Vesalius: The China Root Epistle

A NEW TRANSLATION AND CRITICAL EDITION

This book provides the first annotated English translation from the original Latin of Andreas Vesalius' *The China Root Epistle*. Ostensibly his appraisal of a fashionable herbal remedy, *The China Root Epistle* concentrates on Vesalius' skeptical appraisal of traditional Galenic anatomy, which was based on animal rather than human dissections. Along with reflections about his life as a young anatomist, Vesalius argued that the new science of anatomy should devote itself less to rhetorical polemics and more to the craft of direct observation based on human dissection. This volume provides annotations to link the Epistle with Vesalius' earlier and more famous *On the Fabric of the Human Body*, and includes illustrations from the famous woodcuts first used in the 1543 edition of the *Fabrica*.

Daniel H. Garrison is Professor Emeritus in the Department of Classics at Northwestern University. He is the translator of *The Fabric of the Human Body* (with Malcolm Hast) and the author of several books, including *Sexual Culture in Ancient Greece*, *The Student's Catullus*, and *Horace Epodes and Odes: A New Annotated Latin Edition*.

Vesalius: The China Root Epistle

A New Translation and Critical Edition

ANDREAS VESALIUS

EDITED AND TRANSLATED BY

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Northwestern University

WITH ADDED ILLUSTRATIONS FROM THE 1543 AND 1555 *De humani corporis fabrica*

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TRANSLATOR'S INTRODUCTION

When Vesalius' friend Bernardo Navagero, the Venetian ambassador to the court of Charles V, fell ill at Nymwegen in the Netherlands and was not well enough to travel, Charles V assigned Vesalius the task of staying behind to care for him. It was early January 1546, three years since the publication of his epochal atlas of human anatomy, *De humani corporis fabrica*. For about twelve weeks, with little else to do, Vesalius thought and wrote about his work as an anatomist and its meaning for the discipline. The result of his reflection was the book here translated. Its significance lies to a great degree in what Vesalius had to say about the method that would eventually become what we call scientific.

For most of its pages, the *China Root Epistle* is Vesalius' sometimes barbed response to Jacobus Sylvius' vendetta which later (1551) came to print as *Vaesani cujusdam calumniarum in Hippocratis Galenique rem anatomicam depulsio* (A Refutation of Calumnies by a Certain Madman against Hippocratic and Galenic Anatomy), which maliciously turned the genitive *Vesalii* into *Vaesani* "madman."

What was the cause of Sylvius' malice? When Vesalius was a medical student in Paris from 1533 to 1536 he had been (to judge from his earliest remarks in print) an ardent disciple of Sylvius, who in defiance of tradition performed his own dissections while he lectured. Vesalius had probably earned his teacher's favorable attention, though nothing is recorded about the actual relationship between the two. Sylvius (Jacques Dubois) was a committed humanist who believed that the Ancients wrote nothing wrong, and that the best their latter-day admirers could do was to transmit ancient Greek (as opposed to medieval Arabic) wisdom uncontaminated. In taking this position, Sylvius and his fellow humanists placed their faith in personalities, especially that of Galen of Pergamon (AD 129–199 or 216), rather than a method.

When Vesalius moved on to Padua in 1537, he began to make a reputation there and at Bologna pointing out Galen's errors that resulted from projecting animal anatomy onto humans. Sylvius would have seen this as a treacherous abandonment of the humanist faith. When Sylvius wrote about anatomy, he skirted the errors of Galen in silence. Vesalius' repeated, insistent, and overt assertion of Galen's errors would have seemed flamboyant and insolent to Sylvius' cautious but caustic nature. To the mind of Sylvius, the controversy about anatomy had been poisoned by disloyalty. Worse yet, it had become clear soon after 1543 that Vesalius' anti-Galenic *Fabrica* was destined to eclipse any Galenic anatomy book Sylvius could aspire to write.

Vesalius' response in the *China Root Epistle* to Sylvius' attacks was in the first place a fresh articulation of Galen's many errors and in the second an effort to protest that he was no traitor to the humanist

cause. The truth was more complicated. A great deal of what Vesalius had published three years earlier about the fabric of the human body was still Galenic and left many of Galen's errors and other faults of traditional anatomy unchallenged. At the same time, even while he was writing the *Fabrica* Vesalius' own thinking had evolved and he could no longer be the faithful disciple of the Ancients, as he wished to be perceived. To fit that paradox, Vesalius needed to throw some rhetorical sand in his readers' eyes.

