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CULTURAL HERITAGE | RESEARCH ARTICLE

Inventive embodiment and sensorial imagination in medieval drawings: The marginalia of the Walters Book of Hours MS W.102

Guillemette Bolens^{1*}

Abstract: This article examines a series of remarkable English drawings penned around 1300 by an anonymous artist in the margins of a manuscript now held by the Walters Art Museum in Baltimore (Walters Book of Hours MS W.102). Rarely studied by art historians, these forty-seven marginalia are strikingly original and call for a new analytical approach if we are to understand their full implications. The method of kinesic analysis is used in this article to account for movement-based aspects in the represented figures. The medieval illuminator who created the marginal imagery of Walters MS W.102 was able to experiment with visual cognition and sensorimotor imagination in drawings that resist the application of traditional iconographic labels.

Subjects: Nonverbal Communication; Visual Communication; Art & Visual Culture; Visual Arts; Social & Cultural History; Medieval Britain

Keywords: medieval drawings; marginalia; kinesis; kinesthesia; sensorimotor literacy; visual cognition

1. Introduction

Marginal images, or marginalia, provide evidence of the remarkable sensorial imagination of medieval artists who were capable of communicating about inventive forms of embodiment. Several manuscripts datable to the thirteenth and fourteenth centuries contain drawings that evince fluid conceptions of embodiment. While a number of motifs in them can be traced back to various sources of influence, such as Classical art (e.g., centaurs), some drawings experiment so intensely with visual literacy that they resist iconographic resolution. Such is the case with forty-

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PUBLIC INTEREST STATEMENT

In a book of hours now held by the Walters Art Museum in Baltimore, an anonymous artist filled the lower margins of the manuscript with remarkably original drawings. These marginalia experiment with visual cognition, suggesting a deep interest in kinesthesia (the sense of movement) and visual ways of expressing this fundamental aspect of being embodied. The drawings of this medieval artist point toward a phenomenology of how it feels to be able or unable to perform specific movements, experimenting with ways of communicating about sensorimotoricity. The marginalia of the Walters Book of Hours thus call for a new, kinesic form of analysis if we are to understand their full implications.

seven drawings in the lower margins of the Walters Book of Hours (The Walters Art Museum, MS W.102, dated to ca. 1300).

General categories and terms, such as drolleries, monsters, hybrids, *grotesques*, *babuini*, and *fatrasies*, have been used to refer to marginalia that were often felt to be disturbing, chaotic, and messy (Camille, 1992: 12–13; Sandler, 1997). In the later decades of the twentieth century, such medievalists as Lucy Freeman Sandler and Michael Camille developed new perspectives on marginalia. Describing “a fear of the proliferation of perversities, that blinded generations of scholars . . . to the significance of marginal visual play” (1992: 31), Camille explains that

When manuscripts were catalogued and described the marginal elements were deemed inessential and often not included. The way disturbing marginalia has been effaced more recently is through the analytic codification of art historians, who rather than ignore them have attempted to formally classify them. [. . .] This codification not only plucked these forms from their context, it relegated marginal art to the menial position of “pure decoration.” (Camille, 1992: 31)

The situation has now changed, and more attentive approaches consider marginalia in terms of formal organization, iterative motifs, artistic influences, historical contexts, and socio-cultural intentions.¹ However, the importance of the lower-margin drawings of Walters MS W.102 remains to be acknowledged.

The purpose of this article is to draw attention to this group of marginalia and learn from a medieval artist about other ways of understanding embodiment. It is often the case that marginalia are explained by means of contrastive oppositions between the sacred and the profane or between the bodily and the spiritual. Their presumed function is either to provoke laughter or to debase and reject physicality in order to save the soul. But the marginalia of Walters MS W.102 elude such dichotomies. For example, Figure 1 (fol. 91r) cannot be satisfactorily addressed via traditional oppositions. Embodiment in it is unusual and elegant, resisting the imposition of predetermined categories.

Figure 1. The Walters Book of Hours, fol. 91r, detail.



