Article
Anatomical Analysis of Holbein’s *Dead Christ* and Corresponding Theological Commentary

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Abstract: Approaching Hans Holbein’s painting *The Body of the Dead Christ in the Tomb* (1521/22) this paper combines the expertise of anatomical analysis and the perspective of theology and philosophy in order to address some of the well-rooted assumptions about Holbein in the historical reception of his *Dead Christ*. The authors propose a balanced conclusion about the hypothesis of a drowned man from the Rhine being a model for the painting, pointing out that the body of the man from Holbein’s painting, according to anatomical details, could not have previously been in water. Furthermore, the absence of an Adam’s apple on Christ’s body is interpreted in the light of New Testament texts, rather than as a result of Holbein’s lack of anatomical precision. Similarly, the fact that Holbein painted a corpse deprived of all signs of divinity is seen in connection with the theological notion of kenosis. Ultimately, the authors conclude that the results of the anatomical analysis reflect the key elements of the hermeneutics of Gospel reports of Christ’s passion and death.

Keywords: Holbein; *Dead Christ*; anatomy; theology; kenosis; new Adam

1. Introduction: The Formulation of the Problem and of the Working Hypothesis

The discussion on Holbein’s *Dead Christ* (Figure 1) has spanned several centuries and has included many important scholars, scientists and writers. The true beginning of this debate can be found in the novel *Idiot* by Fyodor M. Dostoevsky (Dostoevsky 1973, pp. 338–39; Skakov 2009, pp. 121–40). Even before Dostoevsky, Nikolay Karamzin, the leader of Russian Sentimentalism at the end of the eighteenth century, outlined what would later become the red line of subsequent discussions on Holbein’s *Dead Christ*. In his short explanation, he advanced two key observations which could well have represented a common denominator of the entire reception of Holbein’s *Dead Christ* in European culture. Karamzin emphasises that Christ is portrayed very convincingly and there is nothing divine in this Christ (Karamzin 1984, p. 98). It seems appropriate, in Karamzin’s footsteps, to set the hypotheses about the role of the anatomical analysis of Holbein’s Christ within the overall debate on this painting:

1. It seems that the credibility of the representation of Christ, as was reported by Karamzin, was made possible primarily by Hans Holbein’s high level of anatomical knowledge. This is easy to prove, yet two key questions remain to be answered. Firstly, could Holbein’s anatomical precision have been achieved without dissecting a dead body? Secondly, could the analysis of Holbein’s Christ confirm a traditional thesis that Holbein’s model for the painting was that of the body of a drowned man retrieved from the Rhine (Karamzin 1984, p. 98)?

2. If the high level of Holbein’s anatomical precision, i.e., ‘anatomical realism’ is indeed in the service of Christ’s ‘undivinisation’, it is necessary to link the anatomical aspects
of Holbein’s Christ with the theological notion of kenosis, which Holbein’s cadaver so clearly expresses.

Both mentioned hypotheses, together with the questions stemming from them, could be summed up in a simple question about the scope and boundaries of Holbein’s realism, from the perspective of anatomy on the one hand and theology on the other. Admittedly, when observing this painting, many authors frequently noted that Holbein’s knowledge of anatomy is worthy of respect, but this falls short of an expert opinion because it comes from authors who lack a professional medical background. It is therefore clear that there is added value in performing an original medical anatomical analysis in order to gain a better understanding of Holbein’s Christ.

Figure 1. Hans Holbein, *The Body of the Dead Christ in the Tomb*. 

Let us not forget that Basel, the city in which the painting was created, is also the place that saw the publication of *De fabrica*, by Vesalius—a book that marked progress in anatomy like no book had before. It was published by Oporinus—a Basel editor specialised in humanities who knew Holbein. That book, Vesalius’s *De Fabrica*, holds a special place in the history of European science as a symbol of the spirit of the time in which it was created. Unlike earlier anatomical studies that mainly relied on the inherited authority of the Roman physician Galen (129–216) and his anatomical achievements and tradition, Vesalius based his anatomy on his own observations and practice. This change is characteristic of the spirit of the Renaissance and heralds a new era of flourishing experimental science. This interest in anatomy grounded in observation rather than merely trusting authorities is also evident in Italian Renaissance art. In that sense, a great example is Andrea Mantegna, an Italian Renaissance painter who depicted the dead Christ in his painting *Lamentation over the Dead Christ* (also known as *The Dead Christ*). His work displays a careful study of anatomy, particularly in the realistic portrayal of the lifeless body. In this context, Leonardo’s anatomical drawings (1485–1510/15) are also indispensable. He performed his own dissections and meticulously studied the human body to gain a deep understanding of anatomy. Leonardo’s famous *Vitruvian Man* demonstrates his anatomical knowledge and artistic skill. A similar inclination can be recognised in the works of Michelangelo, who, in his pursuit of realistic believability in the figures on the ceiling of the *Sistine Chapel*, most likely conducted his own dissections as well. His contemporary, Antonio da Correggio, depicted the dead Christ in his painting *The Deposition from the Cross* (or *Lamentation of Christ*). His work exhibits a soft and idealised representation of the human body, including the anatomy of the lifeless Christ.

