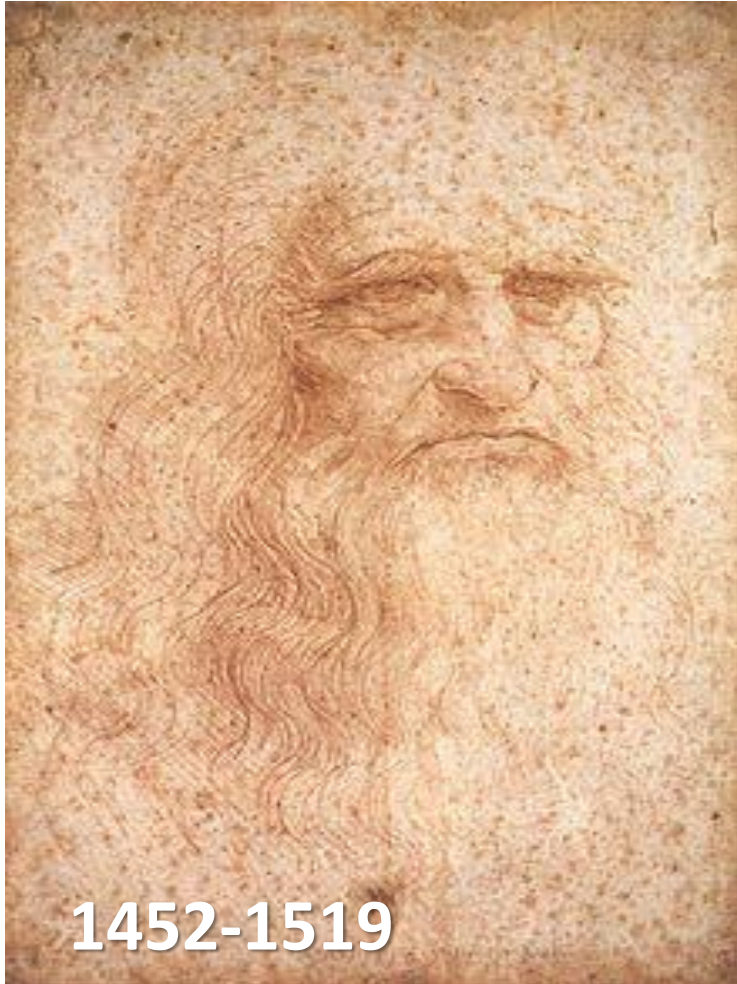


Leonardo da Vinci:

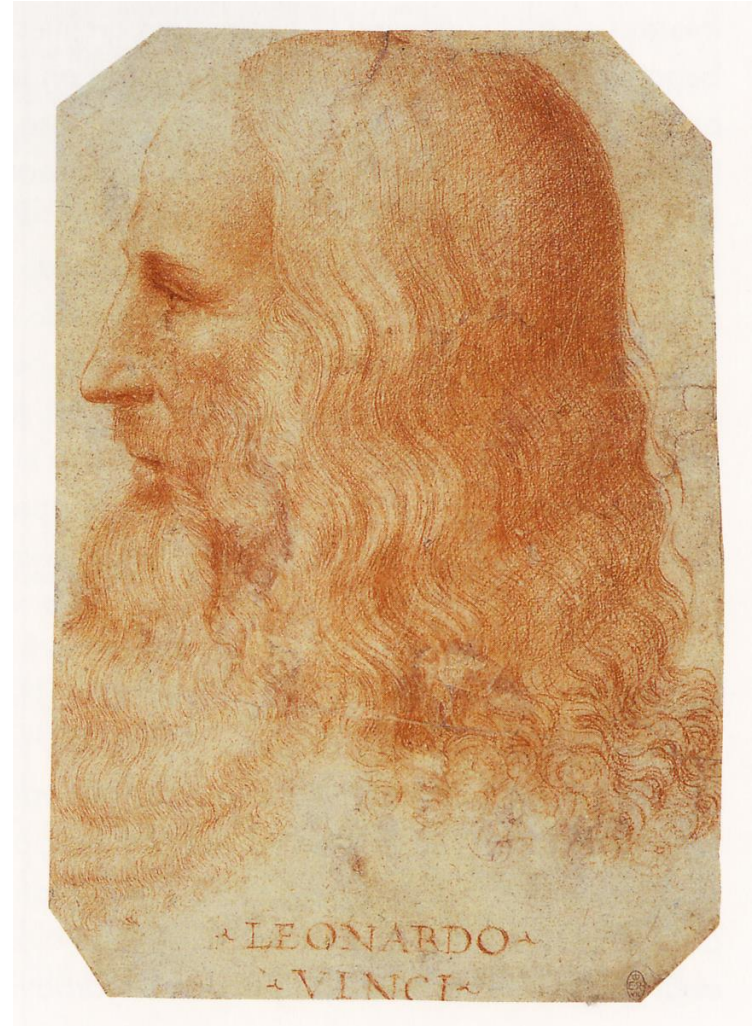
The Science of Human Anatomy

“The noblest pleasure is the joy of understanding”



1452-1519

Self-portrait, 1512-15



Francesco Melzi, 1515



Salvator Mundi c.1500
\$450m 2017

Mona Lisa c.1503
\$100m 1962

Leonardo da Vinci

And the Science of Anatomy



Brief biography

Story of the drawings

Motivation towards the science of anatomy

Facts, Fictions, & *Ideological distortions*

Major influencers

Leonardo's contribution in context

1452-1519

Francesco Melzi, 1515



Vinci, near Florence Italy



Château du Clos Lucé, near Château d'Amboise

The Death of Leonardo da Vinci, 1619



Jean Auguste Dominique Ingres, 1818



Francesco Melzi
c. 1492-1570

Self-portrait



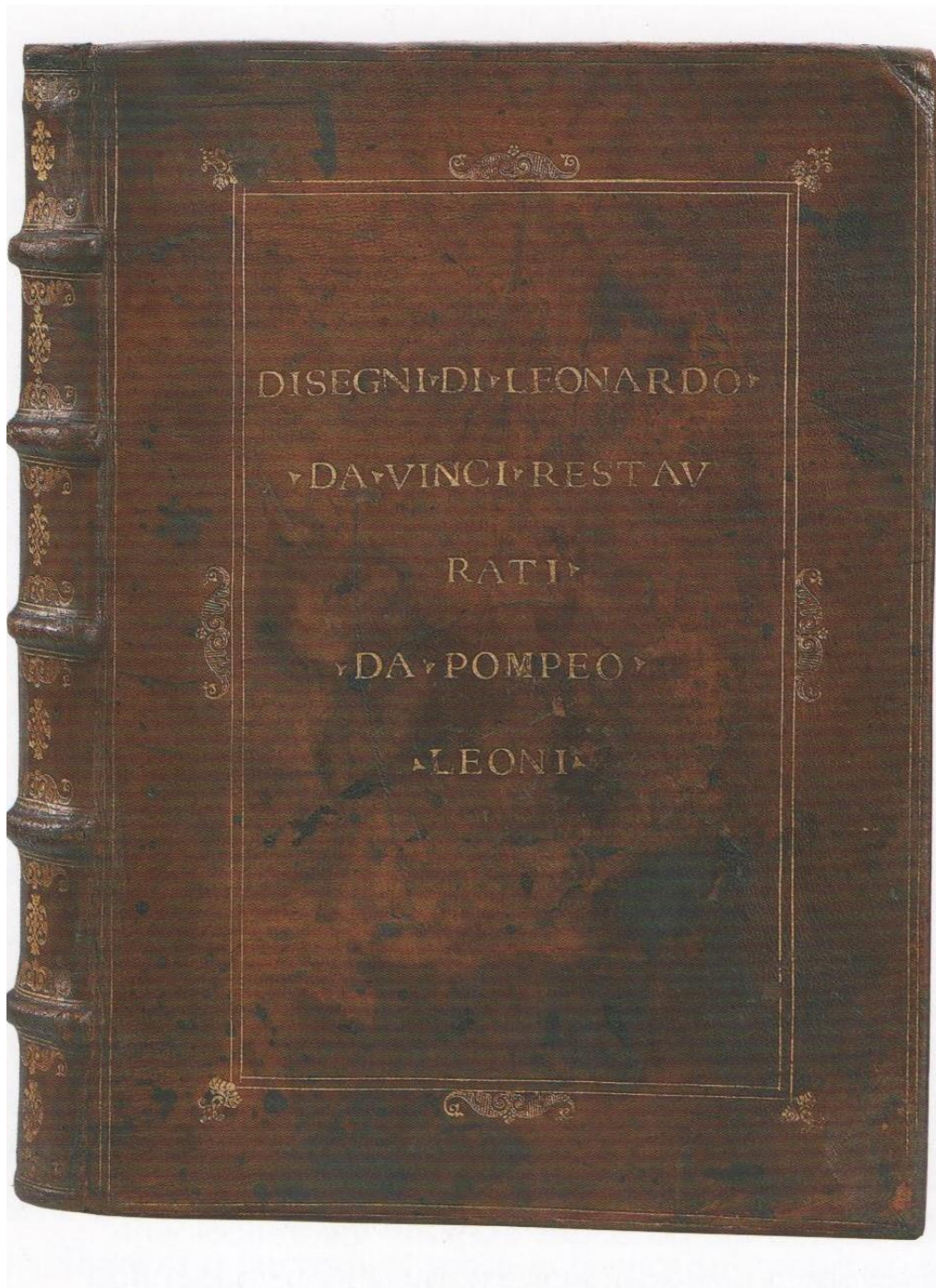
The Story of the Anatomical drawings: From Amboise to Windsor



‘Free to think , dream and work’

Melzi returns to Vaprio, Milan with
c. 600 sheets of drawings and handwritten text...
Shows to *Giorgio Vasari*.....

Dies in 1570, and leaves to his son,
who sells to *Pompeo Leoni* –sculptor.....



The Leoni binding

c. 1590-1600

Pompeo Leoni, sculptor
bought Leonardo's papers
From Melzi's son c. 1590

Thomas Howard, 2nd Earl of Arundel
Special Envoy to Charles I



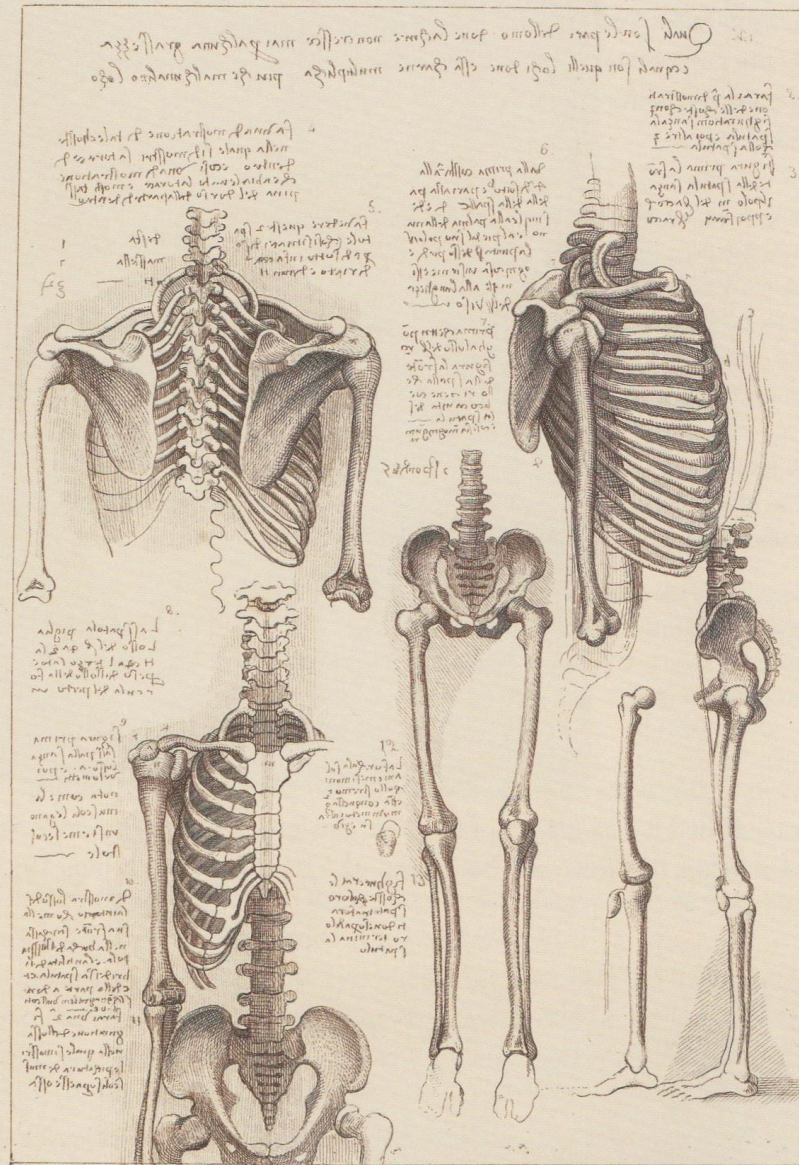
Windsor Castle, The Royal Library



Dr William Hunter FRS
1718-83
Scottish Anatomist and Obstetrician



Dr John Hunter FRS
1728-93
Scottish surgeon



From the Original Drawing by Leonardo da Vinci. Engraved by F. Bartolozzi RA Historical Engraver to his Majesty.

