), fol 36<sup>r</sup>, detail



a



b

15. (Right) Giovanni Battista Montano, studies of coffering patterns. The detail (b) enlarges the octagonal pattern in the lower left corner. London, Sir John Soane's Museum, vol. CXXV, fol. 124<sup>r</sup>

manuscript there is a drawing of nine contiguous octagons arranged in three horizontal rows of three (Fig. 14).<sup>37</sup> It is tempting to think that this simple sketch refers to the Pantheon coffers, given that the Codex Escorialensis contains many studies of coffering patterns, as well as five drawings which certainly represent the Pantheon, including copies after Raphael's views of the door and rotunda.<sup>38</sup> Furthermore, the octagons in the drawing have double outlines, suggesting a raised

37. El Escorial MS 28-II-12, fol. 36<sup>r</sup>. See H. Egger, *Codex Escorialensis: Ein Skizzenbuch aus der Werkstatt Domenico Ghirlandaios*, 2 vols, Vienna 1905-06, ad loc.

38. For Raphael's drawings see above, n. 3. The copies after them in the Codex Escorialensis are on fols 29<sup>r</sup> and 30<sup>r</sup>; other drawings of the Pantheon include a view of the exterior on fol. 43<sup>v</sup>, an elevation

of a tabernacle from the rotunda on fol. 44<sup>r</sup>, and a plan on fol. 71<sup>r</sup>. The manuscript includes drawings of other coffering patterns on fols 4<sup>v</sup>, 23<sup>v</sup>, 26<sup>r</sup>, 43<sup>r</sup> and 60<sup>r</sup>, as well as several sheets devoted to floriated ornamental reliefs. Thus a drawing of the Pantheon's octagonal coffers would accord with the subject matter of the whole codex.

edge: the coffers appear exactly this way in the Worcester College Album (cf. Fig. 10). The question is an important one because if the Codex Escorialensis sketch does show the Pantheon interior entrance vault coffers, then it is the earliest known representation of them, predating the Goldschmidt view by more than half a century.

The other possible drawing of the Pantheon octagons appears on a sheet devoted exclusively to coffering. Giovanni Battista Montano included a study of octagonal and square coffers in an album of ornamental designs, primarily for architectural orders (Fig. 15a-b).<sup>39</sup> His elevation shows the coffers separated by a thin raised band, similar to that in the Codex Escorialensis drawing but rotated forty-five degrees. In addition to the diagonal arrangement of the octagons, the location of the drawing within the album connects its subject to the Pantheon: the next folio but one shows the building's bronze door in elevation.<sup>40</sup> Montano's drawing may, then, document his interest in the entrance vault coffering not only as a fragment of the Pantheon, but also as an ancient ornamental architectural pattern.

In reviewing these fourteen images (Figs 2–15), two main problems arise. First, because so many representations of the coffers derive from other representations, little of the information that they provide has been independently verified. Second, we have no evidence for the coffers' existence prior to the Goldschmidt sheet, dated to the 1560s—with the possible exception of the Codex Escorialensis. Is it possible that they were added to the building in the sixteenth century, when stucco vaults *all'antica* experienced a revival?<sup>41</sup> The relatively low number of surviving images of the octagonal coffering, all from a relatively narrow time frame, supports the idea that this element was added during the vogue for stucco ornament, especially considering how many contemporary images (those by Peruzzi, Serlio and Dosio) show the vault as blank.<sup>42</sup>

Although that is an intriguing possibility, another seems more likely. The most detailed drawing of the coffers, on the Goldschmidt sheet, shows them covering only a small portion of the barrel vault: this may reflect the incompleteness of the drawing, but it may also indicate that only a portion of the coffering was in place or in a sufficient state of repair to be studied at that time. If the coffers were present on the building in the mid-sixteenth century, but only in a damaged or partial state, that would explain both why they were eventually removed and also why some draughtsmen did not represent them.<sup>43</sup> Rather than depict the Pantheon as

39. London, Sir John Soane's Museum, Concise Catalogue of Drawings, vol. 125, fol. 124<sup>f</sup>. L. Fairbairn, *Italian Renaissance Drawings from the Collection of Sir John Soane's Museum*, II, London 1998, pp. 616–17, cat. 1007.

