All architecture schools teach architectural history. Courses in architectural history are the required parts of curricula that an architecture programme must have in order to be accredited by the Commonwealth Association of Architects or the American Association of Collegiate Schools of Architecture. Nevertheless, there is little agreement about the nature of the material that needs to be presented to the students in such courses. According to one view, young architects (unlike young art historians) should study the historical works of architecture *qua* architectural works: architectural history is relevant insofar as it teaches young architects how to design. According to the other view, historical works of architecture do not really have much to teach the young students; what should be taught in architectural history courses is the cultural context in which these works were produced. By studying architectural history the students should learn to conceptualise their design and ultimately, be able to present it to the general public and clients. After all, Vitruvius famously wrote that architects must know history in order to be able to convince their clients. Teaching antiquated design procedures, from this latter point of view, is of no use in modern times; teaching the students to conceptualise their design, however, helps them get commissions.

The origin of this dilemma goes back to the Renaissance. The constitution of architectural history as a discipline that systematically studies historical buildings, their design and architectural procedures that led to their formation was the great achievement of Palladio’s 1570 treatise *I quattro libri dell’architettura*. The fourth book of the treatise presented comprehensive surveys and analyses of more then twenty-five Roman temples, their plans, sections and elevations carefully measured.¹ No Renaissance publication on Roman archaeology or Roman architectural history matches the size and complexity of this collection of surveys of Roman temples—arguably, Palladio’s is in fact the most ambitious project in the history of Roman architectural archaeology. Publications by Palladio’s contemporaries Antonio Labacco and Pirro Ligurio are much smaller and less ambitious in size, whereas the archaeological section of Serlio’s treatise is by far inferior when it comes to stating the dimensions of buildings and their parts.² Palladio’s emphasis on sizes and measurements presents the real birth-place of modern scholarly approach to surveying archaeological remains. Whereas the fourth book of Palladio’s treatise contains only his archaeological surveys of Roman temples, in his unpublished drawings one can find extensive surveys of other Roman buildings as well.³
Contrary to Palladio’s approach is Vasari’s discussion of lives, activities and motivation of great architects in the *Vite*. What Vasari described was ultimately the cultural context in which architectural works were created; he did not engage with the design procedures that yielded certain spatial or visual properties of architectural works.

**Palladio’s description of the project**

The *Proemio* of the fourth book of *I quattro libri* presents Palladio’s programmatic statement and the justification of the project. The pragmatic topic of Book Four (that contains, with one exemption, only surveys of ancient temples) is *actually*, he says, the design of contemporary churches. Since architects, in their designs strive to achieve

that all parts together bring sublime harmony to the eyes of the observer and
that each of them serves conveniently the function for which it was intended

and since the ancient Greeks and Romans built temples to their gods with great care, Palladio’s Book Four presents the form and ornaments of ancient temples so that everyone could know with what form and what ornaments churches should be built.

He also reports about the difficulties his archaeological endeavours have faced: sometimes, he says, only a foot of the wall above the ground has survived and he had to make conjectures about the original shape of the buildings he surveyed. In doing this his studies of Vitruvius were of decisive help, and enabled him to figure out the original aspects and forms of temples. As regards the elements of the orders (bases, columns, capitals, cornices etc.) we are told that Palladio has not included anything of his own, but measured, with the utmost care, the various fragments he found on the site. The presentation of the surveys in Book Four of his treatise should enable his readers to direct their intellect to the beautiful and well-proportioned forms of temples, and “to derive many noble and various inventions” from them.

This pragmatic tone—Palladio is writing for practicing architects and his historical work is intended to help them design—dominates his treatise from the beginning. The Introduction to Book One describes how Palladio, in his youth, knowing that Romans made better architecture than anyone else, chose to follow Vitruvius as his guide, and started studying and measuring parts of ancient buildings. (5) Even the description of his own designs of *ville* and *palazzi* in Book Two of his treatise, Palladio says, is part of this historical project: there are too few remains of Roman residential architecture, so he is presenting *his own* buildings in order to illustrate what *Roman* residential architecture looked like. The principle *historia magistra* means that studying how to make good architecture is a recapitulation of the knowledge of Greeks and Romans.
Palladio’s Book Four was the first publication on Roman architectural history (or Roman archaeology) that employs (or pretends to employ) systematic surveying and data collecting the way this would be done by a modern architectural historian or archaeologist. But it also differs from the practices common in our modern historiography in two important aspects. First, the emphasis on data collecting at the same time isolates architecture from its social context, which is something a modern historian would avoid. Second, Palladio’s pragmatic formulation of the project suggests that his archaeological work did not have a purely scholarly motivation. Consequently, one may want to ask, in how far and in what way did it actually contribute to what he describes as the proper architectural practice elsewhere in his architectural treatise.

