Palladio's Canonical Corinthian Entablature and the Archaeological Surveys in the Fourth Book of I quattro libri dell'architettura[1]

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> ... From every one
> The best she hath, and she, of all compounded,
> Outsells them all.
>
> Shakespeare, *Cymbeline*, 3.5.72–74

Palladio's presentation of Roman temples in the fourth book of his treatise *I quattro libri dell'architettura* is one of the most significant published archaeological texts of the *Cinquecento* and has enjoyed great authority for centuries.[2] When it appeared in 1570, Palladio's archaeological opus presented a milestone in the history of Roman archaeology. The sheer size of the project, which incorporated surveys of twenty-five major Roman buildings carefully measured and drawn, including extensive surveys of architectural details and the elements of the classical orders, presented in ninety-nine woodcuts, by far exceeded any similar publication of the time. Palladio's contemporaries Antonio Labacco and Pirro Ligurio presented a couple of Roman buildings in their publications, while Serlio's presentation was more substantial but presented measurements unsystematically and often left readers wondering about the actual forms of the buildings.[3] Palladio's is arguably the most ambitious project in the history of Roman archaeology. Even in later centuries, similar projects by Antoine Desgodetz or Edward Cresy and George Lidwell Taylor were much more limited in scope.[4]

The intention of this paper is to explore one specific line of influence which Palladio's published archaeological surveys had on the formulation of the canon of the five orders in the first book of his treatise. While the surveys in the fourth book set out Palladio's description of how the Romans designed the classical orders, the first book stipulates his views on how they should be designed. It is natural to ask how far the two parts of the treatise correlate. Because of the predominance of the Corinthian order in Roman ruins, Palladio's surveys in the fourth book pertain almost exclusively to Roman

Corinthian temples. Among almost one hundred illustrations presented in the last book of *I quattro libri*, there are nineteen which show details of Corinthian entablatures, carefully drawn and measured. At the same time, for reasons explained below, the Corinthian entablature is the biggest and most significant single element of the classical orders which Palladio had to design for his presentation of the canon of the five orders in Book One of his treatise. Studying the relationship between this entablature and Palladio's published surveys of Roman buildings should therefore tell us much about his attitude towards the use of Roman prototypes in his work and his views on deriving architectural principles from ancient precedents.[5]

The discussion of the way Palladio formulated his canonical Corinthian entablature should also throw light on the purpose of the publication of the surveys in Book Four and explain whether these surveys were meant to provide the justification of his formulation of the canon, or merely to testify to the architect's expertise in Roman archaeology. Was an architect, publishing a canon of the five orders in Italy around 1570, expected to derive the proportions of the canon from archaeological surveys of Roman ruins? Or was he merely expected to have a good knowledge of Roman archaeology which would guarantee his competence and allow him to formulate his own variation of the canon? By the 1570s most of the work on the formulation of the canon of the five orders had already been completed through the work of theorists (such as Serlio or Vignola) and Vitruvian commentators (Cesariano, Barbaro), even though some elements of the orders — such as the Corinthian entablature — had not yet been standardized. What was Palladio trying to demonstrate when he included such an extensive corpus of archaeological surveys in his architectural treatise? Did he strive to merely reproduce ancient building practice or does his approach suggest that he was attempting to improve on the practice of the ancients? Since he surveyed so many examples of Roman Corinthian entablatures, and since the Corinthian entablature was the largest and most significant single element of the canon of the five orders he had to design himself, comparing his canonical Corinthian entablature with his surveys can be particularly helpful in answering these questions.

One should emphasize that discussing the way in which Palladio's surveys affected his formulation of the canonical Corinthian entablature is not the same as answering the question of how far Palladio's canonical Corinthian entablature reflected ancient Roman practice. To answer this latter question, one would have to be able to say how accurate Palladio's archaeological surveys were. Palladio himself insisted on the accuracy of his surveys of the elements of the classical orders. In many cases only segments of temples survived and while he claimed to have managed to reconstruct their original shapes following Vitruvius' precepts, when it comes to the details of the classical orders he said that he included nothing of his own but measured all of them himself 'with scrupulous care using various fragments found on the sites where the temples were'.[6]

The present state of research prohibits anything but very vague discussion of the accuracy of Palladio's surveys. Even the foot size Palladio used in order to measure Roman buildings is uncertain.[7] As will become apparent below, out of nineteen Roman Corinthian entablatures whose surveys Palladio presented in Book Four of the treatise, only nine could really have played an important role in his formulation of the canonical Corinthian entablature. Of these nine, two have not survived, so Palladio's surveys

cannot be compared with modern surveys of these entablatures.[8] Of the remaining seven, sufficiently detailed nineteenth- and twentieth-century surveys are publicly available for five entablatures.[9] Table 2 (Appendix) compares Palladio's surveys with modern ones. The table shows that (at least in the case of these five entablatures) Palladio's surveys are very accurate when it comes to the disposition and shape of the elements, and moderately accurate as regards proportions.[10] Generally, the proportions he states are more accurate when it comes to larger elements. While it is good to bear in mind this background information, it is important to emphasize that the question this paper is meant to resolve is not how far Palladio's formulation of the canonical Corinthian entablature followed ancient Roman practice, but how far it followed what his surveys suggested to have been ancient Roman practice.

Sometimes Palladio provided surveys of more than one entablature from a single temple and, for the purposes of this paper, all illustrations have been consecutively numbered and referred to by the order in which they appear in the text; for instance, 4/98 means 'Book Four, illustration 98'. When referring to ancient Roman buildings I have used the names common in modern archaeology, and not those which Palladio used. In the preparation of comparative tables I have exclusively used the measurements Palladio indicated in his drawings; I have not attempted to reconstruct missing dimensions by measuring them from the plates, since the latter procedure is known to yield erroneous results in other parts of *I quattro libri*.

