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Anatomy for Artists: Vesalius' Fabrica and Epitome as an Aid for Sculptures of the Cristo Yacente in Early Modern Spain

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Abstract

The University of Valladolid was the first Castilian institution to teach anatomy through human dissection. In 1551, Bernardino Montaña de Monserrate published *El Libro de la anatomia del hombre* in Valladolid, Spain, the earliest Spanish book on anatomy. By the time of its publication, its theories were outdated, but the illustrated plates copied images from Vesalius' influential *De humani corporis fabrica* and *Epitome* 1543. Juan Valverde de Amusco and Juan de Arfe y Villafañe also published their respective books based on Vesalius: *Historia de la composicion del cuerpo humano* 1556, Rome and *De varia conmensuracion para la escultura y la arquitectura* 1585, Seville. The anatomical accuracy of the seventeenth-century *Cristos yacentes* by Gregorio Fernández and others relied on these Spanish anatomical treatises and the *Epitome*'s paper manikin. These publications promoted accurate renderings of the dead body that would later be resurrected. The Catholic belief in the resurrection of the flesh ties directly to its anatomical representation. The focus on Christ's physical suffering connects to the Eucharistic meaning of the work and Counter-Reformation devotional practices. Artists used scientific anatomical representation in service of the Church to produce a work that used verisimilitude and hyperreality to engage the viewer.

Keywords: Vesalius; anatomy; polychrome sculpture

1. Introduction

In the fifteenth and sixteenth centuries, Valladolid was the residence of the Kings of Castile and the center of the Spanish Renaissance. King Philip II was born there on 21 May 1527. The University of Valladolid was "the first Castilian institution where anatomy was taught from human dissection" in 1548 (Skaarup 2015, p. 89). Therefore, it is no surprise that in the same city, sculptor Gregorio Fernández produced anatomically accurate representations of the dead Christ less than sixty years later (see Figure 1).

In previous publications, I have proposed that these works have Eucharistic significance and trace their iconography and use in relation to Holy Week celebrations.[1] These sculptures depict the dead Christ after the deposition and before the elevation and reinforce the resurrection of the body during the Counter-Reformation. These sculptural bodies have been carefully rendered to replicate the human body. The *Cristo yacente* processional sculptures produced in the seventeenth century remain in use during Holy Week, and this type of sculpture remains a popular image created by contemporary artists.[2] Over twenty *Cristos yacentes* have been cataloged in Valladolid alone, and many

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others appear throughout Spain.[3] Scholarship on the relationship between art and anatomy has often focused on the technical development of woodblock prints and their ability to depict detailed anatomical studies in Andreas Vesalius's work (1514–1564). Two scholars, Tiffany Hunt and Francisco José Martín López, have independently addressed the connection between his publication and the development of scientific artistic representations of the body that followed. Gregorio Fernández used Vesalius' *Fabrica* and, more specifically, the *Epitome*, to create anatomically correct sculptures that allowed him to secure royal patronage from figures such as King Philip II (1527–1598). Spain promoted dissection as early as 1322, and seventeenth-century polychrome sculptures reinforce the lasting influence of anatomical study.[4] Beyond science, Vesalius' original intention for the *Fabrica*, and especially the *Epitome*, was to provide artists with a visual aid for anatomical representations.[5] The paper manikin that accompanies the *Epitome*, functions as a dissection cadaver, and is held at Escorial helped Gregorio Fernández reconstruct the dead, anatomically accurate three-dimensional body of Christ.



Figure 1. Gregorio Fernández, *Cristo yacente*, 1627. Polychrome wood, ivory, glass, cork, and *cornamenta* (bull horn), 1.83 × 0.73 m. Museo del Prado on loan to Museo Nacional de Escultura, Valladolid, Spain. Copyright: Jorge Tutor/Alamy Stock Photo.

2. Andreas Vesalius

Anatomist and physician, Andreas Vesalius became influential in Europe with his publication of *De Humani Corporis Fabrica Libri Septem* 1543 (see Figure 2). He began his academic career in the arts while enrolled at the University of Leuven in 1528 and later switched to medicine when enrolled at the University of Paris (Zampieri et al. 2015, p. 66). While gathering his research, "He spoke to midwives and to professors, he visited the butcher's stalls and the hospitals, he read or re-read his Galen, sometimes in Greek manuscripts, and he discussed his plans with fellow scholars and with artists" (Nutton 2024, p. 56). Vesalius could draw, and he did so while he lectured. He would sketch directly on the dissecting table while he instructed, explaining and clarifying anatomical lessons for his students.[6] His book extends his pedagogical practice by providing folio-size illustrations alongside the text.



Figure 2. Andreas Vesalius, *Andreae Vesalii Bruxellensis, scholae medicorum Patavinae professoris, de Humani corporis fabrica Libri septem*. Basileae: [ex officina Ioannis Oporini], [Anno salutis reparatae 1543]. Universitätsbibliothek Basel, UBH AN I 15, https://doi.org/10.3931/e-rara-20094/. Copyright: Public Domain Mark.