IN HIS MAJESTY'S COLLECTION.

Published as the Act directs August 15th 1793 by L. Colman & Co. London.

Etching by
Francesco Bartolozzi
 1795



Andrea del Verrocchio, 1435-88



Marc Antonio Della Torre, 1481-1511



Florence, 1475



1495



1504 - 06



Early period in Milan

*'On this 2nd day of April
1489.*

*Book entitled
On the Human Figure'*

Anatomical studies:

Early - Milan, 1487-95

Mid - Florence, 1504-9

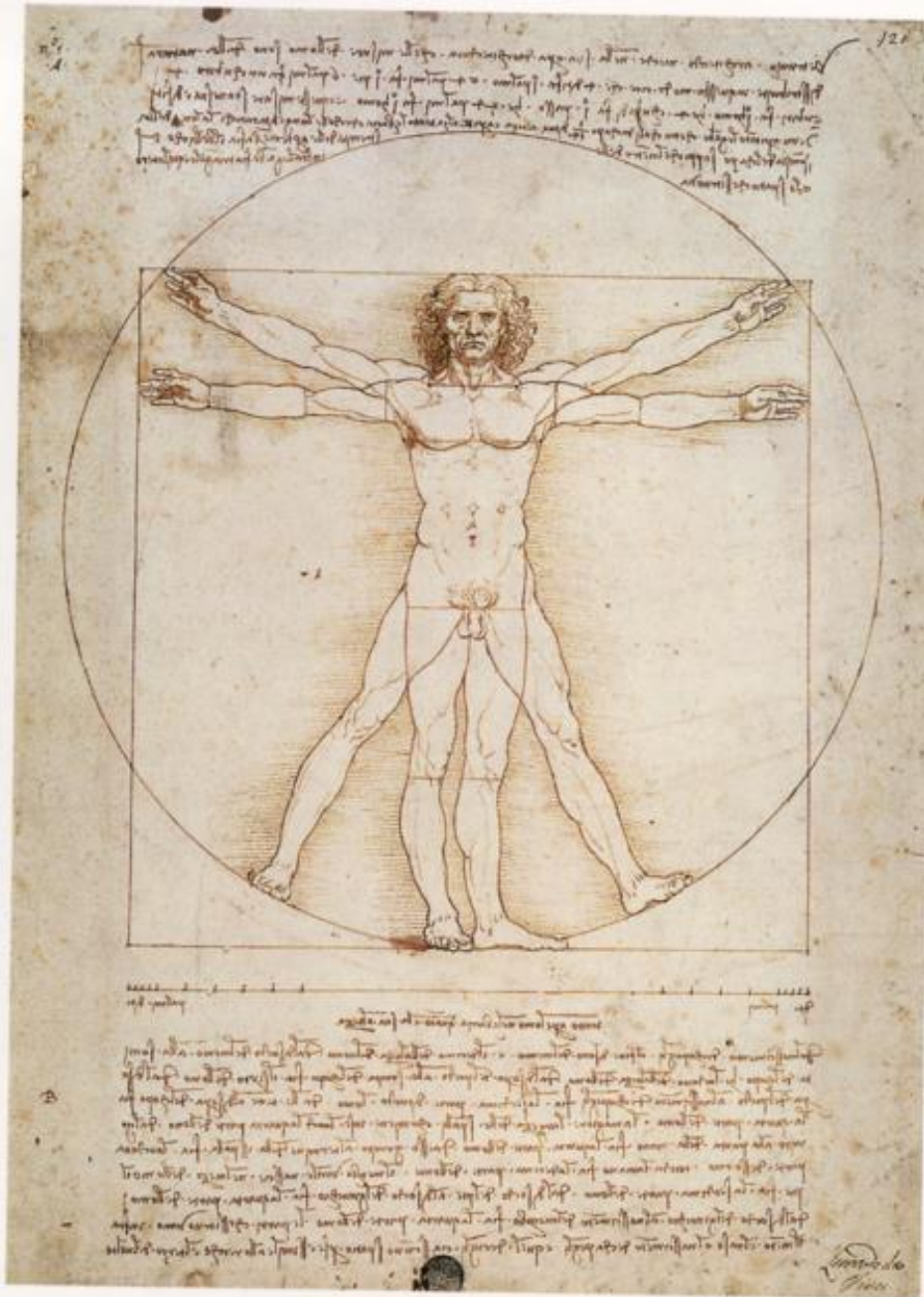
Late - Pavia/Rome, 1510-13

An Obsession with Proportion

Vitruvius:

80/90 BC - 15 BC

Writer, Architect, Engineer



Head	$\frac{1}{8}$
Face	$\frac{1}{10}$
Hand	$\frac{1}{10}$
Knee	$\frac{1}{4}$

c. 1490



[Faint, illegible handwriting]



1. The first part of the document is a letter from the President of the United States to the Congress, dated 1793. It is a copy of the original, and is signed by the President. The letter is addressed to the Congress, and is dated 1793. The letter is a copy of the original, and is signed by the President. The letter is addressed to the Congress, and is dated 1793.



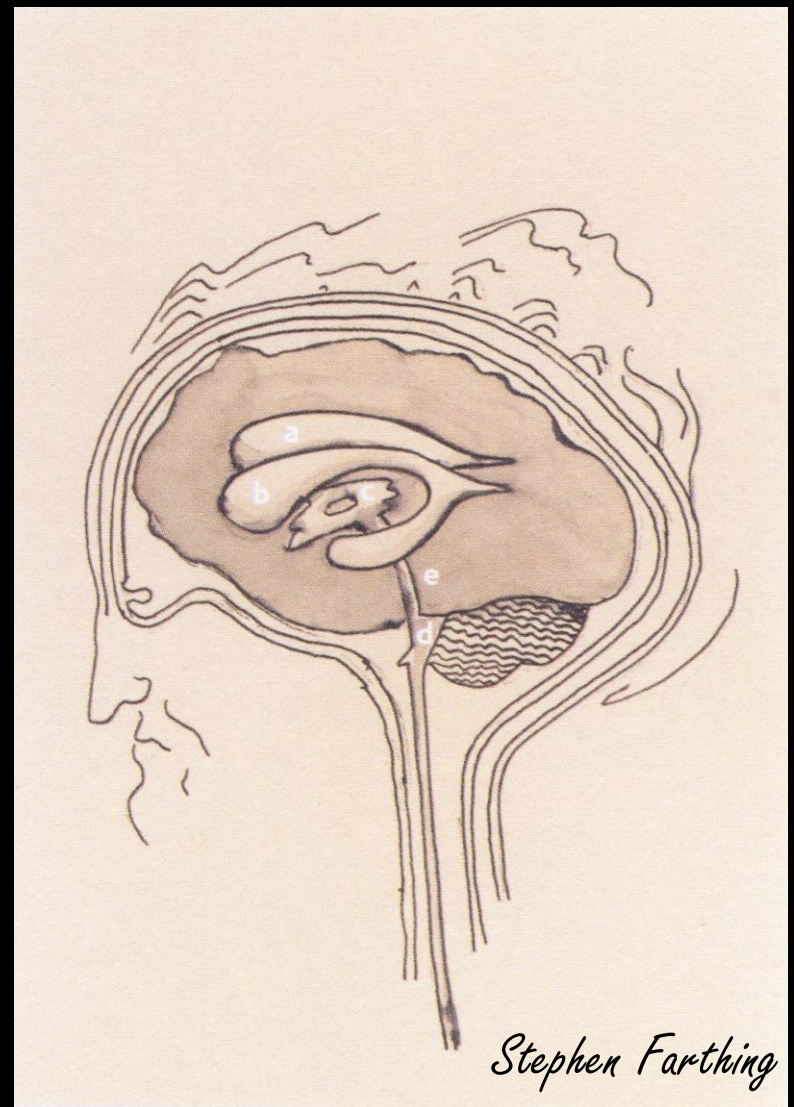
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 3. *Die dritte Aufgabe* ist die, die *Wahrheit* zu gebrauchen.
 4. *Die vierte Aufgabe* ist die, die *Wahrheit* zu lieben.
 5. *Die fünfte Aufgabe* ist die, die *Wahrheit* zu verkünden.



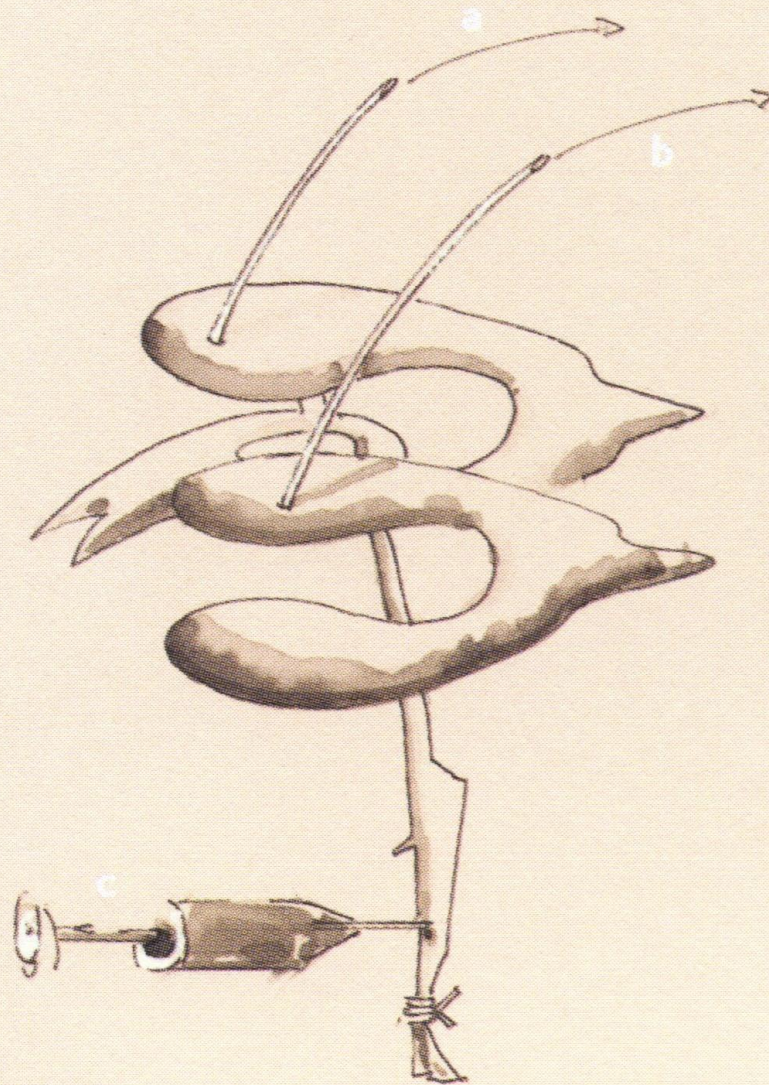
1. *Handwritten text, likely bleed-through from the reverse side of the page.*