CURRENT STATE OF RESEARCH

Corinthian entablatures, unlike Doric and Ionic ones, or other elements of the classical orders, had not yet been standardized by Palladio's time. The Renaissance inherited this problem from Greco-Roman antiquity; Henner von Hesberg has observed that in ancient times the idea of a specifically Corinthian entablature was simply not present.[11] In Vitruvius we find the recommendation that the Corinthian entablature should be done either *doricis symmetriis* or *ionicis moribus*; he states no rules specific to the Corinthian entablature.[12] In Alberti we read that the Corinthian entablature differs from others by 'mutules bare and cut into like waves'.[13] The very common ancient Roman solution, which combines dentils and modillions, was taken up only very slowly, although it was well known to Renaissance architects from Roman ruins. The reason for its slow adoption could have been related to the fact that Vitruvius criticized the practice of combining mutules and dentils, since these elements represent primary and secondary rafters respectively, and primary rafters cannot stand above secondary ones.[14] But modillions themselves look rather like little cantilevers supporting the corona, and their use need not be contradictory to the use of dentils. For a very long time, however, they seem to have been mistaken for the mutules which Vitruvius talked about, consequently precluding the formulation of Corinthian entablature along the lines of the most common Roman practice.[15] This distinction in the representational role between modillions and mutules seems not to have been explicitly made in Renaissance architectural writings before Vignola.[16]

In spite of the protests of theorists, the combination of dentils and modillions, obviously motivated by Roman works, appears already on *quattrocento* buildings. It can

be found, albeit in a very non-standard form, on the facade of Santa Maria Novella in Florence.[17] By the early 1500s one already encounters fully developed versions of such an entablature, in two Mauro Cadussi's works in Venice: Palazzo Zorzi a S. Severo and Palazzo Loredan (Vendramin Calergi).[18] In Renaissance architectural theory, however, it was only the influence of Vignola and Palladio, who both adopted the combination of dentils and modillions in their canonical Corinthian entablatures, which made this solution widely accepted. At the moment when Palladio was formulating his canon of the five orders, the Corinthian entablature was still the most significant element of the five orders whose form and proportions were ambiguous and undefined.[19] One should mention that tectonic concerns may also have played an important role in Palladio's tendency to delimit the use of his canonical Corinthian entablature only to buildings without pediments. Dentils represent secondary rafters and as such they should not normally appear on a pedimented façade.[20]

A recent study of mine has pointed to Vignola's *Regola delli cinque ordini d'architettura*, first published in 1562, as the main source of Palladio's canonical Corinthian entablature.[21] When it comes to the forms and placement of the elements of entablature, the canonical Corinthian entablature presented in Book One of *I quattro libri* is almost identical (except in a few very small details) with the one Vignola had proposed seven years before the publication of Palladio's treatise.[22] The similarities in the composition of Vignola's and Palladio's drawings make it impossible to argue that Palladio was unaware of the illustration in Vignola's treatise, or that he derived his Corinthian entablature from the same Roman prototype as Vignola.[23]

While Palladio's version of the Corinthian entablature has almost the same morphology, it differs significantly from Vignola's when it comes to the proportions of the elements. ('Morphology' refers here to the shape and placement of the elements of the classical orders, whereas 'proportional similarity' pertains to the similarity of their relative size compared with lower column diameter.) The study mentioned listed detailed proportions of all the elements of the orders, but it failed to provide the total sums of the thicknesses of these elements, that is, the total sizes of the major elements, such as the entablature, architrave, frieze and cornice. Once these elements are compared, one can appreciate the difference is between Palladio's and Vignola's canons. The following table shows that while Palladio was perfectly happy to

TABLE 1. A COMPARISON BETWEEN PALLADIO'S AND VIGOLA'S CANONICAL ENTABLATURES

(D is the lower column diameter.)

	Vignola's Corinthian	**Palladio's Corinthian**	**Vignola's Ionic**	**Palladio's Ionic**
total entablature	2.542D	1.881D	2.243D	1.82D
architrave	0.75D	0.638D	0.625D	0.608D
frieze	0.75D	0.475D	0.75D	0.45D
cornice	1.042D	0.768D	0.868D	0.762D

reproduce Vignola's morphology, he considered it important to propose radically different proportions for these elements.

The difference in the total thickness of their respective entablatures is greater than 35 per cent. One naturally comes to ask how such different proportions could be proposed for two entablatures with identical morphologies, especially if Palladio derived his version from Vignola. Vignola's and Palladio's canonical *Ionic* entablatures throw some additional light on this problem. Vitruvius suggested that the Ionic frieze, if ornamented, should be 5/4 of the architrave thickness, and 3/4 if the frieze is unornamented.[24] In determining the thickness of the *Ionic* frieze, Palladio followed the latter prescription, Vignola the former. Vignola then stipulated the thickness of both the Corinthian frieze and architrave as identical to the thickness of his Ionic frieze. Vignola's Corinthian architrave and cornice are 6/5 of their Ionic equivalents. Palladio's proportions are similar to his Ionic with only a slight increase in size. The result of all this is — as the table above shows — that Vignola's frieze is 57 per cent and his cornice 35 per cent thicker than Palladio's. The question is, how Palladio derived his proportions, and how he accommodated the same morphology within a much narrower entablature. In particular, we are interested here in seeing the extent to which these changes could have been motivated by Palladio's archaeological surveys. The question is whether he suggested these new proportions on the basis of his surveys of Roman temples and how the proportions of the entablatures presented in Book Four relate to the proportional changes to Vignola's canon proposed by Palladio.

This question can be asked from another point of view. It has been noted many times that in *I quattro libri* Palladio presented idealized versions of his own buildings, such as the Basilica in Vicenza. The material in Palladio's treatise was consciously adjusted in order to present idealized versions of buildings, which may have differed considerably from the executed versions. In a recent paper, Bruce Boucher has pointed out that this tendency to idealize could also be identified in Palladio's unpublished archaeological surveys.[25] In some of his unpublished reconstructions of ancient buildings, such as the mausoleum of Romulus on the Via Appia, Palladio was more accurate than most of his contemporaries.[26] He was also perfectly capable of projecting his own preconceptions, as in the case of his surveys of the Roman theatre in Verona. Boucher mentions Palladio's surveys of the temple in Assisi as an example of 'creative rearranging', directed towards 'imagining what the Roman architect had done, or perhaps what he ought to have wanted to do.'[27] While Boucher's paper concentrates on the *unpublished* archaeological surveys preserved in Palladio's drawings, the examples he supplies give strong grounds for wondering whether the published archaeological surveys of Roman entablatures in the fourth book may have undergone a similar process of idealization. The question is whether Palladio manipulated the archaeological data in order to show that his canonical Corinthian order, as advocated in Book One, is in accordance with Roman building practices.

