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INTRODUCTION: VITRUVIUS' *HOMO BENE FIGURATUS* METHODOLOGICAL VARIATIONS ON ONE PASSAGE (*DE ARCH*. 3.1)

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Preliminary Remarks

The papers collected in this special issue of *Ramus* originated in a workshop held at Penn State University in September 2018.[1] Originally entitled 'Vitruvius' *Homo bene figuratus inter disciplinas*: Methodological Variations on a Single Passage (Vitruvius *De architectura* III.1)', the workshop was conceived as a practical exercise in close reading, meant to highlight how different methodological approaches can enlighten just one single passage of literature in surprising and sometimes contradictory, but equally valuable ways. Scholars of Classics and related disciplines (with Renaissance Studies, Art History, Rhetoric, and Media and Film Studies represented in this issue) were invited to each present a paper on the same Latin passage, but to use a different, clearly stated methodological approach. In its methodological set-up, the workshop reproduced a previous event held at the University of Cambridge in 2016, *The Fixed Handout Workshop*, where participants had been asked to deliver papers based on a pre-arranged selection of thematically connected passages. They were also asked to define upfront their methodology, as well as cultural and scholarly influences, in such a way that would help them make sense of their interpretative choices in connecting these texts. Although several groups were presented with identical sets of Latin quotations, the papers they produced, and the additional texts they adduced, varied widely.[2]

The passage selected for the workshop, whose text and translation we include with brief commentary below, was Vitruvius' description of the *homo bene figuratus* ('well-formed human being', *De arch.* 3.1), which the author introduces in discussing the role of symmetry in the composition of temples. The *homo bene figuratus* seemed to us to hold an obvious and distinct interdisciplinary potential thanks to its variously textual, visual, philosophical, and scientific features. The

1. Organized by Elena Giusti, Mathias Hanses, and Giovanna Laterza, and generously funded by a Leadership Initiative Grant (LIG) from the Classical Association of the Atlantic States (CAAS).

2. This was organized by Siobhan Chomse, William Fitzgerald, and Elena Giusti; Mathias Hanses and Giovanna Laterza (co-editors of this issue) participated as speakers, as did Tom Geue and Kathrin Winter, both contributors to this issue. For a somewhat similar initiative see also Marco Formisano's series of *Titubanti testi*, started in 2020 as a result of the COVID-19 pandemic, where two methodologically diverse scholars present in a virtual 'binomial' on the same portion of Greek or Latin text: www.titubantitesti.ugent.be (accessed January 1, 2023). Cf. also John Ma's (1994) masterly *exercice de style* 'Black Hunter Variations'.

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passage was famously the basis for Leonardo da Vinci's interpretation of the Vitruvian Man, and it has attracted the attention of early modern exegetes and contemporary architectural specialists alike.

One of the aims of the workshop from which this issue originated was to test the strengths and limits of close reading as a prevalent methodology in Classics. A comparable project is the 2001 'Companion' to the prologue of Apuleius' *Metamorphoses*, a collection of essays all dedicated to a brief but very enigmatic and infinitely rewarding passage whose elusive meaning changes depending on the variously literary, rhetorical, historical, or philosophical lens that the critic may adopt to approach it.[3] And yet *De architectura* 3.1, in both its cultural and its scholarly reception, is so intertwined with Leonardo's Vitruvian Man—the slippage between text and visual representations so inevitable and pronounced in their shared reception—that the passage ends up providing resistance to practices of close reading by virtue of its own cultural history, as well as calls to intermedial and interdisciplinary approaches.

It was equally appealing to us that a large body of exciting scholarship had recently been published on Vitruvius, scholarship that now allows us to put this architect more clearly on the literary and historical map of Latin studies. In the English language, examples include a 2016 thematic issue of *Arethusa* dedicated to *De architectura* (edited by Serafina Cuomo and Marco Formisano), as well as monographs by Indra Kagis McEwen, Marden Nichols, and John Oksanish that explore in detail the text's rootedness in the literary (and non-literary) contexts of the late Roman Republic and early Empire.[4] At the same time, French scholarship has investigated extensively the formal characteristics of Vitruvius' treatise and the role it plays in the codification of architecture as a new discipline. Mireille Courrént authored two excellent monographs on the ideas of nature and art in *De architectura* and the reception of the Vitruvian treatise in ancient literature respectively;[5] Louis Callebat focuses on the interconnection between *De architectura*'s epistemic project and the language it employs;[6] and Pierre Gros has outlined his thirty years of work on Vitruvius in a collection of essays and summarized his key positions on the treatise's epistemic posture in the introduction to his Budé translation published in 2015.[7]

