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A Cautious Pragmatic Amendment to the Vitruvian Paradigm

ABSTRACT: Vitruvius's convenient *firmitas, utilitas, venustas* triad has been employed since the Renaissance to encompass the goals of architecture. But these terms can be questioned: they were primarily useful to Vitruvius in ordering his book and do not encompass all that was at issue for him and remains so for us today. Architecture is a discipline that displays tacit knowledge, where best practice can only be shown, not described, accounting for the clumsiness of expression for which Vitruvius is often criticised. I argue that the conventional triad undervalues location or context and, whereas *firmitas* and *utilitas* (suitably expanded) may be measurable, and styles and even meanings can be discussed, *venustas*—understood as a demand for beauty in the abstract—is more like an ethical requirement. We cannot blame Vitruvius for the fact that his attractive tri-partite framework was adopted by Alberti and continues to be used. But we can be permitted to think again whether there might be a more appropriate set of terms that takes better account of the full complexity of the practice and interpretation of architecture.

KEYWORDS: architecture, Vitruvius, philosophy, beauty, ethics

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Introduction

I believe I was invited to contribute this paper because in September 2021 I wrote to the distinguished Guest Editor of this issue, after reading his eloquent little book *A Philosopher Looks at Architecture*.[1] Having said how much I enjoyed it, I boldly offered two criticisms: his choice of a particular architectural example (Herzog & de Meuron's Elbe Philharmonic Hall) and, more fundamentally, his use throughout of the Vitruvian triad, variously described in his book as 'a paradigm', as perennial 'ideals', 'categories' or 'general norms': *firmitas*, *utilitas* and *venustas*. I am grateful for this opportunity to expand on the grounds for my suspicion, which I have held for many years, that this convenient triad is a useful but over-simplified interpretation of the lessons Vitruvius attempted to impart, with sometimes dangerous repercussions.[2]

I begin by outlining what I consider to be limitations to the common use of the triad, arguing that it cannot be comprehensive because matters that Vitruvius himself believed to be important are downplayed or even suppressed. I then consider alternative readings of his text as a whole by historians and classicists to try to better understand Vitruvius's temperament and hence interpret his intentions. I conclude by arguing that there are perennial lessons embedded in his *De Architectura*, but that they cannot be summarised adequately in the conventional triad.[3] We can consider whether there might be a more appropriate set of terms—possibly more than three—that takes better account of the full complexity of the practice and interpretation of architecture.

1. Limitations of the Triadic Paradigm

The "call for papers" of the present issue notes that *firmitas, utilitas* and *venustas* "can be loosely translated as good construction, functionality

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[1] P. Guyer, *A Philosopher Looks at Architecture*, Cambridge University Press, Cambridge, 2021.

[2] I write as someone who was engaged in practice for fifty years at the same time as teaching architects, predominantly in the studio, writing critical articles and, only more recently, books that seek to bridge questions of architectural practice, its history and what can be said about it more theoretically.

[3] Of the numerous translations in recent decades, except where noted, I refer to Vitruvius, *On Architecture*, Penguin Books, London, 2009, referring to numbered books, chapters and paragraphs. I have had the benefit of discussions with Serafina Cuomo, Jane Heal, Christian Illies, Marco Iuliano and Julian Roberts, and helpful comments from James Clackson, Rebecca Flemming and Thorsten Fögen.

and aesthetic appeal" and goes so far as to suggest that Vitruvius saw them, and we can still understand them as "the three chief goals or values in architecture." Some years ago, Tom Spector described the attraction of the three terms very cogently:

> One Vitruvian assertion [...] has exercised a tenacious hold on architectural imagination. This is the statement, delivered almost as an afterthought in a discussion of building types, that all architecture "must be built with due reference to durability, convenience and beauty," in Latin *firmitas, utilitas* and *venustas*. All subsequent theories of architecture's basic values have been obliged to grapple with the simple wisdom of Vitruvius' statement.[4]

We are invited to consider whether there might be a broader conception of aesthetic appeal, referencing the scepticism of Nelson Goodman, Arthur Danto and Alexander Nehamas that there are canons of beauty to which we can aspire. The scope of this brief paper is somewhat wider: beauty, whether somehow embedded in architectural form, or relying on the perceptions of whoever may be experiencing beautiful structures and environments, has engendered a long-standing debate that has no easy resolution and the topic will undoubtedly continue to exercise philosophers. Although in trying to interpret his intentions we can surmise where Vitruvius himself stood on this issue, I suggest that is secondary to his ambition to describe the discipline in all its complexity. *Venustas*—which can be taken as an aesthetic question, or demand—was clearly important to Vitruvius and will remain so for us, but it is uncertain that it is a category in the same sense as *firmitas* and *utilitas*. In brief, in this paper, I shall be examining the "simple wisdom" of the three terms.

If you are trying to order your thoughts, or to structure the arrangement of a book, a group of three principles is certainly convenient. One might argue that it is 'natural': things have beginnings, middles and ends, or we tend to understand them as having so.[5] Debates (whether we refer to medieval scholasticism or Hegelian dialectic) tend to involve propositions, refutations and resolutions; columns have bases (where they hit the ground), shafts and capitals (celebrated or suppressed) where they

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[4] T. Spector, *The Ethical Architect: The Dilemma of Contemporary Practice*, Princeton Architectural Press, New York, 2001, p. 35.