40. *Ibid.*, fol. 126<sup>f</sup>; Fairbairn, pp. 618–19, cat. 1010.

41. This revival was due in large part to Giuliano da Sangallo, who designed barrel vaults decorated with stucco coffering for many of his residential projects; see L. Pellicchia, 'The Patron's Role in the Production of Architecture: Bartolomeo Scala and the Scala

Palace', *Renaissance Quarterly*, XLII, 1989, pp. 274–77; H. Joyce, 'Studies in the Renaissance Reception of Ancient Vault Decoration', this *Journal*, LXVII, 2004, pp. 193–231 (195).

42. For these images see above, n. 5.

43. An analogous situation occurred on the other side of the front door, which was, and is, covered in bolts that hold the bronze surface onto its wooden backing. These bolts appear in most views and elevations of the entrance made in the 17th century and later; Montano, Desgodetz and Piranesi are

incomplete or marred, architects chose to omit the coffers from their drawings or else copied the ornamental surface from drawings that restored it to a more perfect state.<sup>44</sup>

Of the three possibilities for the vault—no decoration, horizontal octagons, or diagonal octagons—the visual evidence we have considered provides most support for the second. But more evidence is not always better evidence. Because the representations of the horizontal coffering are mainly secondary, and the two representations of the diagonal coffering appear to be primary, the balance tilts towards the third possibility.

#### MATERIAL CONSIDERATIONS

Although the sixteenth- and seventeenth-century images of the coffers offer some indications of their pattern and dimensions, they reveal nothing about the material used for the decoration, or its installation, or its removal. Clues to these basic issues must be sought in the building fabric itself. Because of the coffers' location, the question of material is perhaps the easiest to answer. The intrados of the brick interior alcove arch has no visible clips or other attaching mechanisms to suggest that it once supported masonry coffering like that on the exterior alcove vault; because such masonry would have been thick and heavy, stucco seems the only possible option.

Stucco coffers not only make sense logically: they would also have provided a visual solution to a vexing design problem of the Pantheon. Just inside the main door, where the entrance wall meets the side walls of the interior alcove, the cornice that encircles the rotunda intersects awkwardly with the cornice that sits above the door (Fig. 1). Perhaps because of a change of plan that occurred once the building was already underway, this misalignment could not have been easily undone after the massive masonry cornices were put in place.<sup>45</sup> Stucco ornament may have been used to distract from the problem. The cornices both have a prominent band of egg-and-dart moulding, and by echoing this detail (Fig. 8), the coffering on the vault would have emphasised the unity between the two colliding pieces.

The Goldschmidt drawing offers the most detailed representations of the entrance vault coffers, strongly suggesting that they were there in the 1560s when this drawing was made. But they were probably removed soon afterwards—certainly

among the architects who studied them individually. Yet for a long time the bolts were simply too degraded to draw: until the renovation in the mid-1560s, when the many broken or missing bolts were replaced with newly cast ones, architects including Raphael ignored this aspect of the door (see n. 3). On the bronze bolts and the Pantheon entrance more generally see G. Gruben and D. Gruben, 'Die Türe des Pantheon', *Mitteilungen des Deutschen Archäologischen Instituts, Römische Abteilung*, CIV, 1997, pp. 495–512; and G. Belardi, 'La Riapertura della Porta Bronzea del Pantheon', *Monumentidiroma*, I, 2001, pp. 29–33.

44. Similarly, most of those who tried to reconstruct the ancient building later did not include the

element in their speculations. In their attempts to represent how the Pantheon appeared in antiquity, Carlo Fontana, Achille LeClère and Charles-Edouard Isabelle can be added to the list of architects who depicted the vault as blank: see, respectively, C. Fontana, *Templum Vaticanum et ipsius origo*, Rome 1694, p. 467; *Ruins of Ancient Rome: The Drawings of French Architects Who Won the Prix de Rome 1786–1924*, ed. M. David, Los Angeles 2002, no. 106; and C.-E. Isabelle, *Les édifices circulaires et les domes*, Paris 1855, pl. 13.