**The limits of pragmatism**

In order to discuss the first of these two aspects, one may want to compare Palladio’s history writing with the approach of another Renaissance historian who wrote on architectural history, but concentrated on the lives of architects (and other artists) in their social environment—the approach taken by Giorgio Vasari [ILL 5] in his *Vite.* Vasari describes his work as motivated by the “indignation that such virtue remained buried for such a long time”. The only possible pragmatic result of his writing, which he mentions, is that it may motivate others to work harder and achieve more, especially the young artists. Similarly, in the “Proemio di tutta l’opera” [I.1] Vasari states that he was moved by the fact that numerous belissime opere of ancient and modern architects, sculptors and painters get forgotten, so his intention is to save them from this quasi seconda morte and preserve them in the memories of those who are alive. His motivation is thus the common one of history writers since Herodotus: to save for human memory the great achievements of the past—but ultimately, there is no indication that what he presents can be of any use to artists or architects in their work. Vasari is not writing about the works of great artists in order to derive from such study anything more than enthusiasm—and, vice-versa, Palladio never mentions that he is, for instance, depicting Roman temples in order to preserve the memory of these buildings which, he was well aware of, are gradually destroyed by time.

The difference between Palladio’s and Vasari’s aims and interests constitutes a deep fissure in architectural history even today. The tradition which Palladio initiated concentrates on surveying old buildings and trying to establish the principles according to which they were designed, possibly with the intention to apply them, if they are worth applying, in contemporary practice. To this same tradition belong the works of Antoine Desgodetz, Edward Cresy and George Lidwell Taylor, Johann Mathäus von Mauch, or Ottavio Bertotti Scamozzi, when it comes to Palladio’s own works. Among modern scholars one could mention, for instance, Mark Wilson Jones or Lothar Haselberger as scholars who approach ancient architecture within this paradigm. Contrary to this tradition is the scholarship which emphasizes the discussion of architecture’s social context, and one could say that Vasari’s architects’ biographies are the birthplace of this second approach.
This same distinction is well known in many fields of intellectual history—the latter understood as the history of human creative activity, with branches such as the histories of science, art, philosophy, music or architecture. An insightful treatment of a similar divide in the history of philosophy is presented by Calvin Normore in his paper “Doxology and the History of Philosophy”. Normore differentiates between the way philosophers approach the works of the philosophers of the past as opposed to the way historians approach them. In the background of Normor’s distinction is the assumption that explaining the properties of artefacts studied by intellectual history (e.g. a philosophical system, scientific theory or an artwork) means stating the causes why the artefact has certain properties. For instance, one can

(1) explain the properties of artifacts by referring to the decision of the author to apply certain principles of design.

or

(2) one can argue that the work had to have certain properties because of the context in which it was created and the fact that the author belonged to a certain collective (culture, tradition).

The background of the dilemma is the question, whether and in how far the individual artist or philosopher’s membership of a collective explains (and therefore causes) the properties of the artefacts produced by that artist or philosopher. On the one hand, Normor describes, is the approach which tries to reconstruct the internal rationality of philosophical works. An example of such an approach, for instance, is the long tradition of Aristotelian commentators: what authors such as Al-Farabi or Aquinas tried to achieve was a rational reconstruction of Aristotle’s text; their intention is to present how various positions Aristotle articulated constitute a rational system of arguments. They did not strive to achieve a causal narrative based on the social context and answer the question, “What social circumstances caused Aristotle to say this”. Rather, they endeavoured to examine Aristotle’s text closely in order to determine what structure of rational arguments would best cohere with it—the way Palladio tried to establish what system of design precepts best coheres with the results of his surveys. Contrary to this, the historical, contextual approach—in Normor’s view not older than the eighteenth century—examines “the text against the background of other evidence to determine what considerations were actually employed by thinkers of the time”. (209) The former approach treats reasoning and the philosopher’s effort to achieve logical consistence as the explanation of his or her views. The latter approach postulates collective determinism as the explanatory principle in intellectual history. By analogy one can differentiate between a study of architectural works that explains them as the results of consciously applied design principles or as the result of their social context.