[5] For an interesting brief essay along these lines, see A. Reid, *The Power of Three*, privately published, 2024.

encounter a beam. You might reduce Vitruvius's triad to the two "goals or values" of *firmitas* and *utilitas*: that any cultural artefact will involve first its fabrication and secondly its employment and expect that both aspects will be well fulfilled in the best examples. But in the numerous dialogues that Plato records (or purports to record) Socrates suggests that an overarching expectation of fabricators (of shoes, for instance) or performers (on the flute) is that they should make decent shoes or pleasing music; in the same way, we expect that well-trained pilots will steer us safely and believe these are skills that can be taught.[6] Yet as soon as we ask that an artefact should be well-made and be effective in use, we tend to imply a value – hence the temptation to introduce a third term to resolve the issue, as it were. Insofar as it affects us, we could call it aesthetic. One might then say that architects have a duty to do their work well, which effectively means that their buildings ought to be beautiful.[7] Beauty in some sense will indeed be very important for architects—a natural part of their activity *a regola d'arte* (in a useful Italian phrase)—though perhaps it is in a rather different category to the other two terms.

Clearly, Vitruvius was aware of several more elaborate ways in which he could address the discipline and organise his text. He lists six "principles:" planning (right dimensions and correct orthography), harmony, modularity, appropriateness (*decor*, according to customary precedents and according to 'nature') and distribution before going on to remark that they could (or even should) should be viewed through the oft-quoted triad.[8] There may be a view that we should not revere Vitruvius's thinking:

> Architecture is of course a way of interpreting the world. But the world and its interpretations change. Vitruvius, sound though he may have been on military engineering, did not foresee Copernicus, tensile structures or information technology. To assert that his interpretations have ahistorical validity—as opposed to historical importance in the continuum of change—is at best irresponsible nostalgia.[9]

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[6] In the *Protagoras 324-327*, for instance: Plato, *Complete Works*, Hackett Publishing, Indianapolis/ Cambridge, 1997. In the earlier sections of the *Republic* a city without culture, designed to cater only for the most basic needs, is a "city of pigs:" *Republic 369a-372d* in *ibid*.

[7] Christian Illies and I have argued along these lines: C. Illies, N. Ray, "The Ethical Obligation to Beauty in the Design of Buildings" in J. van den Hoven, S. Miller, T. Pogge (eds.), *Designing in Ethics*, Cambridge University Press, Cambridge, pp. 211–228.

[8] The six principles are described at Vitr. I, 2, 1–8; the triad occurs at Book I, 3, 2.

[9] J. Melvin, "Making Too Much of Vitruvius," *Architects' Journal*, 6 November 1997, p. 60.

But I accept that reading Vitruvius' text is productive, taken as a whole, insofar as it represents a philosophical approach to the complexities of the discipline, which in some ways transcends the particularity of its time and place. Acknowledging, as we must, that Vitruvius' triad would apply to any artefact,[10] we might then ask whether there are goals that are specific to architecture and ought therefore to qualify in an enlarged list: that is a question I have frequently raised with students. Below, I consider whether a modified set of categories could be assembled that were important to Vitruvius and would remain so for us today, first rehearsing briefly the ways in which architectural practice and our understanding of it have changed since Vitruvius's time, and noting how, to remain coherent, the scope of his triad has necessarily expanded to absorb them.

If we take *firmitas* to embrace technology as a whole, it is clear that the changes are profound. Under this category, in Book II Vitruvius is mostly concerned with structural stability and the properties of the materials employed. When, in Book V, he turns to baths, he does not elaborate on the technology involved in the underground heating system nor does he deal with drainage systems in detail: how architects provide for comfort maybe comes under the umbrella of *utilitas*. But in practice for more than a century, technical services occupy a much larger proportion of the budget than the structure does, at the time of construction and in operation during their (usually limited) lifetime. Services could not just run underground, as in Roman drains and at the baths, but would need vertical ducts. The American architect Louis Kahn understood this problem and was reluctant to allow mechanical services to dominate the coherent spaces he sought to create to house individuals or institutions. This involved giving them due attention and distinguishing formally between rooms that were served and spaces that did the serving. Le Corbusier had envied architects of earlier generations: "*pour Ledoux, c'etait facile, pas des tubes.*"[11] For twentieth-century architects, dealing with the 'means' and deciding how the structure and the services were expressed, or suppressed, became a critical issue. In his book *The Place of Houses*, Charles Moore had a chapter entitled "Including the Machines" and illustrated

[10] For clothing and even food, as Paul Guyer admits: P. Guyer, *A Philosopher Looks at Architecture*, pp. 8–9.

[11] Cited by the British critic Reyner Banham, who believed architects were ridiculously sentimental in being fixated by traditional "slogans" such as "Firmness, Commodity and Delight." See R. Banham, "A Home is Not a House," *Art in America*, 2, 1965, pp. 70–79.

four ways in plan of catering for them: you could form rooms around them, put the machines inside the rooms, or put them outside, or sandwich them between rooms; what you could not do was ignore them.[12] In the twenty-first century, architects have been wrestling with reducing dependence on mechanical services by eliminating air conditioning and returning to passive means of environmental control, but, as in the *Passivhaus* system, this will usually involve mechanical means discreetly incorporated to assist in ensuring sufficient air changes. Larger buildings may require very generous ducts to encourage ventilation stack effects. In the light of the far-reaching consequences on the environment of architects' servicing strategies, our definition of the technics involved in building certainly needs to expand.

One of the arguments for Modernism was that traditional ways of building no longer served contemporary needs (the Crystal Palace which had to be constructed very quickly as an exhibition space is a much-cited example). Another was that there were entirely new uses that were difficult to incorporate into traditional forms, so that meeting the requirements of contemporary *utilitas* would involve a complete reassessment of the nature of architecture. Though that might have been exaggerated, what certainly had changed was an increased demand for flexibility—thereby hindering the fulfilment of Alberti's often-quoted ideal that the most beautiful buildings would be those to which "nothing may be added, taken away or altered but for the worse."[13] Architects are less often required to create spaces for stable institutions, such as churches, law courts and civic centres because a space that was readily adaptable to several different needs would be more useful. Moreover, buildings which were no longer suitable for their original purpose might be converted to serve a completely different one, as the Bankside power station in London was to house "Tate Modern." The problem this raises in both cases, however, is one of expression. It is not a question of just seeking the most efficient volume of spatial enclosure or assessing whether new needs can be fitted into inherited fabric but deciding how 'universal space', or a radically new use in an existing building should represent itself.

