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“THE TIME IS OUT OF JOINT,”
OR THE CORPOREAL BORDERS OF/ON TIME
IN EARLY MODERN ANATOMICAL ILLUSTRATION

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Abstract: This paper addresses the nexus of temporality and corporeality which time metaphors in anatomical illustration from the mid-16th to the late 17th century articulated more poignantly than ever before or after, and whereby the very practice of “anatomy” (viz. dissection) was established as the Apollonian purveyor of the truth of the human body. For the sake of clarity, I will distinguish between two typologically related occurrences of time metaphors imbricated in anatomical illustration: on the one hand, the closely intertwined classicisation of the time-space of dissection and the classical memento mori; on the other hand, the reversal of time in social terms, whether staged as the anatomical subject’s engagement in a world of make-believe social prestige or social doom, or rendered, in the case of female anatomy, as always already passively compliant with the male eroticising gaze. Time metaphors could thus confect anatomical exemplarity – hence claim scientific durability – right when their embedding reminded of human transience. Despite the tentative attempts of early modern anatomical illustration to establish itself as a scientific genre whose objective truth was informed by direct observation, the close collaboration between anatomist and artist pointed to the age’s anxieties over defining the proper concerns of art and science.

Half a century before Hamlet lamented human fate – “Alas, poor Yorick” (V.1) – upon seeing the jester’s skull freshly dug up from a grave, the illustrator of Vesalius’ De humani corporis fabrica showed a skeleton in profile view recline against a tomb in melancholy contemplation of a human skull (cf. McHugh 247). It is this nexus of temporality, vision, imag(in)ing and/of the human body which I will try to unravel in the workings of time metaphors embedded in the illustration of anatomy handbooks from the mid-16th to the late 17th century.

For the sake of clarity, I will distinguish between two typologically related occurrences of time metaphors in early modern anatomical illustration. On the one hand, there are the closely intertwined classicisation of the time-space of dissection and the classical memento mori. On the other hand, a reversal of time in social terms becomes noticeable too, whether staged as the anatomical subject’s engagement in a world of make-believe social prestige or social doom, or rendered, in the case of female anatomy, as always already  

1 As Wilson cogently remarks, “[t]he body seems naturally opaque to thought”; any in-depth access can only be gained through “violence and at the risk of pain” (62), viz. through breaking the body open. For epistemological reasons, in the performance in the anatomy theatre Wilson distinguishes between dissection as “the taking apart of the body” and anatomy as its “reconstitution,” viz. “a corpus of mental categories that make up the body of physiological knowledge” (63), though both aspects are “simultaneous components of a performance that in its totality reconstitutes... [a] new body of knowledge, or body-as-knowledge” (63). Grounded as it is in a shift from the epistemological-visual notion of inherent resistance towards the fiction of coherence, the body-as-knowledge underlies the Renaissance attempts to literally flesh out the practice of anatomy as queen of the sciences, goddess Anatomia.

2 The anatomical image seemingly re-presents the human body as a fully-fledged subject, though hardly in the agentive sense.
passively compliant with the male anatomising-cum-eroticising gaze. The sheer fact that often the destitute made it into the anatomy theatre and/or book also provided for a certain degree, albeit tenuous, of exemplarity.  

**Anatomical illustration and the Vesalian project**

From its very dedication to King Charles V, Andreas Vesalius’ *De humani corporis fabrica libri septem* (Basle, 1543) would strike the reader as a deliberately polemical work. Challenging as much past authorities as contemporaneous indiscriminate reliance on them, especially on a mistranslated Galenic corpus, to the detriment of direct observation through anatomy (viz. dissection), the *Fabrica* set off to impose a new outlook on the desirable source of anatomical knowledge: not texts of the past – repudiated because their knowledge of human anatomy had been inferred from animal dissection and vivisection – but anatomy done by the physician himself (sic) rather than surgeon-barbers was to *inform* true knowledge of the human body “out of a love of truth” (Vesalius 3v).