To start with, he draped his response to Sylvius in the sheep's clothing of a monograph on a fashionable herbal remedy that was in great demand by wealthy patients who suffered from any of the three great scourges of the age: syphilis, gout, and stone. All three were practically incurable, and seemed to concentrate their attacks upon the most successful and gifted: stone, for example, afflicted Thomas Linacre (1460–1524), Desiderius Erasmus (1466–1536), Francis Walsingham (1532–1590), Michel de Montaigne (1533–1592), Oliver Cromwell (1599–1658), John Dryden (1631–1700), Samuel Pepys (1633–1703), and Isaac Newton (1643–1727).

Gout, "the patrician malady," tortured the Medici patriarch Cosimo de' Medici (1389–1464), his son Piero il Gottoso "the Gouty" (1416–1469), Vesalius' patron Charles V, his medical colleague Ambroise Paré (1510–1590), Elizabeth I's chief advisor William Cecil (1521–1598), and scores of other notables. Because syphilis, the *mal Francese*, bore the stigma of sexual incontinence, its victims were often unacknowledged. They may have included Cesare Borgia (1475–1507), the English monarch Henry VIII (1491–1547), and the Russian Czar Ivan the Terrible (1530–1584), and certainly included numerous princes of the Church, including Giuliano della Rovere (1443–1513), who became Pope Julius II in 1503. Its later victims included Franz Schubert, who died at 31 in 1828.

The demand for a cure was insistent and well funded, as was the demand for professional appraisals of the most celebrated treatments for all three afflictions. Such an appraisal by the author of the *Fabrica*,

who was also a member of the Holy Roman Emperor's personal medical staff, was sure to circulate widely in the medical community. It was published twice (Basel and Venice) in 1546, the year of its completion, and a third time the next year in Lyon. A German version dealing only with the China root question was published in Würzburg in 1548. More Latin reprints appeared in 1566, 1599, and 1728.[1]

Though not the main subject of the monograph that bears its name, the China root was a hot topic in 1546. The eponymous herbal was the rootstock of *smilax china*, a plant native to the East Indies that is still used in traditional Chinese medicine. Its aqueous extract is believed to have anti-inflammatory and analgesic properties,[2] making it roughly comparable to aspirin (whatever additional placebo effects it may have had). Introduced into Europe as early as 1525 and a widely known specific against syphilis by 1535,[3] it was thought to promote perspiration and urine and was used for a variety of other diseases, including gout and stone. It remained unmentioned by the leading botanists of the time.[4] But by 1546, it was a celebrated panacea demanded by wealthy clients such as Vesalius' own patron, the Holy Roman Emperor Charles V. Vesalius' professional judgment of the China root was at best polite and agnostic, but long before the end of his *Epistle* he dismissed it as *stupidus* and devoted the rest of his monograph to topics that were closer to his heart: his insistence that Galen was an unreliable authority on human anatomy because he had dissected animals instead of humans, and his defense against Sylvius' scurrilous attacks.

It is likely that some of this larger part of the *Epistle* originated from the projected annotations to the anatomical works of Galen that

1 Cushing 1962, 163–7.

2 Shu et al. 2006. The rhizome of a related plant, *Smilax glabra*, known in English as the glabrous greenbrier rhizome, has been used recently in combination with other Chinese herbs in the treatment of syphilis (Bensky & Gamble 1986, 144f.).

3 Schmitz and Tan 1967, 221.

4 For example, Johannes Ruellius *De medicamentorum compositione* (1540), Leonhard Fuchs *De historia stirpium* (1542), Pierandrea Mattioli *Commentarii in sex libros Pedacii Dioscoridis* (1544), Johannes Actuarius *De medicamentorum compositione* (1546).

Vesalius referred to at the end of his chapter in the *Fabrica* on the flexors and extensors of the radius, Bk. II ch. 46: "I shall reveal all of this in my annotations to the Anatomical Works of Galen, which I have already well begun and shall at some time publish separately or together with the books of Galen much better corrected than formerly."[5] But near the end of this *Epistle* (page 195 of the Basel edition) Vesalius says that he burned those annotations along with other writings when he left his academic post at Padua to enter the service of Charles V. By that time, he says, his notes on Galen had grown into a massive work, *ingens volumen*. Either he reconstructed some of them from memory for the *Epistle* or he exaggerated when he said he had burned them. Whatever the case, the length of his remarks in the *Epistle* on the errors of Galen reflects the regret he expresses here at the *petulentia* with which he had abandoned his research as an anatomist.

Taken in this way, the *Epistle* may be thought of as the core of the lost commentary on Galen, drawing upon what Vesalius had already published in the *Fabrica* and expanding those remarks into a sustained polemic using a series of discrepancies between Galen's animal-based anatomy and Vesalius' anatomy founded upon human dissection. It testifies more than the *Fabrica* to Vesalius' substantial work in comparative anatomy, particularly in parallel dissections of human parts with corresponding parts of common mammals and caudate and non-caudate simians, with a view to identifying which parts corresponded to Galen's descriptions and which did not. The *Epistle* reminded its readers that the case against Galenism was massive, pervading the functions as well as the fabric of the entire human body.