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[12] C. Moore, G. Allen, D. Lyndon, *The Place of Houses*, Holt Rinehart and Winston, New York, 1974, pp. 176–185.

[13] L. B. Alberti, *On the Art of Building in Ten Books*, MIT Press, Cambridge, Mass./London, 1988, Book VI, 2, p. 156. Alberti does preface this frequently quoted remark on beauty with the caution that it is a quality that "the mind could perhaps visualize more clearly than my words could explain."

Maybe such a concern can come under the aegis of *venustas*; as Guyer points out, unlike Alberti and those with a rationalist cast of mind, Vitruvius distinguished content or 'meaning' from form so there are two issues at stake.[14] The first is how *venustas* should relate to the 'manner' or 'style' of a building. In Vitruvius's time there was clearly an authoritative tradition to which an architect's building could refer—not by plagiarism as he makes clear, but by inventive interpretation, within the canon established in Greece and interpreted or adapted in Italy.[15] But in post-enlightenment Europe, when many areas of the globe had been explored and recorded, the authority of a single canon was clearly called into question. The manner an architect chose to adopt could assist in summoning up an appropriate response: to employ the Burkean distinctions between the 'sublime' and the 'beautiful', this would involve deciding whether to evoke feelings of awe or horror, as opposed to presenting an object for dispassionate contemplation. But the purpose might also be referential—a manner that suggested stylistic associations to those experiencing the architecture. Within any given style, to use conventional metaphors, we might distinguish those who used it eloquently – played with it gracefully or showed admirable taste – from those who were less skilled or produced 'vulgar' compositions, discordant notes (whether intentionally or not) and buildings that left one's appetite unsatisfied.[16] There is much more to be said about 'beauty', to which many contributors to this issue will no doubt address themselves. Where architecture is concerned it is embedded in aspects of use, construction, style and meaning and becomes difficult to disentangle. For the moment, we can acknowledge that *firmitas* can be subjected to measurement (strength of materials, for instance) even in a wider definition that includes other aspects of technology (acoustic resonance, thermal performance and so on) and *utilitas* can be quantified in some respects (net usable space compared to gross

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[14] P. Guyer, *A Philosopher Looks at Architecture*, p. 43.

[15] His remarks on plagiarism appear at Vitruvius, *On Architecture*, Book VII, Preface, pp. Iii–x. He is referring to literature but goes on, in XI and XII, to mention the design of stage scenery and it is clear he would apply similar criteria to the design of buildings. Architects need modesty to learn from the best precedents, but also inventiveness in their interpretation. Many of his examples were in Italy, but outside Rome, and part of his purpose seems to be to alert Roman readers to practice elsewhere.

[16] It seems impossible to describe architecture without recourse to metaphor. Linguistic metaphors are most common, though clearly unsatisfactory in many respects; musical and culinary metaphors are no better. See G. Lakoff, M. Johnson, *Metaphors We Live By*, University of Chicago Press, Chicago, 2003.

constructed floor area is a common calculation), but it is unlikely that we will agree on common measurements of *venustas*. The theory that certain proportional systems, besides their usefulness in providing a discipline to designers and sometimes manufacturers, will result in beauty remains hotly disputed.

I do not think that it is possible or particularly productive to try and eliminate the truism that artefacts will be judged amongst other criteria in the light of their technical robustness, performance, or 'beauty'. The question remains: in the light of Vitruvius's text, taken as a whole, are those three paradigms sufficient as a framework for his purposes or would it be productive, in the search for a ready mnemonic as to how to approach the discipline, to supplement or amend them in any way? I turn now to the text itself and ask whether recent interpretations can assist us. I contrast two broad views and proceed to what I believe to be a more rounded understanding that has yet to be articulated satisfactorily.

2. Contrasted Readings of Vitruvius and His Text

It is not only, or even primarily, architects that are interested in Vitruvius's *De Architectura*. Historians of ancient science and classicists more generally have also been hard at work. I refer below to two examples as an illustration of alternative approaches. The first text, by Elizabeth Rawson, a distinguished scholar of Roman intellectual history, is representative of the interpretation to which most architects probably adhered in the second half of the twentieth century. Vitruvius himself

> was born perhaps quite early in the first century B.C., was a son of free parents and expressed gratitude to them for his education, which did not however include much literary or historical study, as his apologies for possible contraventions of the laws of *grammatica*, and his clumsy style, half-colloquial, half-technical, show.[17]

She goes on to explain that "Vitruvius was apologetic about his style, which might not always follow the norms of the art of grammar (in fact his style is unclassical, his syntax awkward and his genders uncertain)."[18] She correctly identifies Vitruvius's valiant attempts to analyse—and

[17] E. Rawson, *Intellectual Life in the Late Roman Republic*, Gerald Duckworth & Co. Ltd., London,1985, p. 86.
[18] *Ibid*., p.130.

systematise—the complexities of architectural practice and its possible theoretical underpinnings and puts his failure to do so adequately down to his awkward grasp of prose as well as of the mathematical principles that underlie his examples: she cites his attempts to divide a circle into 16 segments, his sketchy understanding of Pythagoras, Eratosthenes and Archytas, and the fact that he was undecided on the value of π.[19] Stylistically his preference is old-fashioned, probably reflecting tastes in Rome at the time, but compared to his near-contemporary Varro, his "approach is rigid and unhistorical."[20] She claims his "chief claim to originality may be in his systematic plan,"[21] which is of course ordered by his paradigmatic triad.