1490-92

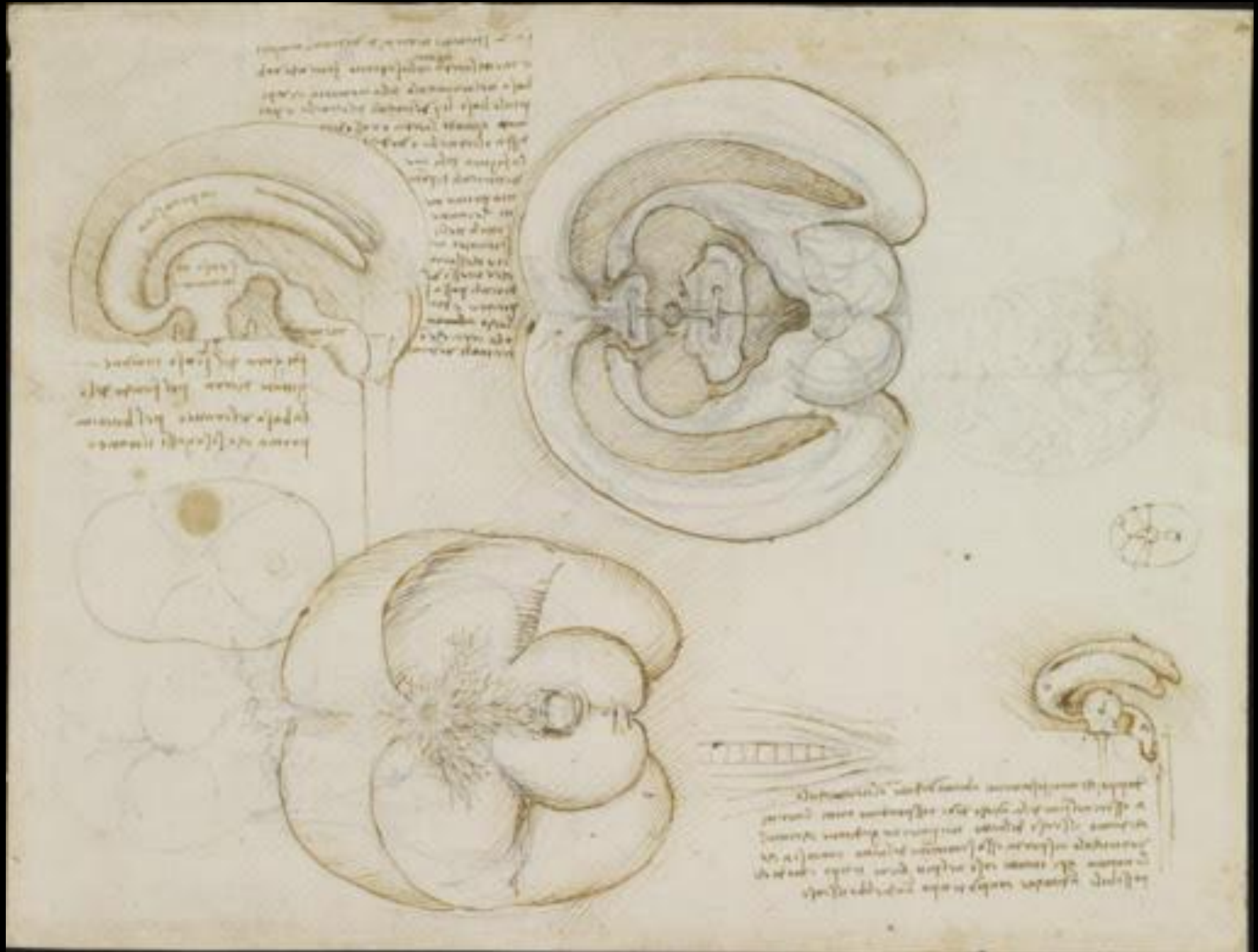


2016



Stephen Farthing

2016



1508-09

'Imprensiva, senso communis, memoria'

Human Reproduction

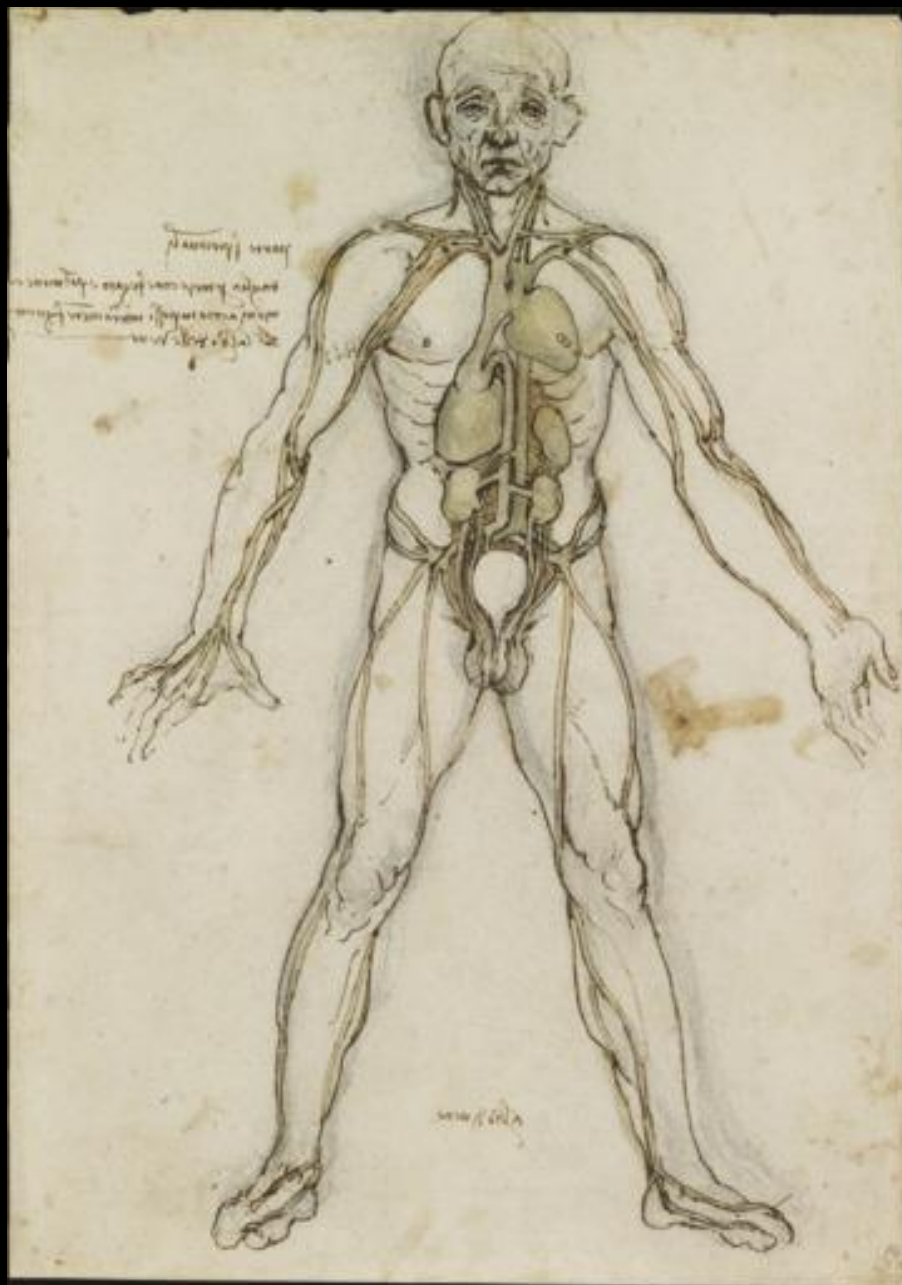
'Fictitious forms to fulfil speculative function'

Martin Kemp, 1981

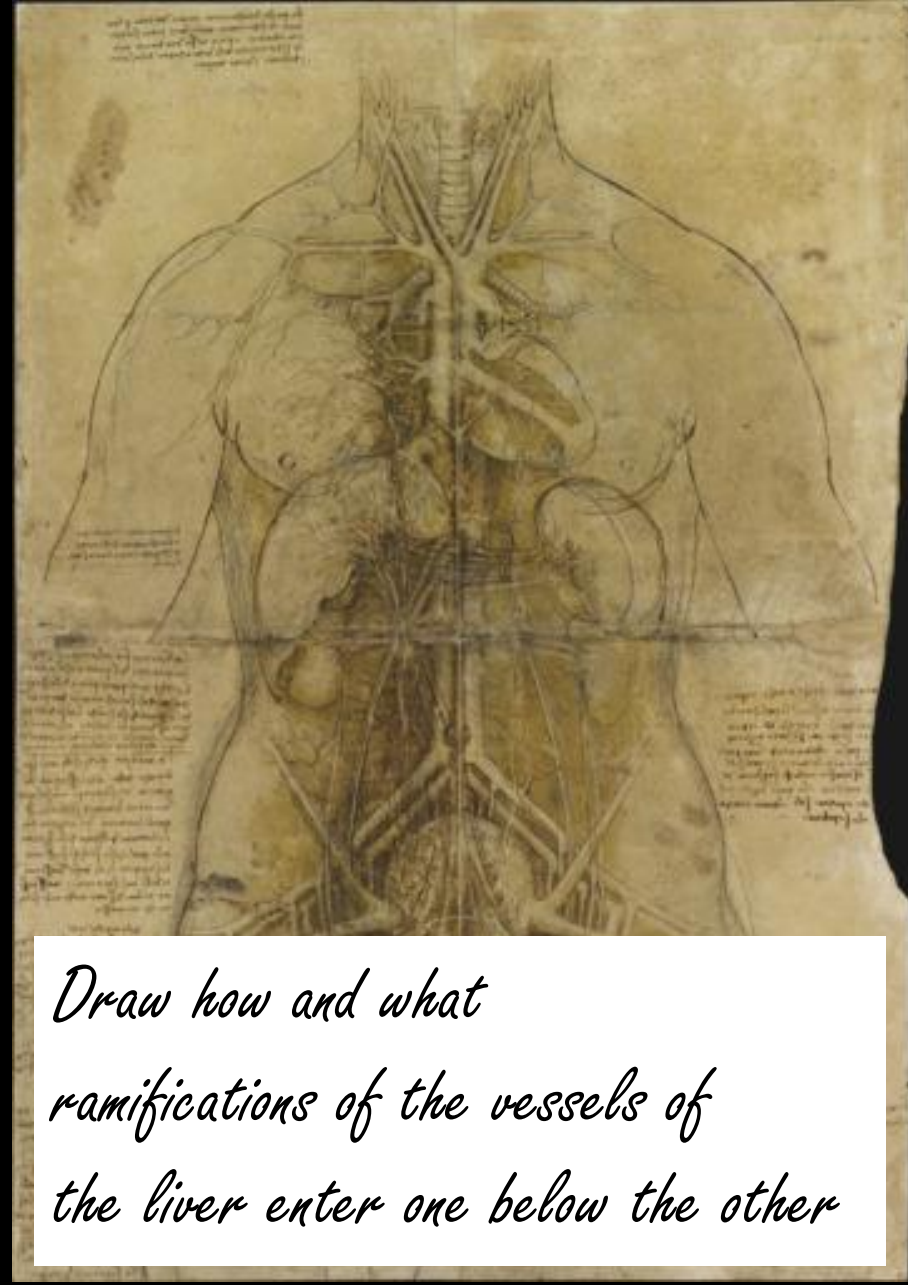
1. Channel from spinal cord to penis
2. Single channel plus corpora
3. Uterus to spinal cord
4. Uterus to breasts
5. Testicles to heart
6. Alimentary tract rudimentary