The rapidity with which the *Epistle* was written and the lack of an editor resulted in some repetitiveness in the later pages, where

[5] On these abandoned projects, see O'Malley 1964, 190 f., 223. Nancy Siraisi has called this type of commentary, in which Giovanni Argenterio also engaged, a "counter-commentary" because it concentrated on pointing out errors. (Siraisi 1990, 172).

Vesalius restates criticisms of Galen he had mentioned earlier. Though these repetitions give those pages a rambling quality, they also reveal some errors of Galen that were particularly on the author's mind. These include the observation that the omohyoid muscle does not move the scapula (pp. 58, 159), the correct length of the styloid process of the ulna (pp. 104, 154), and the function of the pancreas relative to the lower orifice of the stomach (pp. 111, 172). The most persistent repetition regards the absence of any vessel that might convey black bile from the spleen to the stomach (pp. 133, 135, 138, 173). Though Vesalius refrains from mentioning the effect of this vascular hiatus upon the folklore of melancholia and humoral medicine generally, it may be speculated that the question was something he hoped his readers would take up.

In centering his *Epistle* on criticisms of Galen and Galenism, Vesalius wished to avoid being perceived as a traitor to the humanist cause, which aimed to restore the pristine dominance of Greek medicine, still held up as the one and only *prisca medicina*. He sometimes, therefore, casts Galen as the wrong-headed detractor of the Ancients who substituted animal anatomy for the human anatomy in which they (especially the Alexandrians of the 3rd century BC) were supposedly versed. Just before the middle of the *Epistle* he stakes out his ground as the champion of Greek (as opposed to Galenic) anatomy:

> When Galen cut up his monkeys and saw that they differed from the description of the ancients, who trained themselves on human dissections, he did not scruple to state that they had not seen that [third] fiber of the lung and who knows what else. I should therefore be thought more impious if I had not vindicated those Ancients with a true description of the human fabric. If because of the powerful devotion to Galen under which I labor and my special regard for him I were to leave his opinions everywhere undisturbed contrary to the testimony of my eyes

> and the truth of the matter, I should be willing to have my generation wander in confusion like all the ages that have followed Galen, and let his misrepresentation of the Greeks go undetected.[6]

As he draws nearer the end of the *Epistle*, Vesalius articulates a critique of medical work that sets aside the vendettas and polemics with which Galen and his successors (including Vesalius himself) had overly occupied themselves. The craft of medicine, he says, is not about criticizing the books others have written or the authors who wrote them but about

> the diligent and careful dissection of humans, simians, and certain other animals. Nor is it sufficient to occupy oneself in speaking ill of someone or ridiculing the efforts of others and to detract equally from one's own and others' glory … when one should rather be working up a sweat in common efforts at the truth, and believing that we too were born human. Something in the vast art of medicine may be present in us, as well as a faculty of discovery, if we are more strongly held by a desire for truth than for calumniating others.

In making this remark he is not only distancing himself from the critiques of Galen and Galenists to which he had devoted his writing career, he is also distancing medical research from personal rivalry and from the philological work that humanist scholars like Cornarius were doing, and asserting its focus upon "diligent and careful dissection."

[6] Galenus enim, quum simias suas scinderet, illasque a veterum qui hominum dissectionibus sese exercebant historia abesse videret, non veritus est testari, eos illam pulmonis fibram, & nescio quae alia, latuisse. Adeo ut magis impius censeri deberem, si in vera hominis fabricae historia Veteres illos non excusassem: quam si propter insignem quo erga Galenum laboro affectum, singularemque observantiam, illius placita undique imperturbata reliquissem: atque hoc nostrum seculum, perinde atque omnia quae Galenum secuta sunt, hallucinari, & Graecorum imposturam latêre voluissem. (p. 95).

Vesalius is no longer thinking like a humanist; he is and beginning to think like a scientist.

It is clear from a letter that Vesalius sent to Thomas Gast, his friend in Basel, that he set great store by this little publication:

> I should be happy to have the work published soon and in elegant format. I request you to advise Oporinus to use the best paper and to see that the book has wide margins. I shall bear the extra cost. Thereby the printing is clearer and the work of the typographer made easier. The larger a book is, the greater my pleasure in it. I know you will laugh at my wishes; nevertheless, I wish it. Nothing gives me more pleasure than a splendid edition of my work. … Impress it upon Oporinus that he is not, as is his custom, to allow my manuscript to remain for a long time in his drawer.[7]

Vesalius always wrote best when describing a procedure such as a dissection (in the *Fabrica*) or the preparation of a decoction (in the *Epistle*). His language is most tortured in his polemical mode, when he is putting his mental agility on display. Vesalius took from Galen and from the worst vices of medieval scholasticism a preference for dense polemic where we should have preferred clear exposition and economy of language.

