THE FABRIC OF THE HUMAN BODY
(DE HUMANI CORPORIS FABRICA)
BY ANDREAS VESALIUS
1543

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De Fabrica, as it is known, is one of the most significant books in the history of medicine and anatomy. It contains detailed drawings and texts of dissections by 28-year-old anatomist Andreas Vesalius. *De Fabrica* was larger and more richly illustrated than other medical texts of the time.

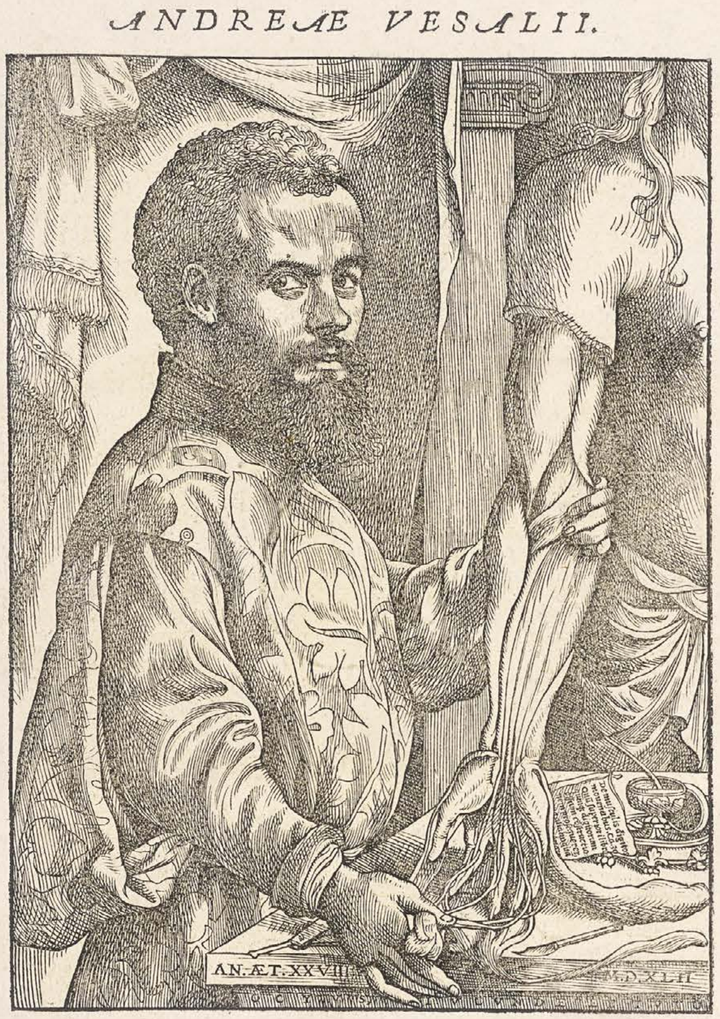
His systematic study embodied a new way of doing science, even when what he saw contradicted established theories.

Next to this reproduction, you can see the original book from which these images have been taken.

FRONT PAGE OF *DE FABRICA*

De Fabrica was published by Andreas Vesalius in 1543, based on a series of lectures he delivered as Professor of Anatomy at the University of Padua in Italy.

This first page shows a chaotic scene of a dissection taking place in a crowded anatomy theatre. Vesalius is pictured at the centre, carrying out the dissection. You can see him looking out at the reader.



PORTRAIT OF VESALIUS

The first few pages of *De Fabrica* include the only known portrait of Vesalius (1514–1564). Here he is pictured with dissecting tools and a pen for recording his observations.

Born in Brussels in 1514, Vesalius studied at Italy's University of Padua in 1537, then the most prestigious medical school in Europe. Later appointed Professor of Surgery and Anatomy, Vesalius publicly dissected bodies and meticulously described the human anatomy he observed.