All the participants in the workshop, and all contributors to this special issue, take this recent body of work into consideration—although, crucially, none of them is strictly speaking a Vitruvian scholar.[8] In this sense, the following selection of papers can be read as a response to Vitruvian material from other areas of

3. Kahane and Laird (2001).
4. Cuomo and Formisano (2016); McEwen (2003); Nichols (2017); Oksanish (2019).
5. Courrént (2011) and (2019). Cf. also Courrént (2008).
6. Callebat (2017a) and (2017b).
7. Gros (2013) and (2015).
8. Marden Fitzpatrick Nichols (author of Nichols [2017]) participated as speaker at the workshop but did not contribute a paper to this collection. The work of Giovanna Laterza (co-editor of this issue) is also currently focused on Vitruvius (see Laterza [2018]).

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Classics and related disciplines. The six papers plus conclusion assembled here, which take the *homo bene figuratus* in very different directions, can be read as stand-alone pieces, but they have been arranged in such a way as to create a movement in time, from the passage's roots to far beyond it. The overall feeling emanating from this multiplicity of readings is that of a text that remains volatile, metaphorical, almost poetic in its literariness, despite all its explicit technicality. In this respect, it matches the 'well-formed' human being that it conjures up as something that is immediately conceivable and yet ungraspable (a point well expressed by Kathrin Winter in this issue). Moreover, just like the Vitruvian Man, the passage stretches its limbs atemporally, or across different temporal frameworks, towards a network of interconnected figures and texts from its past, present, and future iterations.

The paper that opens this issue, Daniel Anderson's archaeology of the Greek models at work in Vitruvius, explicitly emphasizes the importance of maintaining such atemporal (and partially unconscious) frameworks when thinking about the intellectual histories surrounding the genesis and propagation of cultural texts and artifacts. In this respect, our placing of this essay as first in the issue (as if its aim were to give us a prehistory of Vitruvius' modelling) may be seen to misrepresent the entire argument of the piece which uses the text's genealogy as a strategy to defamiliarize rather than pin down content. This very point, however, is crucial for the issue as a whole and can thus provide a useful means of avoiding some methodological pitfalls of both historicism and intertextuality. In the essay, Daniel Anderson invokes a Foucauldian framework in reading the *homo bene figuratus* as a 'genealogical exercise' whose conceptual inheritance from Greek models (especially the square body of fifth-century sculpture and the circular body of pre-Socratic cosmology) ends up shining light on just how unique Vitruvius' square-circular creation is, and at once innovative and strange, and how it is that its umbilical cord hanging in the center invites us to imagine it/us as always already connected to other bodies and to their textual/historical genealogical networks.

Interestingly, none of the contributors indicates 'close reading' (the standard term coined by literary critic I.A. Richards) as one of their professed methodologies, but Kathrin Winter's 'cognitive' reading of the passage takes us very close to it as it accompanies the reader through Vitruvius' imagined ideal body as if via a synesthetic magnifying glass. Like Daniel Anderson, Kathrin Winter singles out the paradox of Vitruvius' body-temple analogy as a device that, though intended for clarification, ends up exposing the very difficulties of its application. As she points out, the most effective (but only implied) analogy for the Vitruvian Man is nothing else than *our* own body, the body of the text's recipient. As other contributors to this issue discuss in further detail, it is nearly impossible for us modern readers to approach this passage without imagining the Vitruvian Man as Leonardo da Vinci's interpretation of it (itself accompanied by its pre- and post-history, exemplified here in the chapters by Elizabeth Merrill and by Michele Kennerly and Jennifer K.L. Buchan, as well as in Mathias Hanses'

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conclusion). Kathrin Winter's essay can be interpreted as a forceful attempt to deconstruct this pre-inherited image in our minds by encouraging us to instead use our own body as the measure of the human, and the measure of all things. Readers of this essay are likely to find themselves measuring points on their face as a way to work out the Vitruvian proportions.