The *Fabrica*'s layout and illustrations were unsurpassed by any other anatomical book at the time, and he is recognized as the father of modern human anatomy; however, the book was expensive and made for an elite audience. Nutton notes as a point of comparison "that in Basle the cost of the *Fabrica* alone was four florins and four and a half *batzen*, and of the *Epitome* ten *batzen*" (Nutton 2024, p. 99). Because of the high cost and accessibility issues, Vesalius also produced the less expensive and more understandable *Epitome*.

2.1. The Epitome

Vesalius produced a shorter, lighter, and better-illustrated compendium known as the *Epitome* (*Andrea Vesalii suorum de humani corporis fabrica librorum epitome*, 1543), printed in a larger format. The book had 14 leaves and was used as a practical student atlas. The *Epitome* included 10 woodcuts and had an original print run of 500 to 600 copies. Because Vesalius also intended it for artists, it included wall charts measuring 55 cm. Zlatko Pozeg and Eugene Flamm agree that artists were one of the main clients for this new illustrated pendant to the *Fabrica* since it was "introductory and elementary in nature" (Pozeg and Flamm 2009, pp. 210, 212). The illustrations in the *Epitome* were larger than those in the *Fabrica*, and when the *Fabrica* was reprinted in the seventeenth century, its illustrations were enlarged to match (Kornell et al. 2022, p. 8). The *Epitome* woodcuts could be easily referenced on the walls of an art workshop. We have illustrations showing workshops where students look at cadavers, and a flap anatomy on a desk or pinned to a wall would certainly be a welcome addition. This use is evidenced by life-size anatomical drawings documented, for example, as used at the anatomy theater in Altdorf by 1700.[7]

The frontispiece of the *Epitome* is dedicated to Charles V's son, the future Philip II of Spain (see Figure 3). After the initial publication, Vesalius became imperial physician at the court of the Holy Roman Emperor Charles V, also known as Charles I of Spain (1500-1558), and later, in 1555, physician to his son Philip II. That same year, he also republished *De humani corporis fabrica* (Pozeg and Flamm 2009, p. 211). Vesalius had a deep interest in the arts, as demonstrated by his initial plan at university, and he also worked closely with

artists to produce his *Fabrica*. The Netherlandish artist, Jan Steven van Calcar (1499–1546), a possible student of Titian (c. 1485–1576), is the main proposed collaborator for the *Fabrica* but this remains debated by some scholars. Vesalius grew up with art; Nutton mentions that "he had an artist's eye, and his upbringing in the penumbra of the highly cultured court of Brussels will have strengthened his aesthetic sensibilities as well as introducing him to many of the leading artists of the region" (Nutton 2024, p. 44). Historically, artists and anatomists collaborated closely. Vesalius undoubtedly controlled every aspect of his collaboration with Jan Steven van Calcar.



Figure 3. Andreas Vesalius, *De humani corporis fabrica librorum epitome*, Basel: ex. off. J. Oporini, 1543, frontispiece, colored woodcut, leaf height 55.8 cm, CCF.46.36. University of Cambridge Digital Library. Copyright: Creative Commons Attribution-Noncommercial 4.0 Unported License (CC-BY-NC 3.0).

The importance of artists to anatomy studies is evidenced by the many planned and unfinished anatomical projects begun by artists such as Michelangelo, Leonardo Da Vinci, and Rubens that were never published (Kornell et al. 2022, p. 5). Primary sources document artists and record their presence in dissection illustrations. In the preface to his book *The Anatomy of the Human Gravid Uterus* (1774), William Hunter explains that the artist will not be allowed to draw from memory "but only from immediate observation" (Kornell et al. 2022, p. 5). There was a desire to curtail artistic license in favor of precision and detail. Vesalius believed in the importance of dissection, and his work was so successful that it was republished not only to save on cost but because the illustrations were so good that there was no room for improvement.

The main goal of his *Epitome* was accessibility and affordability, but both the *Fabrica* and *Epitome* were heavily illustrated to provide visual lessons and guidance. His *Epitome* had far fewer pages than the *Fabrica* and was composed of two parts. The first is a textual description of all parts of the body, and the second shows the parts of the body with keys

and legends. Vesalius also describes the body and its dissection. The *Epitome* includes a paper manikin in which a three-dimensional body is conveyed in the two-dimensional medium of the page and allows the user to participate in dissecting a paper cadaver (see Figure 4). This manikin visually embodies human anatomy as Vesalius envisaged it in the *Fabrica*. The Cambridge copy of the *Epitome* was presented to Charles I of Spain, and one vellum copy held at the Library of the Monastery of San Lorenzo de El Escorial may have been the one presented to Philip II (Pozeg and Flamm 2009, p. 215). The library collection was begun in 1565, and the building was completed in 1585. The Escorial copy would have been available to Gregorio Fernández, who worked there early in his career before the Spanish court was moved to Valladolid in 1601. Art historian Fernández Paradas notes about his stay in Madrid that he "was attracted to works at the Escorial and the courtly environment of sculptor Pompeo Leoni" (Fernández Paradas 2016, p. 41). The dedication of the *Epitome* is a sound choice since Spain and its King, Philip II, played a key role in the development of anatomical studies, and it anticipates Vesalius' position as imperial physician to the Spanish crown. Emphasis should be placed on the connection between Vesalius, the Spanish Kingdom, and the artistic production of *Cristos yacentes* that followed. Vesalius explains that diagrams are powerful images that "aid in the understanding of the things and place a subject before the eye more precisely than the most explicit language" (Kornell et al. 2022, p. 1). The anatomical illustration preserves the ephemeral body that has been dissected and will decompose. It is a teaching tool for those who did not have access to bodies or simply did not want to dissect them. Martínez-Vidal explains that "dissection became a habitual practice for students, artists, philosophers, physicians and surgeons" (Martínez-Vidal and Pardo-Tomás 2005, p. 252).