45. M. Wilson Jones, *Principles of Roman Architecture*, New Haven, CT 2000, p. 196.

before Desgodetz measured the building in the early 1670s (Figs 4, 16a-b).<sup>46</sup> In 1565 the doors of the Pantheon were refurbished, and the coffers may have been scraped off the adjacent vestibule at the same time. The scaffolding erected for the job would have provided a chance for the Goldschmidt and Destailleux draughtsmen to take their measurements.<sup>47</sup>

If the coffers were in place until at least 1565, then earlier Renaissance architects who studied the Pantheon knew them too. Other traces of the coffering can, therefore, be sought in the architecture that it may have influenced. With the onset of the stucco revival at the end of the fifteenth century, architects began sketching examples of ancient ornament with a view to incorporating these details, including coffering, into their own work.<sup>48</sup> Octagonal coffers arranged in horizontal rows are fairly common in Renaissance buildings: for example, Giuliano da Sangallo used this pattern to cover the long barrel vault of the ambulatory of the Scala Palace in Florence; his nephew Antonio da Sangallo the Younger used a similar design for a soffit at the Palazzo Farnese, and then in a slightly altered form on the ceiling of the Palazzo Silvestri chapel in Rome.<sup>49</sup> For these ceilings, however, as for most Renaissance octagonal coffering, the interior entrance alcove of the Pantheon is not the obvious source. Other candidates include the enormous masonry vaults of the Basilica of Maxentius and the Baths of Diocletian, with their horizontally arranged octagonal coffers which were well known to Renaissance architects.<sup>50</sup> The crucial difference between the octagonal coffering of the Basilica and the Baths, and the octagonal coffering of the Pantheon entrance, was the material of which they were made. The coffers of the former had survived (and still survive today) because they were made of concrete, whereas the coffers of the latter were in a poor state of repair (and are gone today) because, I have argued, they were made of stucco. Thus the only buildings that can be considered as possibly derived from the Pantheon are those with an obvious connection to the ancient building.

46. The Destailleux drawings have not been dated as precisely, but they appear to be roughly coeval with the Goldschmidt Pantheon series. So many of Desgodetz's Pantheon drawings include ornamental surfaces that it is unlikely that he would have omitted this one.

47. Ligorio participated in the renovation. The difference in time between his last sight of the coffers and his section drawing (Fig. 13), made many years later, could partly explain his idiosyncratic rendering of the coffers, especially if they were no longer present at the time of the drawing. On the renovation of the doors and Ligorio's participation in it see Burns, 'A Peruzzi Drawing' (as in n. 5), p. 265 n. 47; and D. R. Coffin, 'Pirro Ligorio on the Nobility of the Arts', this *Journal*, xxvii, 1964, pp. 191-210 (193 n. 10).

48. See, e.g., W. L. MacDonald and J. A. Pinto, *Hadrian's Villa and Its Legacy*, New Haven, CT 1995, pp. 211-20, for renderings of the stuccoed vaults of Hadrian's villa by Giuliano da Sangallo, Giovanni Battista Piranesi and a follower of Pirro Ligorio; and N. Dacos, *La Découverte de la Domus Aurea et la*

*Formation des Grottesques à la Renaissance*, London 1969, pl. IV, fig. 4, for a drawing from the Codex Escorialensis of a stuccoed vault in the Domus Aurea (on the Codex Escorialensis see above at n. 37).

49. For Giuliano da Sangallo's barrel vault at the Scala Palace in Florence see Pellicchia (as in n. 41), p. 275, fig. 10. For Antonio da Sangallo's octagonal coffers see G. Giovannoni, *Antonio da Sangallo il Giovane*, Rome 1959, II, fig. 101 for Palazzo Farnese and fig. 290 for Palazzo Silvestri (here using two sizes of octagons and rectangles instead of squares); on the latter see also Joyce, 'Reception of Ancient Vault Decoration' (as in n. 41), p. 221.