Such judgments were reflected in architectural commentaries, which echoed Alberti's view, in his own ten books, of his illustrious but (in his view) inadequate ancient predecessor. He is grateful to have read him, along with Pliny and other writers, partly because his work is an accident of survival. But in the beginning of his sixth book he claims Vitruvius's

> writings have become so corrupted by time that there are many omissions and many shortcomings. What he handed down was in any case not refined and his speech such that the Latins might think that he wanted to appear a Greek, while the Greeks would think that he babbled Latin. However his very text is evidence that he wrote neither Latin nor Greek, so that as far as we are concerned he might just as well not have written at all, rather than write something that we cannot understand.[22]

Clearly, Alberti seeks to supersede the clumsy Vitruvius with his more educated text. The late Joseph Rykwert explained in the introduction to his edition of Alberti's *De re aedificatoria*, from which the translation above is taken, that the essential difference between the two is that Vitruvius "tells you how the buildings that you may admire as you read him *were* built, while Alberti is prescribing how the buildings of the future *are to be* built."[23] But this oversimplifies: it is clear that the advice

[19] *Ibid*., pp.157–160.
[20] *Ibid*., p.189.
[21] *Ibid*., p.140.
[22] L. B. Alberti, *On the Art of Building in Ten Books*, p. 154.
[23] *Ibid*., p. x, Rykwert's emphasis. For a more rounded reading of Alberti, see M. Jarzombek, *On Leon Battista Alberti: His Literary and Aesthetic Theories*, MIT Press, Cambridge, Mass./London,1990.

Vitruvius conveys, though based on past precedents, is partly intended to guide architects and their patrons in best practice. Viewing Vitruvius as Alberti did, which is often the case, does his thinking—or let us say his ambition—a disservice. Introducing her 1999 translation of Vitruvius, Ingrid Rowland similarly explained that he was an important writer but not a good one:

> It is difficult to translate him without at the same time trying to improve his sometimes clumsy phrasing, his endless sentences, his abrupt digressions, and his congenital failure to use one word when he can use two, especially when they sound alike ("evade and avoid" is a typical example).[24]

But more recent scholars disagree with this and similar judgments. In the later 1980s Italian scholars such as Elisa Romano and the Frenchman Pierre Gros argued that Vitruvius was a more sophisticated figure than was generally claimed.[25] By the 1990s Anglophone interpretations had caught up. Marden Nichols' *Author and Audience in Vitruvius' De architectura* illustrates this different approach. Vitruvius "never intended to provide an accurate and objective view of the contemporary built environment" but "pitched a treatise on architecture [...] to his elite Roman readers, most of whom were undoubtedly laymen."[26] He aimed to "entertain and engage rather than to purely instruct" and his book is a self-conscious contribution to literary culture; as readers we need to see "apparent contradictions, factual blunders and other peculiarities" in this light. Nichols goes so far as to compare Vitruvius to the Roman poet Horace. They both refer to "a rich array" of philosophical positions: "at one pole, enthusiasts of a corrupted Stoicism and, at the other devotees of Epicureanism and the Cyreniac philosopher Aristippus" – the pupil of Socrates whom Vitruvius cites in the preface to Book VI, where he

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[24] Vitruvius, *Ten Books on Architecture,* Cambridge University Press, Cambridge, 1999, p. xiii.

[25] E. Romano, *La capanna e il tempio: Vitruvio o dell' architettura*, Palumbo, Palermo, 1987; P. Gros, *"L'auctoritas chez Vitruve": contribution à l'étude de la sémantique des ordres dans le De architectura"* in H. Geertman and J. de Jong (eds.), *Munus non Ingratum*: *Proceedings of the International Symposium on Vitruvius* De Architectura *and the Hellenistic and Republican architecture*, Bulletin Antieke Beschaving, Leiden, 1989, pp. 126–133, both cited in M.P. Nichols, *Author and Audience in Vitruvius' De architectura,* Cambridge University Press, Cambridge, 2017.

[26] *Ibid*., p. 3.

argues that "education should be valued above wealth."[27] Nichols spends much of her book discussing Vitruvius' treatment of the house and its decoration – questions of its propriety (too 'magnificent' or 'elegant') as well as how to ensure the longevity of vermilion paints. Eventually, the technical issues might be of some interest to archaeologists, she claims, but what Vitruvius' text illustrates most clearly are the ethical complexities involved for Stoics such as Vitruvius himself or Pliny who "criticised luxury building as contrary to *natura*."

3. Vitruvius – A "Reflective Practitioner"

A reader of Vitruvius who is also an architect (such as myself) is likely to be unpersuaded by either of these interpretations, informed though they are by admirable close reading and scholarship, as to the principal thrust of Vitruvius's influential text. The most important characteristic of this ancient author is that he is first and foremost an *architect*. Architects have to be generalists: they learn by personal experience and by leaning on the experience of others and examining their works.[28] There are some things they need to know. Much else they need to find out: what to watch out for, from whom to take further advice and which texts and conversations might be informative and maybe inspiring. Vitruvius is not an engineer writing a handbook to explain in detail how to construct cities, timepieces, fortifications or siege engines, though his text refers all these artefacts.[29] Nor is he writing primarily to situate himself in a philosophical or literary discourse, though of course he writes within the discursive context of his time. He is a self-reflective architect, unlike many practitioners, and that is one of the reasons he wants to record the discipline in writing, for himself, for his contemporary readers (whether architects or prospective patrons) and for posterity.[30] He is equally intrigued by the conversations he has had with ballistics experts, his reading of myths

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[27] M. P. Nichols, *Author and Audience in Vitruvius' De architectura,* p. 57.