Notwithstanding his advocacy of direct observation through anatomy, Vesalius also encouraged the illustration of anatomy books, a parergon intended to aid the future practitioners’ learning (Vesalius 4r). Images of the body and body parts as well as of anatomical implements in post-Vesalian anatomy books, usually authored by contemporary artists under the close supervision of the anatomists, couldn’t but bolster the *Fabrica*’s claim to scientific truth, and no longer catered to mnemonic needs (Nutton). Furthermore, because of the role he assigned to images, Vesalius paid utmost care to the artistic quality of the *Fabrica*’s illustration, as he acknowledges in the letter to his editor, Johannes Oporinus (Vesalius vii).

The illustration of the *Fabrica*, now generally attributed to Jan Stephan van Calcar – in Books 1 and 2 – and to other artists in Titian’s workshop (Nutton), does indeed document Vesalius’ commitment to anatomical observation. However, the settings as well as certain lively poses of the subjects also suggest his reticence about always having anatomy’s stark horror apparent. Vesalius’ acknowledged indebtedness to Galen in the book structure, viz. starting with osteology rather than following the order of dissection proper, articulates his ultimately Galenic teleological project (Nutton): to reveal the Creator’s design; nonetheless, it may arguably also account, albeit partially, for the *memento mori* inflected illustration of the *Fabrica*. Besides, several contemporary trends joined forces to subvert the Vesalian direct observation project, from artistic allegiance and

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3 The subjects of anatomy may have belonged to a broad social spectrum: there are some notable cases of royal autopsies, e.g. of Henri II of France or of Elizabeth I of England – the latter despite her own express provision against it (Cregan 50); however, conspicuously more liable to end up on the dissection table were the poor and the outcast, whose bodies were supplied by the gallows or the graveyard, the former the only legitimate source between the 13th and the early 17th centuries, the latter used probably since the early 14th century (Wilson 68). Vesalius appears to have laid down one of the criteria for selecting the anatomy object, despite his own custom, in the *Fabrica*’s frontispiece: the cadaver of the felon (Daly and Bell 190). In England, where both Henry VIII (1540) and Elizabeth I (1560) provided for executed felons to be used as anatomical subjects by the London barber-surgeons, the subjects for dissection could also come from the ranks of the disinherited, once they were criminalised, in the wake of land closure (Cregan 51-52, 61).

4 My use of “exemplarity” here draws upon one of James Elkins’ types of metamorphosis, *metamorphosis by looking alone*, viz. a conceptual process able to turn the individual into a specimen or an example (Elkins 155), which corresponds to G. Kress and T. Van Leeuwen’s *abstract coding orientation* that “reduces the individual to the general” and reduces concrete entities to their “essential” qualities (qtd. in Daly and Bell 196).

5 In this, Vesalius was indebted to the overall programme of Jacopo Berengario da Carpi’s *Commentary on Mondino*; on the other hand, Vesalius’ own emphasis on dissection-derived knowledge of the human body carried out the Galenic programme, *unfulfilled* through the scarcity of human corpses available to the anatomist (Nutton).

6 The size and quality of both typography and illustrations as well as the flourished Latin style made the *Fabrica* a book for the very rich, whether royalty, connoisseurs or physicians (Nutton). For medical students Vesalius published the *Epitome* (1543), a Latin compendium based on the *Fabrica*. 
the revival of classical art to the melancholy tenor of an important strand of Renaissance thought, quite likely cognate with the all-too-human shudder before death and the corpse. The dead and anatomised body is here a text, as the title makes it clear (Nutton; McHugh), and moreover one that uncannily resonates with some of the great texts past and present. Hence autopsy’s metadiscursive nod to Apollonian self-knowledge as looking through and at oneself (auto-opis) as the would-be subject of death (McHugh 247): memento mori.

What informs the Fabrica’s illustrations is therefore not accuracy as reliance upon the painter’s hand to render on page what could be observed empirically. For one thing, what met the eye during dissection was itself an anatomical mess that needed an interpretative grid, both cognitive and pictorial, if it was to be imaged coherently in the book (Wilson 63). Accordingly, illustrators of anatomy books, starting with Vesalius’ own but continuing as late as the early 19th century, drew upon a variety of contemporary genres of visual representation, from naturalism to classicism, from landscape to death imagery and monstrosity, sometimes marshalled under the memento mori battle-cry.