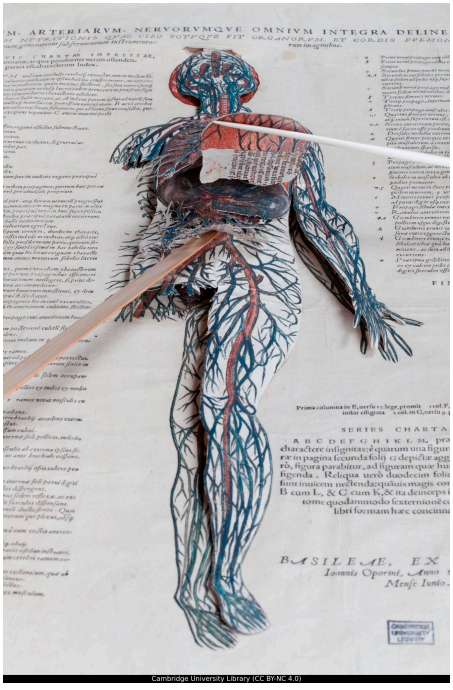


Figure 4. Andreas Vesalius, *De humani corporis fabrica librorum epitome*, Basel: ex. off. J. Oporini, 1543, leaf height 55.8 cm, paper manikin, CCF.46.36. University of Cambridge Digital Library. Copyright: Creative Commons Attribution-Noncommercial 4.0 Unported License (CC-BY-NC 3.0).

2.2. Paper Manikins and Flap Anatomies

Many publishers and artists saw the marketability of Vesalius' work and plagiarized it. Printers focused on reproducing the large-scale anatomical sheets rather than the text. The prints, known as flap anatomies, featured illustrated organs with foldouts and sheets

that could be moved and interlocked like a pop-up, giving the impression of a three-dimensional body (Nutton 2024, p. 45). The viewer participated in a simulated dissection, removing pages as if they were organs. The flap anatomies published in Wittenberg were meant for students, while those in areas without a nearby university were meant for the general public (Nutton 2024, p. 45). Kornell explains that inexpensive fugitive anatomical sheets became popular with a lay audience (Kornell et al. 2022, p. 85). Vesalius was inspired to create the *Epitome* because the public and artists were interested in flap anatomical prints. According to Nutton, "their utility was universally and swiftly acknowledged is clear from Vesalius' unusual decision in 1543 to insert an over-large folio showing the veins and arteries into the *Fabrica*, accompanied by a second folio depicting organs along with detailed instructions for cutting them out and sticking them down in order" (Nutton 2024, p. 45).

In the preface, Vesalius explains how to properly use the paper body included in the *Epitome*. The participant must cut and assemble the two-dimensional cadaver with glue to create, in essence, a three-dimensional one (Kornell et al. 2022, p. 85). In essence, the body was first deconstructed and then constructed. He instructs the reader to use the illustrations by starting with the skeleton and then working backward through the plates, or anatomical flaps, of the muscles. All the illustrations have accompanying text. The illustrations are designed to show female and male bodies as systems, with the circulatory and nervous systems superimposed on the skeletal system (Nutton 2024, p. 102). This emphasis on instruction and the image's utility shows how important the images alone were to the progress of anatomical study and artistic representation.

Vesalius' books had the largest illustrations available that had ever been printed (Kornell et al. 2022, p. 49). He even complains about a publisher who reduced the size of his illustrations, which he noted were large and intended for students to see from far away during lectures (Kornell et al. 2022, p. 49). Kornell explains, "life-size illustration of the complete body could be more easily perused on the wall than in the multiple opening of the book…" (Kornell et al. 2022, p. 53). Artists could not always attend dissections, and they were crowded affairs. Sources document the artist Aert Mytens trying to steal a body from the gallows in Brussels, which further illustrates the need for anatomical books (Kornell et al. 2022, p. 3). Artists made casts, models, and drawings that they circulated among themselves, and they also owned anatomy books (Kornell et al. 2022, p. 26). Vicente Carducho (1576–1638) advises artists to use Vesalius and Juan Valverde de Amusco (c. 1525–n/d); the latter's book is documented in his own library inventory (Kornell et al. 2022, p. 30). By 1560, Vesalius' work had been republished in Lyon, France, with an added title noting its usefulness to artists and architects (Kornell et al. 2022, p. 31).