50. Dosio included a view of the Basilica of Maxentius that shows octagonal coffers in his *Urbis Romae aedificiorum illustrium quae supersunt reliquiae* (1569), pl. 8; for this print see British Museum, inv. 1950, 0211.98. The vaults of the Baths of Diocletian are visible in an engraving by Theodore Galle after Hendrick van Cleve, *Ruinarum varii prospectus ruriusque aliquot delineationes* (c. 1557-1612), pl. 5; for this print see British Museum, inv. 1950, 0306.2.5.



The first of these is St Peter's, which has a connection to the Pantheon that is both visually obvious and historically nuanced. The idea that the new St Peter's should have a dome to rival the Pantheon's began with Bramante, whose earliest proposals for the basilica are from around 1505. These projects incorporate ideas that Bramante had assimilated from other ancient buildings too, and a drawing of one of his wooden models shows how he combined elements from disparate sources into a single composition (Fig. 17).<sup>51</sup> In the drawing, a thick wall punctured by windows with colonnade screens supports a tripartite vault, which has a central panel of octagonal coffers. The traditional association of this feature with the barrel vaults of the Basilica of Maxentius and of the Baths of Diocletian should not be dismissed, since Bramante certainly studied those buildings and incorporated aspects of them into his work;<sup>52</sup> but it should be augmented by what is known of the lost Pantheon coffering.

Vasari credits Bramante with reviving ancient stucco-working methods, including a technique for casting vaults.<sup>53</sup> At S. Maria del Popolo, Bramante used this technique allusively, inserting cast coffers into the barrel vault before the apse as a direct quotation from the Pantheon's exterior entrance alcove.<sup>54</sup> At St Peter's, he incorporated another reference to the Pantheon, this time in stone: the Corinthian capitals of the ancient building became the prototypes for the capitals of the main order in the nave.<sup>55</sup> Thus it is reasonable to suggest that in designing the vaults for the new basilica, he might have drawn on his knowledge of the Pantheon's octagonal coffering. Moreover, in the drawing of Bramante's model, the vault with octagonal coffers is adjacent to a vault with square coffers, creating a visual contrast similar to that of the adjacent interior and exterior entrance vaults of the Pantheon. Visitors to both buildings would have experienced the same effect of passing under these barrel vaults and into a great domed space.

The second architect who may have been inspired by the Pantheon octagons is Giulio Romano. As noted above, although most representations of the Pantheon entrance vault show its coffers in a horizontal arrangement, the detailed drawing in the Goldschmidt Scrapbook has the octagons running diagonally. This arrangement is not common either in ancient buildings or in Renaissance ones, with the

51. Florence, Uffizi 5A<sup>r</sup>. For this oft-discussed drawing see, e.g., C. L. Frommel, cat. no. 292 in *The Renaissance from Brunelleschi to Michelangelo: The Representation of Architecture*, ed. H. Millon and V. M. Lampugnani, Milan 1994, p. 606 (with earlier bibliography).

52. For Bramante's use of the Basilica of Maxentius as a model for the nave of St Peter's see C. L. Frommel, 'Introduction: Antonio da Sangallo the Younger and the Practice of Architecture in the Renaissance', in *The Architectural Drawings of Antonio da Sangallo the Younger and His Circle*, 2 vols, ed. idem and N. Adams, New York and Cambridge, MA 1994, II, p. 4.