AD DIVVM CAROLVM QVINTVM, MAXIMVM, INVICTISSIMVM QVE IMPERATOREM, ANDREAE VESALII *in suos de Humani corporis fabrica libros, Præfatio.*

QVANTVMVIS uaria in artibus scientijsq; tractan dis grauiter obstent, quo minus accuratè perdiscantur, minusq; fœliciter in usum succedant, CAROLE clementissime Cæsar, tamen haud mediocre dispendium quoque adferre arbitror, nimium diductam disciplinarum, quæ uni cuipiam arti absoluendæ famulantur diuisionem, & multo adhuc magis eius artis exercitiorum adeò morosam ad diuersos artifices distributionem, ut qui artis scopum sibi præfixerũt, unam eius partem ita complexentur, ut cæteris quæ ipsum maximopere spectant, & ab illo seiungi nequeunt, relictis, nihil unquam egregium præstent, ac propositum finem nunquam attingentes, à uera artis constitutione perpetuò declinent. Nam, ut cæteras quidem silentio præteream, & de ea quæ sanitati hominũ præfecta est, aliquantisper sermonem instituam, profectò in hac tametsi reliquarum omnium quas hominis ingenium adinuenit longè cõmodissima & imprimis necessaria difficilisq; ac operosa sit, nihil pestilentius irrepere potuisset, quàm quòd aliquando, & præcipue pòst Gotthorum illuuiem, Mansoremq; Persiæ regem (sub quo Arabes nobis adhuc cum Græcis meritò familiares uigebant) medicina eouisq; lacerari cepit, quòd primarium eius instrumentum manus operam in curando adhibens, sic neglectum est, ut ad plebeios ac disciplinis medicæ arti subseruientibus neutiquam instructos, id quasi uideatur esse demandatum. Quamuis enim tres medicorum sectæ olim extiterint, Logica uidelicet, Empirica & Methodica, nihilominus tamen illarum autores uniuersæ artis scopum ad conseruandam sanitatem, morbosq; profligandos direxerunt. deinde huc omnia, quæ singuli in suis sectis arti necessaria existimabant, referentes, tripli ci auxiliorum instrumento utebantur, quorum primum uictus fuit ratio, secundum omnis medicaminum usus, tertium manus opera, quæ uel præ cæteris medicinam esse deficientium additionem, & superfluorũ ablationem, eleganter ostendit, ac nunquam non sui usum in affectuum curatione præbet, quoties in remedica obimus, quorum beneficio hanc generi humano saluberrimã esse, tempora ususq; docuerũt. Tríplex hæc medendi ratio, cuiuscunq; sectæ medicis æquè erat familiaris, ipsiq; proprias manus pro affectuum natura curationi accommodantes, non minorem industriam in illis exercendis impenderunt, quàm instituendæ uictus rationi, aut medicamentis dignoscendis, ac componendis. quemadmodum præter cæteros diuini Hippocratis libros, ij liquidò arguunt, quos de Medici munere, de Ossium fracturis, Articulorum luxationibus, eiusq; generis malis omnium absolutissimè conscripsit. Quin & Galenus post Hippocratem medicinæ princeps, præterquam quòd Pergamensium gladiatorum curationem sibi soli commissam subinde gloriatur, neque ingrauescente iam ætate, simias ab ipso secandas famulorum opera excoriari uoluit, crebrò inculcat, quantum manus artificio oblectatus sit, quamq; studiose id cum cæteris Asiæ medicis exercuerit. Imò ueterum nullus non æquè attentè curationem quæ manu fit, atque eam quæ uictu ac medicamentis perficitur, posteris tradidisse uidetur. Verùm maximè post Gotthorum uastationem, quando omnes scientiæ antea pulcherrimè florentes, atque ut decebat exercitæ, pessum iuere, lautiores medici primùm in Italia ad ueterum Romanorum imitationem manus operam fastidientes, quæ in ægris manu facienda ducerent, seruis præscribere, ac illis tantum architectorum modo astare, cœperunt. Mox quum sensim cæteri quoque ueram medicinam exercitantium incommoda detrectarent, quæstui honoriq; nihil interim subducentes, à priscis medicis promptè degenerarunt, coquendi modum, omnemq; adeò uictus præparationem ægrorum custodibus, medicaminũ compositionem pharmacopolis, manuum uerò munus tonsoribus relinquentes. 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 Chirur-

