

ARCHITECTS, ARCHITECTURE AND THE CITY: SOME THEMES ON THE CONTINUITY OF CLASSICAL IDEAS RELATING TO THE LATIN MIDDLE AGES

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Introduction

In his 2004 book *Architecture in the Age of Divided Representation: The Question of Creativity in the Age of Production*, Dalibor Vesely argues that the study of optics—and the associated philosophies of light that emerged during the ‘twelfth-century renaissance’ in theology and philosophy¹—generated the primary conditions for the European ‘Renaissance’ in classical culture.² However, the emergence of these new ideas, he argues, also laid the foundations for the more explicit form of ‘divided representation’ that makes understanding this transition now, within our own culture, extremely challenging. His argument is not that the classical and modern worlds were completely distinct, but that over time, the focus shifted in such a way that understanding the transition brought about by this early study of optics is now hampered by a post-Enlightenment focus on form, rationality and the scientific method.³ Therefore, any suggestion that the re-emergence of classical architecture—and the classical ideal of the city—was primarily a revival of certain ‘forms’ is misguided and built on a misunderstanding of the ontological foundation of the western European tradition.

It is important to state that Vesely’s critique does not undermine all contemporary investigations conducted within this ‘modern’ system. Many contemporary accounts of the past from different disciplines (using different methodologies) have successfully traced themes defined within particular parameters and, as a result, presented useful insights. Nevertheless, such histories in relation to architecture are problematic. The difference lies in the fact that, because it is a participatory art, architecture is a part of a broader continuity, both in relation to the culture of the time in which it was created and in relation to the

duration of its own existence. Within the period in question, for example, architecture must be understood in relation to the ‘communicative’ or ‘poetic’ aspects of representation that were an essential part of the culture of antiquity and the Middle Ages. Without this, the architecture can only be understood as form, and meaning derived from a set of signs. In reality, festivals, rituals, agonistic rites and everyday experiences—as well as the material of the architecture itself—all contribute to the communicative aspect of the art, whether they are recognised by the analysis or not.

The distance separating the instrumental and the communicative understanding of architecture represents a wide gap in our contemporary culture... What we normally refer to as reality, believing it is something fixed and absolute, is always the result of our ability to experience, visualize, and articulate—in other words, to represent so as to participate in the world.⁴

Using Vesely’s idea that representation, particularly in relation to architecture, is best understood as a participatory act, this chapter aims to re-contextualise the continuity of ‘communicative’ or ‘poetic’ thought in relation to architectural discourse from antiquity to the renaissance of classical culture in the quattrocento, by tracing themes that were also evident in the mediaeval world. It will suggest that despite the relationship of Vitruvius to Leon Battista Alberti, who with “...Nicholas of Cusa and the formation of Renaissance perspective [presents] the first plausible anticipation of modernity,”⁵ this transition was underpinned by themes already articulated in the mediaeval world.

The Legacy of Vitruvius’s *De Architectura*

The spread of the classical tradition of architecture in the West was promulgated by the re-presentation of Vitruvius’s *De Architectura*⁶ in key treatises of the early fifteenth century.⁷ Additionally, these texts—notably by Alberti (1404-72), Serlio (1475-1554) and Palladio (1508-80)—were also influential in developing the role of the architect and the

discipline of architecture into forms that are still familiar to us now. However, although these treatises updated many of the themes and ideas presented in *De Architectura*, in order to make them relevant for their contemporary audiences, in the process they also perpetuated some prejudices that contributed to the division of culture discussed in the introduction. For example, it would appear that Vitruvius's description of the 'knowledge' necessary to be an architect is relatively comprehensive:

The architect should be equipped with knowledge (*scientia*) of many branches of study (*disciplinis*) and varied kinds of learning, for it is by his judgement that all work done by the other arts is put to the test. His endeavour is the child of practice (*fabrica*) and theory (*ratiocination*).⁸

His account of the city, however, and the actions of the 'architect' in relation to the city, are presented in a very technical (one could argue instrumental) manner. At no point does he address the symbolic aspects of architecture and the city that were clearly significant at the time.⁹ Even Vitruvius' description of the skills the architect should possess in order to practise are presented in rather a mundane fashion, concentrating on a list of activities rather than the way they should be utilised (ethically, for example):

He should be a man of letters, skilful with a pencil, instructed in geometry, know much history, have listened diligently to the philosophers, be acquainted with music, not ignorant of medicine, learned in the responses of the jurists, and be acquainted with the rational order of astronomy and the heavens.¹⁰

Equally, when he describes 'of what things architecture consists,' he does so without relating these 'things' to any symbolic ideas.¹¹ Even though he does not state categorically that symbolic ordering of the city is irrelevant or of lesser status than knowledge leading to its technical realisation, nevertheless, his selective coverage of the topic results in the possibility that architecture and the city could be seen as divided between technical and

symbolic acts. Was this his intention? Did he actively seek this division? To address these questions, his use of terminology needs to be investigated further.