1490-92





'Male Situs' c. 1485-90

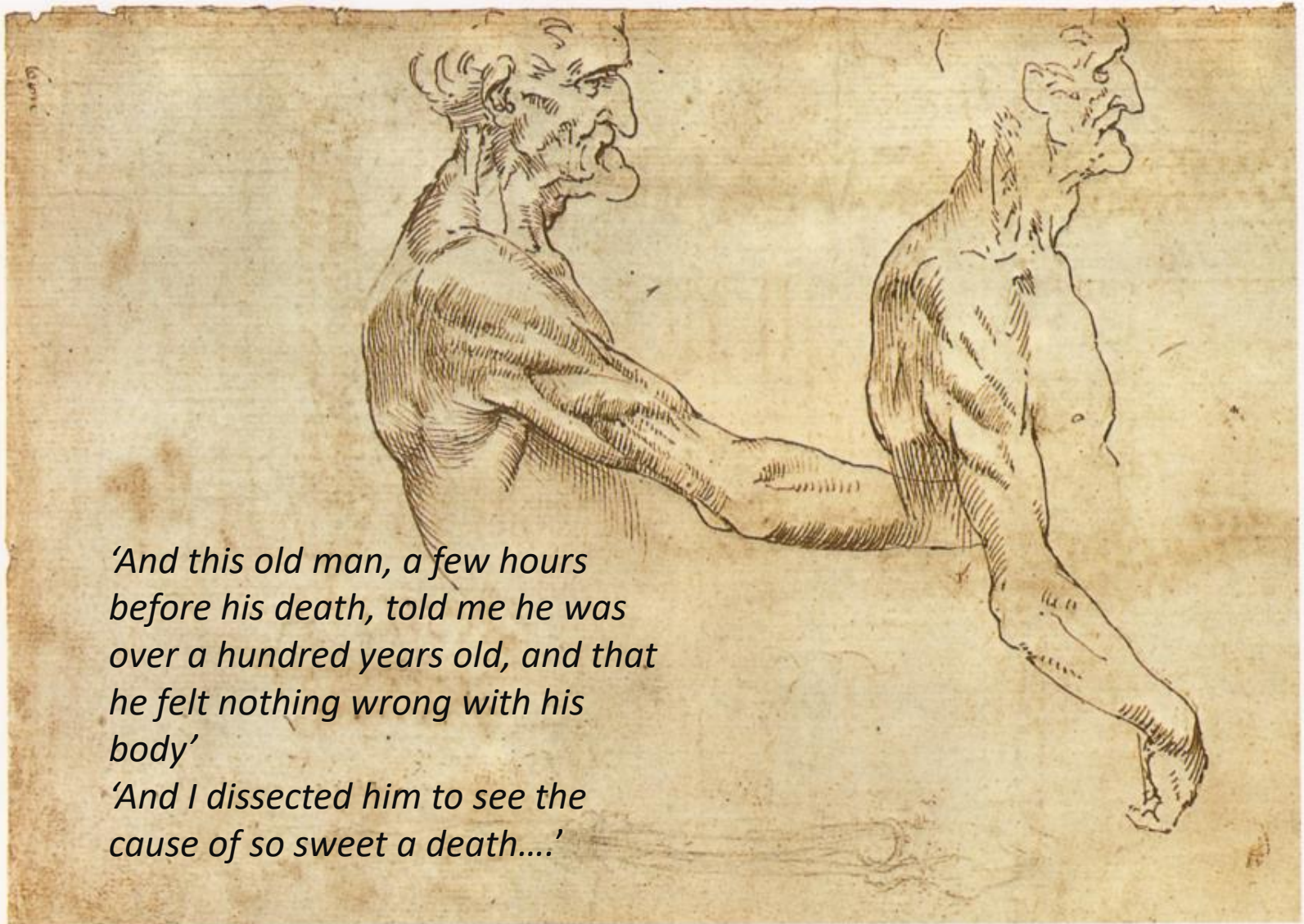


*Draw how and what
ramifications of the vessels of
the liver enter one below the other*

'Female Situs' c. 1509-10

'The Centenarian'

Santa Maria Nuova, 1507



'And this old man, a few hours before his death, told me he was over a hundred years old, and that he felt nothing wrong with his body'

'And I dissected him to see the cause of so sweet a death....'

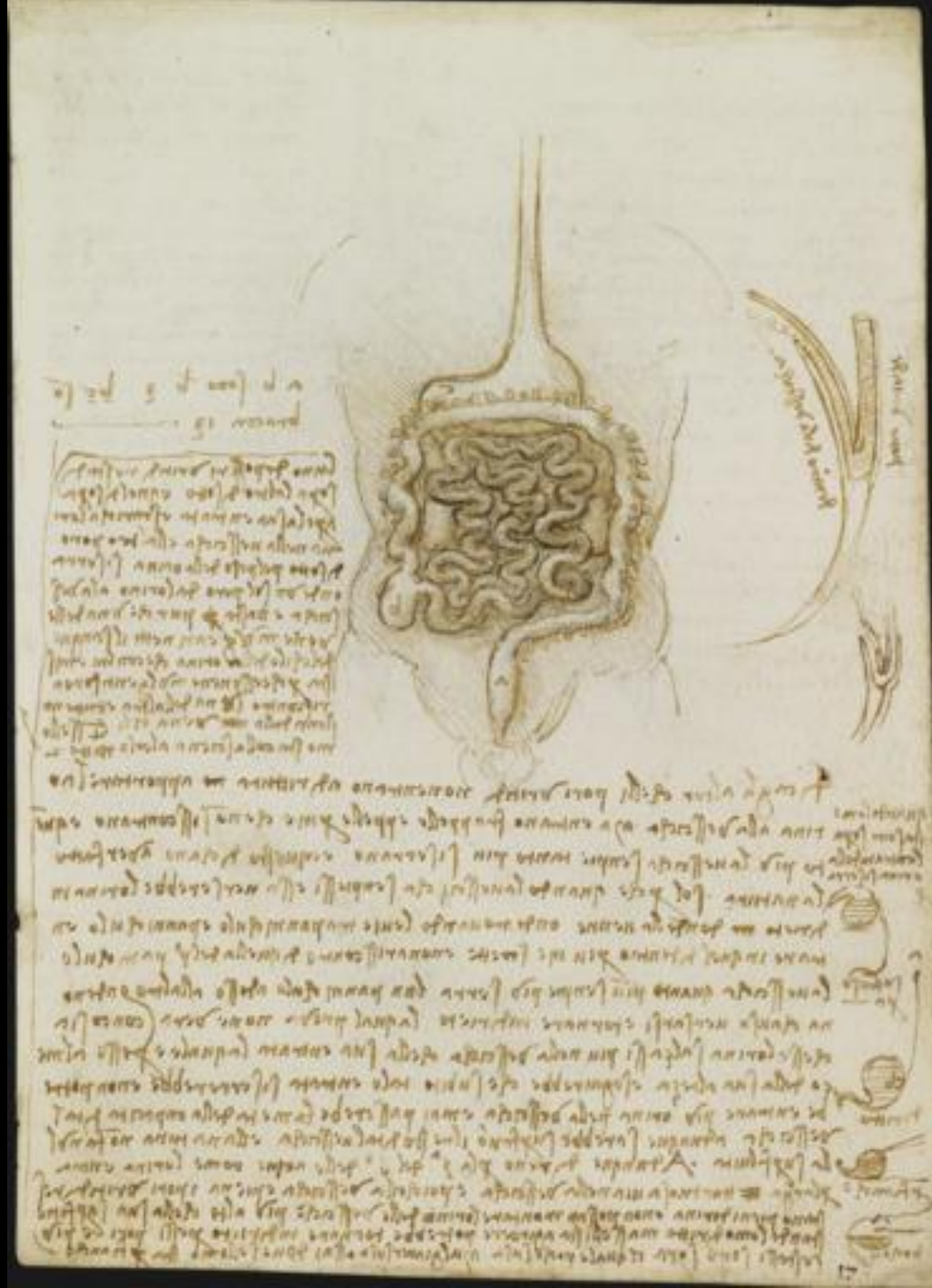
'Of the old man'