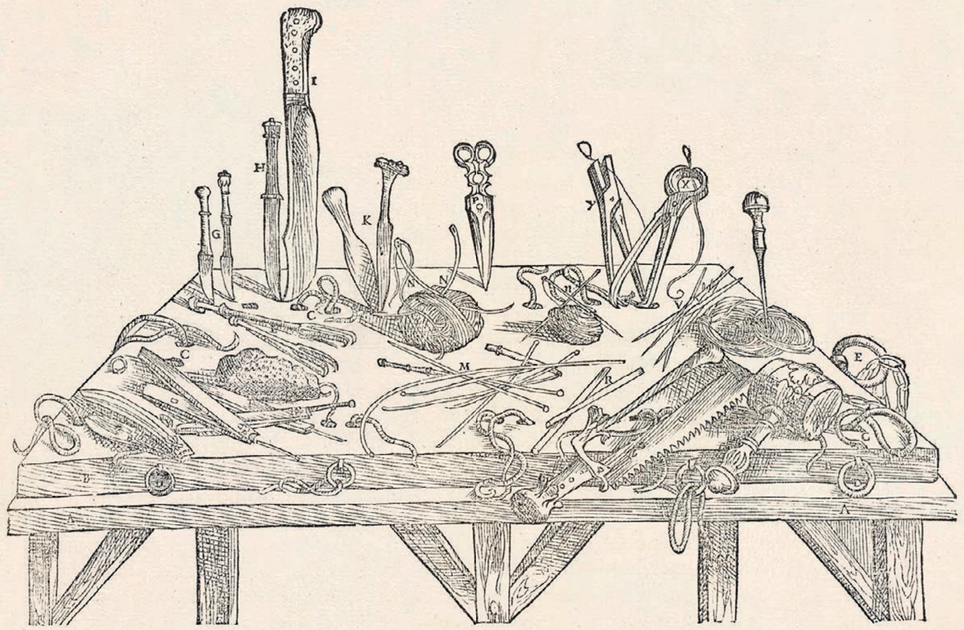
IMAGE-CONTAINING INITIALS

De Fabrica was published in Latin as a series of seven books focused on different parts of the body.

Some of the most remarkable pictures within *De Fabrica* are found in the text, around enlarged letters. Here the letter Q shows cherub-like figures known as 'Putti' dissecting a pig. Other letters picture the 'Putti' unearthing corpses, and cooking skulls to remove soft tissue.

DE INSTRVMENTIS, QVAE SECTIONIbus administrandis parari possunt. Caput VII.

ANATOMICORVM INSTRVMENTORVM DELINEATIO.



CHARACTERVM SEPTIMI CAPITIS FIGVRÆ INDEX.

PRAESENTI figura mensæ cuidam incumbentem finximus asserem, quo in uiuorum sectionibus opportunè utimur, dein huic asseri omnia propemodum accõmodauimus, quibus in dissectionum administrationibus, adeoq; tota Anatome quis ꝑ posset uti. Quo autem singula leuiori opera assequaris, huic etiam figuræ characteres, ac demum eorum indicem adhibere non grauatus sum. Indicetur itaq;

A,A Mensa, cui reliqua omnia modò seriatim indicanda supersternuntur.
B,B Asser uiuis sectionibus administrandis idoneus.
C,C Varia foramina, quibus laqueos pro animalis mole adhibemus, quiũ femora et brachia uincimus.
D,D Eiusmodi anuli, summis manibus pedibusq; ligandis adaptantur.
E Huic anulo maxilla superior, libera inferiori, catenula alligatur, ut caput immotum seruetur, ac interim neq; uox, neq; respiratio uinculorum occasione præpediantur.
F,F Diuersa nouacularum genera, quibus spongia accumbit.
G Cultelli ad earum speciem formati, quibus calami adaptantur.
H Vulgaris qui mensæ adhibetur culter. I. Grandis ac ualidus culter.
K Culteri è buxo parati. L Hamuli. M Varij styli unà cum siphone.
N,N Obliquatæ acus cum filo crassiore, quibus literarum fasciculos colligamus.
n Minores acus, quas uulneribus suendis accommodamus.
O Serra P Forficula. Q Malleus ligneus.
R Arundines inflandis pulmonibus, & alijs quibusdam partibus idoneæ.
S Filum æneum, ossibus nectendis aptum. T Subula forandis ossibus parata.
V Varia subularum ferra. X Forpex intorquendis filorum extremis comparatus.
Y Forpex, quo intorti, & ossa iam committentis fili reliquias præscindimus.

INSTRUMENTS FOR DISSECTION

De Fabrica serves as a dissection manual as well as an anatomical atlas.

This illustration depicts all the tools required for practical dissection, according to Vesalius.