The relationship between paper anatomies and wax anatomical models has been studied by art historian Rose Marie San Juan. In her book *Violence and Genesis of the Anatomical Image*, she connects the formal elements of Vesalius' anatomical drawings with his admiration of antique sculpture and explains that he uses it "as a model for the reassemblage and enhancement of the body" (San Juan 2023, pp. 74, 87). As a consequence, Vesalius's anatomical figures appear firm as if made of stone while "Valverde's for the most appear as living bodies" (San Juan 2023, p. 81). This distinction between Vesalius, who was influenced by Roman antiquity, and Juan Valverde de Amusco, who is immersed in Spain's visual culture, is crucial to understanding how polychrome wood traditions tie to verisimilitude and influence artistic practice. Her book concludes that anatomical prints influence the production of wax anatomical models created by artists such as Gaetano Giulio Zumbo's (1656–1701). These wax reconstructions serve as an artificial substitute for the materiality of the human body (San Juan 2023, pp. 3, 28). They were inspired by colored wax used in anatomical preparations and function as recreations of the embalmed body (San Juan 2023, p. 132). As a point of comparison, San Juan links

visually Zumbo's *Wax model of head* dated c. 1690 held at La Specola in Florence to the polychrome wooden head of *St. John the Baptist* (ca. 1625) from the Museum of the Cathedral of Seville by Juan de Mesa (1583–1627). She explains that Zumbo's head and that of Saint John the Baptist "could have been confused" before the category of anatomical wax was established and mentions that Zumbo's work is at the "intersection between sculptural form and anatomical dissection" (San Juan 2023, p. 136). To expand on her observations, the display of the head and the use of polychromy are similar as is the materiality used in both works that reinforces hyperrealism. Wax is an ideal material in terms of its malleability and its mimicking of the corruptibility of the body but so is wood, which contracts, expands, and decays just like flesh. Because the wooden head predates the wax head, polychrome sculptures served as a precedent for the wax anatomical models that followed.[8] Sculptures of the *Cristo yacente*, or supine Christ, are three-dimensional recreations of the dead body based on the anatomical studies presented in the illustrations of Vesalius and his followers. Curiously, the main source of anatomical bodies for the images of Christ in this period were executed criminals, as he was crucified as a criminal. Death, anatomy, and decay are intertwined. According to Kornell "the beauty of the body, the wonder of its structure, the delight in discovering its hidden layers, can be never completely separated from the horror of death and the sense of imminent decay" (Kornell et al. 2022, p. 18).

2.3. The Cristo Yacente

The images of the supine Christ were produced in Valladolid; it was the capital of the Spanish Empire in 1527 and again in 1601, and it was where the Consejo Real was located. The city was an ideal location for art and sculpture to reflect the scientific advancements sponsored by the Spanish Crown. One of Gregorio Fernández's *Cristos yacentes*, the one at El Pardo, was patronized by Philip III (1578–1621) and dedicated to his son, Philip IV (1621–1665). Sculptures like this are made of polychrome wood and include glass for the eyes, as well as cork and resin for the wounds. The dead body of Christ is presented in a supine position with the head tilted and legs bent to the right. The wound of the chest and the stigmata of the hands and feet show torn flesh and blood. An early example by Gaspar Becerra and the *Cristo yacente* of San Pablo have reliquaries that were used to hold the host during Holy Week celebrations (Colón Mendoza 2015, p. 74). These works connect to the Eucharist, as the Spanish Habsburg royals were known as defenders of the faith, as was Philip II. The sculpture is a three-dimensional, anatomically accurate body, a product of scientific advancement in the guise of religious art. Tiffany Hunt explains that "the artists operated as anatomists" (Hunt 2018, p. 385). Artists studied human anatomy and participated in dissections to better construct their sculptures, and these works reflect advances in anatomy. These works also served as intercessors, promising the resurrection of the flesh and soul. The anatomical images published by Vesalius and copied by others represent dead bodies. Bodies illustrated in two-dimensional form, to which we have unconsciously imparted life and movement through their various modes of representation (Kornell et al. 2022, p. 20). The assembly of the paper manikin included in the *Epitome* activates the dead body in the same way Holy Week processions activate the sculptures they influenced. Flap anatomies and the paper manikins allowed Fernández to better visualize and construct a three-dimensional body that is assembled from multiple parts. The sculptures are assembled by joining together several anatomical wooden pieces much like you would a paper manikin. Understanding the underlying structures of the body and its internal organs promoted anatomical accuracy in the final sculptural form.

Fourteenth-century examples of *Cristos yacentes*, and some later examples by Fernández's followers, show a lack of anatomical knowledge. The *Cristos yacentes* securely

attributed to Gregorio Fernández show an understanding of Vesalius's illustrations and the paper manikin found in the *Epitome*. For instance, the sculptures show the body's underlying structures, including bones, joints, muscles, sinews, and veins. Polychrome sculptures were collaborative, so Fernández sculpted his works carefully in anticipation of the flesh-tone painter, or *encarnador*, who would finish them. Just like Vesalius supervised van Calcar, Fernández supervised the painting of his works. Beyond the body, facial details such as the eyes, mouth, teeth, nails, and flesh are also anatomically accurate. The flesh wounds appear to show the layers of the integumentary system. The rendering of the skin is an important element of the sculpture as the figure of Christ is nude. The flesh-tone painter used paint undertones and glazes to portray raised veins, lacerations, and tears. Sunken cheeks and tense toes and fingers appear like those of a corpse in which rigor mortis has set in.