In the northern part of Europe, during the Renaissance, an exceptional interest in anatomy and mastery in depicting the human body emerged. Albrecht Dürer, a German artist, made significant contributions to anatomical studies. He produced detailed anatomical drawings based on dissections and observations, including his influential series of fifteen woodcuts called *Apocalypse* (or *The Four Horsemen of the Apocalypse*). Holbein’s portrayal of the *Dead Christ* should be viewed in that context, as an expression of the awakened interest in scientifically grounded anatomical precision in European science and the culture of the 15th and 16th centuries and later.

Interestingly, the year of publication of Vesalius’s *De fabrica* was also the year of Holbein’s death in 1543. Although *The Dead Christ* had been painted some twenty years earlier, in 1521–2, this analogy symbolically reinforces Holbein’s connection with anatomy. A subtitle of a book on Holbein labels him as ‘an unknown man’ (Wilson 1996), given that
he had left no traces about himself or the creation of his work. The only indication in this context might be the fact that Holbein was familiar with Grünewald’s *Isenheim Altar*. This painting undoubtedly influenced the conception and the creation of *The Dead Christ*, and hence these two paintings are frequently compared (Brinkmann et al. 2016, pp. 110–11), although they use different means to depict the drama of Christ’s death.

This hermeneutical void can, at least partially, be filled with basic art history information about the painting. In this context, the literature often notes that it was commissioned by Bonifacius Amerbach, a university professor of law from Basel. Throughout history, there have been several hypotheses about the intended purpose of the painting, but most contemporary authors agree with Christian Müller, who concluded that Amerbach’s intention was to place it in the family’s funerary chapel in the north-east wing of the Basel Charterhouse which had existed at the time (Müller 2001, p. 279). This had been his plan since 1519 (before the painting was even finished), yet it was not possible to install it there, owing to a wave of reformational iconoclastic ideas which first resulted in the persecution of sculptures and paintings, and then in their removal and ban. Amerbach therefore had to limit himself to installing the text and the family coat of arms at the intended place, and the painting was only placed there in 1544 (Sander 2005, pp. 132–47, 437–38).

Another way to fill this gap, again at least partially and indirectly, is by comparing the results of the anatomical analysis of *The Dead Christ* with Gospel texts describing Christ’s passion, death and entombment. It is beyond doubt that Holbein relied on these texts when creating the painting, which is understandable, taking into account its entire context. In fact, Holbein’s realism draws its strength from the tightness of this bond. If it is indeed true that *De fabrica* by Vesalius symbolically marked the shift from the medieval focus on listening to the Word towards the Renaissance focus on observing and experimenting, Holbein’s Christ can also be observed as an illustration of that statement.

2. Analysis of Holbein’s *The Dead Christ in the Tomb*

2.1. Head and Neck (Figure 2)

The right side of the neck is available for anatomical analysis. The neck appears normal, with a normal skin tone without apparent folds or pronounced creases. The contours of the sternocleidomastoid muscle (a muscle of the lateral cervical region) are visible as well as those of the trapezius muscle (the most superficial back muscle) covering the back of the neck. In this projection, following the longitudinal line through the ear shell (auricula), 4 cm from the ear lobe (lobule), there is a visible stain (solar spout/pigmentation) of 4 mm in diameter. A darker shaded area is visible between the sternocleidomastoid and the trapezius muscle that may correspond to the area of the fossae supraclavicularis (indentation immediately above the key bone).

The head is in a lying position, face upward without having been lifted, with the occipital bone leaned against the podium. The beard is short and curly with a few grey hairs on the top and under the chin (whitish-grey area on the right side—grey hair or a suspected subcutaneous formation of lymph nodes). The otherwise prominent protuberant part of the thyroid cartilage (the laryngeal prominence or the Adam’s apple), formed by the angle and the upper incision of the thyroid cartilage, is poorly visible. The larynx is an anatomical structure located in the neck, specifically in the anterior (front) part of the neck, between the base of the tongue and the trachea (windpipe). It is situated in the midline of the neck, just below the hyoid bone. To be more precise, the larynx is positioned between the third and fifth cervical vertebrae (Duale Reihe 2018). The exact position of the larynx may vary slightly between individuals due to differences in anatomy. When observing the neck from the front, the larynx can be seen as a visible prominence known as the Adam’s apple or thyroid cartilage. In males, the thyroid cartilage tends to be more prominent and noticeable due to hormonal differences and the growth of the larynx during puberty. The position of the larynx does not typically change based on whether a person is standing, sitting, or lying down. Its position remains relatively stable regardless of body position.
Based on the stable position depicted in the given picture, it is unlikely that the right shoulder would obstruct the visibility of the Adam’s apple. The visible portion of the neck in the image appears to allow sufficient anatomical space for the Adam’s apple to be displayed. It becomes a matter of the artist’s experience and interpretation, as well as what was visually observable or intentionally depicted in the artwork. The artist’s choice in representing the visibility of the Adam’s apple could vary, depending on their artistic perspective and the intended aesthetic or symbolic elements of the piece.