COMPARING THE CANON AND SURVEYS

The nineteen Roman Corinthian entablatures whose surveys Palladio presented in Book Four possess great morphological diversity, and not all of them are sufficiently

TABLE 2. COMPARISON OF PALLADIO'S SURVEYS WITH MODERN SURVEYS BY TOEBELMANN, CRESY AND TAYLOR AND AMY AND GROS

LCD = lower column diameter, E = entablature thickness, A = architrave, F = frieze, C = cornice, PLL = Palladio's survey; C&T = Cresy and Taylor's survey; T = Toebelmann's survey; A&G = Amy and Gros's survey, omit. = omitted layer, i.a. = included above, n.a. = not available, n.l. = not legible. Δ stands for the ratio between Palladio's and modern measurements. All measures stated in metres.
A*, C* and E* give the sums of only those elements which are available both in Palladio and Cresy and Taylor.

Castor and Pollux 4/47	PLL.	C&T.	Δ	Vespasian 4/49	PLL.	C&T.	Δ	Minerva - Nerva's Forum 4/16	PLL.	T.	Δ	Maxentius 4/3	PLL.	T.	Δ	Maison Carrée 4/85	PLL.	G&A.	Δ
LCD	1.402	1.478	0.949	**LCD**	1.417	1.430	1.001	**LCD**											
E	3.567	3.525	1.012	**E***	2.936	3.432	0.856	**E**	2.386	2.529	0.943					**E**	2.452	2.231	1.099
A	0.982	1.041	0.943	**A***	0.839	0.907	0.925	**A**	0.724	0.775	0.934					**A**	0.855	0.747	1.144
F	0.969	1.054	0.919	**F**	0.957			**F**	0.752	0.775	0.97					**F**	0.781	0.573	1.362
C	1.616	1.430	1.13	**C***	1.141	2.525	0.452	**C**	0.908	0.979	0.927					**C**	0.817	0.911	0.897
fillet	0.050	0.056	0.906	**fillet**	0.065	omit.		**fillet**	0.043	0.040	1.075	**fillet**	0.072	0.080	0.9				
cyma r.	0.21	0.254	0.825	**cyma r.**	0.188	omit.		**cyma r.**	0.094	0.160	0.587	**cyma r.**	0.245	0.240	1.02				
fillet	0.036	0.035	1.016	**fillet**	0.036	n.l.		**fillet**	0.014	0.085	0.247	**fillet**	0.021	0.032	0.656				
ovolo	0.112	0.101	1.103	**cyma i.**	0.076	0.152	0.498	**corona**	0.07	i.a.		**ovolo**	0.0795	0.087	1.236				
fillet	0.007	0.038	0.19	**fillet**	0.007	n.l		**cyma i.**	0.054	0.055	0.982	**astragal**	0.028	i.a.					
corona	0.296	0.254	1.167	**corona**	0.116	0.127	0.912	**modillions**	0.173	0.172	1.006	**fillet**	0.014	0.295	0.952				
fillet	omit.	0.025		**ovolo**	0.058	0.053	1.084	**ovolo**	0.126	0.213	1.03	**modillions**	0.267	i.a.					
cyma i.	0.056	0.058	0.959	**modillions**	0.226	0.213	1.059	**fillet**	0.018	i.a.		**fillet**	n/a	0.070					
modillions	0.229	0.236	0.972	**ovolo**	0.157	0.190	0.822	**astragal**	0.058	i.a.		**ovolo**	0.144	0.117	1.23				
fillet	0.022	0.028	0.776	**fillet**	0.029	n.a		**fillet**	0.018	i.a.		**astragal**	0.036	0.046	0.783				
cyma i.	0.112	0.127	0.882	**dentils**	0.161	0.162	0.993	**dentils**	0.11	0.114	0.965	**dentils**	0.195	0.167	1.168				
astragal	0.022	0.041	0.534	**fillet**	0.04	0.043	0.921	**fillet**	0.018	0.140	0.928	**ovolo**	0.130	0.097	1.34				
fillet	0.014	0.021	0.632	**cyma r.**	0.119	0.119	1	**cyma i.**	0.081	i.a.		**fillet**	0.021	0.020	1.05				
dentils	0.287	unclear		**astragal**	0.048	0.051	0.949	**astragal**	0.031	i.a.		**cyma i.**	0.123						
ovolo	0.107	0.152	1.056	**frieze**	0.957	0.991	0.096	**frieze**	0.752	0.775	0.970	**astragal**	0.036						
astragal	0.036	i.a.		**fillet**	0.07	0.076	0.917	**fillet**	0.047	0.050	0.94	**frieze**	0.896						
fillet	0.018	i.a.		**cyma i.**	0.130	0.168	0.776	**cyma i.**	0.104	0.111	0.937	**fillet**	0.050						
frieze	0.969	1.054	1.15	**astragal**	0.036	0.028	1.294	**astragal**	0.029	0.036	0.805	**cyma r.**	0.1048						
fillet	0.043	0.178	0.244	**fascia**	0.214	0.226	0.949	**fascia**	0.184	0.190	0.968	**ovolo**	0.1048						
cyma i.	0.130	i.a.		**cyma i.**	0.077	0.079	0.979	**cyma r.**	0.053	0.055	0.964	**astragal**	0.0361						
astragal	0.032	i.a.		**fascia**	0.177	0.188	0.943	**fascia**	0.155	0.160	0.969	**fascia**	0.318						
fascia	0.301	0.292	1.031	**astragal**		0.046		**astragal**	0.029	0.038	0.763	**cyma i.**	0.057						
cyma i.	0.056	0.102	0.551	**fascia**	0.133	0.142	0.940	**fascia**	0.123	0.135	0.911	**fascia**	0.2385						
fascia	0.219	0.216	1.013																
astragal	0.025	0.051	0.498																

morphologically similar to Palladio's canonical Corinthian entablature to be proportionally compared with it. It makes little sense to make proportional comparisons of elements of different shape. When it comes to entablatures which differ significantly in their details, one can only compare major elements, namely architraves, friezes and cornices. The entablatures surveyed by Palladio show particularly significant diversity when it comes to the morphology of cornices. The differences in the sections below the cornice are limited to minor elements; all entablatures have the frieze, the architrave is divided into three *fascie*, and there is usually a combination of a cyma inversa and a fillet (or some other elements) between the architrave and the frieze.