Kathrin Winter points towards the 'technicality' of the passage, and the ways in which its numerical details make it somewhat alien to classicists and literary critics but at the same time contribute to its literary effect in ways that cannot be overlooked. In fact, none of the contributors to this issue really attempts to deal head-on with its mathematical and scientific side.[9] Yet the essay by Marcie Persyn does discuss some of that technical language. Rather than focus on its technical precision, however, it analyzes it instead by exploring its linguistic, rhetorical, and 'sociological functioning'. Through the lens of Vitruvius' 'code-switching' between Greek and Latin technical terminologies in *De architectura* 3.1, Marcie Persyn reflects on the performative rhetoric of the text both in its didactic and literary purposes. Vitruvius' selective code-switching is calculated to create both sociological and literary effects. The result is 'a kind of linguistic symmetry' between the Greek 'parts' and the Latin 'whole', which allows Vitruvius to place his treatise firmly within a Greek scientific tradition and at the same time to pose as the 'officiator of the union' between Greek and Roman languages and cultures: to act as the one whose duty it is to select, digest, and disseminate Greek knowledge for the constantly evolving Romanness of his audience.

If the first three contributions focus on the literary makeup of the passage with varying degrees of specificity, the second half of the issue takes us elsewhere, and beyond *De architectura*, to find ways to enlighten the *homo bene figuratus* by means of what is not immediately present in the text, but can be deduced from other literary, artistic, or historical contexts. Tom Geue does this explicitly when attempting to read the Vitruvian body in terms of an economy of lack. Here again, the body-temple analogy becomes key to the deficiency of a body that can never live up to the architect's expectations; but in Tom Geue's analysis, this failed symmetry and the ultimate incomprehensibility of the perfect body is precisely what makes other material bodies active participants as cognitive and epistemic tools in the surrounding world. This reading thus necessitates a move away from the *homo bene figuratus* onto other bodies in *De architectura* (those of Dinocrates, Archimedes, and Vitruvius himself) whose imperfect reality paradoxically ends up filling the inherent deficiencies of a perfected and almost inorganic body. In this contribution, Tom Geue flirts with both intertextuality and historicism (most evidently in the mapping of Dinocrates and Archimedes onto Vitruvius, of Alexander and Ptolemy onto Augustus) in a materialist

9. Deborah Chatr Aryamontri attempted such a reading at the workshop but did not contribute a paper to this special issue.

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reading of knowledge production, as the paper traces the empowerment of intellectual and scientific endeavors in the marginalization of materially frail and imperfect bodies negotiating with cultural capital and political power.

The history of the reception of the *homo bene figuratus*, both in the early modern and in the contemporary world, must take into consideration the negotiations with tradition and political power that Marcie Persyn and Tom Geue enlighten, within their very different frameworks. This history is exemplified in this issue by two contributions—on the reception of Vitruvius' passage by Renaissance architects and in twenty-first-century dystopic film and television respectively—as well as in the conclusion. In a thorough examination of the passage's reception in Renaissance architecture, Elizabeth Merrill shows how the history of its application in the Italian Renaissance sheds light on the very same tension in the passage previously highlighted by Daniel Anderson, Kathrin Winter, and Marcie Persyn: namely the inherently contradictory nature of the *homo bene figuratus* as simultaneously prescriptive and innovative, authoritative and yet encouraging of revision in the imprecision of its practical applications. In this way, Vitruvius' text becomes inherently characterized by the open-endedness of its reading and interpretation. Elizabeth Merrill's essay traces a variety of such interpretations, moving from the damning judgments of *De architectura* as an obscure and almost incomprehensible treatise (by architects such as Leon Battista Alberti or Jacopo Strada), up to the transformation of the *homo bene figuratus* at the hands of Leonardo da Vinci into the pillar of an entirely Christian conception of the (hu)man that derived authority from its Greco-Roman exemplar.