[28] See, for instance, Vitr. X, 11, 2.

[29] Hence his disclaimer in relation to water organs, for instance, which is clearly a matter of specialist knowledge: *Ibid*., Book X, 8, 6.

[30] As Thorsten Fögen explained, when writing to me to agree that "it is an oversimplification to say that Vitruvius 'identified *firmitas, utilitas* and *venustas* […] as the three chief goals or values in architecture': "He is not just an architect—at least not in the modern sense. He makes it clear that his compendium has a socio-cultural, ethical and political agenda" (e-mail 12 December 2024). Thereby Fögen implies that most architects do not consider, discuss and write about such issues. But they should, and self-reflective architects, like Vitruvius, certainly do.

and poetry,[31] and his discussions with Gaius Julius.[32] Sometimes he has to make difficult decisions as to whether to follow his poetic hunch or concur with what is probably a more accurate technical explanation. He may have been aware of Aristarchus' heliocentric understanding of the universe, but common experience and everyday turns of phrase (seeing the sun "rise" and "set") would lead him to prefer Boesus' explanation of the phases of the moon in any case.[33]

"Reflective practitioner" is a term that Donald Schön made popular.[34] Following Michael Polanyi and others, he saw various practices, including architecture as form of "knowing in action" which embraces tacit knowledge, and this is accompanied by "reflecting in action." To illustrate the former, he used the example of children, faced with the task of balancing differentially weighted but similarly sized blocks, being forced to abandon one theory and adopt a different one, making "on-the-spot hypotheses" to account for the behaviour they observed. To argue for the latter, he pointed out that practitioners develop a "repertoire of expectations, images and techniques" in the face of professional problems.[35] In an intriguing paper of 2016, Serafina Cuomo also saw Vitruvius as someone engaged in the difficult problem of conveying "tacit knowledge," the notion to which Schön refers that Michael Polanyi had described in 1967.[36] Architects trying to teach design in the last quarter of the twentieth century read Polanyi because they needed to find a way of countering a reductive 'scientistic' attitude to their discipline. Cuomo cites Polanyi's example, which was frequently quoted, of teaching children how to ride a bicycle. You cannot explain how to do this by writing a performance specification and set of instructions; you have to show them how to do it and eventually they learn by experience the complex process of balancing, steering, accelerating and braking. Cuomo writes: "it may be simply—objectively, cognitively—impossible, even today, let alone in the first century C.E., to produce a text that will give you perfect algorithmic

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[31] Ennius or Accius, for instance: Vitr. IX, Preface, 16.
[32] *Ibid*., VIII, 3, 25.
[33] *Ibid*., IX, 2, 1-4.
[34] D. Schön, *The Reflective Practitioner: How Professionals Think in Action*, Basic Books, New York, 1983.
[35] *Ibid*., p. 60.
[36] S. Cuomo, "Tacit Knowledge in Vitruvius" in *Arethusa*, 49, 2, 2016, pp.125–143. For a comprehensive description of Polanyi's position see M. Polanyi, H. Prosch, *Meaning*, University of Chicago Press, Chicago, 1975. Cuomo points out that others have refined and expanded Polanyi's work more recently.

instructions for building anything."[37] So, Vitruvius had no real need to apologise that his explanations are incomplete or that he has to resort to diagrams to show what he means. He has provided his reader with more than enough to ensure he would not be left floundering if he had to judge and evaluate one of these subjects and techniques.[38]

A contemporary "reflective practitioner" in whose work I am interested is the Spanish architect Rafael Moneo.[39] In 2014 he delivered the Annual Architecture Lecture at London's Royal Academy.[40] The many architects who attended expected him to describe his own buildings but he used the occasion to meditate on the education of architects: to be able to convey the "meanings" of the society they serve requires historical knowledge, along with a respect for the purposes of the buildings, their materials and technology. But Vitruvius turns out to be a more fruitful and inclusive teacher than the neo-Platonic Alberti, who, knowledgeable though he was, did not illustrate his treatise, because "he made the distinction between one who had the abstract idea of the building and one who had mastered the techniques of building."[41] In *On the Art of Building* Alberti tried to "say" what perhaps can only be "shown," though fortunately in his case we have several of his masterpieces we can visit and therefore "see what he meant."[42]

4. Devaluations of Context and Meaning

I mentioned above that I have frequently asked students to identify goals that are specific to architecture (rather than applying to any fabricated artefact) and ought therefore to be considered in any conveniently shortened list than the several more extended categories Vitruvius mentions.

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[37] S. Cuomo, "Tacit Knowledge in Vitruvius," p.127.

[38] Vitr. I, 1, 16.

[39] For an account of Moneo's theory and practice, see F. Gonzales de Canales, N. Ray, *Rafael Moneo: Building, Teaching, Writing*, Yale University Press, London/New Haven, 2015.

[40] R. Moneo, "Annual Architecture Lecture," in *Royal Academy Journal*, London 2017.

[41] Joseph Rykwert, the translator of Alberti, was in the audience and might have been discomforted. But Moneo praised Alberti's stress on the importance of historical understanding. It is the *balance* of Vitruvius that impressed Moneo.

[42] Architects, myself included, have sometimes tried to relate Wittgenstein's distinction between 'saying' and 'showing' in his *Philosophical Investigations* to the practice of architecture (N. Ray, *Thinking Through Twentieth-Century Architecture*, Routledge, London, 2023, pp. 231–232). It may not be irrelevant that Wittgenstein refined his philosophical position after the completion of the house for his sister, where he had effectively taken over as architect from a pupil of Adolf Loos. He found architectural practice difficult, which is reassuring for architects.