Aside from the obvious significance in the broad scope of skills required by the architect (with the implication that the final building will, in some way, reflect these skills), Vitruvius uses various terms to describe different forms of knowledge.¹² For example, in book one, chapter one, he uses *scientia*¹³ to describe knowledge in relation to the practical arts—or at least a selection of arts that include a practical art where dexterity and skill also form part of the knowledge, such as in drawing or music.¹⁴ *Scientia* may not be the exact skill itself—i.e., the architect may not be a mason or carpenter, sculptor or musician, or even a doctor or astronomer—but he must have knowledge of all of these ‘practical’ fields in order to build buildings, towns and cities suitable for late republican or early imperial Roman society.

Similarly, Vitruvius’s use of the term *rationes* for ‘practical knowledge’ means that although he is apparently advocating something similar to Aristotle’s *phronesis*,¹⁵ again, for Vitruvius, actual engagement in an activity does not appear to be necessary. The result of such a differentiation—even though that may not have been his intention—is that ‘types’ of knowledge form into a hierarchy, with (in this case) *praxis* below knowledge of *praxis*.

It is clear that Vitruvius is making a distinction between forms of knowledge because elsewhere in the text he goes as far as to say that practitioners who rely on theories and scholarship alone (*ratiocinationibus et litteris*) without having ‘practical knowledge’ are only “follow[ing] the shadow and not reality.”¹⁶ Therefore, in order to begin to explore these differences, i.e., the interconnectedness but distinction between these forms of knowledge, Vitruvius’ use of the term *geometria* in chapter one will be examined.¹⁷

For Vitruvius, *geometria* (translated as ‘geometry’) is a form of science (*doctrinus*) associated with the Greek *logos opticos* comprising two distinct components: firstly, the skill

to reveal internal relationships of lines, curves and angles (more akin to the contemporary use of the term geometry); and secondly as a reference to the ‘harmony’ of the stars and musical ‘concord’ such as fourths and fifths, thus reflecting the ‘laws/discourse’ of music and vision in the perception of nature that comes from the Pythagorean tradition.¹⁸ Even though this double meaning is not often explicitly stated, for Vitruvius it is always present.¹⁹ Elsewhere in his treatise, although similar dialectical structures of meaning are implied in other activities—such as in his discourse on the “actual undertaking...by hand”—he clearly indicates that for him the practical skills, of which the architect must also have “a fairly good knowledge,” are more significant. Certainly, if Vitruvius’s priorities in ascertaining architectural values were measured by the number of words used, then one would be left in no doubt that it was the practicalities of construction he was interested in. The question is, how does this knowledge associated with the technical production of something link to the ideas that guarantee its meaning?

Apart from the early parts of book one, he has very little to say on the possible symbolic relationships inherent to the classical tradition which he is describing. Even in book three, where he talks of the proportions of the human body (*proportio* in Latin, *analogia* in Greek)²⁰ moving towards an application in the proportion of temples using the ‘perfect number’ (*perfectum numerum* in Latin, *teleon* in Greek),²¹ he does so in rather mundane terms. It appears that, like many architects and architectural historians since, he has assumed that if a connection exists between geometry and cosmology, or mathematics or proportion or nature, implications of such connections can be applied to something *post facto* once the geometrical, environmental and constructional practicalities have been implemented. Therefore, even though he implies a permanent and significant connection between geometry and *geometria*, he also indicates that a practical application of geometry is enough and the

rest will follow, thus disconnecting any ‘embodied’ ontological understanding of meaning from the thing itself.

However, it would be a mistake to assume that because Vitruvius does not stress this aspect of meaning in architecture, he does not value it at all, or that protagonists of the early humanist tradition of quattrocento Italy who borrowed his ideas were also ignorant of this link. The ability to separate the ‘communicative’ and the ‘instrumental’ was certainly a possibility in these texts, but for all these men, they were still clearly linked. Vitruvius’ variation of terms for ‘knowledge’ suggests that he could be very precise in referring to the deeper structures of *scientia et geometria*, and indicates he did have a concern for ‘meaning,’ even if he valued it less than building practicalities.

On balance, even though it can be said Vitruvius’s text has ambiguities that have sanctioned its use to support limited evaluations of architectural form in the periods that followed, it also appears that the text can sustain a more embodied interpretation with greater links to Greek thought. In order to assess the possible extent of this, some themes relating to form, knowledge and order in the Greek world need to be evaluated.