While Elizabeth Merrill discusses several different interpretations and illustrations of the Vitruvian Man, including purely geometrical designs, it is Leonardo's Christian and European reformulation of the *homo bene figuratus* that ends up informing the popular picture of the Vitruvian Man, as examined by Michele Kennerly and Jennifer K.L. Buchan. Looking for the Vitruvian Man in two recent dystopias, the 2006 film *Idiocracy* and the 2016–2022 HBO show *Westworld* respectively, they discuss contemporary adaptations of those very insights already proposed by Kathrin Winter and Tom Geue in terms of how the perfected incommensurability of the Vitruvian Man necessarily reflects upon our own human imperfections. More dramatically, the employment of the Vitruvian Man (or what should better be renamed as the 'da Vinci Man', as argued by Elizabeth Merrill) in the political landscape of the early-twenty-first-century USA sheds light on the most coercively prescriptive and exclusionary aspects of an image that in its supposed perfection imposes White, neurotypical, and able-bodied men as the cipher and norm of (hu)manhood. Reminiscent both of Christine Battersby's singularity of the female self and of Donna Haraway's cyborg manifesto (though explicitly dependent upon neither),[10] Kennerly and

10. Battersby (2011); Haraway (1991).

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Buchan's chapter opens up important avenues of reflection upon the prescriptive and ultimately coercive character not necessarily of Vitruvius' or of Leonardo's iterative ideal, but of the symbolic application of Greco-Roman symbols as inherited from the history of their appropriation in ideological constructions of 'Europe' and 'The West'. The concluding essay by Mathias Hanses picks up on this and other issues in the preceding pieces by putting Vitruvius' *homo bene figuratus* and Leonardo da Vinci's *Vitruvian Man* in conversation with the Afro-Cuban American artist Harmonia Rosales' 2017 painting *Virtuous Woman.* Here, Vitruvius' and Leonardo's androcentrism, ableism, and endorsements of imperialist practices, as well as their works' conscription in anti-Black discourses, come even more fully into focus. At the same time, the triangular intertextual and intermedial connection between Vitruvius, Leonardo, and Rosales gives occasion to reflect on Vitruvius' own identity, the similarities and differences between the noxious prejudices that inform ancient and modern understandings of the Mediterranean world, and ways forward for the discipline of Classics that fully embrace—and take to their next level—the interdisciplinarity and broad temporal scope already on display in these papers.

Before we now dive into the essays themselves, we would like to set the reader up for what follows by providing a brief introduction to Vitruvius' *De architectura* 3.1, as well as the text itself in both Latin and English. The text and translation printed below is that of Frank Granger for the Loeb Classical Library,[11] which is currently the most accessible edition, but there are substantial differences in text, translation, and interpretation in the editions and commentaries of Pierre Gros for *Les Belles Lettres* and of Antonio Corso and Elisa Romano for *Einaudi*,[12] some of which we indicate in notes.[13] We conclude with Giovanna Laterza's brief reflections on the passage's place in its immediate context in book 3 of *De architectura*.

Vitruvius, *De architectura* 3.1

Introduction

Vitruvius' *De architectura* offers the first comprehensive Roman treatment of architecture. On account of its technical subject matter, it was long marginalized by classical scholarship. The renewed attention it has received in recent years is due to two factors. First, ancient scientific and technical treatises are undergoing a revaluation among classicists across the globe, based on the idea that these works, with their own language and textual features, actively participate in shaping the

11. Granger (1931).
12. Gros (1990) and Gros, Corso, and Romano (1997).
13. Both editions, for instance, print the Greek terms rather than the Latin transliterations, as Granger (1931) does. See Persyn, n.24, in this volume.

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epistemic landscapes of their age.[14] Secondly, the current uptick in research on Vitruvius results from the socio-cultural approach to the Augustan age that Andrew Wallace-Hadrill promoted in his influential 2008 book, *Rome's Cultural Revolution*. According to Wallace-Hadrill, the Augustan revolution has an epistemic element that concretizes itself in the progressive differentiation of distinct branches of knowledge. In this respect, Vitruvius' *De architectura* acquires a special importance in the literary landscape of the Augustan age, reflecting as it does the transition from a Republican to an Imperial world. At the same time, Vitruvius' text defies this contextual kind of interpretation in that its own significance goes far beyond the Augustan age itself. Indeed, outside of the discipline of Classics, the treatise constitutes a milestone in the history of architecture, a fact that makes evident how the canonization or marginalization of a work has nothing to do with its intrinsic value but depends mainly on external strategies of legitimization and delegitimization.[15] Vitruvius' *De architectura* has had multiple lives in its reception by different publics (such as the Roman aristocracy, Medieval collectors, Renaissance architects, and modern art historians). In this respect, *De architectura*'s long-standing multidimensionality offers a valuable opportunity to inquire how the same piece of text produces different meanings in interaction with different publics, different methodological approaches, and different reference disciplines.