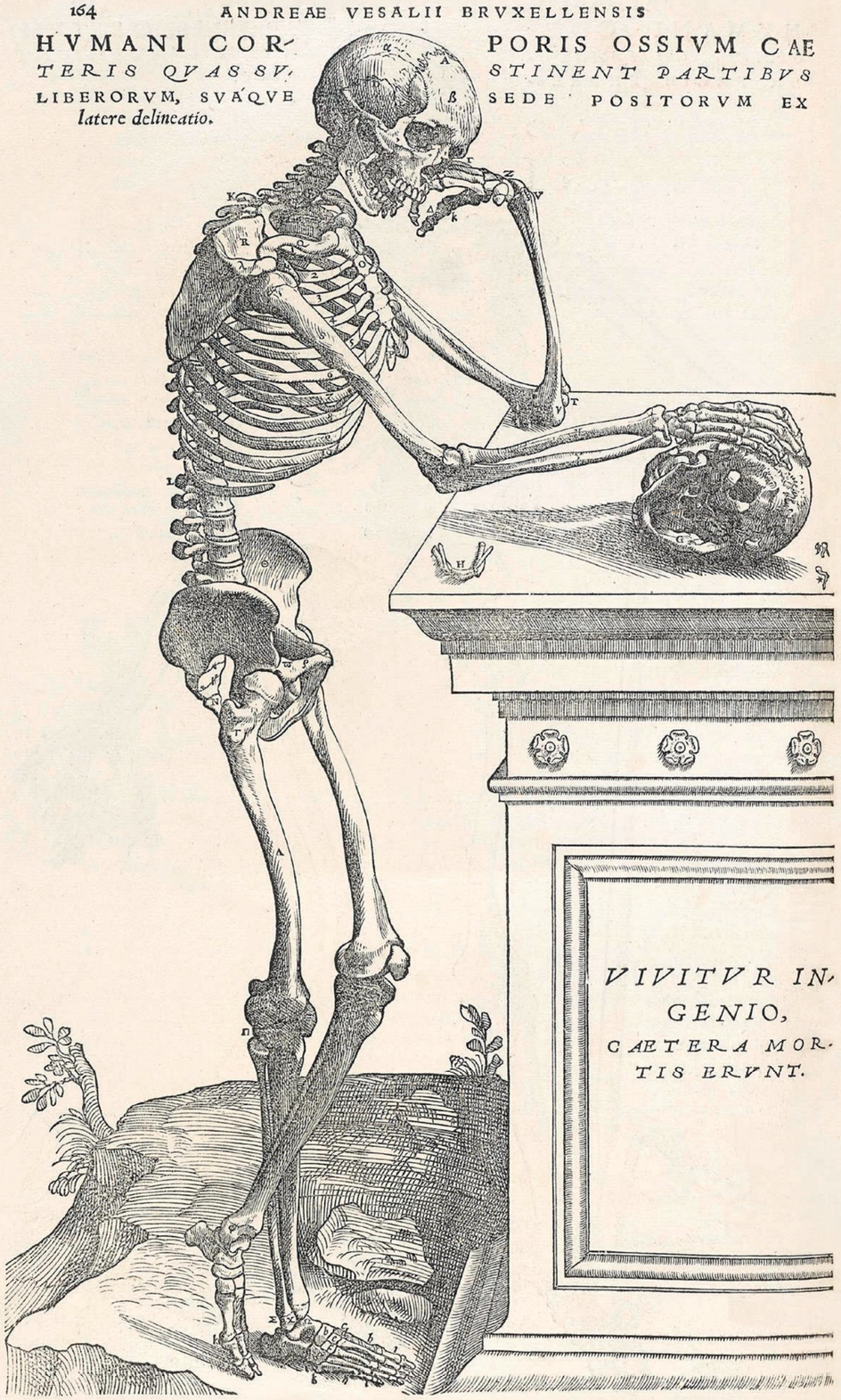
Doctors carrying out dissections today would use many of the same tools – forceps, scalpels, rib spreaders, wires and string for cutting and stitching the body.

SOURCING CORPSES

Alongside discussions on anatomical structure and function, Vesalius included anecdotes about his experience of grave-robbing.

This illustration shows a dissected corpse held up by a rope strung through the eye sockets, a technique used by Vesalius in his lectures. It was easier for crowds to see the body this way than if lying on a table.

Nailed on the wall behind is the diaphragm, a muscle of the abdomen.



SKELETAL MEN

Some of the most well-known illustrations within Vesalius's work are a series of posed skeletons. Vesalius elaborately described how to pose a skeleton using string to depict it in a standing position.