The stomach and related structures



c. 1508-9

The Gastrointestinal tract, and the Bladder



c. 1508-9

The Gastrointestinal tract



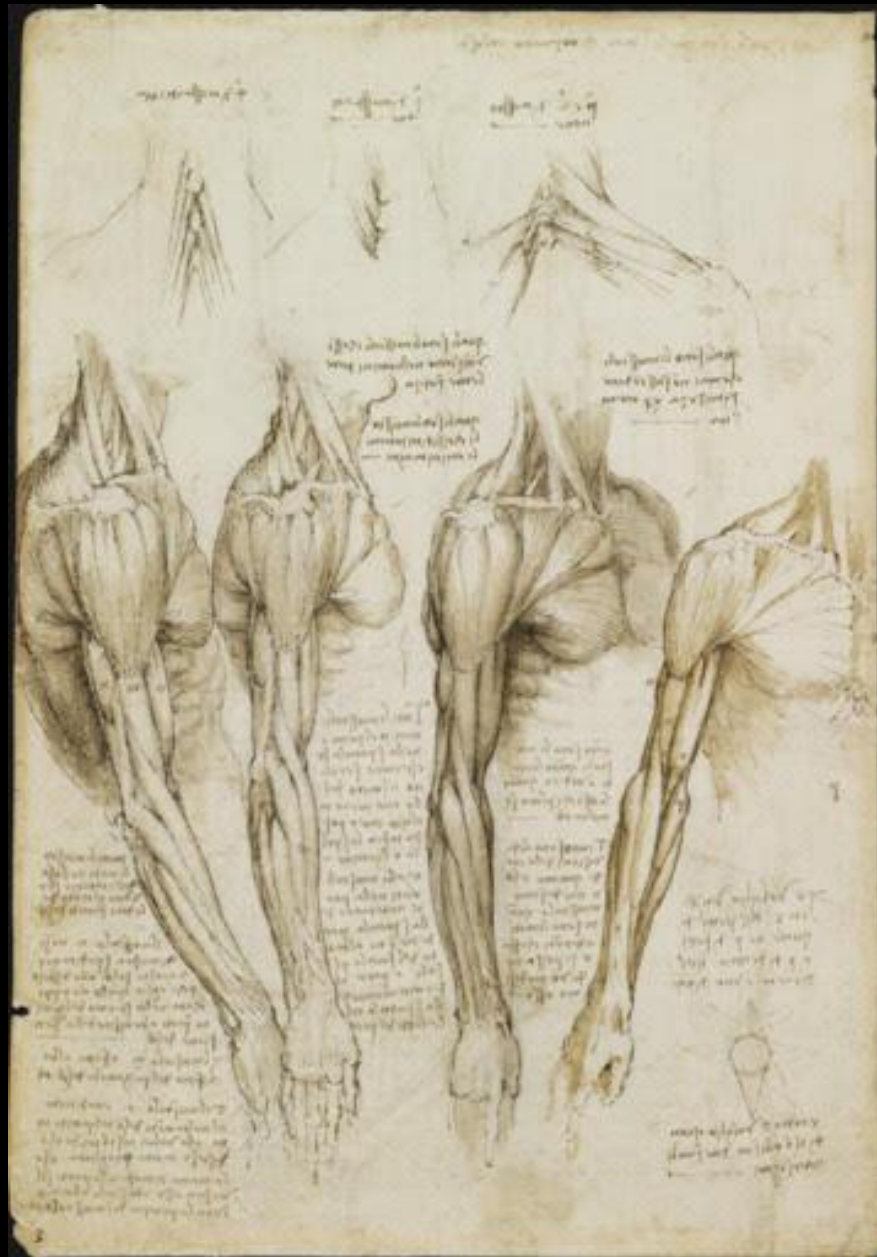
1508-9

During late period
1510-11

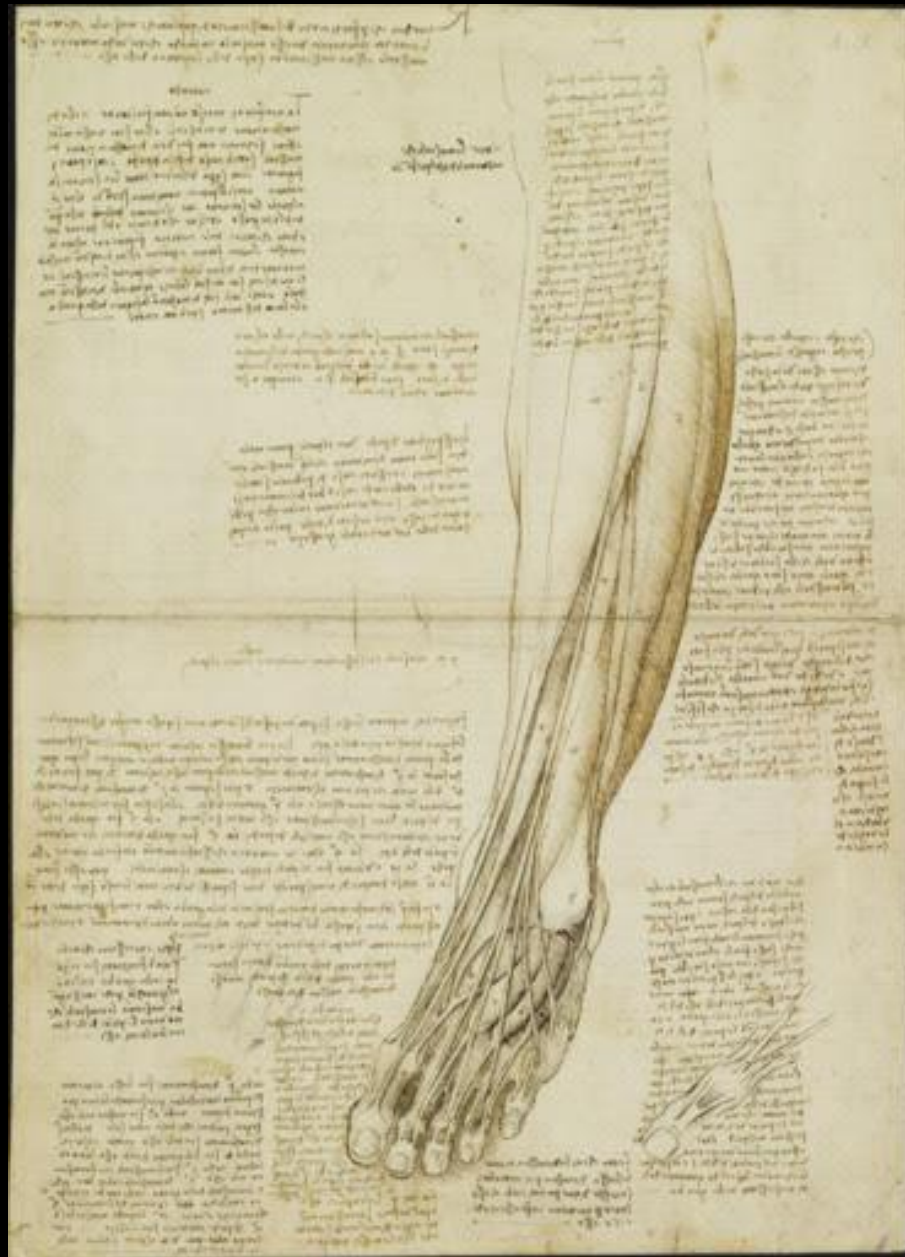


Marc Antonio Della Torre
Professor of Anatomy, Pavia

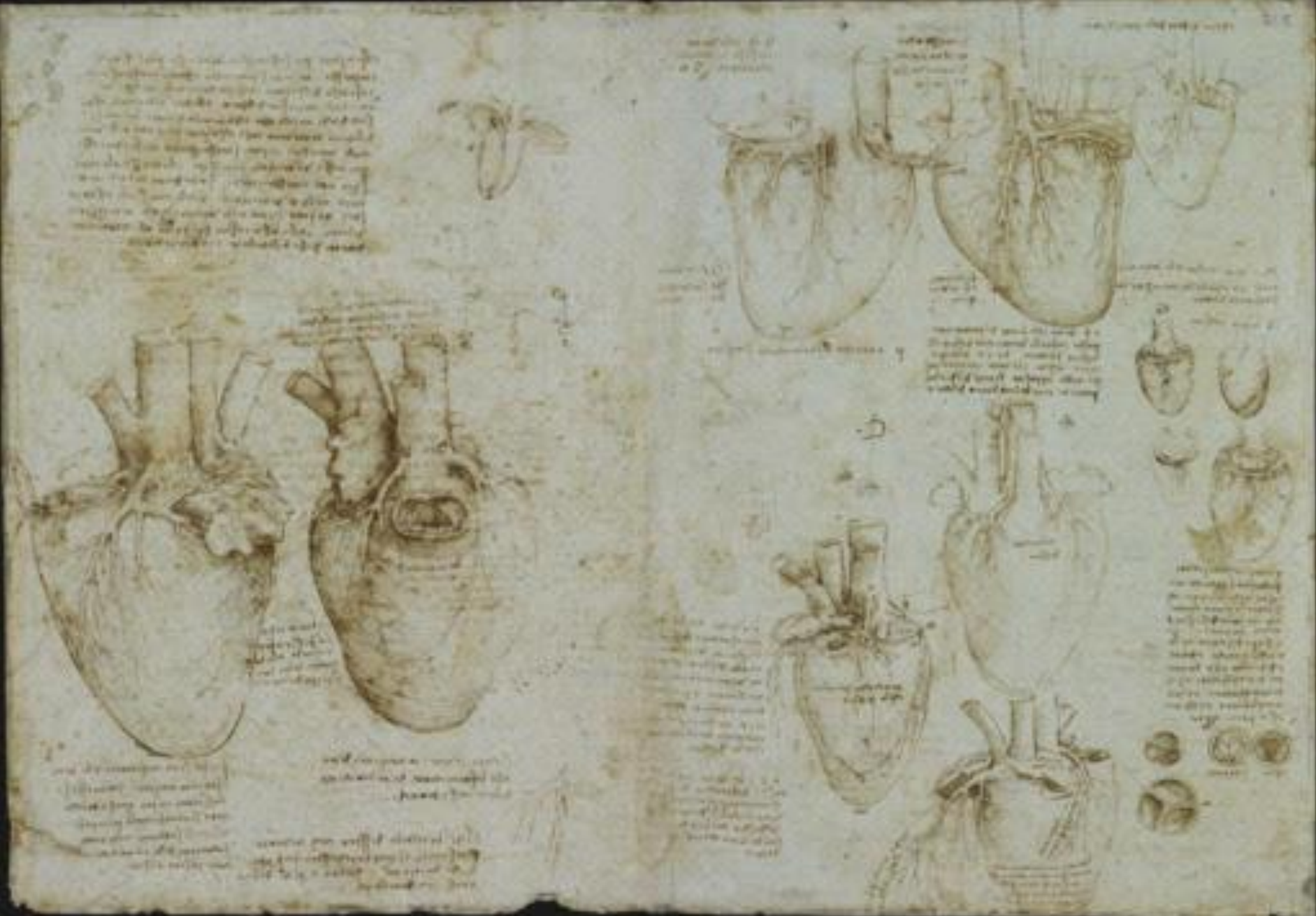
Marc Antonio Della Torre
Medicus & Philosophus de Verona



c. 1510



c. 1510



[Faint handwritten text, likely bleed-through from the reverse side of the page.]



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[illegible]

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This image shows a page from a manuscript, likely the Lindisfarne Gospels, featuring dense, ornate Old English text in a single column. The script is a highly decorative Anglo-Saxon hand, with many letters featuring elaborate interlaced patterns and zoomorphic designs. The parchment is aged and slightly discolored.

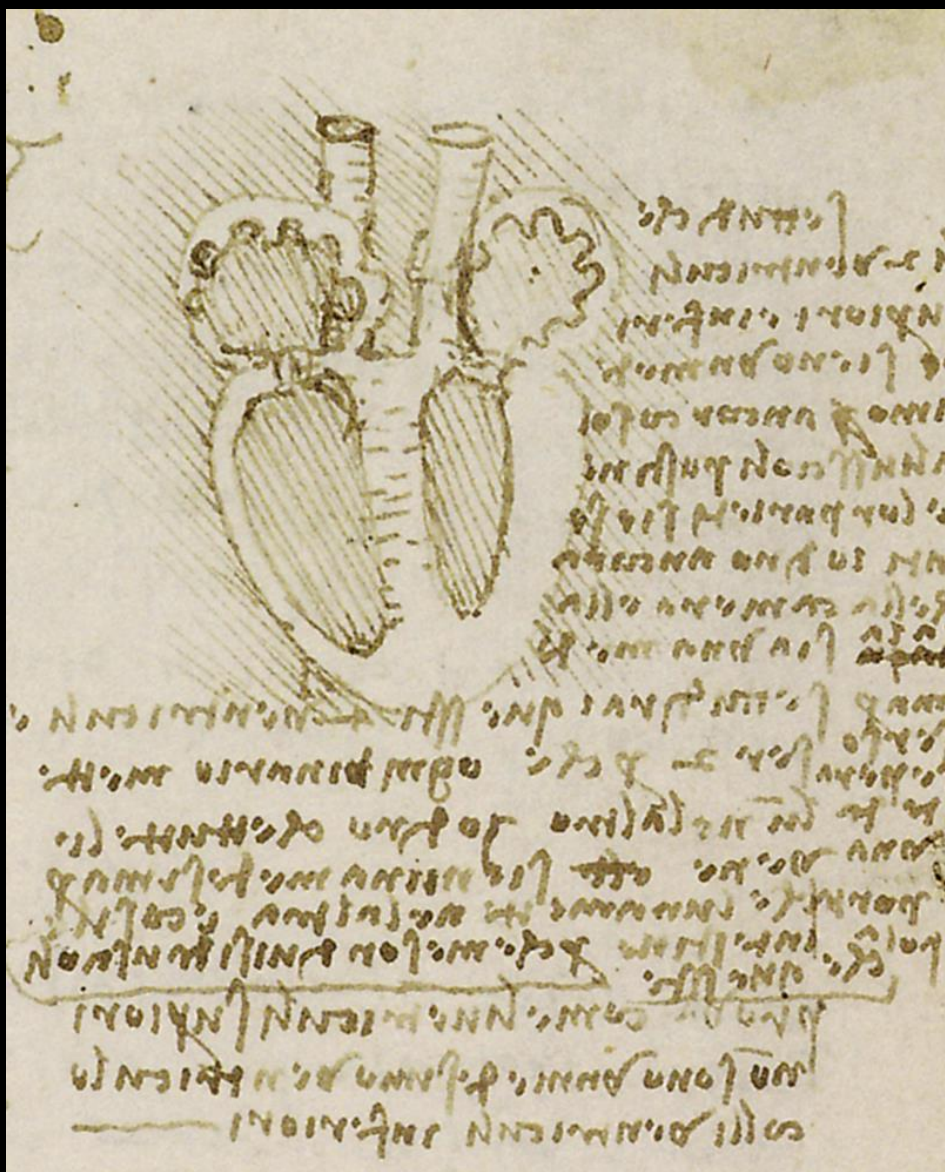
1. *Handwritten text, likely bleed-through from the reverse side of the page.*