Dialectical Order in the Idea of the City in Classical Greece

In the Greek tradition, the difference between instrumental and communicative representation can be explained in the distinction they made between ‘form’ (what is apprehended through the senses that only ‘resembles the true’) and ‘nature’ (a greater reality). In the *Republic*, Plato uses the term *episteme* (translated into Latin as *scientia* by Roman and mediaeval scholars) specifically in relation to the correct rule of a city within a dialogue that also mused upon the nature of reality as a whole. In book seven (514a-520a), the allegory of the cave, he describes reality as moving shadows of things, men and animals (some who talk) cast on the wall of a cave in front of humanity by light from a fire behind. Thus, for Plato, any opinions based on analysis of the ‘shadows’ (*doxa* or form) without

reference to the broader setting (nature) must be considered extremely limited in scope. In the context of the tension in Vitruvius's work discussed above, even though many writers have interpreted his understanding of architecture through form, there is still the possibility to see in *De Architectura* the dialectic of perception and meaning (in nature) alluded to here by Plato. As a consequence, it is possible to view Vitruvius's description of existing relationships ontologically, even if his analysis of the causation is more instrumental. Earlier in the *Republic*, there are other insights useful to this analysis. In book five, Plato introduces several pairs of terms—justice and injustice, philosophy and philodoxy, truth and falsehood—as a way of describing the difference between a good and a corrupt society, suggesting that it is only out of the constant struggle between these pairs that order can be maintained and wisdom secured. Eric Voegelin, in evaluating this process, is thus led to the conclusion that for Plato, "... philosophy is not the doctrine of right order, but the light of wisdom that falls on the struggle,"²² and that the use of dialectical terms is an important part of the way Plato articulated the right order of the city itself:

[Plato's] philosopher does not exist in a social vacuum, but in opposition to the sophist. Justice is not defined in the abstract but in opposition to the concrete forms which injustice assumes. The right order of the polis is not presented as an "ideal state," but the elements of right order are developed in concrete opposition to the elements of disorder surrounding society.²³

Therefore, the "right order of the polis" was seen to emerge from contemplation of these pairs (good and bad), and this dialectic resulted in wisdom situated within the city where such tensions were articulated. For Plato, the sophist was the person who wanted to undermine this dialectic of justice by leading the discourse away from content towards 'form,' i.e., the person whose aim was to win an argument regardless of the ethical or moral consequences. For the sophist, the art of argument was seen to be more important than

content. Again, it is critical to recognise that in this process there is a connection between ‘form’ and ‘meaning’ but that form is not the limit of meaning; it points to it but it is not, in and of itself, meaningful, even though it plays a critical part in the processes of communication, interpretation and understanding.

In terms of understanding the problems relating to architecture and the city, it is the second pair of Plato’s terms, philosophy and philodoxy, that are the most significant. In the dialogue, Socrates describes true philosophers as

Those for whom the truth is the spectacle of which they are enamoured (475e); ... [those] who would be able to approach beauty itself and contemplate it in and by itself (476b)... [not] mistaking resemblance for identity...the man whose thought recognises a beauty in itself, and is able to distinguish that self-beautiful and the things that participate in it, and neither supposes the participants to be it nor it the participants...(476c-d).

At a mundane level, although most modern empirical categorisations of elements, things or behaviours etc. are predicated on the fact that they do not mistake ‘resemblance’ for ‘identity,’ in reality, it is more that they do not perceive any difference. For example, architects evaluating cities on the basis of typology argue that their conclusions are defined through empirical observation and analysis of real things. However, they are, like Vitruvius, suggesting that *geometria* automatically follows geometry—for them, meaning is independent of form but can be assigned to form after the fact. For Plato, such an evaluation shifts more towards the world of *doxophilists*, who

...view many beautiful things but do not see the beautiful itself and are unable to follow another’s guidance to it, and many just things, but not to justice itself, and

so on in all cases—we shall say that such men have opinions about all things, but know nothing of the things they opine (479e).

Thus, it should be recognised that Plato's definition of philosophy goes beyond the rudimentary sequencing of 'physical' characteristics of things and builds from an ontological core. Voegelin articulates this aspect of Plato's thinking thus:

Only the knowledge of being "in itself" can truly lay claim to the title of knowledge (*episteme*); the knowledge of being in the manifold of things is opinion (*doxa*).²⁴

In the world of architecture and the city, even a perfect empirical categorisation of an object is still limited by the situation within which it can be analysed. No matter how sophisticated the analysis, its ontological nature remains elusive unless aspects of its being form a part of the investigation. In the classical world, in the mediaeval world, and in the re-emerging classicism of quattrocento Europe, this was understood and, even if not explicitly stated, was utilised in both the making of architecture and the city, and in explaining and interpreting the past as tradition.