In this image, the skeleton is positioned next to a tomb, with one hand resting on a skull. The suggestion appears to be that the skeleton is contemplating human mortality.

SKELETAL MAN

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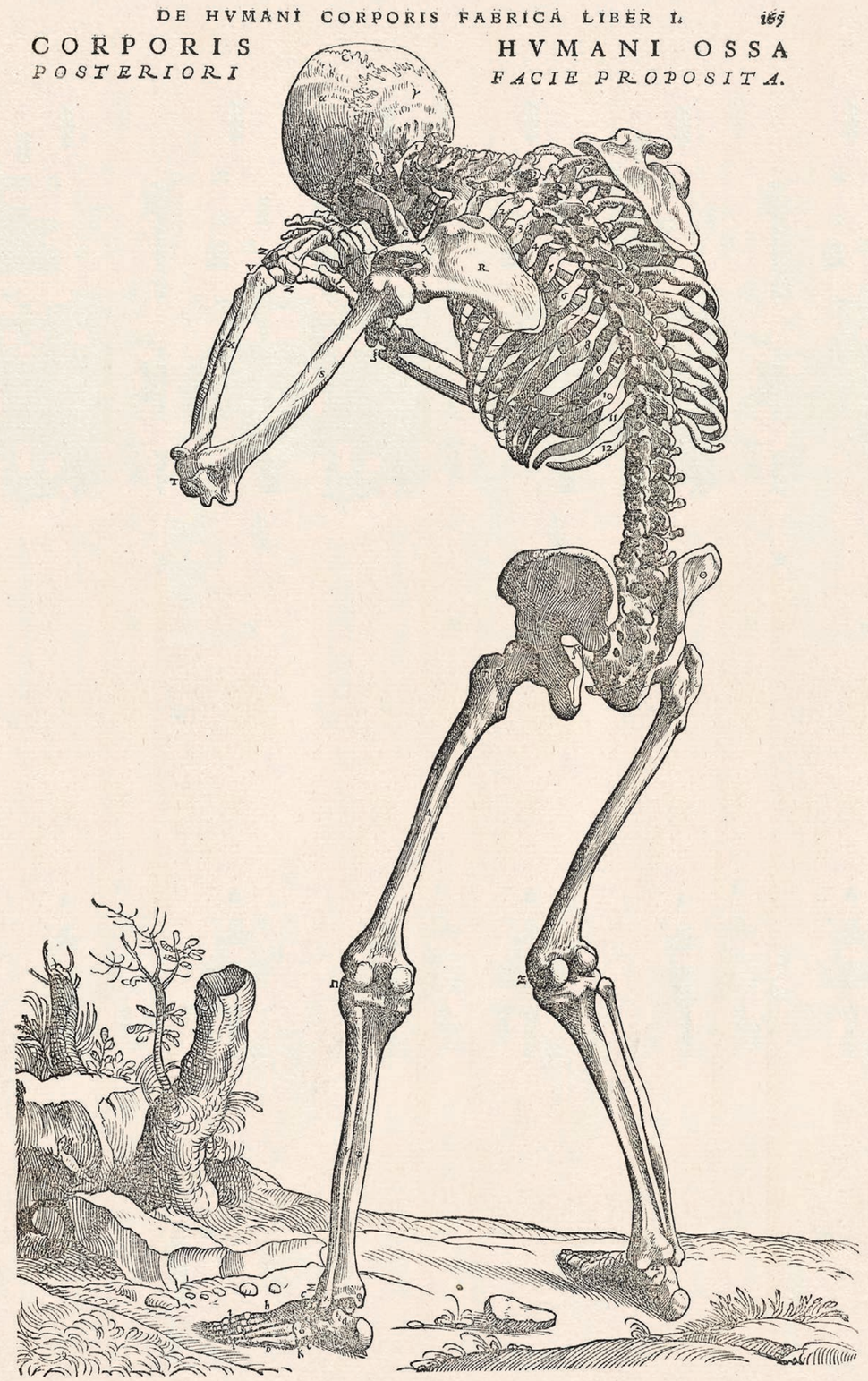
This skeleton stands slightly bent, with its back to the viewer, in a pose suggesting grief or pain.



MUSCLE MEN

Within *De Fabrica* is a striking series of 12 images illustrating the layers of muscle in the body, through progressive dissections.