Broadly speaking, in the classicisation mode, frontispieces of anatomy books often feature goddess Anatomia against a classical architectural background; Vesalius’ frontispiece instead has a larger-than-life skeleton, Death-like, tower the scene in the temporary outdoor anatomy theatre. Where they appear, écortchés are more or less explicitly indebted to Ovid’s story of Apollo’s flaying of Marsyas (Metamorphoses 6.382-400). In the memento mori anatomical figuration, cognate with vanitas art and developed into one by anatomist Frederick Ruysch in the late 1680s, a contemplative pose, a skeleton, a skull, a tomb, an hourglass, or ruins – in any combination – point to the anatomical illustration’s very grounding: death, followed for some by dissection.

**The classicisation of the space–time of dissection and anatomical “vanitas” art**

Arguably, the burgeoning fiction of the body’s exemplarity in death, achieved by attaching to it diverse markers of classicism, may appear to assuage, even deny, the immediacy of violence done through anatomy to the admittedly dead body. This, however, subverts the Vesalian project of empirical observation and illustration accuracy, and moreover problematises the very image(s) of anatomy.

The Fabrica uses at times columns (frontispiece and Vesalius’ portrait), even a ruined arcade (Vesalius 192), as the prominent, unmistakeably classical, setting for some of its anatomies, possibly also in homage to the ancient Greek culture’s anatomical legacy. It is doubtful, however, whether the Vesalian anatomical metaphor of the ruins of classical time as ruins of the body through death and dissection, blending as it did anatomy and melancholy against the background of classical Greek temples and martyrta (cf. Estienne 103, 210), could successfully, or was intended to, obliterate the memory of death. In a recurrent pose in Vesalius’s Books 1–2

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7 Shakespeare articulates the Renaissance contradictory impulses to extol the virtues of the human body despite the ambivalent Christian outlook, yet also to endorse the latter’s view of mortality: “What a piece of work is a man!... And yet to me, what is this quintessence of dust?” (Hamlet, II.2).

8 The memento mori motif was as much classical as biblical, from the Ecclesiastes’ vanitas vanitatum to Christian teaching at large, yet especially prominent in the later medieval ars moriendi tradition, in the 13th-century legend of the three living and the three dead, or in the post-plague motifs of the knights of the Apocalypse, the dance of death and the triumph of death. It is precisely this memento mori contemplation which suggests that the living body borders on time, as is intimated in Hans Holbein the Younger’s Jean de Dinteville and Georges de Selve” (or The Ambassadors, 1533). A painting contemporary with the earliest modern anatomy books, Holbein’s partakes of the spirit of the vanitas still life, a Renaissance genre especially popular in the Netherlands: particularly in Leiden, educated patrons usually affiliated with the university collected this highly symbolic form of painting capitalising upon the medieval skull motifs (Hansen n. 25).

9 For lack of space, I will not address the importance of frontispiece illustration for articulating the anatomical project in early modernity, nor questions such as why the Renaissance should have allegorised the practice of anatomy as goddess Anatomia or, why, technical anatomical similarities apart, should the flaying of Marsyas be lurking behind the écortché in anatomical illustration. These queries belong together in the larger context of the Renaissance revival of Ovid’s story of Marsyas and the satyr’s allegorisation as the figure of pride and the audacious artist.
(the osteology and myology sections), melancholy looking skeletons contemplate skulls (164, 208): a skeleton seen from the rear is bent, with hands raised to a bowing head, expressive of grief or pain (165). Contrariwise, another skeleton’s head gestures upwards (163), as if to confront heavens or his (sic) Maker: the spade he is leaning on ambiguously points to a time of death and dissection or maybe resurrection; his upward turned grievous face echoes the frontispiece skeleton’s. This animated skeleton’s implicit story is poised between having dug his way out of the grave – merely sketched to the left – only to find an empty world, and conversely, having just dug his grave (McHugh 245-47) after the experience of anatomy. When looked at in their book sequence, the skeletons of pages 163–165 compose a story of the ages of man (sic) not as mythological–Christian historicity but rather as acquiescence of the time of death: know thyself as a mere bunch of bones precariously poised between a bland heaven and a desert earth. Not recumbent figures of the dead (or of Death) but enlivened bone-men, Vesalius’ skeletons in Book 1 articulate in their expressive postures the project of Vesalian anatomy as progress towards autoptic and self-reflexive humanity, albeit somewhat tinged with an eschatological hue; flayed écorchés in Vesalius and Valverde (94) will reinforce this autoptic but hardly the eschatological inclination too.