Therefore, as mentioned at the beginning of the chapter, the idea that the re-emergence of classical architecture and the city was purely a revival of certain 'forms' is based on a misunderstanding of the ontological foundation of the western European tradition. It should also be acknowledged that this misinterpretation of the classical world has led to the gradual erosion of the idea that the 'good' city, like Plato's dialectical wisdom, emerges from an agonistic struggle rather than from any one particular ideal (or utopia).²⁵ Wisdom and the good city, for Plato as well as for many thinkers of the Middle Ages, could only emerge from continual negotiation between terms or hierarchies, not from absolutes.

In the terminology used by Vitruvius, this manifests itself in the dilemma that in describing *geometria*, Vitruvius also facilitates the existence of a narrower analysis of the condition of geometry. Vitruvius may not agree with this limited description of geometry but, nevertheless, he facilitates its propagation. As a consequence, aspects of being that lie outside a broader understanding of reason begin to be questioned or, as in the case of Plato's term *philodoxy*, forgotten altogether.

Creation and the Liberal Arts in Thirteenth-century Europe

In the theology of the Middle Ages, the dialectics articulated by Plato were adapted to address Christian ideas such as the nature of God, the Creation and the manipulation of matter and, in the process, contributed to the transformation of the overall order into a hierarchy. By the thirteenth century, the neo-Platonic writings of the church fathers, reinforced by the re-emergence and translation of Aristotelian and Platonic texts, had created an intellectual horizon where developments in knowledge (*scientia*) gathered pace, but also needed to be reconciled with the doctrines of the church. Studies on light and optics in relation to geometry and perspective played a significant part in this transition.

The importance given to the phenomenon of light in medieval cosmologies reflects a tendency to grasp the mystery of creation in a more tangible way and move beyond the poetic and rhetorical language of Neo-Platonism towards a more precise syllogistic reasoning, leading eventually to a geometrical understanding of light. In this process light ceased to be a mere metaphor or analogy of intelligibility and became a real natural power—understood as a part of the creative act itself.²⁶

Here, Vesely argues that the dialectical tension discussed in relation to Plato was still evident in the creative cultures of the Middle Ages, but that the ideas had been tempered by the need to include creation and the incarnation within the original order.

One of the main mechanisms that facilitated this transition was the education system based upon the seven ‘liberal arts.’ This system had originally been conceived in Greece in the fourth century BC to offer a basic education that prepared students for future discourse in philosophy, but was later developed by the Romans who placed the arts of ideas—the *trivium*²⁷—above the arts related to things—*quadrivium*.²⁸ However, when this sevenfold structure was later adopted by the Christian culture of the Middle Ages, it was transformed again. All Christians (even schismatics) believed that God created the world from nothing, but, at the Council of Nicea, orthodox belief identified Christ as a part of the Trinity, each part of which shared the same essence (*ousia*); thus, Christ as man was both body and spirit, and His sacrifice redeemed both the body and spirit of man. Hence, the world of created matter, which itself was seen as an analogue of God, was re-sacralised.²⁹ Whereas the Romans and Greeks had bypassed this problem of the origins of matter by assigning the role of the gods as ‘shapers’ rather than ‘creators’ of matter (hence the primacy of ideas over things in the liberal arts),³⁰ Christians were required to believe that all creation was God’s work and thus, worthy of study. This adaption of the original terms altered the original hierarchy of the liberal arts, putting the *quadrivium*—dealing with aspects of nature (creation)—at least on the same level as the *trivium*—dealing with ideas.³¹

Some early Christian writers such as John Scotus Eriugena (c. 815-c. 877) believed that all scripture (through which the Christian’s relationship to creation was revealed) was based on the skills of the liberal arts, thus suggesting more of a Roman hierarchy of arts with words above things.³² However, having made this distinction, he then struggled to describe the nature of reality itself, suggesting that God had only brought his creative power into the ‘corruptible’ world of matter following the Fall, and that as a consequence, God had projected sin onto a cosmos of matter separate from spirit.³³ Christ’s incarnation and sacrifice had saved the world of matter, but it was still corruptible because it was not a part of God’s

chosen domain. This interpretation of pseudo-Dionysius meant that, for Eriugena, the internal division of the liberal arts was correct but also that any other activities, such as the ‘mechanical arts’³⁴ which were made with manual labour, were of lesser import and implicitly ‘tainted’ by sin.

However, with the rise in scholarship and Platonism in the twelfth century, this idea shifted.

As against the projection of sin onto the cosmos, the masters of the twelfth century, resting their case on the interpretation given the *Timaeus* and the pseudo-Dionysian hierarchy at Chartres, proclaimed that the possibility of participating in the divine reality belonged expressly to matter as well as to everything above it; that the immense unity of all things was knotted up together in man who stands at the paradoxical borderline of matter and spirit.³⁵

This new interpretation facilitated a reappraisal of the whole hierarchy, including the possible recalibration of the ‘arts’ (embracing architecture) because, although the liberal arts were still the only ‘noble’ subjects, working with materials and things was also acceptable because it engaged with God’s creation. It is no coincidence that this discourse on the separation of matter and spirit (idea) has echoes of the geometry/*geometria* issues raised in the discussion of Vitruvius’s *De Architectura*, and can be traced into other aspects of education and the arts in the early mediaeval period.