Illustrated psalters and books of hours were tokens of prestige for both clergy and laity, and the men and women who commissioned and perused them were clearly sensitive to innovative images, while being keen to read and recite the psalms and prayers these books contained.² While the psalms and prayers were centrally significant to the books' owners, the fact that these texts are religious should not necessarily imply that a theological frame must be applied to all the marginalia. The drawings depict hybrid bodies that do not have to represent vices or devils for the simple fact that they are hybrid.³ Peter Brieger notes about these and other marginalia of the same period that “many of the new type are extraneous to the text ... and are decidedly secular (...)” (Brieger, 1957: 222).⁴

In 2017, Colum Hourihane edited *The Routledge Companion to Medieval Iconography*, in which previous trends in iconography are put into question. Chiara Franceschini, for instance, claims that “the question needs to be asked about the future of iconography and iconographic classification, beyond mere usefulness and practicalities” (2017: 190).

The classical methodology of iconography, with its strong tendency to anchor image to text, if not to a source, and to a subject matter (described either with a text or a simple textual label), needs to be rethought. [...] Moving from approaches that tended to rely on textual sources, today's art historians tend to focus more and more on the proper visual elements of art. Without sounding too paradoxical, it may be possible to say that we are today assisting in a visual turn in art history. [...] For this new turn in the field of art history a new iconography with new tools is needed. (Franceschini, 2017: 190)

In agreement with Franceschini's claim, the first part of this article considers the ways in which art historians have approached the marginalia of Walters MS W.102. I will not repeat the historical contextual information, all of it useful and relevant, that is already available in their publications. I will instead focus on the difficulties in their approaches regarding the visual specificity of the most intriguing drawings in the series, showing that there is indeed a need for alternative perspectives with which to explore such imagery.

I use kinesic analysis in the second part of the article to come to terms with the drawings. A kinesic analysis of marginalia involves paying attention to sensorimotor features in their imagery. Medieval illuminators evince a high level of *sensorimotor literacy*, that is, a type of knowledge and expertise which is grounded in motricity and sensoriality. Sensorimotor literacy involves not only skills in the way a person interacts with their environment, but also an ability to communicate—not necessarily verbally—about what it means to move and feel.⁵ Sensorimotor expertise and intelligence translate into sensorimotor literacy when such expertise communicates sensorimotor information to others by means of artifacts or performances. A drawing can be such an artifact, where visual literacy is specifically manifest, and sight is the prime channel of communication.⁶

Sensorimotor literacy is manifest in the works of medieval illuminators, who lived in cultures where orality and sensorimotor intelligence prevailed over textual education and literacy in the majority of the population.⁷ The fact that these artists were able to think and create with and about sensorimotricity is hardly surprising. Today's challenge is to learn to augment our own sensorimotor literacy to meet theirs—notwithstanding deeply significant historical and cultural differences—in order to increase the acuity of our perception when faced with such artefacts as the marginalia of Walters MS W.102. This endeavor may allow for renewed encounters with artworks that should neither be waved aside nor be reduced to abstract concepts or iconographic labels. For they evince remarkable ways of making meanings relative to embodiment, thanks to powerful forms of sensorial and kinesic imagination.

The two parts of the article correspond to Section 2 titled *The Walters Book of Hours MS W.102*, in which publications bearing on the marginalia of Walters MS W.102 are discussed, and Section 3 titled *Kinesic analysis of marginalia*. Section 3 is divided into subsection 3.1 which defines a set of

tools distinguishing between kinesic, kinesthetic, kinetic, and kinematic features in depictions of movement, and subsection 3.2 which presents a kinesic analysis of a selection of Walters MS W.102 marginalia. In 3.2, research led by specialists in visual cognition provides a theoretical background against which to assess the effects of specifically kinematic aspects in the marginalia, showing how viewers' embodied cognition and perceptual simulations of sensorimotor information play a significant part in art reception.