The chin margin is suggested at the transition towards the neck, but it cannot be clearly located due to this anatomically unclear presentation of the Adam’s apple. This could be due to poor spatial presentation by the painter or to some other reason. Namely, in men, the Adam’s apple is typically more pronounced because the two plates of the thyroid cartilage which form it are angled at 90 degrees. A small protrusion is visible in the median line of the neck but is not appropriate for anatomical analysis.

This insight is very interesting primarily because, in spite of the lack of anatomical clarity, it has clear theological implications. Rather than assuming that the unclear presentation of the Adam’s apple is a result of Holbein’s anatomical omission, we can link this with a rather obvious theological reason developed in the fifth chapter of the Epistle to the Romans. In it, Paul presents Christ as the new Adam (1Cor 15, 45–47), whose sacrifice annulled the consequences of disobedience by the first Adam in the Garden of Eden (Rom 5, 12–21). Adam’s sin is symbolised by eating the fruit from the tree of knowledge of good and evil. Christ’s redeeming death counteracts the consequences of the original Adam’s trespassing. There is nothing that could, symbolically, have got stuck in Christ’s throat. The absence of the Adam’s apple not only illustrates Christ’s exemption from the effects of Adam’s sin, but also emphasises his passion and death as a way of fighting and defeating these effects. Paul does not invoke a resemblance between Adam and Christ, he highlights the essence of the turning point instead: Adam—death began to reign over humanity, Christ—death no longer has absolute power over mankind.

The same idea is reflected in an ancient tradition which claims that Adam was buried on Calvary (Origenes 1857, p. 13). That would mean that Christ’s and Adam’s graves share the same location. This is why iconography, especially that of the Christian East, frequently places the skull of Adam beneath Christ’s cross, which in this way vanquishes death. If,
therefore, the first Adam, ‘the universal Man’, inherits death, then the new Adam, Christ, inherits life.

The right side of Christ’s forehead is available for analysis but the left side is only slightly visible. Considering the distance between the hairline and the eyebrow, one can assume that Christ had a high forehead, but the shape of the face cannot be estimated because the left side is not visible. The otherwise pronounced frontal eminences (tuber frontal) are not clearly visible. The supraciliary arch (arcus superciliaris) is visible at the nasal part of the frontal bone and is covered by the eyebrows. The smooth, slightly depressed area is visible between the supraciliary arches (glabella). The skin of the forehead is smooth without apparent grooves or horizontal wrinkles. Approximately 1.2 cm above the eyebrows, following the line of the eyebrow, a darker pigmented zone of 0.4 mm in shorter diameter is visible (possible skin pigmentation due to exposure to the sun or keratosis, possibly a mole).

The skin of the forehead is lighter grey, and the transition to the temporal region is darker. This way, the painter indicated a hollow area in the projection of the temporal region resulting from the loss of subcutaneous fat and muscle tissue (skinny/asthenic constitution). In the frontal (less so) and temporal (more so) right side region, a vascular drawing is visible on the skin (v. supratorchelaris, v. temporalis superficiales). In the temporal part, it extends cranially and reaches the hairline, where it is shown as a blue spot (haematoma or a venous plexus). Above it, approximately 4 cm above the eyebrow, two separate darker pigmented zones are visible, of 0.5 and 0.7 mm in diameter, respectively. In the nasal root area, the frontal wrinkle is visible and very well expressed (frown lines).

The anatomical analysis of Christ’s head should be complemented from another angle. It is obvious that there is no halo around Christ’s head, which usually appears in iconography. At first sight, the reason could be the period in which it was created, the early days of the Reformation, and the tradition which refrains from adorning the heads of its saints with a halo. The creation of the painting coincides with the period in which the Reformation had already taken root, especially in northern parts of Germany, which were more strongly under Luther’s influence. Regardless of the chronological overlap, a careful analysis of the context warrants some caution with regard to the influence of reformational ideas on Holbein’s Dead Christ. It is well known that it was painted in Basel in 1521 and in 1522. It is true that first glimpses of the Reformation could already be seen in Basel in those years, especially as many of Luther’s works had been printed there. Nevertheless, we need to bear in mind that the first rebellious events in this city started relatively late, at the end of 1528, and they were over by the 1st of April 1529 (Guggisberg 1982, p. 25). Furthermore, even if the previously mentioned Bonifacius Amerbach, who had commissioned the painting, eventually converted from Catholicism to Protestantism, this also took place long after the painting had been finished.