Palladio’s approach to architectural history may be seen as equivalent to the former approach: the way philosophers dealing with the history of philosophy try to
reconstruct the rational structure of the views of other philosophers, so Palladio endeavoured to reconstruct Roman temples on the basis of the design principles known to have been employed by their architects. But it is much harder to draw such a parallel between Vasari and modern contextual writing on the history of philosophy, as Normor describes it. Vasari is still not a determinist in the modern sense of the word: he does not suggest that the context explains (i.e. determines) individual’s creativity, nor does he attempt to explain the properties of the works of art by the social context in which they were created. Vasari’s Vite describes contexts, but his is not modern contextualism which postulates social environment as the explanatory principle for the properties of the works of art.

**Palladio’s archaeological surveys**
The second aspect to be considered is whether Palladio’s historical research actually delivers what it promises to achieve. How accurate are his surveys in the first place and in how far the design principles he describes elsewhere in his treatise correspond to and are derived from the surveys presented in Book Four? Complaints about Palladio’s archaeological inaccuracies go back at least to Goethe who compared Palladio’s survey of the temple of Minerva in Assisi with what he found on the site. Early in the nineteenth century, Giovanni Antolini published a comparison of his own and Palladio’s surveys of this temple and tried to explain away the architect’s inaccuracies by the incompetence of the person who provided Palladio with the survey. In his view, if Palladio’s treatise contains inaccurate surveys, this is because Palladio relied on someone else.17

When discussing the question of the accuracy of Palladio’s surveys, the surveys of the elements of the classical orders are by far more relevant than his presentations of entire temples. Palladio anyhow admits to have presented his reconstructions of Roman temples on the basis of his knowledge of Vitruvius. The details of the Corinthian order on Roman temples presented by Palladio in the fourth book are particularly interesting as they show some remarkable idiosyncrasies, such as his constant repetition of one and the same Corinthian capital. A great majority of the temples whose surveys he presented in the fourth book do indeed have the Corinthian order, but their capitals often have substantially different shape from the one Palladio drew in his surveys.

We encounter an even more interesting situation in Palladio’s treatment of Corinthian entablatures in his surveys.18 There are almost one hundred illustrations of Roman temples in the fourth book and nineteen of them show details of Corinthian entablatures, carefully drawn and measured. It is, however, not quite easy to judge the accuracy of Palladio’s surveys of Corinthian entablatures. One difficulty pertains to the uncertainties of the foot size in which Palladio’s measurements are stated.19 Also, not all temples surveyed by Palladio have survived until today20 while sufficiently detailed modern surveys are publicly available for only five of those temples that have survived.21 A recent study that has compared Palladio’s and modern surveys of Roman entablatures has demonstrated 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. Generally, the proportions he states tend to be more accurate when it comes to larger elements (architraves, friezes and cornices).

Surveying Corinthian entablatures had clear pragmatic implications for Palladio’s approach to design. For more than a century before Palladio’s treatise the Corinthian entablature had presented problems for Renaissance architects. Vitruvius stated no design rules specific to the Corinthian entablature, but merely recommended that it should be made either doricis symmetriis or ionicis moribus. The idea of formulating a specific Corinthian entablature took up slowly, in spite of numerous examples preserved in Roman temples. Seven years before Palladio’s treatise Jacopo Barozzi da Vignola in his Regola delli cinque ordini presented his version of the canonical Corinthian entablature.