Text and Translation

The passage that we have chosen deals with the body, and more specifically with the commensurability of the body and architectural construction:

> (1) aedium compositio constat ex *symmetria*, cuius rationem diligentissime architecti tenere debent. ea autem paritur a proportione, quae graece '*analogia*' dicitur. proportio est ratae partis membrorum in omni opere totiusque *commodulatio*, ex qua ratio efficitur symmetriarum. namque non potest aedis ulla sine symmetria atque proportione rationem habere compositionis, nisi uti ad *hominis bene figurati* membrorum habuerit exactam rationem. (2) corpus enim hominis *ita natura composuit*, uti os capitis a mento ad frontem summam et radices imas capilli esset decimae partis, item manus palma[16] ab articulo ad extremum medium digitum tantundem, caput a mento ad summum uerticem octauae, cum ceruicibus imis ab summo pectore ad imas radices capillorum sextae, <a medio pectore> ad summum uerticem quartae. ipsius autem oris

14. On technical treatises as tools of ordering knowledge, see König and Whitmarsh (2007).
15. On the issue of canonicity within Classics, see Formisano (2018).
16. Gros (1990), 6, adopts the reading *pansa*, on the basis of a possible contradiction with the measure given to the palm at 3.1.8 below. For a defense of *palma* see Gros, Corso, and Romano (1997), 277.

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altitudinis tertia est pars ab imo mento ad imas nares, nasum ab imis naribus ad finem medium superciliorum tantundem, ab ea fine ad imas radices capilli frons efficitur item tertiae partis. pes uero altitudinis corporis sextae, cubitum quartae, pectus item quartae. reliqua quoque membra suas habent commensus proportiones, quibus etiam antiqui *pictores et statuarii* nobiles usi magnas et infinitas laudes sunt adsecuti. (3) similiter uero sacrarum aedium membra ad uniuersam totius magnitudinis summam ex partibus singulis *conuenientissimum debent habere commensus responsum*. item corporis centrum medium naturaliter est umbilicus. namque si homo conlocatus fuerit supinus manibus et pedibus pansis circinique conlocatum centrum in umbilico eius, *circumagendo rotundationem* utrarumque manuum et pedum digiti linea tangentur. non minus quemadmodum schema rotundationis in corpore efficitur, item *quadrata designatio* in eo inuenietur. nam si a pedibus imis ad summum caput mensum erit eaque mensura relata fuerit ad manus pansas, inuenietur eadem latitudo uti altitudo, quemadmodum areae quae ad normam sunt quadratae. (4) *ergo si ita natura conposuit* corpus hominis, uti proportionibus membra ad summam figurationem eius respondeant, cum causa constituisse uidentur antiqui, ut etiam in operum perfectionibus singulorum membrorum ad uniuersam figurae speciem habeant commensus exactionem. igitur cum in omnibus operibus ordines traderent, maxime in aedibus deorum, operum et laudes et culpae aeternae solent permanere. (5) nec minus mensurarum rationes, quae in omnibus operibus uidentur necessariae esse, ex corporis membris collegerunt, uti digitum, palmum, pedem, cubitum, et eas distribuerunt in perfectum numerum, quem Graeci 'teleon' dicunt. *perfectum autem antiqui instituerunt numerum qui decem dicitur*; namque ex manibus digitorum numerum; ab palmo pes est inuentus. si autem in utrisque palmis ex articulis ab natura decem sunt perfecti, etiam Platoni placuit esse eum numerum ea re perfectum, quod ex singularibus rebus, quae 'monades' apud Graecos dicuntur, perficitur decusis. qui simul autem undecim aut duodecim sunt facti, quod superauerint, non possunt esse perfecti, donec ad alterum decusis perueniant; singulares enim res particulae sunt eius numeri. (6) mathematici uero contra disputantes ea re perfectum dixerunt esse numerum qui *sex* dicitur, quod is numerus habet partitiones eorum rationibus sex numero conuenientes sic: sextantem unum, trientes duo, semissem tria, besem quem 'dimoeron' dicunt quattuor, quintarium quem 'pentemoeron' dicunt quinque, perfectum sex. cum ad supplicationem[17] crescat, supra sex adiecto asse 'ephectum'; cum facta sunt octo, quod est tertia adiecta, tertiarium alterum, qui 'epitritos' dicitur; dimidia adiecta cum

17. Gros (1990), 9, prints the conjecture *duplicationem* ('doubling'); Gros, Corso, and Romano (1997), 240, print the reading *superlationem* ('enlargement'); Granger (1931) links otherwise nonsensical *supplicationem* to Greek ὑποπλέκειν.