The most significant text that set out a framework for the hierarchies of the *artes* for the Middle Ages was *De nuptiis Philologiae et Mercurii* (The Marriage of Philology and Mercury), written between 410 and 439AD by Martianus Capella (active in the early part of the fifth century AD).³⁶ The work was known at this time through the proliferation of a significant commentary by Eriugena, and because it was discussed by Hugh of St Victor (1096-1141) in his *Didascalicon* in the late 1120s.³⁷

In Martianus' original work, Apollo proposes that Mercury (representing profitable pursuit) weds Philologia (learning), daughter of Phronesis (akin to practical wisdom or, in many Christian translations, *prudentia* or Prudence), who, "...being well versed in the law of Parnassus [the home of poetry, literature, and learning] but also in the secrets of the starry heavens and the underworld, embraces all knowledge."³⁸ On her arrival at Jupiter's palace, she is greeted by the four cardinal virtues (Prudence – *prudentia*, Justice – *iustitia*, Temperance – *temperantia* and Courage - *fortitudo*)³⁹ and the three Graces, or theological virtues (Faith - *fides*, Hope - *spes* and Charity/Love - *caritas*),⁴⁰ together comprising the seven Christian virtues. Following an initiation, she is taken up to the Roman Mount Olympus (which, unlike the Greek Olympus, includes mortals as well as gods) and given the seven liberal arts as gifts.

...Grammar appears as a grey-haired woman of advanced age, who boasts that she descends from the Egyptian king Osiris [...] she appears in Roman dress. She carries an ebony casket, containing a knife and a file with which to operate surgically on children's grammatical errors. Rhetoric is a magnificently tall and beautiful woman, wearing a dress decorated with all the figures of speech and carrying weapons with which she wounds her adversaries...⁴¹

Insert Figure 1 here: West Front of Chartres Cathedral

This iconography, taken from the text, can also be seen on the tympanum of the door of the Virgin on the west front of Chartres Cathedral,⁴² built 1145-55. in a programme where the Virgin Mary takes over the role of Philology (or perhaps *phronesis*) as the "human soul in all perfection" surrounded by, among other elements, the seven liberal arts, alongside sculptures in support of the new twelfth-century hierarchy mentioned above, where God is depicted as the creator of the cosmos (figure 1).⁴³

By the time of the construction of this west façade of Chartres in the mid-twelfth century, Hugh of St Victor, in his *Didascalicon*, had already described the mechanical arts as part of a hierarchy with philosophy at the top,⁴⁴ but added that the hierarchy is also temporal. This meant that, for Hugh, true philosophy is “divine wisdom” (a “living mind”) which “... in a single and simultaneous vision beholds (*intuetur*) all things past, present, and future,” and that its aim is to “restore within us the divine likeness which to us is a form (*forma*) but to God is his nature.” With this analysis, which touches on the subjects of the *quadrivium*, time is considered a part of the same spectrum, as inseparable from experience as matter. The creation of matter had a beginning, and it will have an end; therefore, all creation (including the works of man) within the world mirrors the creative act itself temporally, physically and ontologically.

He also makes a distinction between different arts and disciplines and the knowledge (*scientia*) associated with them, saying something can be called an art “when it comprises the rules and precepts of an art” or “when it treats of matters that only resemble the true and are objects of opinion,” but can be called a discipline “when it is said to be ‘full’ as it is in the ‘instructional’ science” or “when, by means of true arguments, it deals with matters unable to be other than they are.” Therefore, according to Hugh, architecture is an art (its form only resembles the true) and logic, a discipline.⁴⁵

Over the next few chapters, Hugh lays out the differences between theoretical knowledge, practical knowledge, mechanical knowledge and logical knowledge, setting out the seven mechanical arts in book two, chapter twenty. Architecture, although not explicitly mentioned here, is later defined as part of armaments (constructional armaments such as wall building, chapter twenty-two) and is indirectly referred to as a part of the construction of spaces for amusement and leisure (theatres, gymnasia, temples etc., chapter twenty-seven). Thus, Hugh implies that the skills required to be an architect are the same as those mentioned

by Vitruvius in *De Architectura*; the architect must have knowledge of the *quadrivium* as well as these more ‘practical’ skills, because architecture embodies all of the arts—it is neither purely practical nor purely theoretical. By making architecture a subset of ‘armaments,’ taking ritual out of ‘theatrics,’⁴⁶ and ignoring the capacity for ontological mediation present in both arts, Hugh could easily be accused, like Vitruvius, of a certain degree of instrumental thinking. However, the fact that for Hugh, all the arts ascend towards the interpretation of scripture as the highest goal, bound the activity into the hierarchy of biblical exegesis which was itself already stratified into four levels: literally as a history; allegorically, allowing links to be made between the Old and New Testament themes; tropologically, as a guide for how to act in the present; and anagogically in relation to the future. Such a system had earlier allowed John Cassian (360-435) different ways to understand and interpret the mundane world:

Jerusalem can be taken in four senses: historically [literally], as the city of the Jews, allegorically as the Church of Christ [in the sense of the institution rather than the building], anagogically as the Heavenly City of God ‘*which is mother of us all*’, (Gal.4:26) tropologically, as the soul of man, which is frequently subject to praise or blame from the Lord often under this title.⁴⁷

This way of thinking was clearly still germane in the twelfth century because it appears again in Hugh of St Victor’s *De arca Noe Morali*, where he describes four different ways of talking about the ark.⁴⁸

Conclusion

The hierarchies used by the theologians of the Middle Ages to advise their artificers were part of the contemplative horizon of all activities. In the same way that Vitruvius stated various forms of ‘knowledge’ were essential for the work of architects, and thus implied they should at least play some part in the evaluation of the final building, so Hugh suggests a

similar ground for Christian creativity. He recognises a difference between ‘speculative knowledge’ (*intelligentiam*) that comes from a divine action, and ‘practical knowledge’ (*scientia*) deriving ‘practical council’ from below, but for him they necessarily combine together to facilitate wisdom.⁴⁹ This is made explicit in Appendix A of the *Didascalicon*, where he discusses the order in which knowledge and understanding should be learned—moving from logic to ethics to theoretical arts and only then to the mechanical arts. Thus, in learning mode, the mechanical arts are placed last, once all other knowledge has been assimilated, because

...eloquence ought to be attained first; then, as Socrates says in the *Ethics*, the eye of the heart must be cleansed by the study of virtue, so that it may thereafter see clearly for the investigation of truth in the theoretical arts. Last of all, the mechanical arts follow, which, by themselves, are altogether ineffective unless supported by knowledge of the foregoing.⁵⁰

It is difficult to suggest, after such an explicit recognition that knowledge (*scientia*) of making in the mechanical arts (including architecture) is built upon understanding (*intelligentiam*) of the theoretical arts, that these layers of thinking would not be present in some form within the artefact. This fact is confirmed by the minuted argument between Italian and French experts on the development of Milan Cathedral in the early fifteenth century.⁵¹ Jean Mignot, the French representative, resolved a dispute with the incontestable truth that art is nothing without ‘knowledge’ (*ars sine scientia nihil est*).⁵² As a result, the evaluation of architecture, its setting and use should be subject to acceptance of a similar scope of scrutiny. However, this is not always the case since, at the most basic level, these layers of meaning have often been misinterpreted as a shift from the ‘real’ towards ‘abstraction.’ The nomenclature that accompanies this interpretation usually includes ‘ideal’ as the purest form of abstraction. It is true that there is an implied ‘distancing’ from the

physical world in the type of hierarchical understanding proffered by Hugh, but the results of this enquiry do not advocate differing levels of embodiment. As Vesely states,

[Even as late as the fifteenth century] space is still part of a phenomenal reality in which it cannot be treated in isolation from the conditions of its embodiment.

After all, artificial perspective was never supposed to be a purely mathematical or absolute discipline but a pictorial one, representing not a concept of space or abstract structure but a concrete world in its visibility.⁵³

This is an important distinction to make, as it affects the way commentators from today, and from the past, often attempt to explain paradigmatic aspects of ontology through explicitly pragmatic phenomena. It was in the mediaeval world, saturated with meaning, that the re-emergence of classical culture gathered momentum in the arts and developed into what is now called the Renaissance. However, instead of it being a theoretical shift, or a break with the past, it is best seen as analogous to a natural progression guided by the theological and artistic trends that were already emerging from the twelfth-century renaissance evident in European theological schools.

Thus, it appears that many of the themes explored and manifested in the art and architecture of the following centuries were more of a progression than a revolution. In architecture and art, 'perspective' and 'form,' although allowing for separate limited interpretations, continued to carry a depth of meaning more nuanced than many modern-day interpretations would allow. As a result, the continuing legacy of Latin classical culture is more likely to be present in some refined examples of contemporary architecture than it may be in buildings that display the liberal use of classical columns.⁵⁴

¹ For the best summary of this period of mediaeval ‘enlightenment,’ see Marie-Dominique Chenu, *Nature, Man, and Society in the Twelfth Century: Essays on New Theological Perspectives in the Latin West*, ed. Lester K. Little, trans. Jerome Taylor (University of Toronto Press, 1997).

