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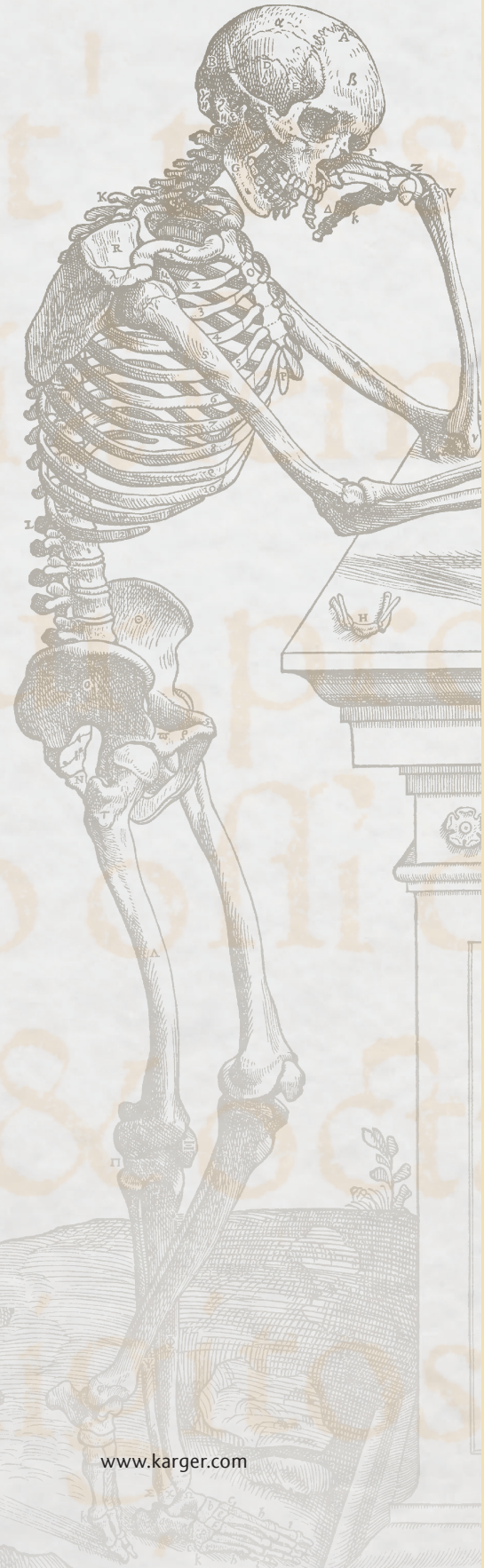

ANDREAS VESALIUS

The Fabric of the Human Body

An Annotated Translation of the 1543 and 1555 Editions with Vesalius' Own Notes for a Never Published Third Edition

DANIEL H. GARRISON
MALCOLM H. HAST

- Modern layout enables the 21st-century reader to understand and delve into the complexity and the pioneering nature of this milestone in medical history without the need of knowing Latin
- Different colors allow easy identification of notes relevant to both the 1543 and the 1555 editions
- Added notes for a never published third edition
- Up-to-date design and high-resolution digital scans of the woodcuts
- *Nomina Anatomica* and *Terminologia Anatomica* for the first time included to provide Vesalius' descriptions with modern medical terminology
- Prefaces by the translators and introductions by medical historians Vivian Nutton and Nancy Siraisi

Special pre-publication offer until September 2013

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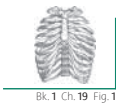
Get a feeling for the new layout of *The Fabric of the Human Body* (2014)