53. Giorgio Vasari, *Le Vite de' più eccellenti pittori scultori e architettori nelle redazioni del 1550 e 1568*, ed.

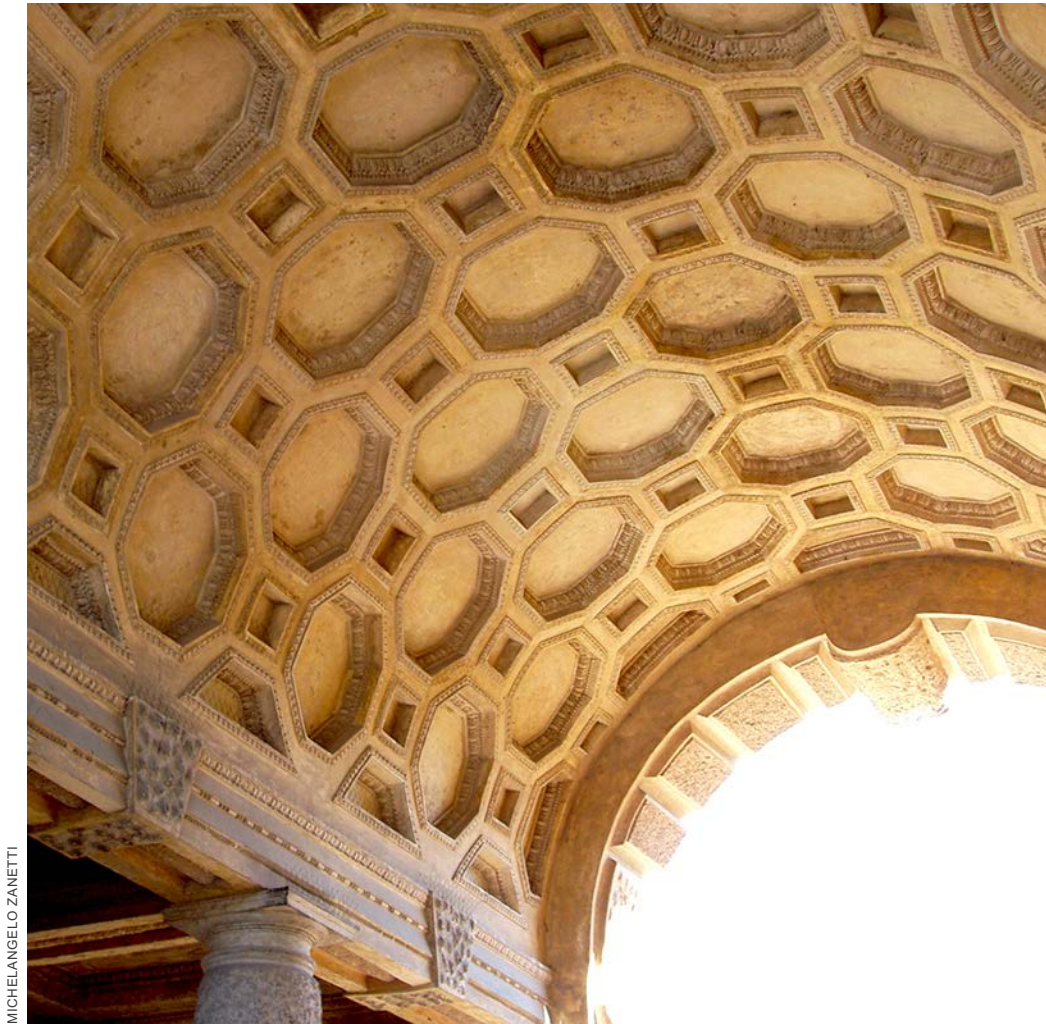
R. Bettarini and P. Barocchi, Florence 1966–, IV, p. 85: 'Fu di grandissima perdita all'architettura la morte di Bramante, il quale fu investigatore di molte buone arti ch'aggiunse a quella, come l'invenzione del buttar le volte di getto, lo stucco, l'uno et l'altro usato dagli antichi, ma stato perduto da le ruine loro fino al suo tempo: onde quegli che vanno misurando le cose antiche d'architettura trovano in quelle di Bramante non meno scienza et disegno che si facciano in tutte quelle.'

54. A. Bruschi, *Bramante*, London 1977, pp. 164–66 and fig. 172.

55. For the identification of this feature as derived from the Pantheon see Bruschi (as in n. 54), p. 161; and Frommel in *The Architectural Drawings* (as in n. 52), p. 8.