The bodies are posed in the Italian countryside and can be lined up to form a continuous landscape.

Vesalius expressed the hope that his work would prove useful for “the painter, the sculptor, and the moulder”, as well as for doctors, by helping to show how the muscles contracted and expanded in motion.

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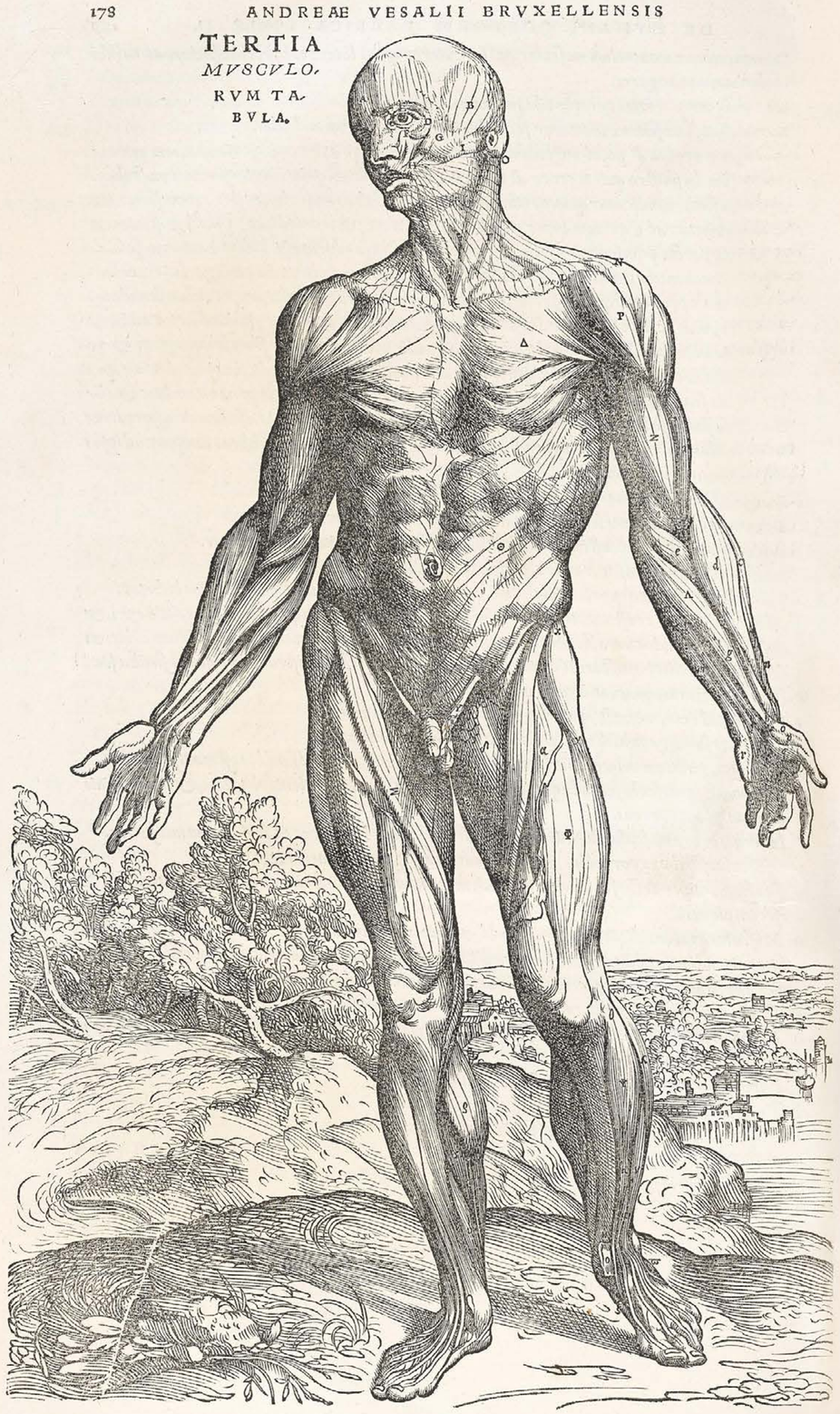