Sometimes they remark that, except in the case of mobile homes (and even then their orientation on any particular site is relevant) the issue of context or location, in an urban or rural setting, is particular to architecture. Vitruvius would surely have agreed. Following his chapters on education, six "principles" and the three "divisions" of architecture (buildings, sundials and machines) he dives straight into the choice of sites, beginning with the local climate and the best orientation to take advantage of it.[43] Then, having described the architectural elements required to assemble buildings, and their origins, he looks at building types and here again the first requirement is to understand the context, whether for basilicas, theatres, baths, warehouses or dwellings.[44] Urging patrons or designers to "consult the genius of the place" was a literary trope from the eighteenth century onwards.[45] In the mid-twentieth century, architects started to describe 'townscape' on the analogy of landscape;[46] twenty-five years later, influential historians and critics rediscovered the primacy of regional context.[47] The first book by the Norwegian Christian Norberg-Schulz was effectively a reinterpretation of Alberti's work with the benefit of Gestalt psychological understandings and translated the Vitruvian triad into 'technics', 'function', and 'form'. He wrote that it would be "inexpedient to introduce the relationship to the environment as a new basic category."[48] Having read some of Heidegger's post-war essays, however, his emphasis changed: each chapter (dealing with discreet "epochs") of his *Meaning in Western Architecture* begins with a section entitled "Landscape and Settlement."[49] Schulz's title suggests there is a cultural context to architecture that could be discussed as "meaning,"

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[43] Vitr. I, 4–7.

[44] *Ibid*., V, 1, 4; V, 3, 1; V, 6I, 7; V, 10, 1; V, 11, 1.

[45] This well-worn phrase was Alexander Pope's, in his *Epistle IV to Richard, Lord Burlington*; its ironic intention is mostly unnoticed.

[46] G. Cullen, *Townscape*, Reinhold Publishing Corporation, New York, 1961.

[47] The term "critical regionalism" first emerged in an article by A. Tzonis and L. Lefaivre, "The Grid and the Pathway: An Introduction to the Work of Dimitris and Susana Antonakakis," *Architecture in Greece*, 15, 1981, p. 178. The most influential essay was K. Frampton, "Towards a Critical Regionalism: Six Points for an Architecture of Resistance" reprinted in H. Foster (ed.), *The Anti-Aesthetic: Essays on Postmodern Culture,* Bay Press, Port Townsend, Mass., 1983, pp. 16–30.

[48] C. Norberg-Schulz, *Intentions in Architecture*, Studio Vista, London,1966, p.103.

[49] C. Norberg-Schulz, *Meaning in Western Architecture*, Allen & Unwin, London, 1975, p.103. See also: C. Norberg-Schulz *Genius Loci: Towards a Phenomenology of Architecture*, Rizzoli, New York, 1980. I once asked Schulz whether he had changed his position, but he claimed (unconvincingly) that he was consistent: the earlier *Intentions* had laid the foundations for his later work.

which the architect would also consult. Architects' work necessarily contributes to illustrating the meanings of the societies they serve, in two broad ways: by an explicit iconography or by a less easily defined iconology—meanings which designers may or may not have been aware of but which those that experience their buildings discern, or claim to discern.[50]

One way to think about how Vitruvius might have understood meanings might be to consider his basilica at Fano, a building we are unable to experience ourselves unfortunately.[51] Vitruvius could have been involved in the siting of the building; he certainly would have studied the soil conditions and taken account of its orientation. Its general arrangement was inventive, compared to conventional basilicas. Though the building might have been used for relatively mundane purposes, such as a meeting house, perhaps it would also have served as a setting for particular rituals. People attending a meeting would no doubt admire its proportions and general disposition. They would experience its acoustic, see how light fell upon its surfaces and textures, perhaps be aware of how breezes wafted through the spaces—in other words, appreciate its atmosphere phenomenologically[52]. But, as participants in a ritual event, they might also have had other experiences (enjoyed the scents of votive offerings, for example) and felt the way in which the building offered itself through its very fabric as an embodiment of the deity to which it was dedicated—perhaps Fortuna, since Fano was known as Fanum Fortunae, or perhaps to Augustus, the Emperor to whom Vitruvius appeals in his text. He chose to employ the Corinthian order, which would be appropriate both to a female deity and to celebrate the magnificence of the Emperor. The meanings the building thereby conveyed would not seem to be adequately embraced in the term "beauty."

Critics of twentieth-century modernism were critical of the way in which these two questions—"place" and "meaning"—had been

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[50] I follow the distinction that Erwin Panofsky drew between these two terms: E. Panofsky, *Studies in Iconology*, Routledge, London, 2019. Others have used them somewhat differently.

[51] It is the only significant building Vitruvius claims to have designed. There have been numerous attempts to make reconstructions of its plan and section based on his descriptions, from the Renaissance onwards.

[52] The classic twentieth-century text on the multiple ways in which architecture is apprehended is S. Rasmussen, *Experiencing Architecture*, MIT Press, Cambridge, Mass., 1964. For later phenomenological descriptions, leaning on Heidegger and Merleau-Ponty, see, for instance, J. Pallasmaa, *The Eyes of the Skin: Architecture and the Senses*, John Wiley, New York, 2011.