Momentous resurrection as the exemplar body is also invoked by some 17th-century anatomy handbooks. In Govard Bidloo’s Anatomia humani corporis (Amsterdam, 1685), artist Gérard de Lairesse shows the full skeleton in classicising or at times even orientalising settings. Especially when seen in relation with the next plate, plate 87 hardly points to osteology but rather stages a memento mori scene, even though, on the Vesalian template, the bones are assigned numbers or letters for identification in the text: a skeleton, hourglass raised in the left hand, points with his (sic) right hand and gaze downward to the pall draped over the margin of an open marble sarcophagus, lid leaning against it behind the skeleton. That this skeleton is ultimately an allegory of Time rather than a mere anatomical specimen is also suggested by the trees and mountain settlement in the background (betokening the Vesalian legacy), with another sarcophagus placed in between. In plate 88, stepping onto the marble slab of a tomb, a melancholy skeleton tilts his head down to a pall he has raised therefrom: is he just about to say goodbye to his resting place or is he walking into it (cf. Vesalius 163)? In the background of the ruined arcade, a slender pyramid-shaped obelisk is supported upon a female-headed sphinx resting upon another tomb, while the outline of a marble vase over yet another sarcophagus is discernable in the middle ground right. Dimly sketched in the far background, a human settlement or just as likely an extension of this quasi-ruined necropolis features yet another pyramid structure. To die is not to sleep (pace Hamlet), but to be resurrected to the everlasting (after)life of an anatomical exemplar.

The body beautiful and a dignified subject of anatomy?

An unsettling juxtaposition in the Fabrica’s illustrations seems to have established the precedent for anatomy books to come: the representation of the écorché as a flayed, though standing, self-supporting, hence enlivened, cadaver in a vegetal–architectural landscape suggestive of the peaceful Paduan countryside scenery (Vesalius 179, 187). Sometimes the flap of a stripped muscle suggests body depth, though such details are often juxtaposed with exuberant poses (Vesalius 187) that obliterate the écorché’s condition. Here Vesalius rather identified the artists’ demand, as he himself acknowledged (qtd. in Sellink 47); unsurprisingly, given its illustration, the Fabrica yielded the template for anatomical drawing books for artists (Sellink 48).

It is at this juncture that the classicisation of the space–time of dissection appears to work in tandem with a mock classicisation of the social status of the subject forced to surrender his/her dead body to the anatomist: once the practice of anatomy was mythologised as goddess Anatomia, this impinged not only upon the gamut of pictorial conventions available to illustrators, but also upon the very availability of subject positions within the discipline. Furthermore, it has rightly been observed that images feigning lively vitality in anatomy books of 1500–1750 thematised and moralised the new social obsession with self-fashioning and

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10 With few exceptions, skeletons in early modern anatomy books are male, despite the generalising caption “human.”
individuality performed in the public sphere. Some plates in the Fabrica feature torsos with half-cut limbs whose cross-section evokes ruptured classical marble statue limbs (Vesalius 465, 478, 559). Drawing on the newly unearthed – and limb damaged – Apollo Belvedere (Nutton), such images intimate that the anatomist’s/artist’s penetrating gaze un-covers the body beautiful, though, in practical terms, not for the medical students’ benefit, and moreover transmute the reality of dissection and of the subjects’ often modest social station, possibly also diseased bodies, into classically beautiful and healthy-looking exemplars. Gérard de Lairesse’s “portrait” in Govard Bidloo’s handbook (1685) likewise points to a classical past of corporeal harmony rather than to musculature: plates 1 (male) and 2–3 (female) show the body of muscles in postures reminiscent respectively of Apollo Belvedere and Venus pudica capitolina (but for the ancient Venus’ modest gesture). No less posing appear the anatomical subjects in Giulio Casserio’s posthumous Tabulae anatomicae (Venice, 1627): drawing on the Vesalian tradition of serene countryside scenery, Odoardo Fialetti’s illustration backgrounds (Casserio XV, XVI) set the stage for a muscle exhibition cum personality modelling. Copperplate engravings in John Browne’s (plagiarised) A compleat treatise of the muscles... (London, 1681) theatricalise Vesalius’ écorchés to such an extent as to suggest that the anatomical subjects participate in a world of social prestige and playfulness: a courtesan or a courtier on a marble pedestal fans out some muscles; their flayed skin drapes around their bodies or provides the frills to invite a pose.