The focus on Christ's physical suffering connects to the Eucharistic meaning of the work and Counter-Reformation devotional practices. Contemporary mystics noted Christ's lacerated body and wounds as windows to paradise, elevating the viewer to a higher state of empathetic contemplation. Scientific anatomical representation was used in service of the Church to produce a work that used verisimilitude and hyperreality to engage the viewer. Felipe Pereda argues that we witness a specific kind of image that goes beyond naturalism: the body is shown after death and before resurrection and therefore is uncorrupted (Pereda 2017, p. 413). He uses the term "praeter natural". He concludes that the artist created an optical illusion of organic matter, matter that is not in a natural state but in an extraordinary one (Pereda 2017, p. 408). The body's anatomical accuracy strengthens Pereda's argument. The body and flesh transubstantiated during the elevation are in a natural, extraordinary state free from decay. Essentially, the *Cristo yacente* is an eternally preserved cadaver. When the priest raises the host slightly and shows it to each communicant, saying, "The Body of Christ". This connects to John 1:29: "Behold the Lamb of God. Behold him who takes away the sins of the world." This sculpture of Christ is a metaphor for the Eucharist and, at the same time, proof of the scientific advancements in Spain made possible by Vesalius and the Spanish anatomists who followed.

2.4. Anatomy in Spain

The study of science in early modern Spain has been referred to as the "polemic of science in Spain" (Eamon 2014, p. 232). This polemic can be traced back to the reign of Philip III because, on one hand, Spain was considered backward, superstitious, and religious, while on the other hand it emerged as a global empire that produced the "first worldwide scientific network" (Eamon 2014, p. 233). This historiography of backwardness clashes with the fact that the geographic extension of the Spanish empire played an important role in creating a hybrid medical culture that included the Americas (Eamon 2014, p. 234). First-hand accounts and inventories that codified everything from plants and geography to illness are collections of empirical information that allowed people in Spain who had not traveled to experience a newly encountered "world". The importation of goods through ports such as Seville impacted everything from textile production to pharmaceutical products. William Eamon cites both Jorge Cañizares Esguerra and Antonio Barrero Osorio, who argue that the roots of the scientific revolution lie in Iberia (Eamon 2014, p. 237).

Universities in Spain were among the first to accept Vesalius' teachings. His pupils Pedro Jimeno (c. 1515–c. 1551) and Luis Collado (1520–1589) studied with him in Padua and later served as chairs of anatomy at Valencia University (Arráez-Aybar et al. 2023, 452). The courses they taught served as a model for the lectures taught in Valladolid. Their respective books were published in Latin: Jimeno's *Dialogus de re medica, compendiaria*

ratione, praeter quaedam alia, universam anatomen humani corporis perstringens (Valencia, 1549) and Collado's *Cl. Galeni Pergameni Liber de Ossibus ad tyrones…enarrationibus illustrates* (Valencia, 1555). Although the curriculum was heavily based on Vesalius' teachings, his illustrated plates and anatomical ideas spread widely through Spanish-language books.

3. Vesalius' Followers in Spain

3.1. Bernardino Montaña de Monserrate

Spain's interest in science, particularly anatomy, is evident in its art production and the publication of anatomical treatises. Bernardino Montaña de Monserrate was court physician to Charles I of Spain and professor of anatomy at the University of Valladolid from 1537 to 1550 (Romero-Reverón and Arraez-Aybar 2024, p. 135). In 1551, Bernardino Montaña de Monserrate published in Valladolid, *El Libro de la anathomia del hombre*, the first book in Spanish to address the subject. *El Libro de la anathomia del hombre* had a lengthy subtitle: *Neaumente compuesto por el dr. Bernardino Montana de Monserrate Medico de su Magestad. Muy util y necessario a los medicos y cirujanos que quieren ser perfectors en su arte y apazible a los hombres que huelgan de saber de los secretos de la naturaleza. En el cual se trata de la fabrica y compostura del hombre, y de la manera como se engendra y nasce, y de las causas porque se necesariamente muere*. By the time of its publication, the book's theories were outdated, as its foundation relied on traditional Galenic and Aristotelian ideas. However, the illustrated plates were copies of images from Vesalius' influential *De humani corporis fabrica* and his *Epitome*. The illustrations in the *El Libro* are smaller in scale and therefore easier to access and transport, though not visible from afar.

The book is dedicated to Luis Hurtado de Mendoza, Márquez of Modejar, who was president of the Council of the Indies and later of the Royal Council of Castille (Skaarup 2015, p. 98). The book is a practical guide for field surgeons and doctors, divided into three parts. The first part is a treatise on anatomy focused on the body's development and death. The second part is a tribute to his patron, who had a vivid dream in which he asks questions about medicine that Montaña de Monserrate answers. The third part of the book is illustrations he crudely replicated and plagiarized from Vesalius. These plates gave artists visual links to Vesalius's work. The book's focus on the body's death and decay also interests us, along with the fact that it was published in Spanish. Montaña de Monserrate mentions the importance of Alonso Rodríguez de Guevara's pioneering work, which he conducted through public dissections for 20 months in 1548/49, as pivotal to his own work and publication (Skaarup 2015, p. 89). Rodriguez de Guevara succeeded him as chair of anatomy at the University of Valladolid (Romero-Reverón and Arraez-Aybar 2024, p. 135). Montaña de Monserrate had to develop new terminology (sometimes made up, sometimes from Arabic) that would be clear not only to surgeons but to the "humble man" unfamiliar with Latin, and he called for direct empirical study of the body.[9] Montaña de Monserrate served alongside Vesalius as court physician to Holy Roman Emperor Charles V (Charles I of Spain) and was of an older generation. However, he is the first to introduce Vesalius' illustrations to Spanish medicine (Romero-Reverón and Arraez-Aybar 2024, p. 137).