VNDECIMA
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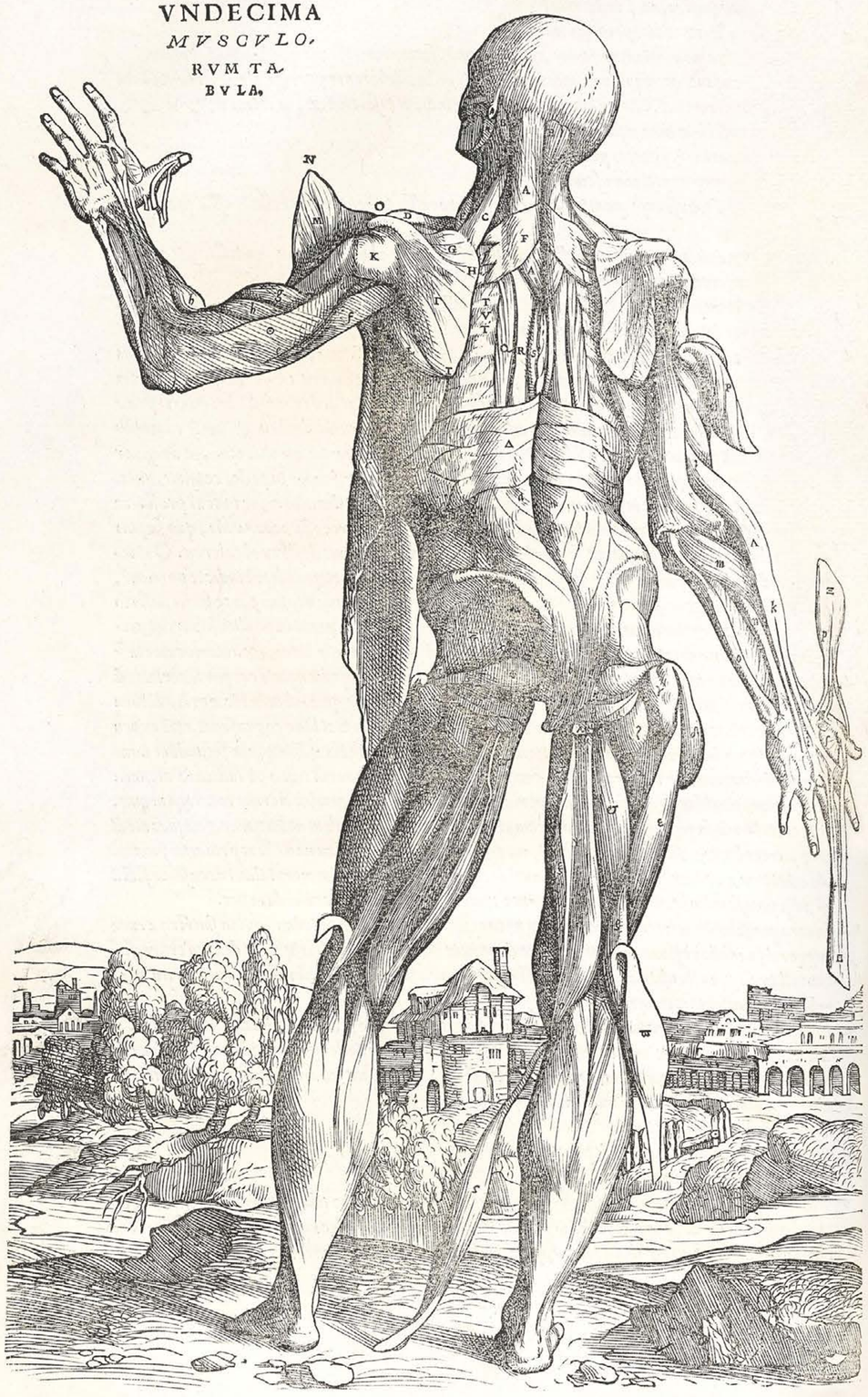
RVM TA-
BVLA.



ARTISTS REVEALING ANATOMY

The fact that *De Fabrica* had such an impact on the science world is in part due to its large and detailed illustrations. Although they show dissections that Vesalius carried out himself, he did not create the final drawings.

Vesalius recruited young artists from Venice to carry out the work. At the time the city was home to some major artists, and it was close to where he lectured at the University of Padua. Vesalius used artists from the workshop of Titian, considered one of the greatest Italian artists of the 1500s. They attended his dissections and created the detailed woodblock illustrations.