His Latinity, seldom transparent at any time, is especially slapdash in the *Epistle*, changing constructions in mid-sentence, moving in weird ellipses, using nonstandard constructions, and more than once abandoning the rules of syntax altogether. This could be the result of lacking an editor for the *Epistle* or of writing even more hastily than he had for the 1543 *Fabrica*. It could also be the result of

[7] English translation from O'Malley 1964, 455 n. 149.

the transmission of his text, which appears from the preface written by Vesalius' brother Franciscus to be a fourth-generation copy. From the autograph (first generation), Jacob Scepper made a copy (second generation) to carry to Ferrara; a copy of that was then made (third generation, by Franciscus) for delivery to Vesalius' publisher Oporinus in Basel, whose printed *Epistle* became the fourth generation. O'Malley speculates that Vesalius sent a revised version of his monograph to Oporinus containing his corrections of the copy set to type by the printer,[8] but we see little evidence of a careful recension by the author before it went to press. Whatever the case, this translation is based upon Oporinus' *editio princeps*. The Latin, sometimes rapid and clear, more often falls into a congested state that requires careful unpacking and diligent guesswork.

Vesalius is not the only important author whose prose was notoriously unreadable. Writing in the first century BC, the literary critic and historian Dionysius of Halicarnassus said about Thucydides' Greek "If people actually spoke like this, not even their mothers or their fathers would be able to tolerate the unpleasantness of it; in fact they would need translators, as if they were writing in a foreign language."[9] Vesalius' Latin in the *Epistle* makes it a foreign language even to the lifelong reader of Latin. It shows an impatience with the language of the humanists which he increasingly seems to have felt had become an end in itself rather than the means to an end. Yet instead of trying to make it more transparent, he made it still more opaque.

Vesalius' language is insistently visual and his working vocabulary is immense.[10] Though humanist Latin endeavored to use only

[8] O'Malley 1964, 455 n. 149.

[9] Quoted by Mary Beard in "Which Thucydides Can You Trust?" *New York Review of Books* LVII.14 (September 30, 2010), p. 52.

[10] Like every serious writer of his time in Europe, Vesalius was influenced by Erasmus' *De copia*, first sketched in 1499 but emended and expanded throughout his life until Froben's edition of 1534, which begins "The speech of man is a magnificent and impressive thing when it surges along like a golden river, with thoughts and words pouring out in rich abundance." (tr. Betty I. Knott, *De Copia. Foundations of the*

the classical vocabulary, this would have been difficult in a field such as medicine which had for centuries been developing new words and meanings. As we have already seen, it is no longer strictly accurate to call the Vesalius of 1546 a humanist.

The resulting complexity of Vesalius' Latin makes a literal translation more difficult than it would be for a classical author (not including Thucydides) who was a native speaker. Some word meanings have to be backed out of the Oxford English Dictionary, and many eccentric constructions can only be paraphrased. As when translating the *Fabrica*, I have not tried to mask the way Vesalius wrote, though I have always tried to make it clear and I regularly break down sentences that ramble on too long. The resulting English will not resemble the crisp, efficient language we have been taught to write, because the canons of Early Modern style favored bulk and complexity over concision. What Vesalius feared most to write was something that would seem *sterilis* or *ieiunus*, barren or meager.[11]

In preparing this annotated translation I have mapped the most important links to the 1543 *Fabrica* which serve as a background to what Vesalius wrote in the *Epistle*. Of course, the *Epistle* is not simply a recitation or précis of what was in the *Fabrica*, being often more detailed in its account of Galen's errors and sometimes offering new evidence that Galen did not dissect human cadavers. The annotations here sometimes repeat what I wrote for the *Fabrica* where that is relevant, and where it might be helpful I supply the *nomina anatomica* that my co-author Malcolm Hast provided for the *Fabrica*, with his kind permission.

Except for the portrait of Vesalius in the frontispiece, three large historiated capitals, two of a smaller type, and a colophon figure of Arion, the *Epistle* was printed without illustrations. Partly to relieve

Abundant Style. Vol. 24, Collected Works of Erasmus. Toronto: University of Toronto Press, 1974).

11 *ut non quantum sterili mea ieiunaque dictione datum fuit* (p. 44 in the 1546 *Epistola*).