2. The Walters Book of Hours MS W.102

The Walters Art Museum in Baltimore holds a Book of Hours (MS W.102) made in England around 1300.⁸ Jonathan Alexander and Paul Binski explain that “the chief artist” of this manuscript “was an accomplished practitioner of the most elegant Court style of the end of the thirteenth century” (Alexander & Binski, 1987: 356).⁹ Beside compositions that may be found in other psalters and books of hours, the Walters manuscript adds to standard religious themes painted in historiated initials

a considerable amount of inventive iconography, including a long marginal cycle of Reynard the Fox (by a second artist), many fantastic marginal pen-work drolleries, and a number of enlarged line fillers in the Litany. (Alexander & Binski, 1987: 357)

The marginal cycle of Reynard the Fox and the enlarged line fillers in the Litany have been usefully discussed by Florence McCulloch, Lilian Randall (1989), Lucy Freeman Sandler, Emma Dillon (2012), Martina Bagnoli (2016), and Kenneth Varty (1999). By contrast, the “many fantastic marginal pen-work drolleries” of Walters MS W.102, called “excrescences of the weirdest form” by Brieger (1957: 222), deserve more attention than they have so far received.

When art historians discuss the drawings in the lower margins (apart from the cycle of Reynard the Fox), they tend to focus on the same limited selection of them, in fact mainly a single image, extant in folio 56v (Figure 2). Regarding this drawing, Michael Camille writes,

In one of the margins of the Baltimore Hours, the Crucifixion is scandalously debased by distortion. In the bottom margin is an odd agglomeration with crossed feet and loincloth that, in its schematic shape, is closely comparable to the crucified type in the right margin of Marguerite's Hours. The head, however, is stretched into that of a hideous beaked bird. What did the female patron of this book . . . make of this ostrich-Christ? Was it the artist having his own joke, perhaps playing on Verse seven of the Psalm five lines above – ‘thou hast painted [*impiguasti*] my head *in oleo*’ – which can mean ‘with oil’ in Latin, or ‘with a goose’ in French? (Camille, 1992: 30)

In these lines, Camille develops and intensifies an iconographic reading that Lilian Randall offers in her 1966 article:

Probably the most sacrilegious rendering in the manuscript, it depicts a bird-headed man holding a bell, an image which to the medieval beholder would immediately have called to mind the attitude of Christ on the Cross. (Randall, 1966b: 486)

Randall's iconographic assessment started a lasting iconographic interpretation of the drawing. In 1988, Roger Wieck writes,

Walters 102 is an extremely idiosyncratic English Book of Hours from the late thirteenth century. For example, a scribe who executed pen-work initials could not resist the temptation to add numerous grotesques in variously colored inks. Some of them, a crucified Christ with the head of a chicken and a youth committing the sin of Onan, border on the obscene. (Wieck, 1988: 101)

Figure 2. The Walters Book of Hours, fol. 56v, detail.



Wieck's assessment is rushed. To decide that the person in folio 56v is a crucified Christ is to turn connotation into denotation. Randall's proposition shows more caution. Also, it is interesting that Wieck puts this drawing on a par with that of a naked jocular man, base over apex, anus and genitalia in full sight, feet joined under face (fol. 53r). Wieck's assessment of folio 56v by means of folio 53r is simplistic, the concept of obscenity failing to do justice to either folio.¹⁰ Most importantly, to imagine that the artist could not "resist temptation" in making these drawings is to overlook the elaborate act of communication these artefacts constitute.

In a 2004 publication, Isabelle Engammare offers a rich analysis of hybrids' morphology in the wake of Lucy Freeman Sandler's essay "Reflections on the construction of hybrids in Gothic marginal illustration" (Sandler, 1981). Regarding the Walters Book of Hours MS W.102, she insists that the hybrids that populate this manuscript are exceptional and that their disquieting monstrosity comes either from the deformity of one of their parts or from the reversal of the latter. For instance, in the drawing of folio 56v, the body of a man supports the head of an animal. The fact that the upper part is animal and the lower part is human augments a sense of abnormality and monstrosity, she claims, as the normal superiority of humans over animals is reversed. Given the unpredictable quality of embodiment in marginalia, this ordering principle is not fully convincing, notwithstanding medieval theories of human superiority over the rest of the animal world. The Walters Book of Hours offers not one but several counterexamples to this principle. Figure 1 in fol. 91r is one of them, and it does not suggest an intention to represent monstrosity.

More interesting is Engammare's perception of a possible dance in the marginal drawing of folio 56v (Figure 2), even though she promptly waves this hypothesis aside.