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facta sunt nouem, sesquialterum, qui 'hemiolius' appellatur; duabus partibus additis et decusis facto bes alterum, quem 'epidimoerum' uocitant; in undecim numero quod adiecti sunt quinque, quintarium, quem 'epipempton' dicunt; duodecim autem, quod ex duobus numeris simplicibus est effectus, 'diplasiona'. (7) non minus etiam, quod pes hominis altitudinis sextam habet partem, (ita etiam, ex eo quod perficitur pedum numero, corporis sexies altitudinis terminauit)[18] eum perfectum constituerunt, cubitumque animaduerterunt ex sex palmis constare digitisque xxiiii. ex eo etiam uidentur ciuitates Graecorum fecisse, quemadmodum cubitus est sex palmorum, in drachma qua nummo uterentur, aereos signatos uti asses ex aequo sex, quos obolos appellant, quadrantesque obolorum, quae alii dichalca, nonnulli trichalca dicunt, pro digitis uiginti quattuor in drachma constituisse. (8) nostri autem primo fecerunt antiquum numerum et in denario denos aeris constituerunt, et ea re conpositio nominis ad hodiernum diem denarium retinet. etiamque quarta pars quod efficiebatur ex duobus assibus et tertio semisse, sestertium uocitauerunt. postea quam animaduerterunt utrosque numeros esse perfectos, et *sex et decem*, utrosque in unum coiecerunt et fecerunt perfectissimum decusis sexis. huius autem rei auctorem inuenerunt pedem. e cubito enim cum dempti sunt palmi duo, relinquitur pes quattuor palmorum, palmus autem habet quattuor digitos. ita efficitur, ut habeat pes sedecim digitos et totidem asses aeracius denarius. (9) ergo si conuenit ex articulis hominis numerum inuentum esse et ex membris separatis *ad uniuersam corporis speciem ratae partis commensus fieri responsum*, relinquitur, ut suscipiamus eos, qui etiam aedes deorum inmortalium constituentes ita membra operum ordinauerunt, ut proportionibus et symmetriis separatae atque uniuersae conuenientesque efficerentur eorum distributiones.

(*De arch.* 3.1)[19]

(1) The planning of temples depends upon symmetry: and the method of this architects must diligently apprehend. It arises from proportion (which in Greek is called *analogia*). Proportion consists in taking a fixed module, in each case, both for the parts of a building and for the whole, by which the method of symmetry is put into practice. For without symmetry and proportion no temple can have a regular plan; that is, it must have an exact proportion worked out after the fashion of the members of a finely-shaped human body. (2) For Nature has so planned the human body that the face from the chin to the top of the forehead and the roots of the hair is a tenth part; also the palm of the hand from the wrist to the top of the middle finger is as much; the head from the chin to the