An original document housed at the Archivo General de Simancas, published in 1974 by Fernández Martín, calls for public dissections available to a broader public, as petitioned by María of Austria on 16 March 1551 (Skaarup 2015, p. 96). This same document also called for anatomy to be taught in Valladolid on a permanent basis and reads: "una de las principales y necesarias cosas para saber y entender la ciencia de la medicina es tener conocimiento del sitio y…anatomías de los cuerpos humanos…"(Fernández Martín 1974, p. 361) [10] Fernández Martín argues that this petition was ultimately unsuccessful and that no evidence shows it had any effect, noting that Valladolid had no permanent chair of anatomy through the late sixteenth and early

seventeenth centuries. Martínez-Vidal and Pardo-Tomás disagree and explain that although no documentary evidence exists, "we know that such a chair must have existed at this university during most of the second half of the sixteenth century and that its last occupant was Pedro de Sosa" (Martínez-Vidal and Pardo-Tomás 2005, p. 255). The chair of anatomy position shifts to a chair of method by 1592, and in 1594 a formal chair of surgery is established. The official chair of anatomy position was not formally occupied during these years, at which point it was argued to be reinstated. By the end of the seventeenth century, the University of Valladolid reestablished a permanent chair of anatomy (Skaarup 2015, p. 105). This document attests to the Spanish royals' interest in promoting anatomical studies despite the crown's presumed "backwardness". Vesalius supported Spain's anatomical focus by dedicating the *Epitome* to Philip II. Nutton notes, "Its dedicatee was the later Philip II, the son of the Emperor, who, like his father, was informed by Vesalius of its author's role in the restoration of anatomy after centuries of neglect" (Nutton 2024, p. 103). Artists and intellectuals were aware of this interest in anatomy and produced and commissioned works of art such as the *Cristo yacente* to appeal to this empirical study. Like Montaña de Monserrate, Juan Valverde de Amusco and Dionisio Daza Chacón (1510–1596) also published in Spanish their respective books: *Historia de la composicion del cuerpo humano* (Rome, 1556) and *Práctica y teorica de la chirugía* (Valladolid, 1580).

3.2. Juan Valverde de Amusco

Other Spanish books on anatomy were produced, including Juan Valverde de Amusco's *Historia de la composicion del cuerpo humano* published in Rome, 1556. The book has 42 copperplate engravings designed by Pedro de Rubiales and Gaspar Becerra (1520–1568) (Hunt 2018, p. 398). Gaspar Becerra is an artist whose sculpture of the *Dead Christ* (c. 1563), held at the Descalzas Reales, served as a precedent to Gregorio Fernández's *Cristo yacente* sculptures (see Figure 5) (Colón Mendoza 2015, p. 74). The work is considered Mannerist due to its contorted body and exaggerated lacerations. This sculpture establishes a clear connection to the Eucharist, as it houses the host, which is placed inside the glass reliquary set into the chest wall. Becerra's work with Valverde de Amusco is influential, and his illustrations can be linked visually to sculptures of the body of Christ. Gaspar Becerra's plates for Valverde de Amusco show his close attention to elements found in *postizos*, such as glass eyes. *Postizos* are false elements made of glass, wax, cork, resin, and bullhorn used in sculpture. In Becerra's work, Christ's sculpted body is bruised from being tied to the column, as well as from the wounds of the crown of thorns and Longinus' lance. The work depicts lacerations and torn flesh. Artists known as *encarnadores* (painters of flesh-carne) created these effects. Pacheco discusses these techniques at length in his *Art of Painting*. The work's hyperreality was highlighted through the use of *postizos*. Gaspar Becerra serves as a precedent for Gregorio Fernández's work. When we compare both *Cristos*, Fernández's work shows greater naturalism. The body of Christ is not contorted but appears and presents as a corpse used in anatomical theaters. Becerra's choices are stylistic and reflect his Italian training and close study of Michelangelo. Fernández favors anatomical accuracy and creates an iconographic hyperreal style that many other artists copy and emulate.

Valverde de Amusco's book, published in Rome, helped popularize and normalize Vesalius' anatomy, which is curious considering he studied with Vesalius' academic rivals, Realdo Colombo and Bartolomeo Eustachi. The book includes a dedication and a preface and is divided into seven books subdivided into chapters. The books begin with bones and joints and end with the cranial and spinal nerves. Valverde de Amusco's book was less costly to print, smaller, written in Spanish, and featured superior burin-over-copperplate engravings rather than the woodcuts Vesalius used (Markatos et al. 2017, p. 468). Of the 42 plates, 38 were copied or adapted from Vesalius (Juan de Valverde de

Amusco's ◎Anatomia del corpo humano', Rome [1559] 2004). It had 214 illustrations, 15 of them new (Arráez-Aybar et al. 2023, p. 460). Valverde explains, "Even though some friends of mine thought I should make new figures, without using the ones from Vesalius, I haven't done it because I want to evade confusion [...] and because his figures are so well-made that it would be, to me, envy or meanness not making use of them" (Arráez-Aybar et al. 2023, p. 457).