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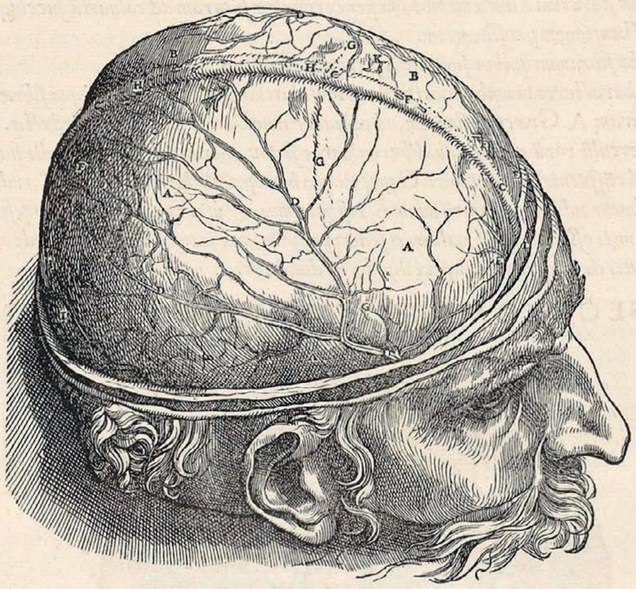
ANDREAE VESALII BRVXELLENSIS, DE HVMANI CORPORIS FABRICA LIBER SEPTIMVS, CEREBRO ANImalis facultatis sedi & sensuum organis dedicatus, & mox in initio omnes propemodum ipsius figuras, uti & duo proximè præceden tes libri, commonstrans.

PRIMA SEPTIMI LIBRI FIGVRA.



PRIMAE FIGVRAE, EIVSDEMQVE CHARACTERVM INDEX.

PRIMA septimi libri figura humanũ caput ita adaptatũ exprimit, quemadmodum id cerebro ostendẽdo opportunè à collo & inferiori maxilla dissecãtibus liberatur. Præterea tantam caluariæ partẽ orbiculatim serra abstulimus, quanta quoq; omniũ quæ in caluariæ cõtinentur amplitudine uidendorũ gratia, auferri solet. quanta uerò illa sit, liquidò dijudicabis, si septimam figurã sexti capitis libri primi examinaueris, quæ hinc ablatã caluariæ partem interna superficie exprimit. Quẽadmodũ itaq; præsens figura sectionis serie cæteras omnes inuicẽ ordine succedentes præcedit, ita quoq; illã septimi libri figurarũ primã non inopportunè inscribimus, quæ durã cerebri cõmonstrat membranam adhuc illæsam, neq; aliqua ex parte pertusam, uulneratamue. quamuis interim ipsius membranæ uincula diuulsimus, quæ per capitis suturas ad membranam efformandã porriguntur. quæ quod caluariã succingit, περικρανίδα nuncupabitur. atque cum his fibris pariter uascula sunt effracta, quæ per caluariæ foraminula & suturas deducta, ipsi duræ membranæ, ac illi qua caluaria succingitur, communes censentur. Cæterùm ex duobus qui figurã ambire conspiciuntur orbibus, humiliorẽ, cutis & membranæ ipsi subditæ cõstituunt, elatior autem ipsa est caluaria. Vniuersum uerò hoc orbe complexũ, durã cerebri membranam refert, omnibus characteribus in figura cõspicuis uniuersim semelq; indicatam. at singuli characteres in hunc modum priuatim habent.

A, A Dextrũ duræ cerebri membranæ latus, seu eius mẽbranæ pars dextrã cerebri regionẽ ambiẽs.

B, B Sinistrum duræ cerebri membranæ latus.

C, C, C Tertius duræ membranæ sinus secundũ capitis longitudinem exporrectus, & hic nulla ex

STUDYING THE BRAIN

Determined to understand the functions of the brain, Vesalius investigated a long-standing theory that the organ produced a substance called 'animal spirit', which flowed from the brain through hollow nerves to the rest of the body, governing feeling and movement.

Vesalius challenged these ideas, showing that there was no physical outlet through the skull for such a liquid to flow.

Vesalius referred to waterways and plumbing systems to describe his theories about the function of the brain.

MAPPING BLOOD VESSELS

This image shows the intricate network of veins in a human body. No one before Vesalius had attempted to trace the human vein and arterial system in such detail.

Representing the veins with such accuracy was important because of bloodletting, a common practice of the time where blood was taken from a person to improve their health.

Shading was used to indicate the veins at the back or those hidden from view, making the image appear three-dimensional.