[Faint handwritten notes in Devanagari script]

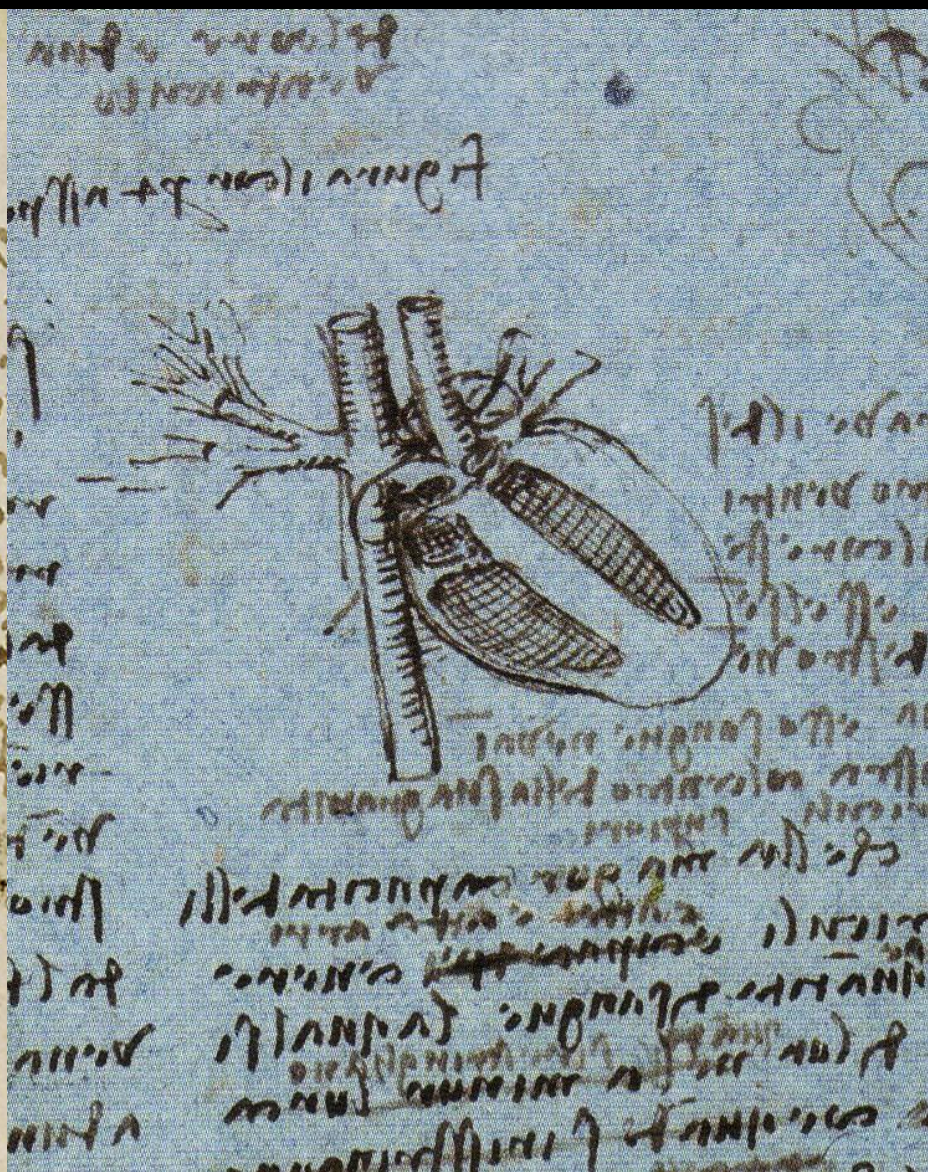
[Faint handwritten text, likely bleed-through from the reverse side of the page.]

1870

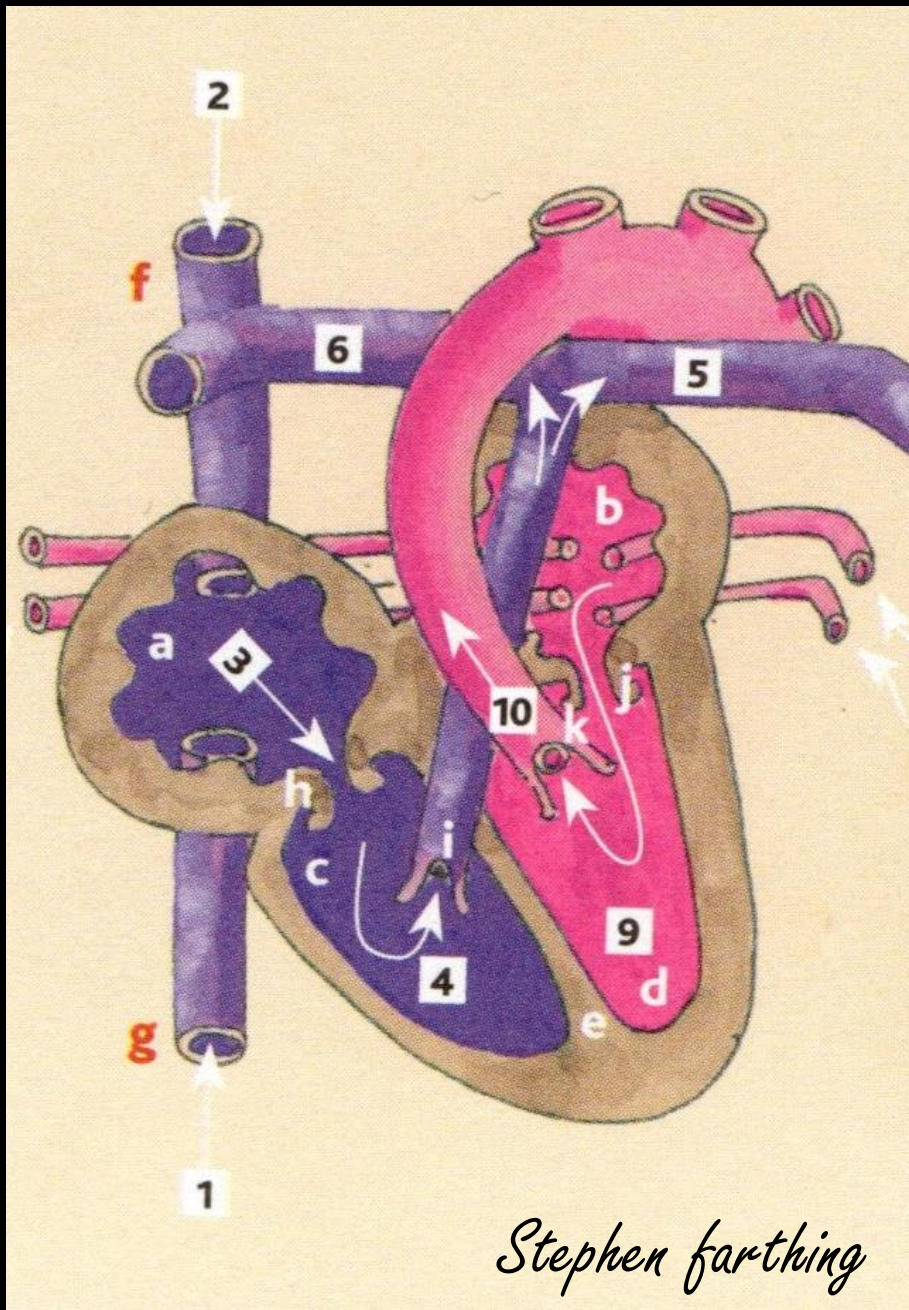
any other subject
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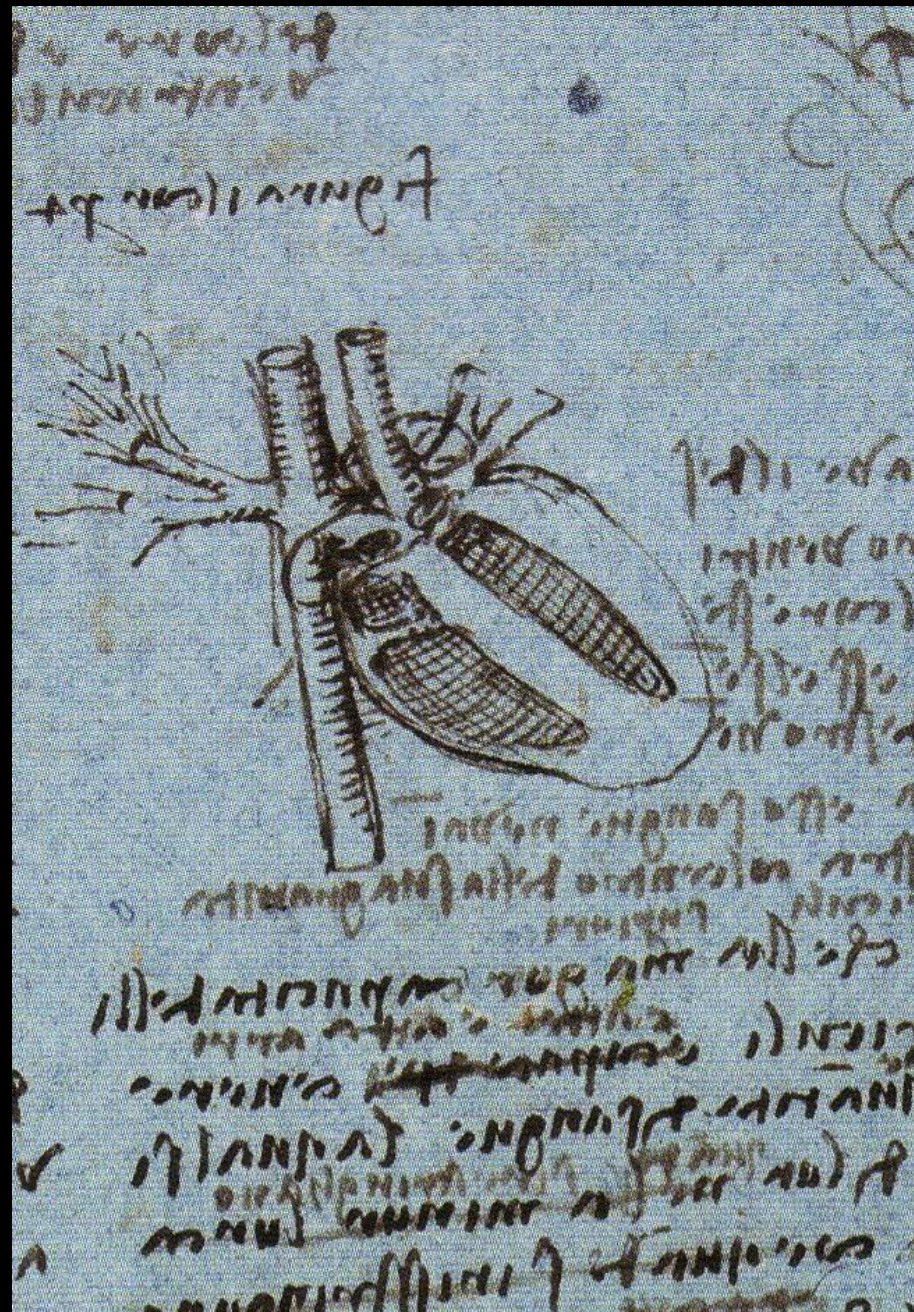
1511-12