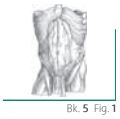

Bk. 1 Ch. 19 Fig. 1

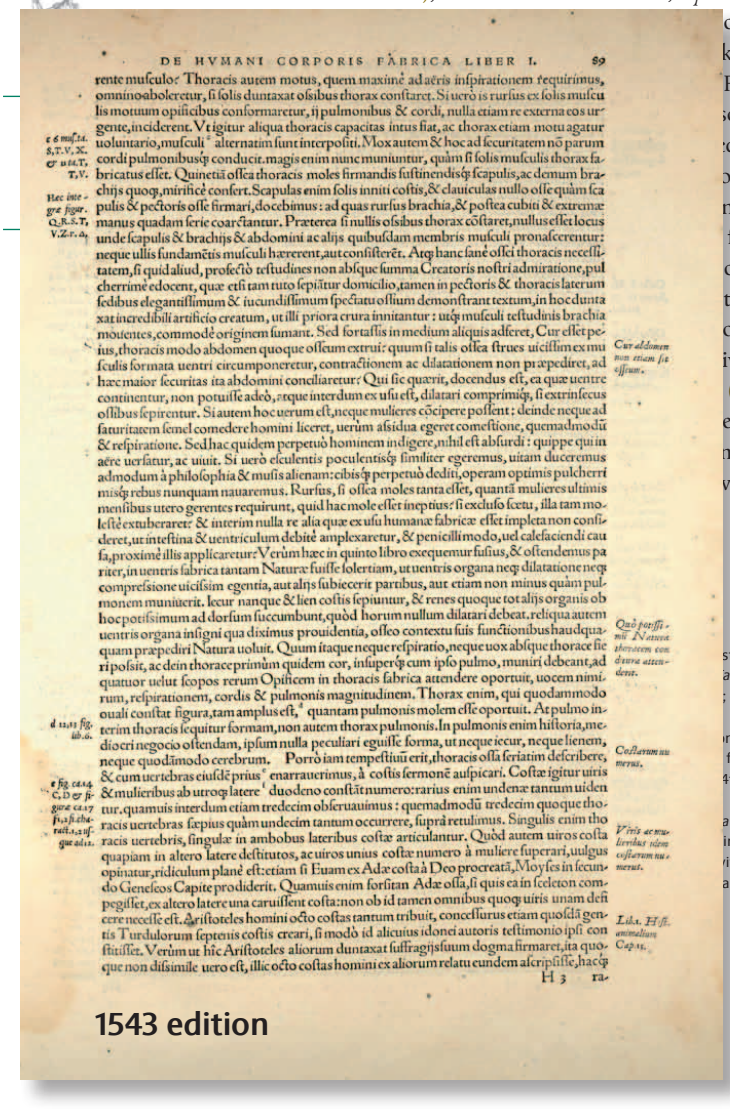
Bk. 1 Ch. 19 Fig. 2

Bk. 1 Skeletons 1

Bk. 2 Table 7

Bk. 2 Table 8


Bk. 5 Fig. 1


DE HVMANI CORPORIS FABRICA LIBER I. 89

1543 edition

WHAT THE THORAX IS; THE CHEST; THE PECTORAL BONE [STERNUM]

EVERYTHING contained and circumscribed by the ribs (figs. 1 and 2 show the full array of thoracic bones) we shall call the thorax; we do not include, with Aristotle,[22] the entire trunk of the body (from O to ς in the skeletons),[23] which we measure from the throat to the pubic area. We shall, for convenience's sake, call the anterior part of the thorax the chest, *pectus*, and for this reason, the wide bone in this location (g, h, i in fig. 1) to which the ribs are articulated will fittingly be called the pectoral or chest bone [sternum], lest we seem negligently to confuse the three words of the Greeks and especially Galen: θώραξ, στῆθος, and στέρνον. Thus, the pectoral bone, ribs, and twelve dorsal vertebrae, which I previously called thoracic, are the bones of the thorax.

THE DILIGENCE OF THE MAKER OF THINGS IN CREATING THE THORAX[24]

The industry of the supreme Maker of things, by which the thorax as a whole is neither bony nor fleshy but bone alternating by turns with flesh (the 7th and 8th tables of muscles illustrate this),[25] is admirable. The skull, by contrast, is chiefly of ketchy or For since son, bone d around omething nstructed for mus- compres- the brain ome such iver, such (the first e uterus[27] mach put velling of