At the same time, cornices exhibit great diversity, but nevertheless there exists a standard type sufficiently similar in morphology to Palladio's canonical Corinthian entablature to allow a proportional comparison. Such a cornice has both dentils and modillions with an ovolo (exceptionally a cyma) and a fillet, astragal, or a combination of these, between the dentils and modillions. Below the dentils (between the dentils and the frieze) there is an ovolo, a cyma, or their combination, accompanied by a fillet or an astragal next to the frieze. Above the modillions there is a corona. The transition from the modillions to the corona is made by a cyma, combined with a fillet or an astragal. At the top of the cornice there is always a cyma recta with a fillet; between this cyma and the fascia of the corona there is usually another layer consisting of a smaller cyma or (more rarely) an ovolo. An entablature with a cornice like this one would be sufficiently similar to Palladio's canonical Corinthian entablature to be proportionally compared, even in its smaller details.

Out of the nineteen Corinthian entablatures which Palladio presented in his surveys, nine possess this standard morphology. These entablatures are as follows:

Basilica of Maxentius in Rome (4/3)
Temple of Mars Ultor in Rome (4/8)
Temple of Minerva on Nerva's Forum, two entablatures (4/15 and 4/16)
Temple of Castor and Pollux in Rome (4/47)
Temple of Vespasian on the Roman Forum (4/49)
Temple of Castor and Pollux in Naples (4/69)
Temple in Pola (4/79)
Maison Carrée in Nimes(4/85)
Temple of Venus Genetrix in Rome (4/98)

The comparative analysis between Palladio's canonical Corinthian entablature in Book One and his archaeological surveys can thus be approached in two ways.

First, the proportions of the canonical version can be compared with the sizes of those elements in Palladio's surveys which do not depend on the presence of individual small elements, that is, by comparing only total entablature thicknesses and the largest elements of entablatures (architraves, friezes and cornices). If we compare only the proportions of architraves, friezes and cornices, then we do not have to limit the comparison to the nine entablatures listed above.

Second, in those cases where a sufficient level of morphological comparability exists, Palladio's surveys should be compared element by element with his canonical Corinthian entablature.

TABLE 3. GENERAL SURVEY OF ENTABLATURES

The table compares the proportions of the major elements of Roman entablatures surveyed by Palladio with Palladio's and Vignola's canon.
D = lower column diameter, A = architrave thickness, F = frieze, C = cornice, E = total entablature thickness.
Elements whose proportion does not differ from Palladio's canon by more than 10 per cent are in bold; those whose size does not differ more than 10 per cent from Vignola's canon, are in italics.

Illustration	Temple	A/D	F/D	C/D	E/D
	Palladio's canon	0.638	0.475	0.768	1.881
	Vignola's canon	0.75	0.75	1.042	2.542
4/3	**Bas. Maxentius**	**0.544**	**0.484**	**0.723**	**1.751**
4/8	**Mars Ultor**	**0.675**	0.644	**0.807**	2.127
4/15	**Minerva/Nerva's forum**	**0.676**	0.673	0.891	*2.240*
4/16	**Minerva/Nerva's forum**	n/a	n/a	n/a	n/a
4/21	**Antoninus and Faustina**	*0.712*	0.663	**0.791**	2.166
4/30	**Serapis on the Quirinal**	*0.739*	*0.754*	0.934	*2.427*
4/36	**Circular Temple near the Tiber**	n/a	n/a	n/a	*2.667*
4/41	**Hadrianeum**	*0.755*	0.4	0.654	**1.809**
4/47	**Castor and Pollux**	1.152	*0.691*	0.682	*2.525*
4/49	**Vespasian -- forum**	0.936	0.675	0.592	2.203
4/55	**Pantheon**	***0.689***	n/a	n/a	n/a
4/58	**Pantheon**	0.865	*0.688*	0.678	2.232
4/59	**Pantheon**	n/a	*0.683*	n/a	n/a
4/66	**Vesta in Tivoli**	1.19	n/a	0.8	n/a
4/69	**S. Paolo, Naples**	0.698	0.692	0.906	2.296
4/76	**Minerva, Assisi**	**0.638**	**0.478**	**0.783**	**1.902**
4/79	**Pola**	0.947	0.620	**0.806**	2.373
4/85	**Maison Carrée**	0.896	*0.818*	0.856	2.570
4/98	**Venus Genetrix**	**0.686**	*0.693*	0.893	2.233

Table 3 compares the major elements of the entablatures (architraves, friezes and cornices) according to Palladio's surveys, with the canonical proportions prescribed by Palladio and Vignola; Table 4 provides the comparison of the proportions of the elements of the nine morphologically similar entablatures from Palladio's surveys with his and Vignola's canon. To facilitate the comparison, those elements in Table 3 whose size does not differ from Palladio's canon by more than 10 per cent have been marked in bold; those whose size does not differ more than 10 per cent from Vignola's canon are marked in italics. Table 4 concentrates on very small elements, and one should assume that with smaller elements differences have to be greater in order to be perceptible. For this reason in Table 4 those elements which do not differ more than 20 per cent from Palladio's canon have been marked bold, whilst those which do not differ more than 20 per cent from Vignola's are in italics.

Of the nineteen entablatures which Palladio presented in the fourth book, total thicknesses are not legible in three cases: the entablature from the Temple of Vesta in

Tivoli (4/66) and two entablatures from the Pantheon (4/55 and 4/59). In the case of one entablature from Nerva's Forum (4/16) comparison is not possible because the lower column diameter is not known. Only three entablatures show ratios of major elements similar to those stipulated as canonical for the Corinthian by Palladio: the entablatures from the Basilica of Maxentius, the Hadrianeum and the Temple of Minerva in Assisi. As it happens, according to the surveys published in the fourth book, the Temple of Minerva in Assisi is closest to Palladio's canon (total entablature 1.9D compared to 1.88D; architrave, frieze and cornice are 0.637D, 0.478D and 0.782D compared to Palladio's 0.637D, 0.475D and 0.768D). Goethe himself, however, had already noted that Palladio's survey of the temple in Assisi was inaccurate, and early in the nineteenth century Giovanni Antolini published a comparison of his own and Palladio's surveys of the temple in Assisi, demonstrating Palladio's inaccuracy.[28] Antolini tried to explain away the inaccuracies he discovered in Palladio's treatise in terms of incompetence on the part of the person who provided Palladio with the survey, assuming that the great architect could not have made such numerous mistakes, and that if he published inaccurate surveys, it was because he had relied on someone else. In any case, it seems convincing that in the survey of the Temple of Minerva in Assisi, Palladio manipulated archaeological data in order to give credibility to his canon.