The point of highlighting these chronological details is to show that it is quite likely that the absence of a halo around Christ’s head is not linked with the iconographic practice of the Reformation but with emphasising Christ’s undivinisation, as one of the tools to express kenosis. In this sense, it is worth mentioning that in centuries-long iconographical-theological tradition, such a thread of light is often coiled around the martyr’s head as a double reminder. As an indication of sanctity, it highlights the continuous connection with Heaven and God in spite of or precisely because of the saint’s death. If it is a martyr’s halo, it also signifies meaningful suffering. Taking that into account, the non-existing halo in Holbein’s painting raises the following question: could its absence imply the questioning of the relationship between the battered sufferer and God? Could this absence represent the echo of Jesus’ persisting scream: ‘My God, why have you forsaken me (Mt 27, 46; Mk 15, 34; Ps 22, 1)? Léon-Dufour observes that it is no coincidence that this is the first and only time in the Synoptic Gospels that Jesus addresses Jahweh not as Father but as God. Should this precedent be understood as the verbalisation of distance and the culmination of Christ’s loneliness? Or could the intentional omission of a halo imply the questioning of the meaningfulness of such a suffering? Finally, is perhaps the intuited gap in the connection
with Heaven the reason why we feel vaguely uncomfortable standing before Holbein’s *Dead Christ*?

Furthermore, Christ’s head and forehead neither bear a crown of thorns nor do they display any marks that would lead to a conclusion that it had been removed from Christ’s head before entombment. On the other hand, that same crown is beyond doubt present in the Gospels (Mt 27, 29; Mk 15, 17; Jn 19, 2–3). Together with the scarlet robe (Mt 27, 28) it is a tool to mock Christ’s royal dignity. From the perspective of theology, in connection with the feast of Christ the King, the crown of thorns is linked with the suggested affirmative answer (Jn 18, 36) to the question Pilate addressed to Christ: ‘Are you the king of the Jews?’ (Jn 18, 33). By leaving out the crown of thorns, Holbein evades such implications, perhaps for the same reason which motivated the omission of a halo, to emphasise once more Christ’s kenosis.

Anatomical analysis notes that the lower two thirds of Christ’s iris are visible. Christ’s open eye should be seen in the context of an important element of the Jewish funerary practice, whose traces still live on in contemporary European culture. Immediately following someone’s death, the closest relative would close the eyes as well as the mouth and kiss the face. It is obvious that this custom has been observed since the earliest biblical times. Thus, for instance, in Jacob’s night vision after arrival in Beersheba, God encourages him by promising posterity and his own proximity and highlights the beatitude of his future death after his return from Egypt. He does that by promising that Joseph shall close his eyes with his own hand (Gen 46, 4). As opposed to that, the visible eye and the mouth of Holbein’s Christ remain open. This representation was surely intentional, but based on the text of the Gospels, it can be considered a visible consequence of an extreme rush. The Hebrew law stipulated that the deceased should be buried before sunset (Deut 21, 22–23), especially because the Romans did not care about burying convicts. They considered that leaving corpses on the cross was an integral part of the punishment. Furthermore, the fact that Jesus was executed on the cross tells us that he was not a Roman citizen, unlike, for instance, the apostle Paul, who enjoyed the privilege of being put to death through less shameful decapitation. We need to bear in mind that Jesus’s entombment had been performed by pious Jews who felt obliged by the law. In this sense, it is important that Mark’s account of the burial of Christ fully coincides with the note from Deut 21, 22–23 because he mentions that ‘evening had come’ (Mk 15, 42), which was also confirmed by Luke (Lk 23, 54). As we know, according to Jewish time calculation, the new day starts after the sunset of the previous day. In this regard, Christ’s burial ended on the eve of Sabbath, because on the Sabbath, it was forbidden to perform burials as touching a dead body implied ritual impurity and prevented participation in acts of worship. This rule is especially observed in Jerusalem because of the special sacredness of that city. Hence, Holbein’s decision to leave Christ’s eyes and mouth open may, of course, be linked to his intention to reinforce the impression of Christ’s self-destruction but it is still to be upheld in the described circumstances. Open eyes are a sign of incomplete funeral customs which are, of course, not a sign of the lack of knowledge or will to respect them, but a sign of a rush that could not have been avoided under the circumstances. In addition, Christ did not die a natural death within the family. The public scaffold and the presence of an army also ruined the intimacy of dying and encouraged the hustle and skipping of customs. It should also be remembered that according to Jn 19, 31, the following day was not just a Sabbath, but Passover, an annual and religious feast of the Jewish people, and that is why the rush to bury Jesus is even easier to explain.

This example of a complete analogy between the anatomical analysis of Holbein’s Christ and the Gospels can be further completed with a similar analogy stemming from the observation of Christ’s lips and his oral cavity.