More compelling still than the enlivened écorché is its suspension by ropes (Vesalius 190), a technique Vesalius deployed throughout his career to mount écorchés and skeletons in upright position for anatomical display and examination (Nutton). However, illustrations of such rope-and-pulley suspension of uncannily flapping flayed cadavers overlay the memory of the gallows with a subtle allusion to the excruciating torture of crucifixion iconography (McHugh 255-56) and to Marsyas’ punishment, and therein comment on the artifice of anatomy.

What Vesalius’ “marble” limbs and Valverde’s “cuirass” torsos only allude to, Charles Estienne’s images appear to self-consciously exploit: De dissectione partium corporis humani (Paris, 1545; French translation, 1546) is a theatre of anatomy cum judicial theatre that explicitly connects the anatomical practice with the legitimate source of bodies, the gallows. Estienne thereby enhances the anatomical subject’s false exemplarity – as convicted criminal – once some of his male anatomies’ settings (236, 237, 239, 241, 242) strike a compelling penological note, recalling as they do the gibbet (cf. Vesalius 190), the stocks or any other form of judiciary torture. At stake in the overtly voyeuristic mise-en-scène of some of Estienne’s plates is an implication that the anatomist’s penetrating gaze is there not only to reveal how to conduct autopsy, as the title claims, but also to explicate the “curiosity” of both male-qua-human criminality and female generativity. With respect to the latter the history of De dissectione sheds a gruesome light on the politics and poetics of anatomy illustration.

Estienne’s project was innovative indeed, yet it also betokened the age’s uncertainties regarding the condition of anatomical illustration (Talvacchia 162-63). Estienne set out to use two different systems of representation for the description of the body: a written text, which he himself authored, and a visual text, with drawings carried out to his specifications so as to reveal the human inside he described (Talvacchia 163). The illustration proper is twofold, since a small inset depicting internal body parts (designed by surgeon Éstienne de la Rivière) is circumscribed by a representation of the entire body posed within domestic settings or landscapes. In so articulating his anatomical project, Estienne “participated in his culture’s premise that observation from nature tempered by study of the best art resulted in the most valid expression for the human body” (Talvacchia 164).

The figures in the section on the female reproductive system in Book 3 were borrowed from Giovanni Jacopo Caraglio’s engravings of Perino del Vaga’s erotic illustrations to The Loves of the Gods (1527).11 Estienne used Caraglio’s figures in nine of the ten subjects yet in such a consistent way as to preclude any

11 The Loves of the Gods erotica alluded to a series of prints by engraver Marcantonio Raimondi after Giulio Romano’s drawings, known as I Modi, “the positions” (1524), which depicted contemporary Roman courtesans engaged in sexual acts with their clients (Talvacchia 1-21).
misprision of his purpose: “The female personages in the most explicit sexual postures were chosen, with an evident systematic use of the figures in frontal presentation and splayed legs” (Talvacchia 164). Furthermore, the female anatomical subjects are presented in sleeping or self-offering positions, with eyes half closed, which “creates a distancing zone of comfort for the viewer” (Talvacchia 166) once the peeping Tom’s gaze (sic) cannot be reciprocated. Unsurprisingly, then, such choices posit an intertwining of Estienne’s anatomical view of sex with contemporary cultural attitudes to sexuality: several plates’ poses (Estienne 267, 271, 279, 281, 285) intimate sexual promiscuity in the Venus posture of the female model, who may or may not have been a prostitute, but just as well an unfortunate mother to die in or soon after childbirth.12