La clochette que l'“homme” tient de la main gauche, ainsi que sa désarticulation, jambe levée, peuvent suggérer la danse. Cependant, le fait qu'il soit nu à l'exception d'un périzonium amène à y voir finalement une représentation blasphématoire du Sauveur, hybridé, suspendu à la croix. (Engammare, 2004: 89)

[The bell held by the “man” in his left hand, as well as his disarticulation, leg raised, may suggest dancing. However, the fact that he is naked but for a loincloth (*perizonium*) leads one to see after all a blasphemous representation of the Savior, hybridized, hanging on the cross.]

The inference of movement adds complexity to the by-now traditional iconographic labeling of this drawing. The idea that this representation is meant to evoke the crucifixion is not implausible, of course, but is it sufficient? And to enhance it, as Wieck and Camille do, by means of subjective assessments such as “obscene,” “scandalously debased,” and “hideous” hardly helps increase our attention to the visual features of the drawing. We will see that other avian figures appear in the lower margins of Walters MS W.102, and that an aesthetic judgment of their appearance is unduly limiting.

With a more detailed analysis, Robert Mills expands the reading of the drawing of folio 56v (Figure Figure 2) by paying attention to the figure's hands: “one of the arms, clasping a hand bell in its fingers, has been raised toward the creature's beak, perhaps in a gesture of philosophical contemplation” (Mills, 2003: 48). Interestingly, Mills describes the rest of the body in ways that differ from Engammare's perception of a disarticulated posture.

The anthropomorphic section of the image is strongly reminiscent of medieval passion iconography: its curved trunk, bent knees and gently animated lean smack of Gothic crucifixions. Moreover, the presence of the loincloth clearly signals an allusion to Christ's body. [...] Also, the arrangement of the creature's hand, with its thumb and first two fingers extended and the remaining two flexed, suggests a connection with liturgy: this was the approved manner of displaying the palm when priests made the sign of the cross at mass; the three outstretched digits were designed to represent the Trinity, while the two bent ones signified the human and divine nature of Christ. (Mills, 2003: 48)

The same drawing suggests a disarticulated hip to Engammare and a gently animated lean to Mills. Its visual qualities evidently have diverse possible implications, which should interfere with iconographic stabilization.

Mills looks for meanings in the configuration of the fingers, which leads him to an interpretive shortcut. A hand close to one's face is not necessarily a sign of philosophical contemplation, especially when the fingers form a clasping gesture that seems ready to pinch a bird's beak. Mills, it seems, translates the thumb under the beak into the hand to the jaw gesture, which is a typical iconographic gesture of despondency or mental absorption. Yet the thumb should not be isolated from the other fingers and from the other hand which is shaped in the exact same gesture.

Furthermore, neither the right nor the left hand is represented with “three outstretched digits.” The middle finger of the left hand carries a hand bell, suggesting a certain level of mobility. No matter how bizarre this hand dynamic may seem (the thumb touching the beak and the middle finger carrying a bell), it is more relevant to pay attention to it than to try to freeze it into a preestablished meaning. As for Mills' proposed analogy with the liturgical sign of the cross, it is interesting only in so far as it highlights a discrepancy between the liturgical gesture and its depiction in the drawing. Such a discrepancy becomes obvious when the drawing is compared with representations of Christ in Majesty, for instance in folio 103r of the Luttrell Psalter (England, 1325–1340; The British Library, Add MS 42130).¹¹ In them, beside the thumb, the index finger and middle

finger are unmistakably extended and joined while the two remaining fingers are flexed. Such is clearly not the case in folio 56v of Walters MS W.102.

Finally, Mills stresses that “elements of the iconography are ambiguous,” for instance, “the significance of the bell (perhaps it represents the liturgical Sanctus bell)” and “the species of the bird represented” (Mills, 2003: 49). To Wieck’s chicken and Camille’s ostrich and goose, Mills thus adds the crane. He notes that Psalm 23 above the drawing “focuses on goodness and mercy.” This allows him to draw a parallel with a contemporary collection of fables and moralistic anecdotes, titled *Gesta Romanorum*, in which a chapter describes “‘very beautiful’ Europeans with the bodies of men but the head, neck and beak of a crane” (Mills, 2003: 49). The author of the collection explains that good judges have such a morphology so that “what the heart thinks may be long before it reaches the mouth” (Mills, 2003: 49). This reference is certainly valuable, as it provides a possible textual explanation for the drawing’s existence. But it does not make us see the drawing with greater focus and precision. Mills concludes that “here is one example in medieval aesthetics where christology and monstrosity clearly coalesce” (Mills, 2003: 49). It may be that Mills’ oxymoron (a monstrous Christ) simply reflects his choice of concepts and categories, rather than the detail of the drawing itself.