The upper and the lower lips are fully visible on the right (right oral angle is visible—angulus oris dexter) and partly on the left side of the head. The mouth is half open with a blurred but visible part of the tongue that lies inside the oral cavity. The upper lip is clearly displayed, and a shallow furrow is visible (philtrum) extending from its central part.
towards the nose. The nasolabial sulcus is not highlighted. The lower lip is clearly visible in the transition to the chin and towards the right oral angle. The lips are of a soft reddish colour. Between the tongue and the lower lip, there is a stronger and darker red-coloured line with a vague transition to the skin area on the outside of the lower lip towards the right oral angle (blood?).

It is particularly important to notice the key implication of a visible white pigment in the right corner of the lips, up to a somewhat lesser extent in the area of upper and the lower lip, as well as the tongue, knowing that the accumulation of saliva is a consequence of the dryness of the lips, which suggests thirst. It is certain that a body kept in water would not retain an image of dryness of the lips. This conclusion of the anatomical analysis can challenge the traditional idea of a drowned man’s body having been a model for Holbein’s Christ.

We should add that Jesus’s thirst is mentioned, directly or indirectly, in the Gospels, immediately before his death (Mt 27, 48; Mk 15, 36; Jn 19, 28–29). At a physical level, Jesus’s thirst is beyond doubt a consequence of his physical agony, presumably preceded by a long period without liquid intake, as well as a considerable loss of blood in line with the Gospels’ reports of flagellation. Although Christ’s thirst is absolutely certain, it raises a complex problem among Biblical scholars. Theological literature tackling the phenomenon of Jesus’s thirst in John’s Gospel often advances the interpretation that on that occasion, Jesus was offered some kind of herbal anaesthetic for alleviating pre-mortal pain. This interpretation, however, can be disproved on several accounts. First of all, we should ask: if everything about the cross, as a cruel means of torture, is about making the suffering more intense and longer, is it believable that at the pinnacle of this bestiality, there is all of a sudden a gesture for alleviating the pain of the convict? Regardless of that, we should note that the American theologian Raymond Brown, one of the greatest authorities on New Testament exegesis in the twentieth century, declines this hypothesis for the simple reason that the pharmacology of antiquity had no knowledge of the analgetic or narcotic application of myrrh (Brown 1970, p. 927; 1994, pp. 930, 1072–78) offered to Jesus. Consequently, he attributes a higher, symbolic and theological meaning to the mentioning of Christ’s thirst: it is more likely linked with his rhetorical question from Jn 18, 11: ‘Shall I not drink the cup that Father has given me?’ He empties this cup, precisely in those moments at Calvary, and the unconditional surrender to the Father’s will can only be fully accomplished through tasting the bitter wine of death. On the other hand, along with the loftiness of Brown’s interpretation, we need to keep in mind that all Evangelists mention vinegar as the offered beverage. In addition, Christ’s thirst is also one of the manifestations of Ps 22, 15: ‘My tongue sticks to my jaws’. The cup, as a symbol, is indeed present in the Psalms and with the prophets mostly in a negative context, for example: bowl of Lord’s wrath in Is 51, 17.22.

Furthermore, the right side of the face is available for anatomical analysis. The painting shows the region of the right orbit and the eye. The eyeball is elevated (above the equatorial plane—directed upwards) and, based on the inclusion of a visible iris, slightly rotated outwards. The lower two thirds of the iris are visible; it appears greyish/brown, without clear eye details. It appears dilated, indicating that the person is dead.

The undeniable death of Holbein’s Christ, as confirmed by the anatomy, is of particular importance for the Christian tradition which has insisted, since its earliest theological formulations, that Christ is ‘true God and true man’. This relationship between the divine and the human in Christ’s being has often been debated, as the key paradox of Christianity is contained in the belief that the Son of God was incarnated in history and in time, as a being of one substance with the Father. Having been born by a woman, Christ has been confirmed in tradition as a real man, but we should not forget that the Council of Nicaea underlines Christ’s ‘ontological differentiation’ as regards other human beings: although he is a true man, Christ cannot be fully equal to the beings who have a beginning. On the contrary, he is ‘in every way assimilated to the Father alone who begat Him, and that He is not out of any other hypostasis and ousia, but out of the Father’ (Pelikan 1971, p. 202). This is the meaning of consubstantiality which highlights Christ’s godliness and at the
same time strives to preserve his humanness. In the long history of these discussions, it has sometimes happened that, in an attempt to keep Christ's godliness intact, his humanness was put aside or even denied, most often by claiming that his death was only an illusion. Such a claim has its origin, for instance, in the doctrines of Docetism and Monophysitism. These doctrines taught that Christ's body could not possibly have been subject to physical suffering, death and decay. On the other hand, Evangelists clearly stated that Jesus had been hungry (Mt 4, 2); thirsty (Jn 19, 28); tired (Jn 4, 6); and that he had slept (Mt 8, 24). In the same vein, the fourth council of the Lateran (1215) unequivocally states that Christ became mortal through his humanity and capable of suffering (Denzinger and Hünermann 2002, p. 225, no. 801). At the same time, one of the most influential theologians of the Western world, Thomas Aquinas had no doubts that Jesus's body was subject to suffering. This means that Christ's death was real and fully natural and that it could not have been emptied of his humanity. The very essence of Christ's kenosis is in the full reality of the true human death which he experienced.