things gestating in the uterus protrude? Where would excrement be set aside, or how would offspring be expelled in fruitful labor? Could it happen if no muscle[28] rendered assistance here? The motion of the thorax, which we need most of all for the inspiration of air, would be lost altogether if the thorax consisted only of bones. If, on the other hand, it were fashioned solely from muscles that create motion, these would impinge upon the lungs and the heart even without the pressure of something external. So, in order to have some inner thoracic capacity, and for the thorax to be moved voluntarily, muscles (S, T, V, X in the 6th table of muscles,[29] and T T, V in the 11th[30]) are placed alternately between the ribs. This immediately contributes in no small way to the security of the heart and lungs, for they are now better protected than if the thorax had been constructed solely of muscles. What is more, the bony mass of the thorax contributes admirably to strengthening and supporting the scapulae and thence the arms as well; for we shall explain that the scapulae rest upon the ribs only, and the clavicles are supported by no bone except the pectoral bone and the scapulae, to which in turn are attached the humerus, the forearm, and the hand in a series (these are Q, R, S, T, V, Z, Γ, Δ in the skeletal figures)[31]. If the thorax were constructed with no bones, there would be no place from which muscles could originate for the scapula, the humerus, the abdomen, and certain other members, nor would muscles attach to or be situated on any foundations. And, surely, turtles instruct us perfectly regarding this necessity of the thoracic bone, if anything does, to the supreme credit of our Creator: these turtles are walled about with such a safe house, yet in the lateral surfaces of the chest and thorax they show the most elegant and beautiful structure of bones, created with astonishing craft for the sole purpose that the forward limbs might rest upon it, and so that the muscles moving the turtle's arms might conveniently originate from it.

WHY THE ABDOMEN IS NOT ALSO BONY[32]

But perhaps someone might interject: 'Why should not the abdomen also be made bony, like the thorax? For if such a bony mass formed in alternation with muscles were placed around the belly, it would not interfere with its contraction

st skeleton
abrica.
; ς = *crista*
ne that fol-
from Galen,
4ff. See May,
a thoracica.
ing Galen's
ital organs
art, and liver.

27 1555 adds: "surely not the least instrument of generation."

28 *Diaphragma thoracoabdominale, musculi abdominis, diaphragma pelvis, d. urogenitale.*

29 Labeled by Vesalius as **S** for *os costale*, **T** for *cartilago costalis*, **V** for *musculus intercostalis externus*, and **X** for *m. intercostalis internus.*

30 **V** = *musculus intercostalis externus*; **T** = *os costale.*

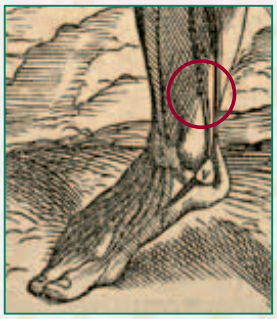
31 **Q** = *clavicula*; **R** = *scapula*; **S** = *humerus*; **T** = *articulatio humeroradialis*; **V** = *processus styloideus radii*; **Z** = *ossa metacarpi*; **Δ** = *ossa digitorum.*

32 This section, omitted from the 1555 edition, continues Vesalius' paraphrase of *De usu partium* 3.600.16ff.; see May, 1968, p. 380. Siraisi (1997, p. 11) points out that causal explanations of this kind diminish as one moves through the 1543 edition, and many, including the present instance, were systematically removed from the second edition.

Explore some special features of *The Fabric of the Human Body*

The Fabric of the Human Body uses fresh high-resolution digital scans of the 273 woodcut illustrations used in *De humani corporis fabrica*. Each woodcut has been carefully restored to ensure legibility it has never had before and to reflect the intention of Vesalius.