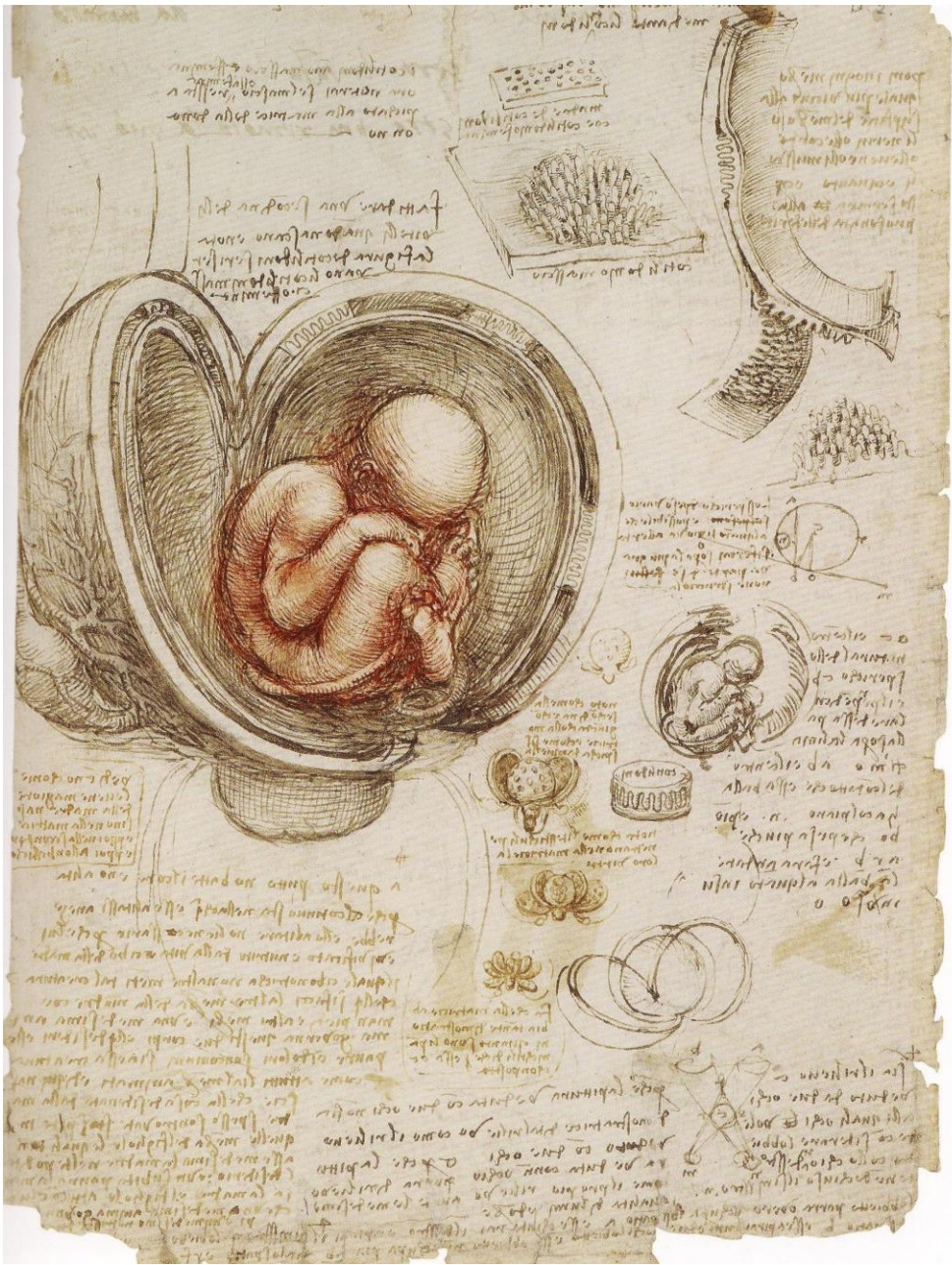
1511-13



2016



1511-13



Foetus in the womb, c.1511

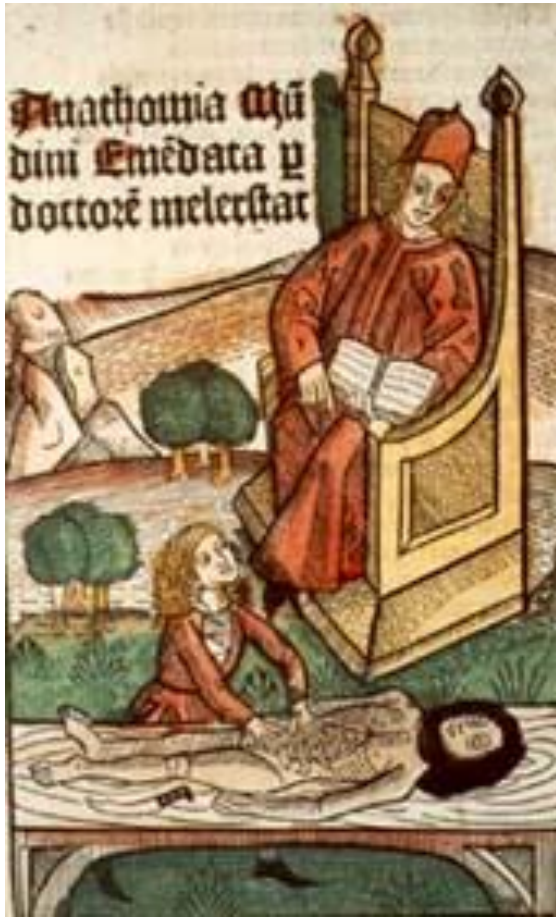
‘In a burst nutshell.....’

“The heart does not beat
and it does not breathe
because it continually rests
in water, and if it breathed
it would drown”

Heel pressure on the
perineum.....

Mondino de Luzzi, 1270-1326

‘Lesson in Anatomy’ – Public dissections from 1315



1541



1541

Anathomia Corporis Humani
1493

Andreas Vesalius

1514-1564

Male Nude
Surface Anatomy
Epitome

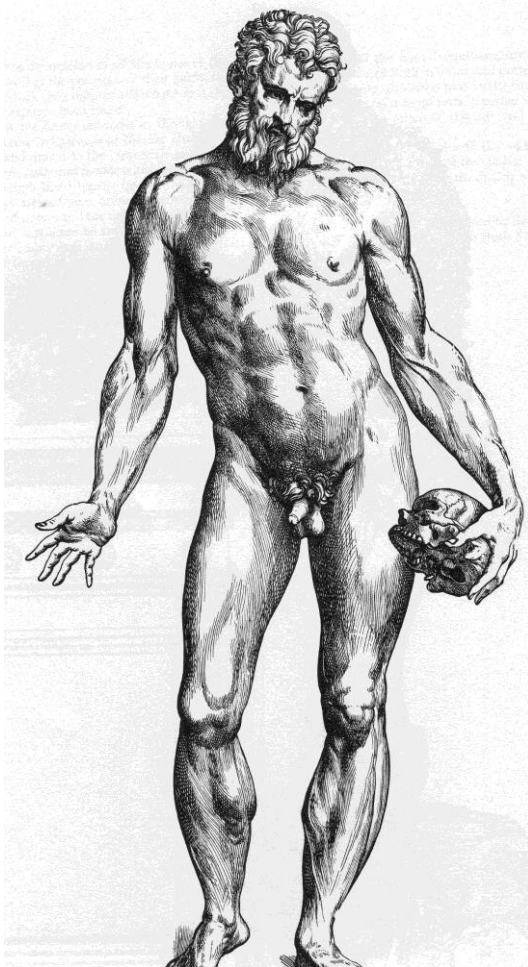
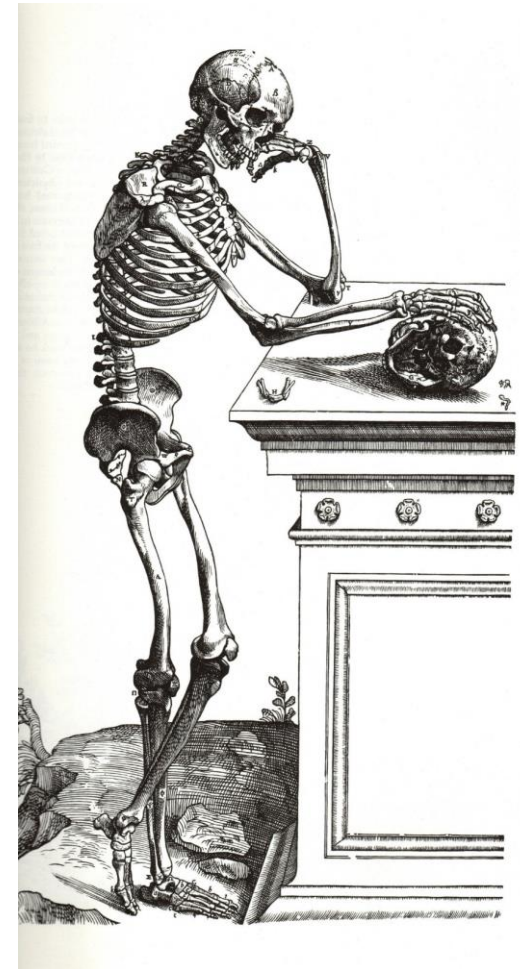


PLATE 1. WOODCUT PORTRAIT OF ANDREAS VESALIUS

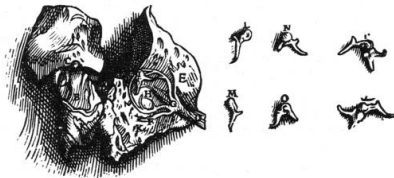
The 'Skeletal Hamlet'
First Book
*De Humani Corporis
Fabrica*