Vignola defined the thickness of the canonical entablature as 2.54D and four temples, according to Palladio's surveys, have similar entablature thicknesses: the Temple of Castor and Pollux in Rome (2.52D), the Temple of Serapis on the Quirinal (2.43D), the Maison Carrée (2.57D) and the Temple in Pola (2.37D). Nevertheless, the greatest number of temples in Palladio's surveys (eight in number) have entablature thicknesses close to 2.2D, mid-way between Vignola's and Palladio's canonical Corinthian. This is a bigger group by far than that of the entablatures whose proportions correspond to either Palladio's or Vignola's canon. Five of these entablatures are morphologically comparable to Palladio's canonical entablature (that is, show a high level of morphological similarity with Palladio's canon).

As far as the proportions of minor elements are concerned (Table 4), it is much easier to find elements in Palladio's surveys with similar proportions to those of the elements which Palladio prescribed in his canon. In this case Palladio seems to have been much more inclined to follow what his surveys suggested was the common Roman practice. Nevertheless one should emphasize that the canonical proportions of elements were not derived on the basis of one single entablature which might have been chosen as the most successful one and then copied. No entablature from Table 4 shows that more than 50 per cent of its elements have similar proportions to Palladio's. From this it also follows that, when it comes to Palladio's surveys of Corinthian entablatures (except for the survey of the temple in Assisi), there was no attempt to manipulate the surveys in order to show that Palladio's canon was particularly faithful to Roman practice. The conclusion is that Palladio combined the proportions of different elements from different entablatures, according to what seems to have been, in his view, the best composition of elements. Palladio's process was that of combining and adjusting the proportions of different elements taken from different buildings.

Introducing his version of the canon of five orders in Book One, Palladio said that he intended to present the proportions of the orders 'not so much in line with what

TABLE 4. COMPARISON OF DETAILS OF THE NINE MORPHOLOGICALLY SIMILAR ENTABLATURES WITH PALLADIO'S AND VIGNOLA'S CANON

Those elements whose proportions do not differ more than 20 per cent from Palladio's canon are in bold and those which do not differ more than 20 per cent from Vignola's are in italics. *In the Maison Carrée Palladio adds a fillet (thickness not legible) and an ovolo (0.05D) on the top of this entablature. n.l. = not legible.

Vignola	Palladio	Layer	Maxentius (4/3)	Mars Ultor (4/8)	Minerva (4/15)	Castor and Pollux (4/47)	Vespasian (4/49)	Castor and Pollux (4/69)	Temple in Pola (4/79)	Maison Carrée* (4/85)	Venus Genetrix (4/98)
0.0278	0.0375	**fillet**	**0.039**	***0.0297***	**0.0332**	**0.0361**	0.0459	**0.0377**	0.0185	***0.0303***	*0.0278*
0.1389	0.1056	**cyma recta**	*0.1328*	***0.1102***	**0.1020**	*0.1495*	*0.1326*	**0.1069**	*0.1296*	0.1818	***0.1125***
0.0139	0.0111	**fillet**	**0.0117**	***0.0148***	0.0178	0.0258	0.0255	0.0189	n.l.	0.0038	*0.0167*
0.0417	0.05	**cyma i. or ovolo**	n.l.	*0.0381*	**0.0433** +fillet 0.01	0.0799	**0.0536** +fillet 0.005	*0.0377*	***0.0463***	0.0303	***0.0472***
0.1389	0.1222	**fascia**		0.0805	0.0714	0.2114	0.0816	0.0692	0.0856	***0.1288***	0.0722
		astragal	0.0156							ovolo 0.0511	
	0.0111	**fillet**	0.0078							0.0076 twice	
0.0417	0.0389	**cyma i.**		***0.0381***	***0.0408***	***0.0399***	***0.0408***	***0.0377***	***0.0463***	0.0303	***0.0417***
0.1806	0.125	**modillions**	***0.1445***	***0.1398***	*0.1718*	0.1636+ fillet 0.0155	*0.1594*	*0.1635*	0.3889	**0.1288**	*0.1528*
0.1111	0.075	**ovolo/cyma**	*0.0781*	*0.0932*	0.1403	**0.0799**	*0.1105*	*0.1132*	**0.0741**	0.0530	0.1333
0.0278		**astragal**	0.0195	*0.0254*		0.0154			0.01852		
0.0139	0.0167	**Fillet**		*0.0127*	**0.0153**	0.0103	0.0204	**0.0189**	0.0092	0.0076	***0.0167***
0.1667	0.0917	**dentils**	**0.1055**	**0.0932**	**0.1020**	0.2049	**0.114**	*0.1446*	0.0740	**0.0909**	**0.0972**
0.01389	0.0083	**fillet**	***0.0117***	*0.0127*	*0.0153*		0.0280			**0.0076**	0.0167
0.08333	0.075	**cyma/ovolo**	***0.0664***	***0.0805***	0.1020	**0.0760**	*0.0842*		0.0555	0.0606	*0.0944*
0.02778		**astragal**	0.0195	*0.0254*	0.0255	*0.0258*	0.0340	0.0377			
0.01389		**fillet**		*0.0127*		*0.0129*		0.0189+ cyma 0.1	n.l.	0.0227	0.0278
0.75	0.475	**frieze**	**0.4843**	*0.644*	*0.6735*	*0.6907*	*0.6752*	*0.6918*	*0.6204*	*0.8182*	*0.6903*
0.0278	0.0458	**fillet**		**0.0424**	0.0612	*0.0309*	**0.0493**		0.0555	**0.04545**	**0.0417**
0.1111	0.0833	**cyma**	0.0559	***0.0932***	*0.1033*	***0.0928***	***0.0918***		0.1574	cavetto 0.0454 ovolo 0.053	**0.0833**
0.0278	0.0333	**astragal**	0.0176	***0.0297***		0.0232	*0.0255*			**0.0303** +fillet 0.0227	**0.0333**
0.1944	0.175	**upper fascia**	***0.1719***	***0.1864***	***0.1667***	*0.2148*	0.1514		***0.1759***	*0.2386*	**0.2**
0.0555	0.0292	**astragal/cyma**	**0.0312**	**0.0254**	0.0408	0.0399	0.0544			**0.0303**	*0.05*
0.1667	0.1375	**middle fascia**	**0.1289**	***0.1546***	***0.148***	***0.1559***	0.125		0.2037	0.2045	***0.1389***
0.0278	0.0292	**astragal/cyma**	0.0156	0.0212	0.0383	0.0232	n.l.			**0.0265**	***0.0278***
0.1389	0.1042	**lower fascia**	**0.0976**	***0.1229***	***0.1173***	***0.125***	**0.0943**		0.2129	0.1591	***0.1111***

Vitruvius teaches but according to what I have observed (*secondo c'ho avvertito*) in ancient buildings.'[29] 'Observation' here is not to be taken as copying one single model. Rather, Palladio made the effort to combine and adjust the proportions surveyed on different Roman remains, his procedure being that of searching for the best possible combination of the proportions of elements. The proportions of the largest elements (architraves, friezes and cornices) are consequently the results of such an empirical procedure, probably arrived at as sums of the proportions of individual elements.