One of the remarkable aspects of Palladio’s presentation of the system of the classical orders in the first book of his treatise is that he virtually copied Vignola’s drawing, but prescribed a different set of proportions for the elements of the entablature.
If we compare Palladio’s and Vignola’s prescribed ratios for the Corinthian entablature, it turns out that Vignola’s entablature is about 2.5 lower column diameters (D), whereby Palladio’s is about 1.9 D. Obviously, the canonical Corinthian entablature as presented in the first book Palladio’s *I quattro libri* has to stand in some kind of relationship with the nineteen Roman Corinthian entablatures whose surveys were presented in the fourth book. Sixteen out of these nineteen entablature surveys contain enough data to allow comparing their proportions of major elements (i.e. total thicknesses, architrave, frieze and cornice thicknesses) with the proportions of the canonical Corinthian entablature as stipulated by Palladio and Vignola.\(^{25}\) Out of these sixteen entablatures in only three cases the ratios of major elements are similar to those stipulated by Palladio as canonical for the Corinthian entablature—those from the Basilica of Maxentius, the Hadrianeum and the Temple of Minerva in Assisi.\(^{26}\) The proportions of the entablature on this last temple are closest to Palladio’s canon. However, it has just been mentioned that Palladio’s survey of this temple has been known to be inaccurate for a very long time and the impression is that the survey of the Temple of Minerva in Assisi was manipulated in order to fit Palladio’s canon.\(^{27}\) (It should be mentioned that no such manipulation can be detected in other surveys Palladio published in *I quattro libri.*) At the same time, four temples have the total thickness of the Corinthian entablature close to 2.54D, the ratio stipulated by Vignola.\(^{28}\) On the whole, the greatest number of temples in Palladio’s surveys (eight of them altogether) have entablature thicknesses close to 2.2D, mid-way between Vignola’s and Palladio’s canonical Corinthian. When deciding about the proportions of the elements of the Corinthian entablature, we may conclude, Palladio did not merely opt for what his surveys suggested was the most common Roman practice, but followed his own judgment. He composed his canonical Corinthian entablature by copying Vignola’s morphology and adjusting the sizes of its elements according to the proportions of Roman entablatures he selected. The extensive surveys certainly provided some guidance, but it was not decisive for the formulation of Palladio’s Corinthian entablature. Ultimately, the huge effort that went into the surveys did not have such pragmatic effects at all.

**Conclusion**

One might have expected that this paper now ends by pointing out that there are two traditions in architectural history, starting from Palladio and Vasari; the former concentrates on visual and formal properties of architectural works and is better suited for professional architectural education, while the latter, that deals with buildings’ cultural context and those aspects that are better described in words, is more appropriate for what one understands as the tradition of liberal education.

The paradox of our contemporary situation is that it is the other way around. The current architectural education insists on the cultural contextualization of architectural works, both in studio and in architectural history classes.\(^{29}\) Through the culture of studio crits, this emphasis on verbally describable properties of architectural works (as opposed to their visual qualities) develops the students’ skills of talking about their work; the skill to conceptualize is ultimately the skill to
sell one’s project. It’s about marketing and its purpose is not liberal education but the development of commercial skills necessary for professional survival.

The emphasis on verbal, as opposed to the visual properties of architectural works goes back to the version of the linguistic turn that came to influence architectural theory in the 1960s, through the works of Christian Norberg-Schulz. Norberg-Schulz’s works introduced into architectural theory ideas equivalent to Gombrich’s dictum that there is no innocent eye, that perception independent of conceptualization and language is impossible; their implication was that all that can be studied in architectural history are the meanings associated with architectural works through history. Since the 1960s, the impact of post-modernism and deconstruction further fortified anti-visual attitudes in architectural education. A good example of the view that dominated architectural academia in the 1990s is Garry Stevens’ book *Favored Circle*. The position Stevens describes is marked by the view that architecture schools have no particular skills or knowledge to impart to their students—rather, by studying architecture, students learn to behave like architects, to talk, wear certain clothes or type of glasses that are acceptable in the circle of similar professionals. If they live in Sydney, they participate in sailing competitions. The knowledge of architectural history, from this point of view, is a skill that enables the future professionals to converse with their clients about the buildings they’ve seen on the last trip to Italy, the way they need to know to talk about brands of Chianti or olive oil testing.