18. Gros (1990), 10, corrects *terminauit* to *terminatio*, accepted by Gros, Corso, and Romano (1997), 281.

19. Text and translation by Granger (1931).

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crown, an eighth part; from the top of the breast with the bottom of the neck to the roots of the hair, a sixth part; from the middle of the breast to the crown, a fourth part; a third part of the height of the face is from the bottom of the chin to the bottom of the nostrils; the nose from the bottom of the nostrils to the line between the brows, as much; from that line to the roots of the hair, the forehead is given as the third part. The foot is a sixth of the height of the body; the cubit a quarter, the breast also a quarter. The other limbs also have their own proportionate measurements. And by using these, ancient painters and famous sculptors have attained great and unbounded distinction. (3) In like fashion the members of temples ought to have dimensions of their several parts answering suitably to the general sum of their whole magnitude. Now the navel is naturally the exact centre of the body. For if a man lies on his back with hands and feet outspread, and the centre of a circle is placed on his navel, his fingers and toes will be touched by the circumference. Also a square will be found described within the figure, in the same way as a round figure is produced. For if we measure from the sole of the foot to the top of the head, and apply the measure to the outstretched hands, the breadth will be found equal to the height, just like sites which are squared by rule. (4) Therefore if Nature has planned the human body so that the members correspond in their proportions to its complete configuration, the ancients seem to have had reason in determining that in the execution of their works they should observe an exact adjustment of the several members to the general pattern of the plan. Therefore, since in all their works they handed down orders, they did so especially in building temples, the excellences and the faults of which usually endure for ages. (5) Moreover, they collected from the members of the human body the proportionate dimensions which appear necessary in all building operations; the finger or inch, the palm, the foot, the cubit. And these they grouped into the perfect number which the Greeks call *teleon*. Now the ancients determined as perfect the number which is called ten. For from the hands they took the number of the inches; from the palm, the foot was discovered. Now while in the two palms with their fingers, ten inches are naturally complete, Plato considered that number perfect, for the reason that from the individual things which are called *monades* among the Greeks, the decad is perfected. But as soon as they are made eleven or twelve, because they are in excess, they cannot be perfect until they reach the second decad. For individual things are minor parts of that number. (6) But mathematicians, disputing on the other side, have said that the number called six is perfect for the reason that this number has divisions which agree by their proportions with the number six. Thus a sixth is one; a third is two; a half is three; two-thirds, which they call *dimoeros*, four; five-sixths, which they call *pentemoeros*, five; the perfect number, six. When it grows to the

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double, a twelfth added above six makes *ephectos*; when eight is reached, because a third is added, there is a second third, which is called *epitritos*; when half is added and there are nine, there is half as much again, and it is called *hemiolios*; when two parts are added and a decad is made, we have the second two-thirds, which they call *epidimoeros*: in the number eleven, because five are added, we have five-sixths, which they call *epipemptos*; twelve, because it is produced from two simple numbers, they call *diplasios*. (7) Not less also because the foot has the sixth part of a man's height, and also because six times, that is the number six, in that it is completed by the number of feet, determined the height of the body, they fixed that number as perfect, observing that the cubit consists of six palms and twenty-four fingers. Hence also the cities of the Greeks seem to have made in a like fashion (just as the cubit is of six palms) six parts of the *drachma*, the coin which they use, stamped bronze coins like *asses*, which they call *obols*; and to have fixed twenty-four quarter obols, called by some *dichalca*, by others *trichalca* to correspond to the fingers. (8) We, however, at first followed the ancient number, and in the *denarius* fixed ten bronze coins; whence to this day the derived name keeps the number ten (*denarius*). And also because the fourth part was made up of two asses and a half, they called it *sestertius*. But afterwards they perceived that both numbers were perfect, both the six and the ten; and they threw both together, and made the most perfect number sixteen. Now of this they found the origin in the foot. For when two palms are taken from the cubit, there is left a foot of four palms, and the palm has four fingers. So it comes that the foot has sixteen fingers, and the bronze denarius as many asses. (9) Therefore, if it is agreed that number is found from the articulation of the body, and that there is a correspondence of the fixed ratio of the separate members to the general form of the body, it remains that we take up those writers who in planning the temples of the immortal gods so ordained the parts of the work that, by the help of proportion and symmetry, their several and general distribution is rendered congruous.

Summary of the Argument

3.1.1 The *ratio* of symmetry is a key 'criterion' in the planning of temples.[20] Symmetry is described as a modular system (*commodulatio*) grounded in a fixed unit (*rata pars*). The human body exemplifies such a modular system (mention here of the *corpus hominis bene figurati*). The modular system of a specific kind of building preexists the construction of the building itself: architecture

20. Note that *ratio*, variously rendered by Granger (1931) as 'method' or 'plan' is a key term in the passage. As Gros, Corso, and Romano (1997), 273, note, it refers here to the 'criterion', or the 'entire system of principles' of symmetry.

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has a strong theoretical dimension since it implies a conceptual step, architectural planning, which respects established norms. The idea of symmetry and numerical harmony as sources of beauty voices a Pythagorean influence (possibly the treatise of Polyclitus on the *Canon*, and the Augustan neo-Pythagoreans).[21]

3.1.2 Description of proportions of the human body established by nature and imitated by painters and sculptors. Architecture is implicitly characterized as a mimetic art. At the same time, Vitruvius uses abstract arithmetic measures and concrete units (such as feet and palms).