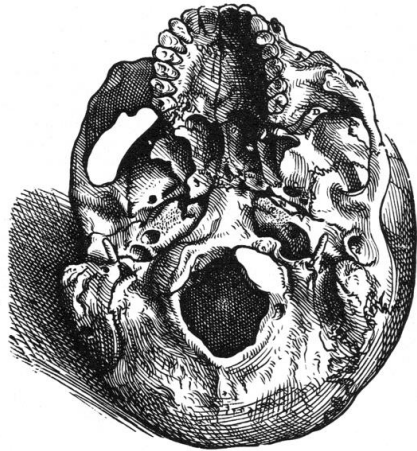
Andreas Vesalius 1514-1564



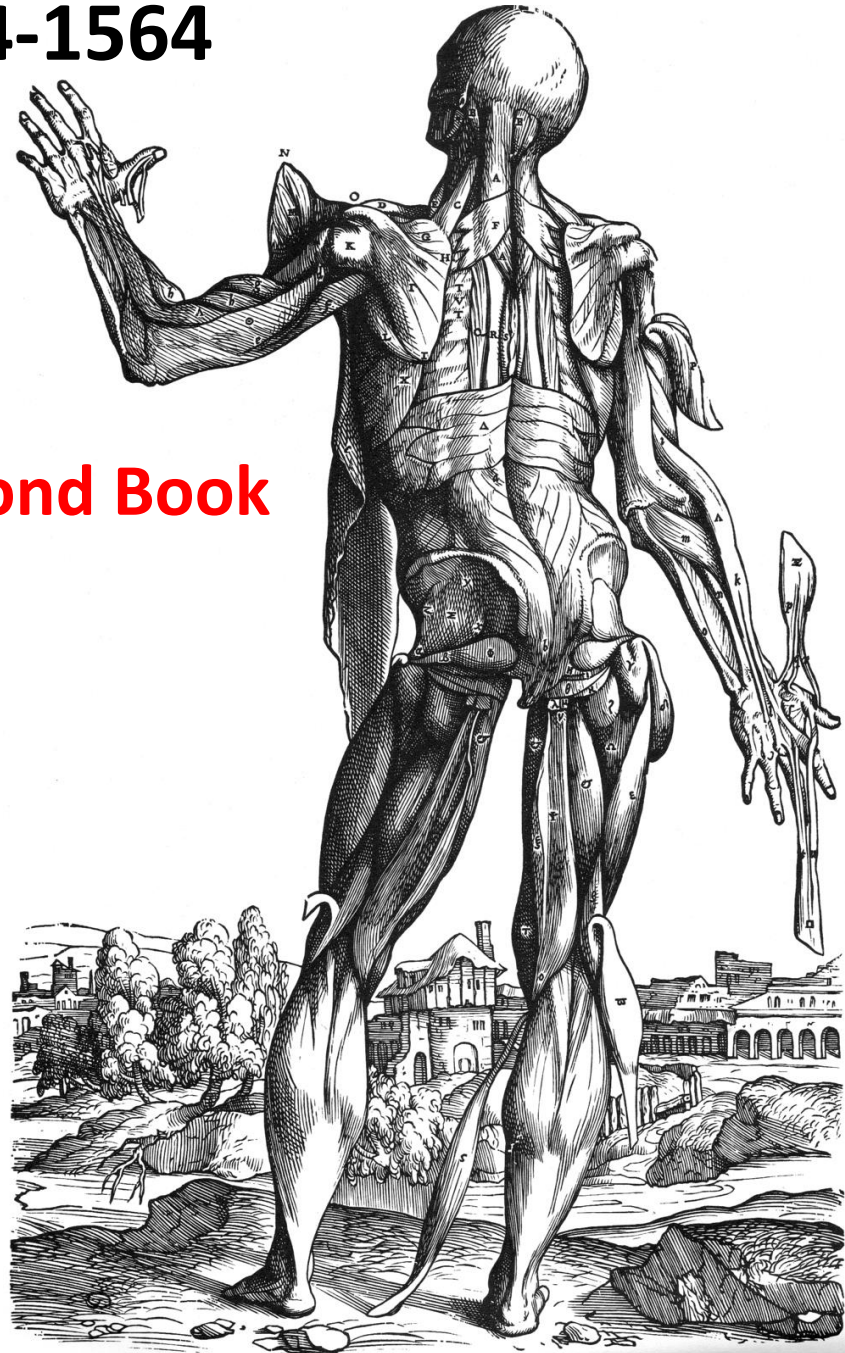
First Book

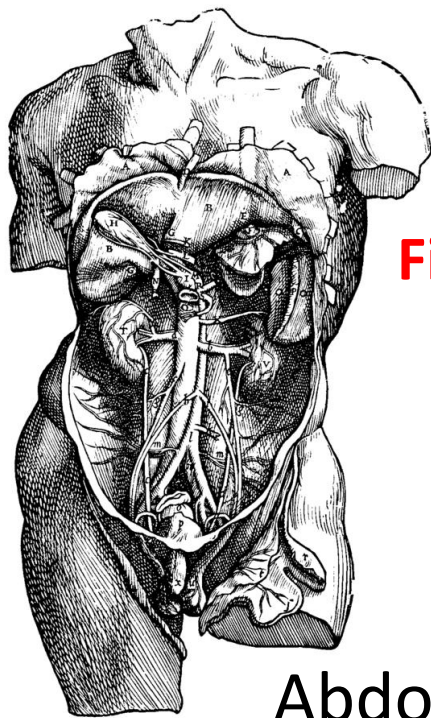


De Humani Corporis Fabrica
1543



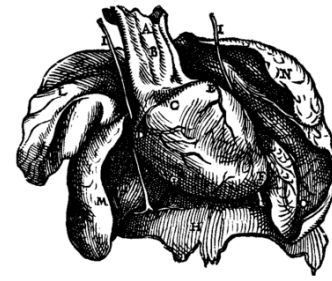
Second Book



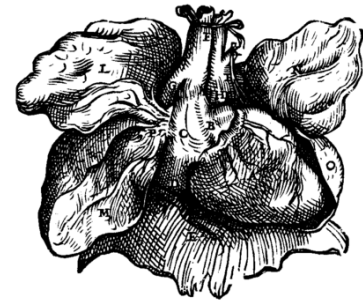


Fifth Book

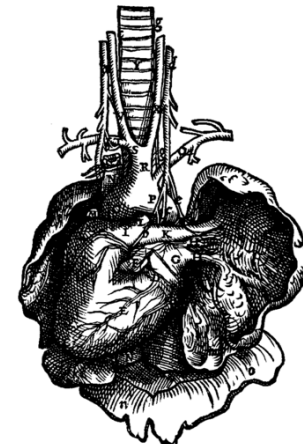
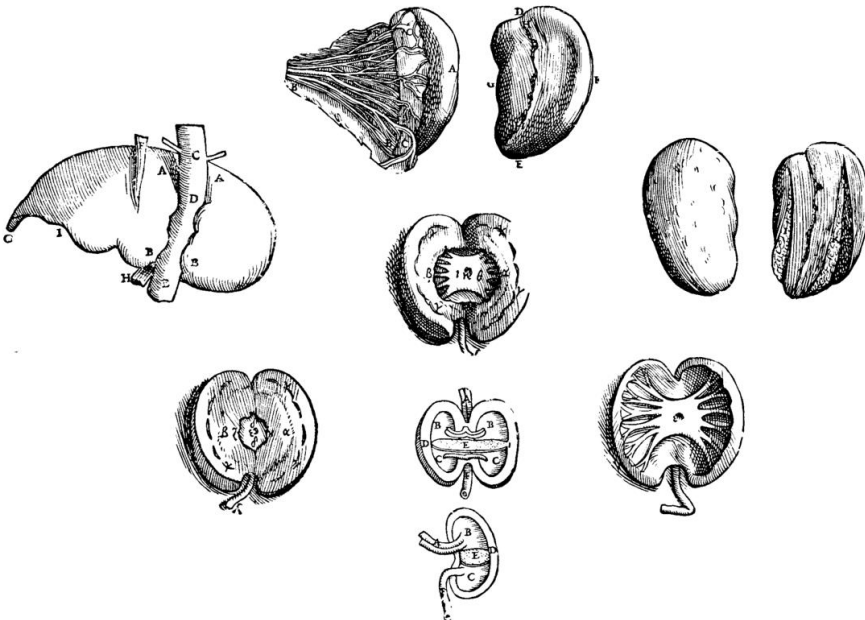
Abdomen



Sixth Book

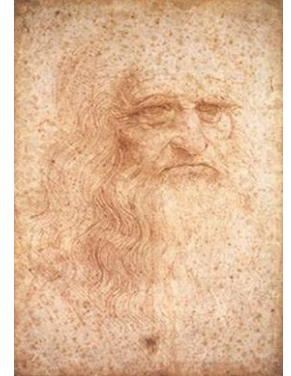


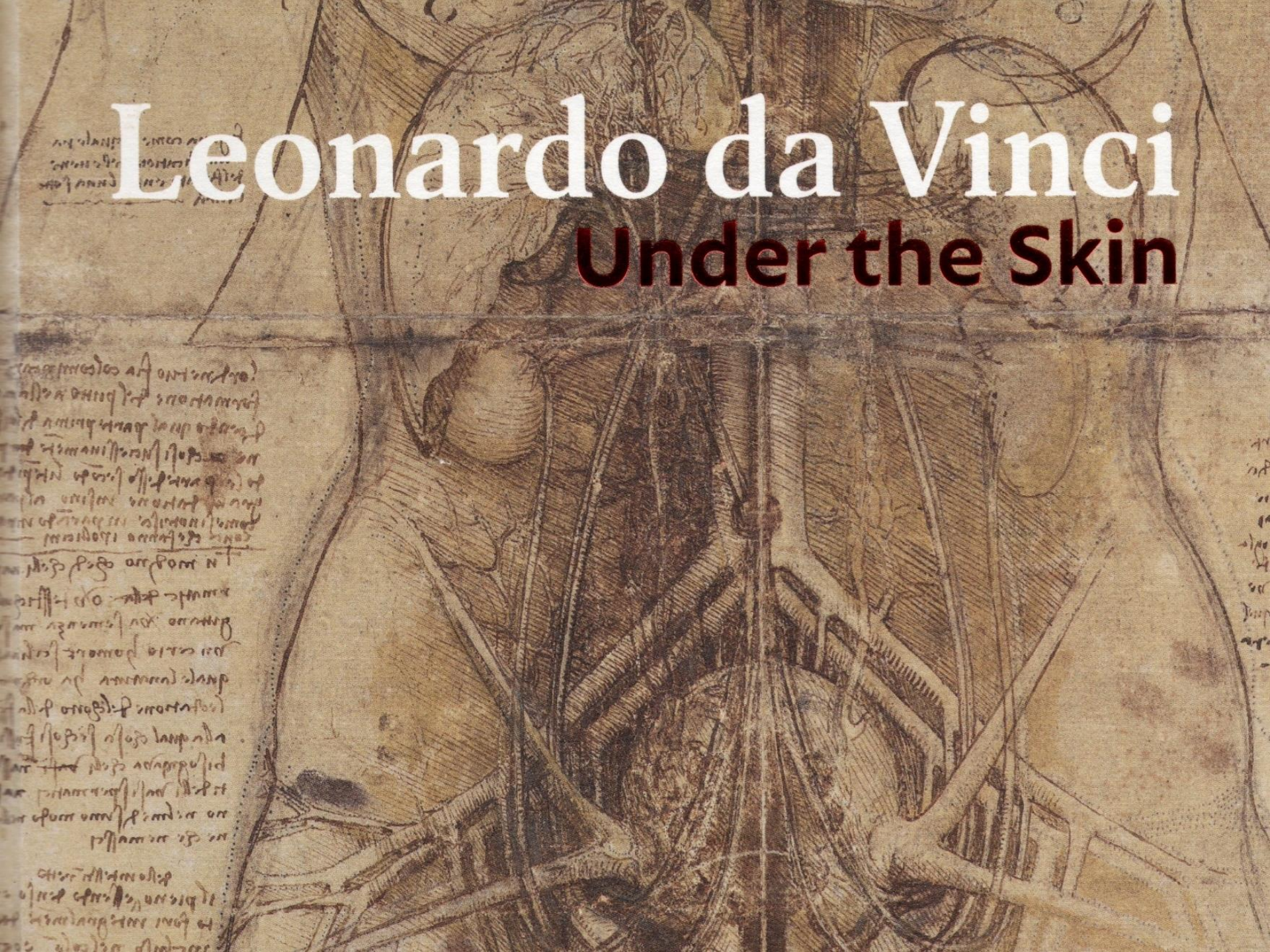
Heart



What does Leonardo teach us about Science?

- Be curious and imaginative
- Ask the right questions, 'important' questions
- Define your aims and objectives
- Be creative in experimental design
- Don't reject a finding if it does not fit your expectations
- Don't be frightened to challenge current dogma





Leonardo da Vinci

Under the Skin