1543

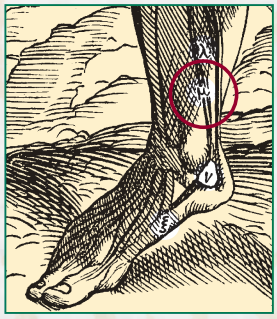


First edition

1555

Second edition

2014



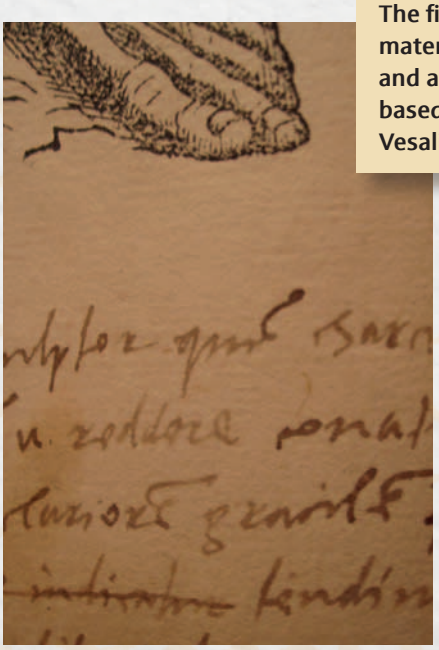
Digitally reconstructed edition

Atque ita temporis ſucceſſu, curandi ratio tam miſerè diuulſa eſt, ut medici quidem, ſe phyſicorum nomine uenditantes, medicamentorum & uictus ad reconditos affectus præſcriptionem ſibi duntaxat arrogauerint: reliquam autem medicinam, ijs quos Chirurgos nominant, uixq; famulorum loco habent, relegarint, turpiter à ſe quod præcipuum & antiquiſſimum eſt medicinæ membrum, quodq; naturæ ſpeculationi (ſi modò quod aliud) in primis innititur, depellentes:

And so, in the passage of time, the science of healing has been so sadly torn asunder that certain doctors, peddling themselves as physicians, have taken for themselves exclusively the prescription of medication and diet for hidden conditions; other branches of medicine they relegated to those whom they call surgeons and scarcely respect as servants, disgracefully spurning what is a principal and most ancient branch of medicine, one preeminently reliant (if anything is) upon the investigation of nature:

The translation of *De humani corporis fabrica* is faithful to the actual language of Vesalius, telling the reader a great deal about the way he thought, which is essential in that rhetoric and language are crucial elements of the book.

The first translation to incorporate material from the second edition and a never published third edition based on newly discovered notes in Vesalius' own handwriting



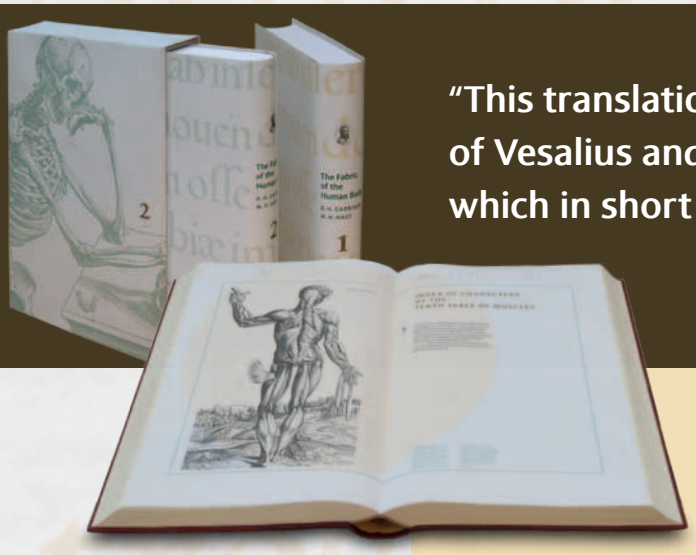
The annotations in **The Fabric of the Human Body** identify Vesalius' relation to the ancient authorities on whom Humanistic medicine based its anatomical knowledge, providing text citations and translations of passages from Galen, Cicero, Aristotle, Plato, and the Hippocratics, as well as notes on Vesalius' unacknowledged sources.

The Fabric of the Human Body translates both the 1543 and 1555 editions, with added notes regarding the 1546 *Epistle on the China Root*, the 1538 *Tabulae sex*, the 1539 *Venesection Letter*, and Vesalius' notes for a never published third edition of *De humani corporis fabrica*.

ped

Basel Antiqua

In keeping with the uniqueness of Vesalius' masterpiece and the font in which it was first published, the designer, Christian Mengelt, developed a typeface based upon the font distinctive to 16th century Basel. Basel Antiqua is a modern rendition of that typeface.



"This translation allows a true understanding of Vesalius and his achievement for the first time, which in short makes it a new *Fabrica*."

Vivian Nutton

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