17. Anonymous 16th-century draughtsman, views of the interior and exterior of the wooden model of Bramante's project for St Peter's, c. 1506. Florence, Uffizi, 5A<sup>r</sup>



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18. Giulio Romano, entrance to the Palazzo Te, Mantua, 1524–34

significant exception of Giulio Romano's Palazzo del Te, in Mantua (Fig. 18).<sup>56</sup> There the coffering is made of stucco, as is almost all of the ornamentation at the Palazzo.<sup>57</sup> Vasari described how Giulio turned to this material when he could not find Mantuan stone. He built in brick which he then covered in stucco, a material that he formed into columns, bases, capitals and, among other elements, decorated vaults.<sup>58</sup> Giulio incorporated several direct quotations from the Pantheon into his

56. This point is made by Burns, 'Research' (as in n. 18), p. 24.

57. For Giulio's use of stucco at the Palazzo dal Te see A. Belluzzi and K. W. Forster, 'Giulio Romano, Architect at the Court of the Gonzagas', in *Giulio Romano*, ed. M. Tafuri, Cambridge, 1998, pp. 90–128 (106).

58. Vasari (as in n. 53), v, pp. 65–66: 'e perché il luogo non ha pietre vive né commodi di cave da potere far conci e pietre intagliate, come si usa delle muraglie da chi può farlo, si servì di mattoni e pietre cotte, lavorandole poi di stucco; e di questa materia fece colonne, base, capitegli, cornici, porte, finestre et altri lavori con bellissime proporzioni, e con nuova e stravagante maniera gl'ornamenti delle volte, con

decoration scheme for the Palazzo del Te, including the painted Corinthian pilasters in the Sala dei Cavalli, which derive from those near the entrance in the Pantheon portico, and the Corinthian order in the main hall, which derives from the interior order of the Pantheon rotunda.<sup>59</sup> Therefore, it could well be that the entrance hall vault is a Pantheon quotation too, lifted from its interior entrance alcove, where the barrel vault served a similar purpose to the one at the Palazzo. If I am correct in suggesting that Bramante's vault in his model of St Peter's, and Giulio's at the Palazzo del Te, were inspired by the coffering of the Pantheon interior entrance alcove, then their use of stucco in these projects could replicate not just the appearance of but also the surface material of their source.<sup>60</sup>

#### THE COFFERS AND THE ANCIENT PANTHEON

Extant comparanda suggest that such a surface certainly could have been ancient—even part of the original decorative programme of the Pantheon, the construction of which is thought to have begun under Trajan and to have finished in the second century under Hadrian. Antique coffer patterns in stucco are found most often in cryptoporticos, but they turn up in other building types as well.<sup>61</sup> If the stucco coffers were part of the original Pantheon, then we need to consider their role in the building's overall decorative programme. That an ornamental surface could have been designed to encourage a particular reading of the programme is supported by other decorative surfaces that once existed in the building. They were created using three techniques: marble incrustation, stucco and frescoes.<sup>62</sup> Of these, most is known about the marble surfaces. Outside, the exposed brick of the rotunda gives the building a stripped-down appearance today, but inside, the Pantheon was meant to be a colourful building. The polychromatic stone decorative scheme of the alcoves, tabernacles and walls related directly to the building's structure.<sup>63</sup>

The relationship between ornament and structure was evident in the original pilaster sequence of the interior rotunda attic, destroyed in the eighteenth century. The size, shape and placement of its marble pilasters were determined by the supporting arches behind them, producing a rhythm that was vertically discontinuous

spartimenti dentro bellissimo e con ricetti riccamente ornati: il che fu cagione che, da un basso principio, si risolvesse il marchese di far poi tutto quello edificio a guisa d'un gran palazzo.'

59. This is established by H. Burns, "Quelle cose antique et moderne belle de Roma": Giulio Romano, the Theatre and the Antique', in *Giulio Romano* (as in n. 57), pp. 129–42 (136).