It may seem that no amount of research can assure us that Palladio did not copy his canonical Corinthian entablature from some Roman remains which were subsequently destroyed and whose original prototype cannot be identified, even though he did not present such an entablature in his surveys in Book Four in order to justify the new canon he was proposing. This argument, however, has inherent difficulties. Due to the similarities in the morphologies proposed by Vignola and Palladio, this could only have happened had Vignola also decided on the same entablature, but changed its proportions so that Palladio, in the process of formulating his canon, recognized Vignola's prototype, but decided to readopt the original proportions. Yet, Vignola himself says that in the case of the Corinthian entablature he combined the elements of the cornice from different Roman ruins.[30]

It is interesting to compare Palladio's procedure with Vignola's. According to Vignola's 'Introduction' to the *Regola*, the fact that he combined elements from different entablatures for his canonical Corinthian entablature was an anomaly in his procedures.[31] Vignola says that when formulating different elements of the canon he would adopt proportions from a version of the order which was most widely appreciated by the general public (in the case of the Doric order, he says, it is the one on the Theatre of Marcellus). These proportions would then be adjusted in smaller details, in order to ensure that all their parts were commensurable and in order to correct for the mistakes of the stonecutters or to compensate for the damaged parts. These corrections were effected by relying on the authority of other ancient buildings, 'which are also regarded as beautiful and from which I supplied other small parts when I found it appropriate'. All these changes, additions and combinations seem to have been significant, and Vignola felt it important to assure his readers that, while combining proportions of elements, he adjusted these proportions to each other in the way that his judgment led him, and that he did not work like the painter Zeuxis in the city of Croton.[32] Unlike Palladio, Vignola would thus start from a single model, but he nevertheless introduced extensive changes; the principle underlying these changes, which ultimately accounted for the form and proportions adopted, was the judgement of the architect.[33] The reference to Zeuxis pertains to an anecdote, widely quoted in the Renaissance, according to which the painter Zeuxis produced the painting of Helen by combining the parts of the body of a number of the most beautiful maidens of Croton. During the Renaissance Zeuxis' procedure was praised by some theorists, such as Federico Zuccaro, but it was also quoted as a horrible example of the way one should not work.[34] In a recent study of this anecdote in the Renaissance, Leonard Barkan mentions that Leonardo, for instance, 'defines the highest achievement of the painter as residing not in the individual features but in their proportional relations, and he counsels Zeuxis' composite technique mainly for the purpose of painting monsters.'[35]

The critics' view was that Zeuxis did not adjust the proportions of the parts of bodies of Crotonian maidens when he combined them in the paining of Helen. In any case, Vignola thought it important to emphasize that this was not his procedure.

It is also interesting to ask here how Palladio read Vignola's formulation of the canon in the context of his own surveys. It is obvious that Palladio read Vignola's little *Regola* with utmost care. His views on the canon of the five orders differed in many details from Vignola's; in the case of the Corinthian order, however, he not only repeated Vignola's morphology of the Corinthian entablature, but also systematically repeated the composition of Vignola's drawing in all plates that presented the surveys of Corinthian entablature in Book Four. One might well ask how he read Vignola's *Regola* in relation to the surveys he had assembled. He certainly noted that Vignola significantly increased the total thickness of the Corinthian entablature in comparison to standard Roman practice. Contrary to Vignola, Palladio decided to *reduce* the total thickness of the entablature and make it smaller than his surveys suggested had been the common Roman practice. Vignola increased the thickness of the frieze and cornice from that which Palladio would have read in his surveys to have been common Roman practice; Palladio decided to reduce it. From the surveys he could also see that Vignola's choice of the thickness of the corona was far from common Roman practice; he nevertheless opted to propose a thickness similar to, and only slightly smaller than Vignola's.

CONCLUSION

The Corinthian entablature is the single most significant element of the classical orders Palladio had to design when he was formulating the canon of the five orders for Book One of *I quattro libri*. In preparing the canonical version for publication he copied the morphology of Vignola's Corinthian entablature but substantially changed its proportions. At the same time he had at his disposal at least some moderately reliable surveys of Roman Corinthian entablatures. A comparison of his canonical entablature and his surveys indicates a process of systematic combining and adjusting of the proportions of different elements from different temples.

The implication is that by the 1570s a Venetian architect publishing a version of the canon of the five orders was neither expected to copy it directly from ancient monuments nor to derive it from Vitruvius. Instead, it was important to show that he had sufficient expertise in Roman archaeology to demonstrate the necessary competence to formulate the canon himself. Palladio's readers could easily have compared the entablature thickness he was advocating with those he presented in his surveys and seen the difference. This result goes hand in hand with an observation made in the earlier paper; until the publication of Barbaro's commentary in 1556, the efforts of Renaissance architectural writers were predominantly directed towards reconstructing Vitruvius' doctrine. They would, as a rule, repeat the same proportions of the elements of the classical orders as those stipulated by Vitruvius. Vignola was the first Renaissance author to firmly break with such reliance on the Vitruvian tradition for the justification of the canon of the five orders; instead he claimed to have developed his canon on the basis of his surveys of Roman ruins. For Palladio too, ancient

monuments provided material to be studied, combined and adjusted in the process of the formulation of the canon.

Probably the best model for this process was provided by Geoffrey Scott in his *Architecture of Humanism*. Scott described Renaissance architecture as the 'experimental science of taste'.[36] When it comes to the Renaissance formulations of the canon of the five orders, this characterization seems particularly apt for the attitude of architects in the late *Cinquecento*. The idea seems to have been — as Scott suggested — that one can study ancient examples and then further refine their use of the orders. The works of one's predecessors allow one to benefit from their experience. Working within a tradition does not mean endlessly repeating the same solutions, but innovating beyond and improving on the achievements of the old masters.