forgotten as important issues that architects should address. I remember well the architectural critic of the *Financial Times*, Colin Amery, musing on what future generations would make of two recently completed buildings in London: the office building for Lloyds, by Richard Rogers, and a pumping station by John Outram. The former, he said, looked like an oil rig; the later seemed to be modelled on a temple from some earlier era. His suggestion as to the meanings the buildings conveyed referred to one of Vitruvius's important principles: *decor*, or "propriety."[53] It was inappropriate of the architects to summon up those associations. The way they were suggested was undoubtedly aided by the style or manner of the buildings' designs. But 'manner' can be distinguished from 'meaning,' as Vitruvius does in talking about meanings conveyed by using orders with the appropriate stylistic precedents from meanings that are 'customary' when buildings are suitably scaled.[54] The stylistic precedents here were inappropriate, but Lloyds, though it happens to be dressed in a high-tech style, is suitably grand and the little pumping station is modest and correctly scaled to its context. A confusion between meaning and manner may also help to explain the vacuousness of much post-modern architecture.[55] In their efforts to recover meanings that had become lost (the "existential grounding," some might say) architects resorted to the importation of stylistic motifs, sometimes with serious intent, sometimes ironically, which usually resulted in caricature.[56]

Anthropologists have always seen culture as a crucial driver of architectural form—perhaps the critical one. In his little book from the 1960's *House Form and Culture,* the cultural anthropologist Amos Rapoport set out the context for his subsequent writing and research, and summarised his thesis: the creation of house forms, rather than being determined, as some would claim, by climate, or the available technologies, or constraints of economy or topography, is primarily a socio-cultural question, which would include the political culture within which architects design.[57] Those other issues are important, but for him they are modifiers.

[53] Vitr. I, 1, 6–7.

[54] Vitr. I, 2, 5–7.

[55] The complaint that Gropius had omitted the separate nature of *venustas*, by pretending that *firmitas* + *utilitas* would automatically create it, maintains the problematic adequacy of the threesome. See R. Venturi, D Scott Brown, S. Izenour, *Learning from Las Vegas: The Forgotten Symbolism of Architectural Form*, MIT Press, Cambridge, Mass., 1977.

[56] I enlarge on this suggestion with several examples in N. Ray, *Thinking Through Twentieth-Century Architecture*, Routledge, London, 2023, Chapter 8, "Irony and Inclusiveness."

[57] A. Rapoport, *House Form and Culture*, Prentice Hall, Englewood Cliffs, NJ, 1969.

He regarded architects as fixated on abstract formal values—they needed to take a more rounded view. They used to do so: W.R. Lethaby, the architect founder of the London School of Arts and Crafts in 1896, had set out the importance of architectural meanings in 1891.[58] Arguably the removal of such concerns in modernism was far more damaging to the discipline than the prohibition of styles that imitated past precedent. It took until the late 1950s for architects to recover the iconology embedded in such everyday artefacts as chairs, and hence buildings.[59] They began to reconstruct a vocabulary to articulate the problems of meaning with which they had been wrestling: what would a "democratic" architecture look like, for instance?

5. Vitruvius's Temperament and Pragmatism

I have suggested that issues of context and meaning have been shoehorned into the tripartite Vitruvian paradigm but that, as a reflective architect whose position is revealed in his book when taken as a whole, Vitruvius himself acknowledges the complexity of the subject.[60] In 1907, William James, one of the founders of 'Pragmatism', suggested that philosophy is "the most sublime and the most trivial of human supports" and its history "is to a great extent that of a certain clash of human temperaments"—instancing Plato, Locke, Hegel and Spencer—as it is in writers or artists and politicians. We all try to balance rationalism (monistic, starting from "wholes and universals") and empiricism (starting from the parts) according to our temperaments.[61] Vitruvius' temperament tends towards the empirical: he builds on his experience, as an architect, and as a reader of numerous texts, to construct a theory to explain the subject[62].

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[58] W. R. Lethaby, *Architecture, Mysticism and Myth*, Percival & Co., London, 1892.

[59] See, for instance, essays reprinted in J. Rykwert, *The Necessity of Artifice,* Rizzoli, New York, 1982.

[60] The ambiguous character of Vitruvius's text is captured well by Rowland and Dewar: "The *Ten Books* may be read by some as a paean to order in architecture, by others as a paean to informed critical intelligence. The fundamental lessons of Vitruvius may in fact be rather simple: architecture is a very complex art and needs the control of rich tradition, but also must advance through innovative personal talent and intelligent application." M. Vitruvius, *Ten Books on Architecture*, Introduction, p. 18.

[61] W. James, *Pragmatism: A New Name for some Old Ways of Thinking,* Longmans Green, London, 1907, p. 6. James acknowledged (as do I) that it is futile to try and change people's approach at a fundamental, metaphysical, level—all that philosophy can do is point to the benefits and disadvantages of any given position.

[62] See what he says in relation to his explanations of ballistics, for example: Book X, 10, 2. My sceptical friend Julian Roberts is suspicious of all generalisations that do not arise

He will reach towards such abstractions such as beauty, but can only do this on the basis of his own experience. We know that he believed his Fano basilica to be successful in its proportions and general appearance, although he surely must have regretted the budgetary constraints that prevented him enriching the entablature with decorations as he would have wanted – how this speaks to the experience of every architect, where it is always impossible to achieve everything you seek to do, but you try to persuade yourself that it is better to have achieved the building in a somewhat less than ideal form than not to have built it at all.[63]

If architecture is by definition a "pragmatic" and useful discipline—doing what you can in the circumstances in which you find yourself—it is somewhat surprising that pragmatist philosophers have written so little about it. Philip Kitcher's recent book *What's the use of philosophy?* laments the specialisation of philosophy in the last half-century.[64] He's scathing about the "trolley-problem" and its variations, endlessly rehearsed in management training sessions, because the scenarios depicted are so unrealistic as to make quite vapid the moral dilemmas apparently illustrated.[65] He doubts the value of formal mathematicising methods, employing Bayesian methods or Booleian algebra to describe "crossing a road." There's some scepticism in other disciplines about the adoption of ancient wisdom.[66] But, for Kitcher, beyond immediate questions of application ("was this punishment just?") there are perennial problems ("what is justice?") so that reverting to the ancient philosophers remains relevant, but the retreat into an over-specialised language within

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from the particular: "Philosophical *a prioris* about how to build seem to me a bit futile. Philosophical reflections arising from particular buildings, or works of art, on the other hand, can well be fascinating."