² Dalibor Vesely, *Architecture in the Age of Divided Representation: The Question of Creativity in the Shadow of Production* (Cambridge, Mass.; London: The MIT Press, 2006), 110.

³ The shift characterised by Vesely as one from a more unified classical culture towards a divided modern condition occurred over several centuries, with many aspects of ‘undivided’ classical culture, he argues, still accessible to society as a whole as late as the Baroque period.

⁴ Vesely, *Architecture in the Age of Divided Representation*, 4.

⁵ Vesely, 6.

⁶ Written between thirty and fifteen BC.

⁷ The propagation of this work appears to derive from an original manuscript held and copied in Charlemagne’s scriptorium circa the eighth century.

⁸ Vitruvius Pollo, *The Loeb Classical Library No. 251, On Architecture, Vitruvius*, trans. Frank Granger (Harvard University Press, 1931), 6.

⁹ For a discussion of symbolic understanding of the form of the Roman city and its foundation, see Joseph Rykwert, *The Idea of a Town: The Anthropology of Urban Form in Rome, Italy and the Ancient World* (London: Faber and Faber, 2010).

¹⁰ He talks of the ‘tools’ but not whether there is a right or wrong way to apply them; Vitruvius, 8.

¹¹ Vitruvius, bk I, ch. II, 25.

¹² *noscere, cognitus, rationes, scientia.*

¹³ The word itself derives from the Latin *scientia* meaning ‘knowledge,’ equivalent to the Greek term *episteme*.

¹⁴ This particular use is not universal; Cicero does not appear to differentiate its use in this way in *De Officiis*.

¹⁵ For Aristotle, *phronesis* is “... the exact opposite of intuitive intelligence. Intelligence apprehends the truth of definitions which cannot be proved by argument, while prudence (*phronesis*) involves knowledge of the ultimate particular thing, which cannot be attained by science but only by ‘perception.’ Aristotle, *The Complete Works of Aristotle: The Revised Oxford Translation*, ed. Jonathan Barnes, first ed. (Princeton, N.J: Princeton University Press, 1984); *Nichomachian Ethics*, bk VI, ch. 8, 182.

¹⁶ Vitruvius, 7.

¹⁷ Vitruvius, 20.

¹⁸ Plato refers to this idea of ‘movements of harmony’ in relation to the Pythagorean tradition in *Republic* 530d. All references from Plato are from *The Collected Dialogues of Plato: Including the Letters*, ed. Edith Hamilton and Huntington Cairns, trans. Lane Cooper, New Impression edition (Princeton: Princeton University Press, 2005). It is this dual aspect of geometry in relation to optics in the thirteenth century that Vesely suggests makes explicit the division of representation and thus allows for the limited horizons of modernity.

¹⁹ In the remainder of this chapter I will use the word *geometria* in italics in opposition to ‘geometry’ to denote uses of this deeper understanding of the term.

²⁰ For a description of the relationship between analogy and proportion, see Vesely, *Architecture in the Age of Divided Representation*, 136.

²¹ See Plato, *Republic*, 546. The exact value of this number is still disputed. The favourite ‘guess’ is $3^3 + 4^3 + 5^3 = 6^3 = 216$.

²² Eric Voegelin, *Order and History 3: Plato and Aristotle* (University of Missouri Press, 1999), 62ff.

²³ Ibid, 63. Quentin Skinner reinforces this ‘difference’ when he suggests that it was not until the late sixteenth century that the word ‘state’ was used in its modern sense. Quentin Skinner, *The Foundations of Modern Political Thought: Volume 1, The Renaissance* (Cambridge: Cambridge University Press, 1978), X.

²⁴ Voegelin, *Plato and Aristotle*, 66.

²⁵ I.e., instead of a continual negotiation of the dialectical order of the city within the city, one vision predominates, resulting in a utopian vision for some that is dystopian for others.

²⁶ Dalibor Vesely, “Robert Grosseteste and the Foundations of a New Cosmology,” in *Bishop Robert Grosseteste and Lincoln Cathedral: Tracing Relationships between Medieval Concepts of Order and Built Form*, ed. Nicholas Temple, John Hendrix and Christian Frost (Ashgate Publishing, Ltd., 2014), 135.

²⁷ Grammar, Logic and Rhetoric.

²⁸ Arithmetic, Geometry, Music and Astronomy. Ernst Robert Curtius, *European Literature and the Latin Middle Ages*, trans. Willard R. Trask, updated edition with a New Epilogue (Princeton, N.J: Princeton University Press, 1991), 36ff.

²⁹ Etienne Gilson, *The Spirit of Mediaeval Philosophy* (University of Notre Dame Press, 1990), 95.