Bearing in mind that context, and continuing the anatomical analysis of Christ's eye, the cornea appears to be marginally thickened but still damp, as suggested by the reflection of light (depicted in the medial part of the sclera/white area located medially and below the cornea) falling on the body. The eye is half open, with a red-coloured eyelid. On the outer edge of the upper eyelid, there is a slightly darker area in the middle part of the eyelashes (moisture—tears), the lower eyelashes are darker coloured (thicker lashes). On the left eye, only the tips of the eyelashes are visible, which suggests that the left eye is also open. The apex of the nose and area of the nostrils and cheeks are of a grey/green colour which indicates the condition of the tissue after death. There are no visible exudations in the nasal cavity area (blood, tears, saliva, etc.).

The lower jaw (mandible) is not clearly visible because it is covered with a beard, but a prominent frontal part of the jaw at the point at which the two bone arches join together stands out. The external part of the bottom of the oral cavity is also visible. One could say that from the anatomical perspective, the presentation of the lower jaw is inadequate or inaccurate, but this is just speculation. It is confusing that the tip of the chin rises above the line of the nose and the forehead, which otherwise in the lying position should not be the case. It can be assumed that the head is slightly oblong and extended, but even then, the chin would not pass above the nose level except in the case of hyperextension of the head. The extremely prominent chin (possibly painted as such for a reason), an expression of wisdom and determination, is directed vertically to the sky.

Holbein chose to illustrate Christ's true humanness by precise anatomical details as described in this paper and definitely did not spare Jesus's body from the visible signs of decay. It is interesting to compare this with Thomas Aquinas, based on Ps 16, 10: 'you will not abandon my soul to Sheol, or let your holy one see corruption', who considers that subjecting Christ's body to decay 'would have been detrimental to man's salvation, for it would not have seemed credible that the Divine power was in Him' (Aquinas 2006, p. 149, STh IIIa, 51, 3.1). This is precisely the main problem that the characters of Dostoevsky are facing when it comes to Holbein's Christ in the novel Idiot (Dostoevsky 1973, pp. 338–39). Going back to this novel, in the context of the anatomical analysis, we should ask: based on the observation that the cornea of Holbein's Christ is still damp, is it legitimate for Ippolit Terentyev to claim that Holbein represented Jesus's body which had just been taken from the cross and laid in the grave? This thesis has subsequently often been disputed in the literature by invoking the obvious signs of body tissue decay, which were sufficient to convince some other observers of the painting that Christ's body had been in the grave for a much longer time. Anatomical analysis confirms such a view. From the point of view of theology, most of the deformations of Christ's body noted by anatomy will be placed in the context of especially the third of the Servant Songs: 'I gave my back to those who strike, and my cheeks to those who pull out the beard; I hid not my face from disgrace and spitting' (Is 50, 6) because Christ's suffering on Calvary is understood as the fulfilment of precisely these lines.
2.2. Chest

The painting shows the right side of the chest that appears anatomically normal and corresponds to a very thin (asthenic) person. The ribs protrude beneath the skin and a costal arch is visible at the transition towards the abdominal cavity. In the projection of the costal arch (7th–8th rib) there is a visible wound that looks like a shallow surface wound or injury (laceration) without signs of abundant bleeding (visible signs of mild bleeding) and subcutaneous bleeding (hematoma).

Indeed, John’s report of Jesus’s death emphasises that ‘one of the soldiers pierced his side with a spear, and at once there came out blood and water’ (Jn 19, 34). With respect to this, many scholars point out that blood and water gushing out of the wound could be explained as a purely natural phenomenon because immediately after death, blood could still be running, and water could originate from the lungs. It is important to mention that, according to a rabbinic tradition, the human body is made of blood and water. Consequently, letting out these two liquids would be a sign of a true death. On the other hand, this detail is highly symbolic because it leads to sacramental understanding of the wound, given that water implies baptism and blood, the Eucharist. If we compare the way Holbein represented the chest wound with the pronounced roughness of the wounds on the legs, it is possible that the significantly more delicate and superficial chest wound is linked precisely with its sacramental character.