NOTES

1 This paper completes the discussion of the formulation of Palladio's canonical Corinthian entablature, a problem mentioned in my paper 'Palladio's Theory of the Classical Orders and the First Book of *I quattro libri dell'architettura*', *Architectural History*, 42 (1999), pp. 110–40. The discussion presented here is heavily based on that earlier paper. An earlier version of this paper was presented at the conference 'Theory and Representation: The Impact of Renaissance Scholarship on Architectural Theory', organized by the University of New South Wales, Sydney, February 2000. I owe special gratitude to Canadian Centre for Architecture for support in the preparation of the final version of the article. I should also like to express my gratitude to Mr Mark Wilson Jones for advice with the archaeological problems I faced while working on the article, Ms Vittoria Senes for the help with obtaining the necessary material and to Ms Karen Wise for help with the written English of the article.

2 Andrea Palladio, *I quattro libri dell'architettura* (Venice, 1570). Quotations according to the facsimile edition (Milan, 1980). See also English translation by Robert Tavernor and Richard Schofield: Andrea Palladio, *Four Books on Architecture* (Cambridge, Mass., 1997).

3 Antonio Labacco, *Libro d'Antonio Labacco appartinente a architettvra nel qual si figurano alcvne notabili anitqvità do Roma* (Rome, 1552); Pirro Ligorio, *Delle Antichità di Roma*, ed. Daniela Negri (Roma, 1989); Sebastiano Serlio, *Tutte l'opere d'architettura et prospettiva* (Venice, 1619). See also the recent English translation by Vaughan Hart and Peter Hicks: Sebastiano Serlio, *On architecture* (New Haven and London, 1996).

4 Antoine Desgodetz *Les édifices antique de Rome* (Paris, 1682). George Lidwell Taylor, Edward Cresy, *The architectural Antiquites of Rome* (London, 1874).

5 One may be tempted to ask here about the *unpublished* surveys preserved in Palladio's drawings. It should be mentioned that among these drawings there are very few which represent Corinthian entablatures with dentils and modillions. Giangiorgio Zorzi in *I disegni delle antichità di Andrea Palladio* (Venice, 1959), provides reprints of six such entablatures: Porta dei Leoni, Verona (18), Porta Borsari, Verona (22), Arco dei Gavi, Verona (33), Arch of Constantine in Rome (38), Forum of Nerva in Rome (146), the Temple of Castor and Pollux in Naples (198) (numbers indicate illustration numbers in Zorzi's work). In most cases the manner of data presentation in these drawings is either inadequate for comparison with Palladio's published surveys in this paper, or the data are not legible, or present entablatures also represented in Book Four. In the latter case, it is reasonable to assume that the version published in Book Four is the one Palladio considered for the most accurate.

6 Palladio, *I quattro libri*, p. 250.

7 This difficulty has been summarized in a recent article by Elwin C. Robison ('Structural Implications in Palladio's Use of Harmonic proportions', *Annali del Centro Internazionale di studi dell'architettura* (1999), pp. 175–83, see especially p. 178). In Book Two Palladio provided a drawing showing the size of half of the Vicentine foot he used for the plans in that Book, and this foot size would be 35 cm. Nevertheless, due to the printing process that was used, this was certainly not the measure that was engraved in the original woodcuts. (In the process of printing wooden plates would slightly change their size and the size printed is not the same as the size engraved.) In the article mentioned, Robison lists solutions to the problem suggested

by different scholars: Zurko 35.7 cm, Favero 34.75 cm, Burns, Fairburn and Boucher 35.4 cm (Robison, 'Structural Implications', p. 178). The smallest size proposed is 34.7 cm, proposed by Deborah Howard and Malcolm Longair ('Harmonic Proportions and Palladio's *Quattro Libri*', *Journal of the Society of Architectural Historians*, 41 (1982), pp. 116–43, p. 129). It is true that the biggest difference between these measures is about 3 per cent which would not result in a significant error when converting the surveys into the metric system. Yet when comparing surveys with Palladio's canonical versions of the classical orders one should not forget his tendency to insist on excessive precision when defining the elements of the classical orders; he would correct Vitruvius' precepts for as little as 1/180th part of the lower column diameter (cf. Mitrovic, 'Palladio's Theory', p. 120).

The problem is further aggravated by the fact that the foot size provided by Palladio in Book Two can only be taken to pertain to Book Two illustrations. These illustrations were prepared for publication in the late 1560s and it is reasonable to expect that the dimensions in these drawings were consistently expressed in the same foot size, whatever this size may have been. There is, however, no guarantee that the Book Two foot size is the same as the one with which Palladio measured the Roman temples, and that during his visits to Rome, the latest of which is usually dated at 1554, sixteen years before the publication of his treatise, he had already been using the same measuring standard which he later used to describe his own buildings in Book Two of his treatise. In fact, Douglas Lewis in *The Drawings of Andrea Palladio* (Washington, 1981–82), p. 61, pointed out that the unpublished drawings of Palladio's archaeological surveys occasionally combine measures in Roman and Veronese feet. It is neither certain nor even probable that in the process of preparing his old surveys for publication in the late 1560s he actually went through the effort of recalculating all the measurements stated in his old surveys into Vicentine feet, a huge job without a computer.

8 The nine relevant entablatures are those from the Basilica of Maxentius (4/3) and the temples in Mars Ultor (4/8), Minerva on Nerva's Forum (4/15) and (4/16), Castor and Pollux in Rome (4/47), Vespasian in the Roman Forum (4/49), Castor and Pollux in Naples (4/69), the Temple in Pola (4/79), the Maison Carrée in Nimes (4/85) and the Temple of Venus Genetrix (4/98). The entablature from the temple of Castor and Pollux in Naples was destroyed in an earthquake in 1688. Similarly, the part of the entablature above the architrave of the temple of Mars Ultor has not survived, and had already disappeared when Cresy and Taylor made their surveys in the nineteenth century (Cresy and Taylor, *The architectural Antiquities*, p. 50). According to Serlio's description, the section of this entablature above the architrave was already missing in the early sixteenth century (Serlio, *Tutte l'opere*, Book 3, fol. 88v). Both Palladio and Labacco, however, present this entablature in its full height, implying that all its parts were sufficiently preserved to be measured (Labacco, *Libro*, p. 12, Palladio, *I quattro libri*, 4/8). While they present entablatures with similar morphology, the proportions of the major elements are different. Since this paper concentrates on the impact of Palladio's surveys on his formulation of the canon, and not on the accuracy of his surveys, I have simply taken Palladio's measurements of this entablature at face value.