3.1.3 Thoughts on the relation between the whole and its parts. Parallel with Plutarch's *De recta ratione audiendi* 13.45c–d: beauty results from several numbers being interlinked by modular relations and converging in the same focal point (*kairós*); it is precisely the tension between single elements and the whole that creates beauty. Vitruvius proves the perfection of human proportions by demonstrating that a human body could be inscribed in a circle and in a square.

3.1.4 Again on architecture as mimetic art. Nature has created a body with perfect proportions; the *antiqui* imitate nature and conceive temples on its model; they have also handed down in their writings the *ordines*, the proportional systems for different kind of buildings.

3.1.5 Perfect numbers and their applications. Harmony seems to result from the convergence of complementary systems. List of reasons for considering ten the perfect number (on anatomical and arithmetic criteria).

3.1.6 / 3.1.7 Reasons for considering six the perfect number (based on anatomical and arithmetic criteria). Discussion of units of measurement in relation to monetary units.

3.1.8 Ten and six both considered perfect numbers; combined they generate sixteen, the most perfect number.

3.1.9 Conclusion: Numerical systems are inferred from human bodies. The proportion between the unit and the whole remains constant. Therefore, we ought to praise the ancients who have organized the construction of temples based on this modular system.

A Challenging Passage

As a reader, I (Giovanna Laterza) find this passage particularly challenging. Vitruvius insistently presents symmetry as the key concept of his theory of architecture: the architectural microcosm mirrors the order of the natural world. However, when he gives details about the proportions of the human body, he sinks the reader into a dense listing of measurements that do not cohere with each other. In particular, he mixes abstract numerical measures with concrete

21. See Stavru (2013).

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units, and he does not propose a coherent system of proportions that is translatable into multiples and submultiples of the same unit.[22]

The obscurity of the text is particularly relevant if we consider that it follows a preface dedicated to a defense of transparency and intelligibility. The preface to book 3 is built around a single image, that of men 'with chests like open windows' (*pectora fenestrata et aperta*, 3.praef.1).[23] Vitruvius states that if people were configured in this fashion, 'the virtues and flaws of their souls' would be visible (*laudes aut uitia animorum*), and their 'theoretical knowledge' as well (*scientiae disciplinarum*). Unfortunately, the Augustan reality seems to be very different: human beings are unreadable; their *scientiae* stay 'hidden' in their chest (*penitus latentes*, 3.praef.2). In the third paragraph of the preface, after having described this everyday reality, Vitruvius depicts his own treatise as a compensatory tool capable of guaranteeing transparency and readability in architectural science (*ostendam nostrae scientiae uirtutem*, 'I shall display the virtue of my discipline', 3.praef.3).[24] It is significant, then, that the very next paragraph, in which we find the *homo bene figuratus*, does not in fact display any of the clarity and transparency envisioned in the preface. Recently, Marco Formisano suggested that the pervasiveness of the body image in Vitruvius' work does not entail a celebration of the treatise's textual coherence but rather offers occasion to call it into question; he argues that it makes the reader realize the gap between the author's professed ambition for coherence on the one hand and his fragmentary writing practice on the other.[25] This thesis, in my opinion, is particularly relevant for the *homo bene figuratus*.

On the methodological level, it is notable that choosing the reading frame 'preface + first chapter' profoundly influences my interpretation of the passage. In this respect, *De architectura* 3.1 with its *obscuritas* seems to defy the self-conscious commitment to transparency contained in the preface. My reading would be significantly different if I took an intertextual approach to the passage or focused on its Renaissance reception. Interpreting, evidently, is a matter of framing. Accordingly, reading *De architectura* 3.1 collectively can help us discover the potential for disruption contained in this single textual portion and give us occasion to put into perspective—from an interdisciplinary standpoint—such complex issues as the canonicity of measurements, the mimetic relationship between art and nature, and the authority of Vitruvian expertise. It is to these and other explorations that we turn in the papers that follow.

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22. Gros (1990), 62; Zöllner (2009).
23. Cf. Laterza (2018).
24. Cf. Novara (2005), 129.
25. Formisano (2016).

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