Estienne’s is an overtly salacious visual exploitation of the sex–sexuality nexus in ways detrimental to the female model and to women too. Conversely, this nexus could be downplayed in thinly disguised biblical allegory, as is the case with De formato foetu liber singularis. Attributed to anatomist Adriaan van de Spiegel (d. 1625), the book was published unillustrated (1621); however, in a later edition (Frankfurt, 1631), plates were added to it with illustrations by Odoardo Fialetti, which were culled from the unpublished material of Giulio Casserio (d. 1616), van de Spiegel’s teacher. An illustration (table 4) deceptively posits female generativity as floral: downcast eyes and tilted head notwithstanding, the young woman certainly appears to pose when she modestly covers her sex with a flower and holds a flower or fruit in her left hand, while displaying her foetus amidst tissue layers spreading out like petals. Fialetti’s overtly idyllic mise-en-scène literalises the “fruit-of-her-womb” metaphor, which at a metadiscursive level suggests that the mythologising process at work here is nothing short of retelling the Adam-and-Eve narrative in pre-lapsarian key. At one stroke both the biblical curse on Eve/woman and the threat of death are obliterated. The model’s open right palm invites examination of the mystery of life (her opened pregnant womb) or rather of death for, aestheticisation apart, the illustration evokes the dissection of a dead body as the tomb of another one, the foetus’.

It has been argued that between 1680 and 1800 anatomists began to eliminate imaginative elements from scientific illustration in an attempt to delimit more clearly science from art, which resulted in two styles of “anatomical realism.” One purported to show the “reality” of dissection, the cutting open of the body with all the implements and setting of dissection, while the other style aimed at the sublime, displaying idealised bodies ostensibly unrelated to any particular dissection. Nevertheless, both abode just as much by artistic conventions, and this scientific “cleansing” never completely obviated anatomical allegorisation.13

Conclusions

Early modern anatomy (dissection) and illustration thereof is by definition concerned with borders that mark off the intact space of the body and its breach, yet also the otherwise invisible spaces within, now newly “compartmentalised” through the need of meaningful and coherent illustration. Implicit in Vesalian and post-Vesalian anatomical illustration, the notion of time too points to borders. Body borders are penetrated only to finally encounter time, the time of the body: the skeleton contemplating a skull or gazing at a pall draped over

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12 Technically, Estienne’s appropriation of Caraglio’s engravings involved two different “surgeries” (Talvacchia 164) on the figures: on the one hand, uncoupling the gods, separating the female figure and replacing it in a new setting; on the other hand, preparing the anatomical inset to enter into the larger woodblock before printing. Ironically, the printing process subverted Estienne’s intended harmonious anatomical–artistic whole: the anatomical inset is often visible as a thin line, a fracture within the woodcut that “reifies the break” between art and science in early modernity (Talvacchia 165).

13 For all its memento mori staging, the illustration style in Govard Bidloo’s Anatomia humana corporis (1685) also points to the grim “reality” of dissection: Gérard de Lairesse’s illustrations seem to be rather an offshoot of Dutch realism in painting (Elkins 137). Jacques Fabien Gautier D’Agoty’s Anatomie des parties de la génération de l’homme et de la femme (1773) illustrates the “sublime” style: its coloured mezzotints with a painterly texture and French portraiture pose of the écorché’s evoke works of art more readily than anatomical illustration. Sometimes, however, Gautier D’Agoty grimly intimates the triumph of dissection over life through typographical sleight of hand: images of body parts are so designed as to be pieced together by twos or threes into a full body image.
an open sarcophagus is the patently dead embodiment of the classical *memento mori* trope and cognate with *vanitas* still lifes. Furthermore, such imaging especially of the skeleton inevitably dabbles in the Christian eschatological narrative and rewrites it as the time of anatomical resurrection. Reciprocally – and ironically – the corporeal does border on time in yet another way: breaching body borders can reverse *anonymity in life* as *exemplarity in death*. In death, the marginals experienced an eerie reversal of social fortunes as if time had been undone for them.

There were mutual influences between early modern anatomical illustration and the contemporary fine arts, as the illustrators of anatomy handbooks were usually artists, themselves more directly interested in anatomy than ever before. Despite the tentative attempts of anatomical illustration to establish itself as a scientific genre informed by direct observation, the close collaboration between anatomist and artist pointed to the age’s anxieties over defining the proper concerns of art and science, on the one hand, and, on the other hand, articulated anatomy’s project of self-legitimation by proclaiming the objective truth of the knowledge thus achieved. Early modern anatomical illustration thus played out the paradox of thematising anatomical exemplarity, hence “scientific” durability through universalising iconicity, often through the dissection of the least fortunate individuals and by deploying the classical *memento mori* token of human transience or by classicising the representation of anatomical practice.

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