Because art historians are trained and prepared to see a crucifixion, the person in folio 56v is sacrilegious to Randall, hideous to Camille, obscene to Wieck, and blasphemous to Engammare, while it is also a mark of goodness and mercy illustrative of the psalm written above it in Mill’s discussion, leading nevertheless to the coalescence of christology and monstrosity. In fact, the drawing in folio 56v successfully resists labeling, and its success is shared by several other marginalia which precede or follow it in the manuscript. To improve our understanding of the image in folio 56v, a consideration of the other lower-margin drawings of Walters MS W.102 is necessary, which is now facilitated by digitization and online access.

3. Kinesic analysis of marginalia

Digitization, open access, and the freedom to zoom in and out of a folio make it possible to approach manuscripts in unprecedented ways. It is now conceivable to see every surviving folio of numerous manuscripts held in international libraries, compare them, and acquire a sense of their overall visual economy. The structure of any given page can be considered, before specific details become a center of attention. Prior to digitization, access to a manuscript’s illuminations would often rely on the selections art historians had made in their publications. And art historians had to decide whether to include the whole page or a selected detail only. Andreas Bräm argues that “marginal scenes are often reproduced as details and thereby torn away from their formal and iconographic contexts, but this mutilating viewpoint must resolutely be avoided” (Bräm, 2008: 51).¹² Marginalia are indeed meaningful in the layout of a page. However, they also require a more scrutinizing attention to the sort of details that often remains imperceptible in the printing of a whole folio. Digitization solves the problem, saving us from the dilemma. We can now see not only the finger that holds the hand bell in folio 56v of the Walters Book of Hours, but also the whole folio and those before and after it, which depict the human hands of other striking bird figures. The human bird of folio 56v should be considered together with the other drawings of that series, including for instance the agile ball player in Figure 1.

In the drawing of folio 56v, the left hand holds a bell, its middle finger passing through the ring fixed on the upper part of the bell. The gesture of the whole hand echoes the gesture of the right hand, which reinforces the possible inference of a dancing movement. Furthermore, the configuration of the whole body looks dynamic, owing to the zigzagging directions of the limbs, neck, and head, as well as to the positioning of the feet. The right foot is lifted and turned aside, while the left foot is supporting the full weight of the body by standing on the springing tendrils of an antenna.¹³ It is noteworthy that in the representations of the crucifixion extant in Walters MS W.102 (folios 6r, 6v, and 77v), Christ’s feet are joined, since they are nailed together onto the cross. This is not what

Figure 3. The Walters Book of Hours, fol. 52r, detail.



is depicted in folio 56v.¹⁴ In a kinesic perspective, the dynamic movements of a figure need to be carefully analyzed before any symbolical meaning is applied to the drawing.

3.1. Definitions of the 4Ks: kinesic, kinesthetic, kinetic, and kinematic

The term *kinesic* is used in this article to refer to the perception of movements and gestures. Kinesic perception is at work, for example, when we look at a represented gesture (e.g., the hand gestures in folio 56v). The adjective *kinematic* refers to the physiological configuration and bio-mechanical constraints of a body. Typically, the legs of humans are kinematically different from the legs of quadrupeds (e.g., cats) or birds (e.g., storks), owing in part to joint distribution and orientation. Human fingers are kinematically different from paws, hooves, and claws. Because of its shape, size, and joint distribution, a human finger can carry an object of the weight of a small bell, but not of the weight of a chapel bell. This type of empirical and pragmatic kinematic knowledge has an impact on kinesthetic inferences. The term *kinesthesia* refers to the sensations we have when we move (Foster, 2011; Sheets-Johnstone, 1999; Smith, 2019). When viewers infer tension or relaxation based on the visual perception of a body, they use their kinesthetic knowledge of how movements feel, cognitively simulating such sensations. This *pre-reflective* process, called perceptual simulation, is paramount in human cognition and daily functioning. It may become *reflective* when we ponder why we understand sensorimotor information the way we do (Bolens, 2012, 2021; Cave, 2016).