60. For the casting of the vaults of St Peter's see Frommel in *The Architectural Drawings* (as in n. 52), p. 8.

61. For an overview see H. Joyce, *The Decoration of Walls, Ceilings, and Floors in Italy in the Second and Third Centuries A.D.*, Rome 1981. An example of a geometric pattern in another context is the cross-and-square stucco coffers which once covered the dome over the octagonal hall of the late third-century Villa of the Gordians or Tor de'Schiavi (Rome, Via

Prenestina); see L. Luschi, 'Gli Stucchi della villa detta "dei Gordiani" sulla via Prenestina', *Bullettino della Commissione Archeologica Comunale di Roma*, xcliii, 1989–90, pp. 407–46 (433–35). This feature was recorded *in situ* by an anonymous Portuguese draughtsman in the late 1560s; see Joyce, 'Reception of Ancient Vault Decoration' (as in n. 41), p. 216, fig. 19 and p. 217 n. 62; and Campbell (as in n. 5), I, pp. 348–50, cat. 114.

62. A. Nesselrath, 'Von Volpaia bis Volpi: Die farbige Marmorverkleidung der Vorhalle des Pantheon', *Pegasus: Berliner Beiträge zum Nachleben der Antike*, IV, 2003, pp. 19–36 (20).

63. Wilson Jones (as in n. 45), p. 184, suggests that these differently coloured marbles, which were imported from quarries across the Roman empire, may have been selected as symbols of imperial dominion.

from the spacing of coffers and columns above and below.<sup>64</sup> The tiers of stacked bands created a sense of circular movement that played against the vertical emphasis of the room, resulting in a visual spiral that cycled up toward the oculus (Fig. 19). The inlaid stones of the floor, still present today, reinforced this reading of the walls. In the grid of squares offset by white marble bands, every other panel has a circle inset, which creates an effect of adjacent diagonals spanning across the floor. This rectilinear pattern aligns with the ground storey only at the ends of the cardinal and diagonal axes, another instance of an axial emphasis set against a radial one.<sup>65</sup> Relatively less is known about the Pantheon's fresco and stucco ornamentation, but there is every reason to think that these parts of the decorative programme related to the overall reading of the building too.

The most detailed representations of the coffers allow us to speculate how the interior entrance vault could have reflected the decorative programme of the entire building. I would like to suggest that the entrance route into the Pantheon followed a choreographed decorative programme, a sequence in which every element contributed to the unity of the whole. Although the coffering on the interior entrance vault did not dominate the rotunda like the attic pilasters or the floor mosaic, its octagonal pattern reflected the geometry of the entire structure. The octagon can be thought of as the translation of a square into a circle, which is the basic geometrical principle of the Pantheon's portico and rotunda. The rotunda has eight compartments, and the octagon is implied again in its floor, where the corners of the alternating squares, separated from each other by bands, denote its shape. The shape also once appeared in the floor of the portico, where octagonal stone paving slabs lined the central passage to the main entrance, visible in the detail of Desgodetz's plan illustrated here (Fig. 16b). If, as I have argued, the octagons were arranged in a diagonal pattern, then these coffers provided a visual cue at the entrance to the Pantheon, indicating the relationship between structure and ornament inside. The coffer pattern itself, like the floor mosaic, set up a non-radial rhythm that favoured the diagonal and horizontal axes. This tension between alternation and continuity, rather than simple radial or linear symmetry, underlies the building's ornamental programme. In the Pantheon the original ornamentation emphasised circular motion around the rotunda set against vertical motion toward the oculus, a visual reading that is the exact inverse of how the building operates structurally: as the loads are directed down, they are transferred radially through the walls. The character of the vault clarifies the way that the decoration of the Pantheon was linked to its structural dynamics. By playing on the themes of the ornamental programme as a whole, the entrance vault coffering, although only a small part of that programme, reinforced its overall point.

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64. See W. C. Loerke, 'Georges Chédanne and the Pantheon: A *Beaux-Arts* Contribution to the History of Roman Architecture', *Modulus*, LII, 1982, pp. 40–55; and idem, 'A Rereading of the Interior Elevation of

Hadrian's Rotunda', *Journal of the Society of Architectural Historians*, XLIX, 1990, pp. 22–43.

65. See Wilson Jones (as in n. 45), p. 194, for a discussion of the Pantheon's overlapping symmetries.



SCALA/ART RESOURCE

19. Interior view of the Pantheon rotunda, looking towards the main altar