[63] Vitr. V, 1, 6–10.

[64] P. Kitcher, *What's the Use of Philosophy?*, Oxford University Press, Oxford, 2023.

[65] His principal target was Derek Parfit (1942–2017).

[66] Just as we saw with Melvin's view that in architecture it can result in an "irresponsible nostalgia" (J. Melvin, "Making Too Much of Vitruvius," p. 60). In a paper that is widely cited by political philosophers, Quentin Skinner wrote: "[…] any attempt to justify the study of the subject in terms of the "perennial problems" and "universal truths" to be learned from the classic texts must amount to the purchase of justification at the expense of making the subject itself foolishly and needlessly naive. Any statement, as I have sought to show, is inescapably the embodiment of a particular intention, on a particular occasion, addressed to the solution of a particular problem, and thus specific to its situation in a way that it can only be naive to try to transcend." Q. Skinner, "Meaning and Understanding in the History of Ideas," *History and Theory*, 8 , 1, 1969, pp. 3–53. I am indebted to Melissa Lane for drawing my attention to this discussion: she is preparing a paper arguing the reverse for a forthcoming volume *Meaning and Understanding*.

the philosophical discipline is to be deplored. We had a conversation by e-mail in which I suggested that the nature of architectural practice was worth philosophical investigation from a pragmatist perspective, but our discussion is far from concluded.[67]

6. Conclusion: a Tentative Re-framing

If an abbreviated set of terms is required, to order a text or to review architectural proposals, for what it is worth I have found five terms to be useful, in a pragmatic sense: *place, purpose, means, manner* and *meaning*.[68] Two of these terms ('purpose' and 'means') could be translations, suitably broadened, of *firmitas* and *utilitas* and I have made a case above for the inclusion of 'place' or context, and for 'meaning', but what has happened to *venustas*? Aspects of it may be incorporated in 'manner' or 'meaning'. But, as I suggested above, architects ought to be committed, in an ethical sense, to performing all of their task to the best level: the enhancement, rather than despoliation, of the context; the fulfilment of their briefs as well as they are able; the skilful exploitation of appropriate techniques to do so; the appropriate exercise of the 'vocabulary' (or 'repertoire') of forms they inherit and help to fashion anew; and (we may hope) the expression of those iconographic and deeper iconological meanings that only become evident in the most satisfying works. So far from de-valuing *venustas*, its omission from my tentative framework, gives it a wider ethical authority. In the same way we expect all who engage in professional work of any kind to behave ethically, balancing "obligations, rights, utility, perfectionist ends and private commitments."[69] Issues of professional behaviour certainly arise in Vitruvius's text: he is

[67] Kitcher wrote on 7 January 2023: "I agree completely with the idea that philosophy might be very useful in thinking about the environment (natural and built). I'm not sure how much work has been done on philosophy of architecture. It ought to be a serious subdiscipline, but I don't know of any card-carrying philosopher who has pursued it." I sent him a list of books and articles, to which he responded on 17 June 2024: "It looks as though there is much more work on philosophy of architecture than I had recognized." I have also corresponded with the Finnish pragmatist Sami Pihlström, but little, so far, has resulted.

[68] I began to use this framework in reviewing student work from about 1973 and first ventured these thoughts in print in a contribution to the "Winter Salon" in *RIBA Journal*, October 1977, p. 419. I structured monographs on Alvar Aalto and Rafael Moneo similarly: N. Ray, *Alvar Aalto*, Yale University Press, London and New Haven, 2005; F. Gonzales de Canales, N. Ray, *Rafael Moneo: Building, Teaching, Writing*, Yale University Press, London and New Haven, 2015.

[69] I borrow these terms from an essay by Thomas Nagel: T. Nagel, "The Fragmentation of Value" in *Mortal Questions*, Cambridge University Press, Cambridge, 1979, pp.128–141. I

critical of architects who claim to have skills they do not possess[70] and says they should resist the temptation to pander to their clients' "depraved tastes" by sticking to those conventions that have earned respect.[71] Ethical and aesthetic questions are endemic in relation to all architects' work,[72] but for architects and those trying to teach architects the discussion of ethical responsibility and of beauty as essences (whether embedded in the objects, or arising from its contemplation) has little meaning until it can be applied to the specifics of site, brief, material, style and expression in any given architectural example.

My 'pragmatic' view of Vitruvius's *De Architectura* is that it is both useful and important as the precious first record we have of an architect attempting to describe a complex practice. He may be more relevant than Alberti because he's more 'rounded', as Moneo claimed. But simply adopting the truism he used to order his thoughts in the ten books—that every human artefact should be fit for its purpose, decently fabricated and fashioned so that it pleases us—is an over-simplification that does a disservice both to his thinking and to any contemporary understanding of the nature of architecture. We cannot blame Vitruvius for the fact that his attractive tri-partite "afterthought" (in Spector's words) was adopted by Alberti and continues to be used. But we can be permitted to think again whether there might be a more appropriate set of terms that takes better account of the full complexity of the practice and interpretation of architecture.

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have applied his categories to an architectural case study in N. Ray (ed.), *Architecture and its Ethical Dilemmas*, Routledge, London, 2005, pp. 25–34.

[70] Vitr. V, Preface, 5–7.

[71] *Ibid.*, VII, 5, 3-4.

[72] "Beauty for whom?" is a reasonable question, for example. A quarter-mile long block of social housing can be "sublime" for visitors, but its qualities may be unappreciated by its inhabitants.

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