9 Pierre Gros remarked that the only reliable published surveys of Roman entablatures ('... les seules relevés utilisables des entablements ...') are those produced by Toebelmann in 1923: Pierre Gros, *Aurea Templa. Recherches sur l'architecture de Rome à l'époque d'Auguste* (Rome, 1976), p. 252; Fritz Toebelmann, *Römische Gebälke* (Heidelberg, 1923). Since he made this statement, he and Robert Amy have published a survey of the Maison Carrée, but as for the elements of the entablature, that survey presents only the dimensions of the largest elements (architrave, frieze and cornice). Robert Amy and Pierre Gros, *La Maison Carrée de Nimes* (Paris, 1979). Tobelmann's surveys include only two entablatures from the list in note 7, those from the Forum of Nerva (4/16) and Basilica of Maxentius (4/3). Even if we disregard Gros' warning about the accuracy of older surveys, we shall not find many published surveys of Roman entablatures. Desgodetz' surveys cannot be used for the purpose of establishing the accuracy of Palladio's, since the measurements he provided were stated in ratios of the lower column diameter. In any case, in his book Desgodetz regularly commented on the difference between his and Palladio's surveys. There are also nineteenth-century surveys by Cresy and Taylor of the temples of Vepasian in Rome, Castor and Pollux in Rome and Minerva on Nerva's Forum in Rome. In Table 2 I have used the former two, whereas I have used Toebelmann's survey for the entablature from the Forum of Nerva (4/16).

10 Table 2 shows the results of the comparison of Palladio's surveys with later surveys of the temples of Vespasian and Castor and Pollux in Rome by Cresy and Taylor; Toebelmann's survey of the entablatures from the Basilica of Maxentius and the Forum of Nerva; and Amy's and Gros's survey of the Maison Carrée. All data are expressed in metres, assuming foot size of 34.7 cm. As regards morphology, Palladio's surveys are

accurate even for very small details. Dimensions in Palladio's surveys are moderately accurate when it comes to major and bigger elements, but they tend to differ from modern surveys in the thicknesses of minor details, such as individual fillets and astragals. Where mistakes occur, they are far greater than 3 per cent and exceed the possible error which could have been generated by converting Palladio's data into the metric system (viz: '7). The third column of each comparison (marked D) shows the ratio between Palladio's and modern surveys. One can see that major elements tend to be accurate within 10 per cent; the error rarely exceeds a couple of centimetres. When measuring the elements of these entablatures, Palladio made an effort to be accurate within reasonable limits. It is safe to conclude that in the 1560s, when he was designing his canonical Corinthian entablature, he had at his disposal at least a couple of moderately reliable surveys of Roman entablatures morphologically very similar to Vignola's, which he could consult and use in the preparation of his canon.

11 Henner von Hesberg, *Konsolengeisa des Hellenismus und der frühen Kaiserzeit* (Mainz, 1980), p. 18.

12 Vitruvius, *De architectura*, 4.1.2.

13 Leon Battista Alberti, *De re aedificatoria*, 7.9; see also the translation by Joseph Rykwert, Robert Tavernor and Neil Leach: Leon Battista Alberti, *On the Art of Building* (Cambridge, Mass., 1988), p. 214.

14 Vitruvius, *De arch.*, IV, 2.5.

15 See Mitrović, 'Palladio's Theory', pp. 116–19, for a more extensive discussion of this problem.

16 Ibid., p. 61. See also Jacopo Barozzi da Vignola, *Regola delli cinque ordini* (Rome, 1562), quotations according to 1572 edition; reprinted in Jacopo Barozzi da Vignola, *Canon of the Five Orders of Architecture* (New York, 1999), pl. 14.

17 Arnaldo Bruschi, 'L'Antico e il processo di identificazione degli ordini nella seconda metà del Quattrocento', in *L'emploi des orders dans l'architecture de la Renaissance*, ed. Jean Guillaume (Paris, 1992), pp. 11–58, particularly p. 48.

18 Luigi Angelini, *Le opere in Venezia di Mauro Codussi* (Milan, 1945), pl. 85 for the portico of the Palazzo Zorzi a S. Severo and pl. 98 for Palazzo Vendramin-Calergi. For the latter entablature see also Deborah Howard, 'Exterior Orders and Interior Planning in Sansovino and Sanmicheli', in Guillame, *L'emploi*, pp. 183–92, particularly p. 189.

19 The Composite entablature was similarly undefined, but it was much less used.

20 For a discussion of this problem see Mitrović, 'Palladio's Theory ...', pp. 116–19.

21 Ibid., pp. 121–25.

22 Ibid., pp. 123–26.

23 Ibid., pp. 124–25.

24 Vitruvius, *De architectura*, 3.5.10.

25 Bruce Boucher, 'Nature and the Antique in the Work of Palladio', *Journal of the Society of Architectural Historians*, 59 (2000), pp. 296–311.

26 Ibid., p. 298.

27 Ibid., pp. 301, 302.

28 According to Antolini 'Palladio fu ingannato': Giovanni Antolini, *Il tempio di Minerva in Assisi confrontato colle tavole di Andrea Palladio architetto di Vicenza* (Milan, 1803), p. 16. See also Boucher, 'Nature', for a discussion of this comparison.

29 Palladio, *I quattro libri*, p. 28.

30 Vignola, *Regola*, pl. 26.

31 Ibid., pl. 2.

32 Ibid., pl. 2.

33 For the concept of visual judgement in Renaissance art and architectural theory see David Summers, *The Judgment of Sense. Renaissance Naturalism and the Rise of Aesthetics* (Cambridge, 1987).

34 Federico Zuccaro, 'L'Idea de'Pittori, Scultori et Architetti', in *Scritti d'arte di Federico Zuccaro*, ed. Detlef Heikamp (Firenze, 1961), pp. 150–306, p. 229.

35 Leonard Barkan, 'The Heritage of Zeuxis. Painting, Rhetoric, History', in *Antiquity and its Interpreters*, ed. Alina Payne, Ann Kuttner, Rebekah Smick (Cambridge, 2000), pp. 99–109, p. 104.

36 Geoffrey Scott, *The Architecture of Humanism* (New York and London, 1974), p. 144.