Figure 5. Gaspar Becerra, *Dead Christ*, c. 1563. Polychrome wood, glass, gold, and silver. Monasterio de las Descalzas Reales, Madrid, Spain. Copyright: Author.

Valverde de Amusco copied the plates but made corrections and original contributions based on his own dissections, including the first accurate representation of the stapes ossicle (the stirrup bone of the middle ear), a better understanding of the pulmonary blood circulation, and improved anatomical drawings of the vomer bone, larynx, and extraocular muscles (Arráez-Aybar et al. 2023, pp. 454, 460, 462). Vesalius does publicly accuse Valverde de Amusco of plagiarism and of lack of anatomical knowledge (Juan de Valverde de Amusco's ◎Anatomia del corpo humano', Rome [1559] 2004; Markatos et al. 2017, p. 410). Valverde de Amusco complains about Vesalius' particular style of Latin, noting that it confuses readers who cannot understand it. He continues by appealing to the Spanish reader and writes: "pareciame cosa muy conveniente, escribir esta historia en nuestra léngua". [11] The book's main goal was to give Spanish surgeons and doctors access to anatomical reforms, making Vesalius' influence in Spain widespread.[12]

3.3. Dionisio Daza Chacón

Dionisio Daza Chacón's *Práctica y teorica de la chirugía* was published in Valladolid in 1580. Daza Chacón's book had two volumes, one published in 1580 and the other in 1593. In 1557, he was the surgeon at the Royal Hospital in Valladolid. He was born in Valladolid and served as court surgeon to Philip II in 1561 and as surgeon of the chamber of Juan of Austria (1547–1578) in 1572.[13] The book is divided into two parts: Part 1 on General Pathology and Part 2 on Traumatology and Surgery. Part 1 covers different types of tumors and inflammations in detail, as well as anatomy based on clinical observation. Part 2 covers injuries, fractures, dislocations, and wounds, along with surgical techniques and

anatomy. The book is innovative because Daza Chacón drew on his extensive experience treating soldiers on the battlefield during the reigns of Charles V and Philip II (Puerta 2026, p. 35). He advocated for cleaning wounds and blood vessel ligatures to stop bleeding (Puerta 2026, p. 42). He advanced trepanations as he discussed the treatment he performed together with Andreas Vesalius on Prince Don Carlos after he suffered a head injury in 1562.[14] He also advanced amputation protocols such as the *colgajo cutáneo*, a skin flap to cover the amputations (Moreno-Egea 2016, p. 169).

In the book, he summarizes his life and his work as the king's surgeon. It is a textual and clinical manual without detailed artistic plates. Daza Chacón boasts that Latin is easier for him, but that he is making a necessary sacrifice for the greater good of the study of anatomy in Spain by publishing in Castilian (Skaarup 2015, p. 101). By the sixteenth and seventeenth centuries, these influential works were translated into other languages such as Latin, Italian, German, and Dutch. Books like this one, published in Spanish, would have filled any gaps in knowledge that artists like Gregorio Fernández may have had reading in Latin.

3.4. Juan de Arfe y Villafañe

The first book illustrated and published for artists was sculptor Juan de Arfe y Villafañe's *De varia commensuracion para la escultura y la arquitectura*, published in Seville in 1585–87. It was not until later in the seventeenth century that this publication type, specifically made for artists, became popular. Vesalius was, in essence, sharing a market, although he did have the artist in mind from the beginning. *De varia* is written in Spanish and presented in rhyming octaves to aid memorization. The manuscript is composed of four books divided into topics. The first book addresses geometry and the construction of sundials. The second focuses on human anatomy, the third on animal anatomy, and the fourth book is on architecture. The book came with woodcuts that illustrated the anatomical plates (Röhrl 2014). Arfe y Villafañe studied anatomy in Toledo and Salamanca and established himself as a goldsmith in Valladolid before moving to Seville (Estella 2003). This book's stance on the *paragone* was to favor sculpture over painting because of sculpture's relationship with the human body and architecture (Colón Mendoza 2024, p. 76). He also discusses sculptors such as Gaspar Becerra and Alonso Berruguete and their use of proportions. As Kornell explains, artists' anatomy books focused on bones and muscles while avoiding nerves and veins, and they took a simple, brief approach (Kornell et al. 2022, p. 29). Juan de Arfe y Villafañe did not believe dissection was necessary and promoted the study of the live model (Kornell et al. 2022, p. 61).

This monumental Spanish treatise by Juan de Arfe y Villafañe focuses on art theory, geometry, and anatomy. It adapts Vesalius' *Fabrica* for the education of artists. Book two relies on Vesalius woodcut illustrations. Arfe y Villafañe synthesizes Vesalius' lessons with German and Flemish scientific advancements. He uses, for example, Vesalius' lessons on muscle and bone structure to teach surface and structural realism and three-dimensionality, key to both sculpture and architecture. Arfe y Villafañe established anatomy as the mandated foundation for Spanish sculpture by placing anatomy and classical architectural orders side by side. His work provides the theoretical background for understanding the anatomical body that made possible the hyper-real polychrome sculptures of Gregorio Fernández, which are among the cornerstones of Spanish art.