This kind of view has been in demise for the past decade, but its presence is still strong; generations have been educated with these assumptions that hardly contribute to either liberal or professional education. One can only hope for a change.
NOTES

1 Andrea Palladio, I quattro libri dell’architettura, Venice 1570. Quotations according to the facsimile edition (Milan, 1980). In page citations, the first number indicates the book and the second number the page of the original edition. In order to be able to refer to drawings, I have numbered all drawings from the beginning of each book and referred to them here by stating first the number of the book and then the number of the drawing. See also English translation by Robert Tavernor and Richard Schofield: Andrea Palladio, Four Books on Architecture (Cambridge, Mass., 1997).

2 Antonio Labacco, Libro d’Antonio Labacco appartenente a architettura nel qual si figurano alcune notabili antiquità di 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).


4 “che tutte le parti insieme una soave armonia apportino a gli occhi de’ riguardanti; & ciascuna da per se all’uso, alquale sarà destinata convenevolmente serva’” ibid., 4.3.
5 “accioche si possa da ciascuno conoscere con qual forma si debbono, & con quali ornamenti fabbricar le chiese.” Ibid., 4.3.
6 “sono andato conietturando quali dovessero essere quando erano intierier” Ibid., 4.3.
7 “non vi ho posto alcuna cosa del mio, ma sono stati misurati da me con somma considerazione da diversi fragmenti ritrovati ne’ luoghi, ove erano essi Tempij”. Ibid., 4.3.
8 “…& per cavarne molte nobili e varie inventioni”. Ibid., 4.4.
9 Giorgio Vasari, Le vite de’ più eccellenti pitto, scultori e architettori, Novara: Istituto Geografico de Agostini, 1967. (This is reprint of the Giuntina 1568 edition.)
10 “da un generoso sdegno che tanta virtù fusse stata per tanto tempo et ancora restassi sepolta” Ibid., vol. 1, p.28 in the Novara edition.
11 “uno spone che ciascun seguiti, d’operare, eccellentemente e d’avanzarsi sempre di bene in meglio…Et I giovani che vengono diedo (quando l’utile non avessi tanta forza) s’accenderanno per aventura dall’esempio a divenire eccellenti.” Ibid., vol. 1, p.28 in the Novara edition. (Otherwise this is the section “A gli artefici del disegno”, placed at the beginning of the third volume of the Giuntina edition.)
12 Ibid., vol. 1, p. 52.1.1. of the Giuntina.
16 See Mitrović, “Intellectual History”.
18 The analysis of the impact of Palladio’s archaeological surveys on his formulation of the canonical Corinthian order is largely based on Branko Mitrović, “Palladio’s Canonical Corinthian Entablature and the Archaeological Surveys in the Fourth Book of I quattro libri dell’architettura”, Architectural History, 45(2002), 113-127.
19 This difficulty has been summarized in articles by Elwin C. Robison, “Structural Implications in Palladio's Use of Harmonic proportions” Annali del Centro Internazionale di studi dell’architettura, 1999, pp. 175-183, see especially p. 178 and Stephen R. Wassell, “Palladio’s Piombino Dese Piede” in Branko

20 The entablature from the temple of Castor and Pollux in Naples was destroyed in an earthquake in 1688. 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 sixteenth century. (Cresy and Taylor, The architectural Antiquites, p. 50). Whereas Serlio states that the section of this entablature above the architrave was already missing in his time (Serlio, Tutte l’opere, Book 3, 88v.), both Palladio and Labacco show this entablature in its full height, suggesting that all its parts were well preserved. (Labacco, Libro, p. 12, Palladio, I quattro libri, 4/8).

21 Pierre Gros observes 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.) In the meantime, 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 Nîmes, (Paris 1979). Tobelmann’s surveys include only two entablatures from the list in footnote 7, those from the Forum of Nerva (4/16) and Basilica of Maxentius (4/3). One may also use the 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.

22 See Mitrovic, “Palladio’s Corinthian”.

23 Vitruvius, De architectura, 4.1.2.

24 Jacopo Barozzi da Vignola….

25 Mitrovic, “Palladio’s Corinthian”.

26 See Mitrovic, “Palladio’s Corinthian”.

27 (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).

28 These are the Temple of Castor and Pollux in Rome (2.52D), the Temple of Serapis on the Quirinal (2.43D), the Maison Carée (2.57D) and the Temple in Pola (2.37D.)