2.3. Hand, Upper Extremity (for Right Hand Analysis Available; Figure 3)

The arm is extended along the body, with the palm facing the podium. The visible musculature of the arm corresponds to a thin, asthenic constitution without subcutaneous fat tissue. The hand is visible from the dorsal side. It is bluish (livid) with a visible injury, which does not correspond to a superficial wound. A hematoma (blood clot) is visible in the wound area, with damage and contusions of the surrounding tissue of the hand. A cavity in the central part of the wound is shown with a wider zone of damaged tissue and elevated irregular wound edges. The finger joints (articulationes metacarpophalangae) are well visible with accentuated oedema of the subcutaneous tissue. The second, fourth and fifth fingers are flexed in the interphalangeal joints almost at 90 degrees, and the third finger is stretched with a slight flexion between the proximal and distal phalanges. Phalanges are long and interphalangeal joints are accentuated (possibly due to inflammation and degenerative changes such as arthrosis or as a consequence of hard manual labour) almost as though they are depicting the bones themselves with their accentuated caput phalanges.

The wound on the hand of Holbein’s Christ attracts special attention for an interesting reason. Namely, based on the location of the wound, it follows that crucifixion was performed by puncturing the visible part of the hand—the wound is located just above the head of the third wrist bone, and not at the root of the hand or carpus. The median nerve (n. medianus) is essential for the innervation of the wrist. It is located in the area of the root of the wrist (the carpal channel zone) and could be seriously damaged by a penetrating injury. Here, the wound is located somewhat lower, but the branches of the median nerve could certainly have been affected.

When choosing to position the hand wound in this way, Holbein adheres to iconographical tradition. Although the history of art offers different examples of the placement of the wound from the nails, it became customary to associate this wound with Christ’s palm, precisely as Holbein did. Such a choice is backed up by Biblical texts. As an example, Psalm 22 is always linked with Christ’s crucifixion, given that it opens with the already mentioned painful question from the cross: ‘My God, my God, why have you forsaken me?’ (Ps 22, 1). But this Psalm also contains the following line: ‘They pierced my hands and feet’ (Ps 22, 16). The text describing Jesus’s appearance to Thomas after his resurrection is even more important for the placing of the wound on the palm. Jesus shows him his wounds and tells Thomas: ‘Put your finger here and see my hands’ (Jn 20, 27).
True scientific research on the medical aspects of Jesus’s passion only started in the second half of the twentieth century. As a consequence, none of these artists including Holbein, as much as he aspired to anatomical precision, could have known for sure that this was wrong. The problem was that many artists identified the notion of the ‘hand’ with the ‘palm’; this would never have happened to an anatomist. Pierre Barbet, one of the pioneers of such research, has to be credited for this finding. He was a chief surgeon at the Saint Joseph hospital in Paris, and, having performed experiments and dissections, he proved that a convict could not have been nailed to a cross through the palm or the dorsal side of the hand, because the structure of the palm would not be able to bear the full weight of the convict’s upper body (Barbet 1963, pp. 110–12, 119). The spot for placing the nail which resolves this problem is below the palm, through the wrist, and exactly in the middle of the two bones stretching towards the elbow. Such positioning of the nail was surely devised as a solution to the problem of supporting the weight of the body, because the area of wrist is more resistant. Given that the painting does not provide a corresponding image, one may be tempted to conclude that Holbein’s rendering is merely symbolic. However, Barbet further explains that the original placing of the nail through the convict’s palm is not only linked to the problem of the weight of the body but hides a much darker intention. By piercing the wrist, the nail inevitably damages the medial nerve, and such an injury causes terrible pain. This creates a further problem at the level of biomechanics, as the injury of the medial nerve causes the muscle to spasm, and the essence of the suffering on the cross is actually fighting for air and breathing, which requires the reverse force, that is, the dilatation of thorax. This is why the injury of the medial nerve can be seen as intentional, that is, already incorporated in advance into the passion of the cross and inflicted on purpose in order to further increase the convict’s suffering.

2.4. Christ’s Leg and Foot (Figure 4)

The right leg and part of the left foot are available for anatomical analysis. The right thigh is visible from the lateral (outer) side, with no apparent injuries or changes. The painted muscular anatomy corresponds to actual anatomical representations. The knee is bony, covered with skin, and without visible injuries on the lateral side. The right lower leg is without visible injuries or skin damage. On the dorsal side (upper side, footstool) of both feet, an oval-shaped wound is visible, with visible tilted and elevated edges indicating
that it is not a superficial wound. The bottom of the wound is covered with a darker red blood clot with livid (bluish) sifting of the skin around the damage. The heel is leaned against the podium with a visible lateral portion of the ankle (malleolus lateralis fibulae). Contours of the metatarsal bones (ossa metatarsalia) are also visible. All the toes of the right foot and the medial side of the big toe of the left foot are shown. The toe joints are clearly visible (possibly as a result of inflammation or degenerative changes) especially between the proximal and the middle phalange (located in the folded, flexed position, one in relation to the other). The skin is livid (graphite-grey) likely as a result of the bleeding injury. The nails are pigmented darker.