4. Conclusions

In the 1600s, empirical proof such as autopsies were becoming important in the human sciences as a way to confirm and verify the nature of the body (Pereda 2017, p. 34). The anatomical accuracy of the seventeenth-century *Cristos yacentes* by Gregorio Fernández and his copyists relied on these Spanish anatomical treatises because they were

more accessible to artists in their native city of Valladolid and were written in Spanish. Fernández was an educated artist with access to Diego Valentín Díaz's (1586–1660) library and the Escorial collection. Vesalius' *Fabrica* and his *Epitome* with paper manikin, along with those of his competitors and followers, influenced the creation of the body of Christ as an accurately rendered dead body that would later resurrect. The Catholic belief in the resurrection of the flesh ties directly to its anatomical representation. David Aers writes: "The late medieval mass was for the vast majority of Christians a spectacle where pious attendance at the display of Christ's body guaranteed a range of benefits endlessly reiterated" (Somerset et al. 2003, p. 117).

Vesalius' initial idea to provide an accessible version for students and artists was fulfilled by Andreas Maschenbauer (1660–1727) in a 1706 republication. The author carefully chose his illustrations from Vesalius; he "had selected nineteen of them, drawn from both the *Fabrica* and the *Epitome* and confined to the external appearance of the body and its parts, to illustrate a small guide for artists and sculptors" (Nutton 2024, p. 196). The title page reads: *Andreae Vesalii Bruxellensis DeßErsten Besten Anatomici, Zergliederung Deß Menschlichen Körpers. Auf Mahlerey und Bildhauer-Kunst gericht* (*The Organisation of the Human Body, by Andreas Vesalius the First and Best anatomist, a Contribution to Painting and Sculpture*). The title extols not only the anatomist but the book's function as an aid to artists. Finally, 163 years later, one of the original intentions of the *Fabrica* and especially the *Epitome* came to fruition.

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Notes

1. For further elaboration on this argument, see (Colón Mendoza 2015).
2. Companies such as Brabander sell religious sculptures listed at 8000 Euros. See: https://www.articulosreligiososbrabander.es/imagen-del-cristo-yacente.html (accessed on 28 August 2026).
3. Colón Mendoza (2015), p. 116. See Appendies A and B.
4. Arráez-Aybar et al. (2023), p. 452. He mentions that "The monks of Guadalupe (Crown of Castile, presently Spain) obtained a papal privilege as early as 1322, which allowed them to open the bodies of deceased pilgrims and investigate their causes of death."
5. I originally discussed the relationship between materiality, anatomical studies, and the *Cristo yacente* in the 2014 Sixteenth Century Studies Conference. This connection is not new; Antonio Ramos Notarios introduced the importance of anatomy to Fernández's sculptures in his 1986 dissertation. See: (Ramos Notario 1986). Tiffany Hunt's article further discusses Vesalius and Valverde in relationship to empathetic simulation and the hermeneutics of suffering. See: Hunt (2018), p. 385. Most recently, (Martín López 2025) connects specific sculptures to certain anatomical prints. However, because scholars have generally ignored the value of Vedalius' *Epitome* paper manikin and have not addressed lesser-known Spanish anatomists, the aim of the article is to focus on their use by artists.
6. (O'Malley 1958). See also (Shotwell 2018).
7. (Kornell et al. 2022), see illustration on page 49.
8. This gap in research on the transition between wooden sculptures and anatomical wax models is the next step in my goal of establishing a connection between anatomical prints, polychromy, and anatomical wax models.
9. (Skaarup 2015, pp. 103, 104). See (Kornell et al. 2022, p. 26; San Juan 2023, p. 87).
10. Translation: "one of the principal and necessary things for the knowledge and understanding of the medicine of science is knowledge of the place and… the anatomy of the human body…" Archivo General de Simancas RGS 155.103. As published in Fernández Martín page 361 and republished by (Skaarup 2015, p. 96). See (Kornell et al. 2022, p. 1).

11. (Skaarup 2015, p. 102). See (Kornell et al. 2022, p. 53). Translation: "therefore it seemed to me a wise thing to write this book in our language."
12. (Arráez-Aybar et al. 2023, p. 461). The following Spanish anatomists published in Latin and predate Montaña de Monserrate work: Andrés Laguna in 1535, Luis Lobera de Ávila in 1542, and Pedro Jimeno in 1549. While Luis Collado in 1555 and Alfonso Rodríguez Guevara in 1559 postdate his publication. See table on page 451.
13. "Dionisio Daza Chacón," *Historia Hispanica* (Real Academia de la Historia 2022). Available online: https://historia-hispanica.rah.es/biografias/13153-dionisio-daza-chacon (accessed on 28 August 2026).
14. See "Dionisio Daza Chacón." He describes one of his interactions with Vesalius "Porque con ser Vesalio doctissimo acerca de la sección, y que mejor lo hazía de quantos en su tiempo huvo, le vi el año 1544 estando en el exército de la Magestad del Emperador Carlos, sobre Sandesier, que a un capitán Solís le quiso cortar (porque convenía) el braço por el codo, y con trabajar an buen rato nunca pudo, y huvimos de cortar quatro dedos más arriba."

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