Finally, in addition to *kinesic*, *kinematic*, and *kinesthetic*, the adjective *kinetic* refers to laws of physics relative to motion. Typically, gravity is involved in motricity, with a constant impact on balance. In Figure 1, the fact that the person is standing on a slope (shaped by the antenna) inflects the inferred dynamic of their posture and overall movement, as well as the kinesthetic sensations inferred in their throwing or catching a ball, and in the contact between their lithe feet and a ground that seems in suspension. I framed in Figure 1 a section of the folio that includes

a line-filler in the shape of a long fish. On the very left of the filled line, a round shape echoes that of the ball held by the human bird standing below. In both cases, the shape and size of the objects are the same, yet viewers' perception adapts to context and infers more or less kinetic mobility in the round form.

In my analysis of the drawings, I argue that the main artist of Walters MS W.102 experimented with sensorimotoricity in the lower margins of the manuscript. During the heyday of marginal illuminations (roughly between 1250 and 1350), margins were potentially perceived as a space for visual experimentation. According to Melanie Holcomb, drawing can be a form of experimentation and it may be seen as “a direct expression of the artist’s imagination” (Holcomb, 2009: 3).¹⁵ Although Holcomb is referring here to Renaissance artists, her book *Pen and Parchment: Drawing in the Middle Ages* demonstrates that the observation also applies to works of earlier centuries, as her introduction titled “Strokes of genius: The draftsman’s art in the Middle Ages” attests.¹⁶ The lower marginalia of the Walters Book of Hours convey a remarkable sense of experimentation concerning embodiment, emphasizing in particular the expressive power of kinematics in connection with inferred kinesthesia.¹⁷

3.2. The drawings

In addition to Figures 1 and 2, I selected in Walters MS W.102 nine drawings from the series of forty-seven marginalia, which are representative of the artist’s interest in sensorimotoricity. The marginalia of folio 52r (Figure 3) shows an interaction between two figures. On the left, a winged person is standing straight, their head looking like that of an animal with long ears, their human hands holding a shield and a sword, a strap running behind their neck.¹⁸ On the right, a person is engaged in a wide stride afforded by elongated legs, one ending with a hoof, the other with a blend between claw and hand. An animal tail crosses between their legs and rests in the crook of their right elbow. Their body is naked, displaying male genitalia. Their head is tonsured, and the left hand wields a spear supported by the thumb and pushed with the index finger. In terms of kinesic analysis, two aspects are particularly noticeable in this drawing. Firstly, the kinematics of the sword arm in the person on the left have been redirected. The elbow and wrist joints have angles that are incompatible with human biomechanical constraints. We will see that this feature appears in other drawings, suggesting that it has an expressive purpose for the artist.¹⁹

Secondly, the drawing triggers kinesthetic inferences of a low level of tonicity (or muscular tension), despite the use of weapons and the wide stride of the person on the right. The latter pushes a spear with only one finger, in what looks therefore like a soft thrust. On the left, the person is simply standing instead of preparing for the attack, while the angles of their elbow and wrist hamper the anticipation of a heavy stroke by means of the sword which itself is turned backward. This type of inferences is based on viewers’ basic kinematic knowledge, which grounds kinesthetic inferences of force and tonicity. These sensorimotor features are conveyed visually, and their processing taps into viewers’ embodied cognition and perceptual simulations of sensorimotor information (Petit & Harris, 2005). Viewers tend to infer contrasted levels of tonicity when a spear is pushed by a single finger at the end of an arm bent low or when a spear is held by the whole hand and wielded with a raised arm.