Figure 4. Hans Holbein, The Body of the Dead Christ in the Tomb, detail, Christ’s leg and foot.

The characteristics of the wounds on the feet are associated with the mechanism of death through crucifixion. By nailing the feet to the cross, the strain on the wrists is relieved as most of the weight is placed to the lower body. To be able to breathe, the victim is forced to push up on his feet to allow the lungs to inflate. Thus, the agony is extended as the body weakens and the pain in the feet and the legs becomes unbearable. The victim is forced to trade breathing for pain and exhaustion. Ultimately, the cause of death is suffocation. This is why it seems that the profoundly deep wounds that Holbein displayed on Christ’s feet should not only be understood solely as the consequence of his removal from the cross, but also as a reflection of the above-mentioned biomechanics of breathing which are associated with the nailing of the feet to the cross.

3. Conclusions

1. Holbein’s knowledge of anatomy is beyond doubt, impressive. However, it does not necessarily imply that he performed dissection, which is not as important for the superficial anatomy represented by Holbein, as it is for the internal, topographic anatomy as, for instance, in the case of Da Vinci’s anatomical drawings.

As regards the hypothesis (also present in Karamzin’s previously mentioned text) that Holbein might have used the body of a drowned man from the Rhine as a model, anatomical analysis shows that a body previously exposed to water would not have maintained such a clear representation of dry lips. Furthermore, as water deforms the dead body, it would render the body inappropriate for the high level of anatomical realism Hans Holbein decided to apply. Nevertheless, that Holbein might have used a dead body as a model...
is not completely ruled out. Given that superficial anatomy sufficed for this painting, however, it is possible that he relied on both dead and live models.

2. Taking into account the historical period in which the painting was created, its context and Holbein’s other works, as well as remaining information from his biography, it seems legitimate to conclude, along with the majority of Holbein experts, that The Dead Christ should be interpreted within the framework of faith. It is unlikely that this painting conveys an absence of faith in Christ’s resurrection, as it may seem from, for instance, certain views in the novel idiot by Dostoevsky. If the painting is not an atheistic or agnostic manifesto, it is all the more likely that its original purpose was to represent Christ’s kenosis. It seems that the manifestation of Christ’s kenosis through his death could have been the main reason why Holbein reduced The Dead Christ to a non-divine anatomical fact, without any additions which would clearly indicate his divinity.

Finally, let us remind ourselves that this paper, methodologically, followed a clear direction from anatomy towards theology. Theology based its discourse on information provided by the anatomical analysis. We tried to demonstrate that this joint observation of Holbein’s The Dead Christ shows such a high level of correspondence in a multitude of various elements that the inverse route could also be possible—from Gospel texts and their theological interpretation towards anatomy.

This is important, because this lead brings us even closer to Holbein and his world. It is not so important if Holbein himself had a thorough knowledge of the Gospel texts, or if he was assisted by some learned theologists. It is much more important to acknowledge that multiple correspondences between the anatomical and theological conclusions open the possibility to view this painting as Holbein’s attempt to rewrite the subtle details of the Gospels’ passion narrative into the body of the dead Christ. All considered, this painting could well be understood as the mirroring of theology in anatomy.

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Notes

1 Kenosis as a christological notion is based on Phillippians 2, 5–8: ‘Though he was in the form of God, he did not consider being equal with God something to exploit. But he emptied himself by taking the form of a slave and by becoming like human beings. When he found himself in the form of a human, he humbled himself by becoming obedient to the point of death, even death on a cross’. Kenosis means that Christ ‘emptied himself’; it is the act in which Christ’s deity was intentionally concealed for the purpose of the salvation of man. In a broader sense incarnation is also a part of kenosis for Christ, but the technical term primarily refers to Christ’s passion, cross and death.


3 Andrea Mantegna, Lamentation over the Dead Christ, c. 1480, tempera on canvas, 68 × 81 cm, Pinacoteca di Brera, Milan.

4 Leonardo da Vinci, Vitruvian Man, c. 1490, pen, brown ink and watercolor over metalpoint on paper, 34.4 × 24.5 cm, Gallerie dell’Accademia, Venice.

5 Michelangelo, The Sistine Chapel ceiling, frescos, 1508–12, Vatican Museums, Vatican.

6 Antonio da Correggio, The Deposition from the Cross (or Lamentation of Christ), c. 1524, oil on canvas, 157 × 182 cm, Galleria Nazionale, Parma.
7 Albrecht Dürer, *Apocalypse* (or *The Four Horsemen of the Apocalypse*), fifteen woodcuts, 1497–98.

8 According to the available data, the painting was largely completed in 1521, and afterwards, in 1522, Holbein made only minor modifications, mostly on the burial cavity in which Christ is placed in the painting.

9 See Note 2 above.

10 See Note 2 above.

11 See Note 2 above.

References


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