³⁰ This builds on Plato’s *Timaeus*, where the Demiurge does not create matter but orders it. Eriugena tries to engage in this sequence but opens up the way for heresy—such as occurred in various forms of dualism where, for example, the Arian Christians believed that Christ’s incorruptible soul was separate but contained within Christ’s corruptible body. In the Middle Ages, this type of apostasy was anathema because it implied that the world of matter was not touched or saved by the incarnation.

³¹ This is the case with respect to ideas, but the significance of the scriptures to Christian thought meant that, in the end, even within a ‘redeemed’ physical world, the *trivium* in relation to biblical exegesis maintained a level of superiority.

³² Ralph Hexter and David Townsend, *The Oxford Handbook of Medieval Latin Literature* (Oxford University Press, 2012), 315.

³³ Chenu, *Nature, Man, and Society in the Twelfth Century*, 25.

³⁴ The *artes mechanicae* for the Greeks and Romans were more defined by not being *artes liberales* by Johannes Scotus Eriugena and Remigius in their commentaries on *De nuptiis Philologiae et Mercurii* in the ninth century. See Hexter and Townsend, *The Oxford Handbook of Medieval Latin Literature*, 318. However, they were described in *The Didascalicon of Hugh of St. Victor: A Medieval Guide to the Arts*, ed. Jerome Taylor (Columbia University Press, 1991), bk II, chap. 20 as *lanificium* (fabric making), *armaturam* (armament), *navigationem* (commerce), *agriculturam* (agriculture), *venationem* (hunting), *medicinam* (medicine) and *theatricam* (theatrics).

³⁵ Chenu, *Nature, Man, and Society in the Twelfth Century*, 25.

³⁶ This work is known more recently for the reference made by Frances Yeats in *The Art of Memory* (Abingdon: Random House, 1992), 64, to the incident when Simondes recounts the positions of several unrecognisable corpses in a collapsed building through his use of ‘situated’ memory skills.

³⁷ Hugh of St Victor, *Didascalicon*, book II, ch. 20.

³⁸ Curtius, *European Literature and the Latin Middle Ages*, 38.

³⁹ Plato, Republic IV, 426-435.

⁴⁰ I Corinthians; XIII.

⁴¹ Curtius, *European Literature and the Latin Middle Ages*, 39.

⁴² The Virgin is depicted on the right-hand door. The lower register on all three portals represent Old Testament figures, with the New Testament ‘fulfilment’ depicted above.

⁴³ For a thorough description of the iconography of this portal see Titus Burckhardt, *Chartres and the Birth of the Cathedral* (Bloomington, Ind.: World Wisdom Books, 2010), 60.

⁴⁴ For Hugh, philosophy has three parts, physics, ethics and logic. Hugh of St Victor, *Didascalicon*, bk II, chap. 16, after St Augustine’s natural, ethical and logical; *The City of God Against the Pagans*, ed. R. W. Dyson (Cambridge University Press, 1998), bk VIII, ch. 4.

⁴⁵ Hugh of St Victor, *Didascalicon*, bk II, ch. 1.

⁴⁶ Theatrics are described in relation to well-being of the body and mind rather than any spiritual function.

⁴⁷ Iohannis Cassiani, *Corpus Scriptorum Ecclesiasticorum Latinorum Vol. XIII: Conlatioes XXXIII*, ed. Michael Petschenig (Vienna: Geroldi, 1886), 405. Translation in Philip Schaff, *Nicene and Post-Nicene Fathers: Second Series, Volume XI, Sulpitius Severus, Vincent of Lerins, John Cassian* (New York: Cosimo, Inc., 2007), 438.

⁴⁸ Hugonis de S. Victore, “De Arca Noe Morali,” in *Patralogiae Cursus Completus, Vol. CLXXVI*, ed. J.-P Migne (Paris: Garnier Fratres, 1882), bk 1, ch. 2, col. 626. A translation is available in *Hugh of Saint-Victor: Selected Spiritual Writings* (Eugene, Oregon: Wipf and Stock, 2009), 59.

⁴⁹ Hugh of St Victor, *Didascalicon*, bk 1, ch. 8.

⁵⁰ Hugh of St Victor, Appendix A, is labelled chapter XIV in some volumes.

⁵¹ Otto Georg Von Simson, *The Gothic Cathedral*, expanded edition (Princeton: Princeton University Press, 1988), 19.

⁵² I have changed Von Simson’s translation of *scientia*, but in both translations, the knowledge refers to skills and knowledge inherent to *geometria* and the other *ars*.

⁵³ Vesely, *Architecture in the Age of Divided Representation*, 139.

⁵⁴ See, for example, the relationship of contemporary buildings to themes of light and geometry discussed in Nicholas Temple, *Disclosing Horizons: Architecture, Perspective and Redemptive Space* (Routledge, 2006).