Two discussions of this drawing are available.²⁰ Florence McCulloch refers to

a series of delicate line-drawings in the lower margin ... of grotesque men and beasts with elongated animal or human limbs, alone or combatting adversaries as fantastic as themselves, and equally far from the thought of penance or death which is expressed in the text. [The text is the Office of the Dead, beginning in fol. 51.] (McCulloch, 1962/1963: 19)

Lilian Randall also discusses the drawing of folio 52r (Figure 3), her caption reading: “Combat between grotesques depicted in the lower margin. Although the impression of cruel intensity is alleviated by the sprightliness of the delicate red and blue pen drawings, man’s innate belligerence

is tellingly revealed” (Randall, 1966b: 486). McCulloch and Randall are important art historians and their publications shed light on many crucial aspects of the manuscript which are not considered in this article. However, analytical tools seem to be missing when they come to the specific visual features of the drawings. McCulloch’s conclusion is that an appropriate sense of penance is lacking, and Randall ends up attributing vice labels to two or three drawings. For instance, she sees in Figure 4 a representation of the vice of cowardice because the attacker has “rabbit ears” (Randall, 1966b: 485). She speaks of cowardice in her caption for the drawing, but she modulates this label in her text by describing “a parody of Cowardice, exemplified by a hoof-and-claw hybrid with rabbit ears slashing the head of a half-man suppliant” (Randall, 1966b: 485). The added notion of parody does not clarify why cowardice should be read in what looks like an act of aggression. The problem is waved aside by means of generalizations: “These contests, in pitting Evil against Evil, seem to deny any redeeming features in man” (Randall, 1966b: 485). On the one hand, this conclusion regarding man’s redemption is surprising since the animal valence in Figure 4 is dominant. On the other hand, to see in the lower marginalia of Walters MS W.102 a representation of Evil pure and simple is a form of oversimplification.

A moral shortcut between the drawings and “man’s innate belligerence,” Evil, and the absence of “any redeeming features in man” is evidence of a desire to apply familiar iconographic meanings such as “the vices” to eccentric marginalia, for a lack of better solutions. More interesting is the fact that Randall highlights a contradiction between the intensity of fighting and an “alleviation due to sprightliness” in Figure 3. Apparently, she perceives the kinesic qualities of the drawing but does not know how to use them analytically, relying instead on general notions such as evil and the vices. The notions of evil and vice had currency at the time when the drawings were made, and it may be relevant to use them. But they fail nevertheless to account for the drawings and their visual specificity.

A recurring sensorimotor feature in the drawings is that of redirected joints. In Figure 4, the person on the right holds their feet joined together, which have the shape of hands, the kinematics of knees being turned into that of elbows. Their skull is apparently split by a long sword held by a furry male quadruped whose head and face seem both human and feral (owing to long ears and a muzzle). The extremities of their lower limbs are, as in Figure 3, one hoof and one claw-hand hybrid, while their upper limbs end with human hands. Their joints this time afford the wielding of a sword, unlike those of the person on the left in Figure 3.

In Figure 4, the person on the left raises their index finger. This feature occurs in several drawings, for instance, in Figure 5 (fol. 84r), Figure 6 (fol. 58v), and Figure 7 (fol. 51r). In Figure 5 a human person has the index finger of their right hand raised, while their left arm is elongated into forming a bent leg, turned toward their crotch.²¹ With a large, curled tail in their back, the person stands entirely on a single leg, which ends with a paw. This drawing problematizes kinematics again, but differently. Instead of representing redirected joints, limbs are redistributed, leading to a haptic contact between the lower belly and the underfoot.²² Such a gesture is kinematically impossible for humans in that specific orientation of underfoot to belly. Its visual processing involves an inferred strain on the knee. Thus, the drawing does not represent a redirected knee: it prompts cognitively the sensorimotor simulation of a redirected knee.

In Figure 6, a sitting person with a human body, a bird’s head, and green wings on their back, stretches their right human arm which ends with a raised index finger. They are addressing a bird standing slightly lower, whose human face is that of a bearded man. The latter also has green wings on their back, as well as one fully raised arm wielding a sword held with the whole fist. While the person on the right stands on bird’s legs, the person on the left stretches one human leg, hairy (or feathered) like the rest of their body, which ends with a bird’s claw similar to those of their interlocutor. Their leg stretches behind a high tendril that visually separates the two sides of the drawing. The tonicity in this kinesic interaction is higher than that in Figure 3, owing to the inferred

Figure 4. The Walters Book of Hours, fol. 54r, detail.



Figure 5. The Walters Book of Hours, fol. 84r, detail.



dynamic in the arm raising the sword and in the elongated leg stretched towards the chest of the bird-man on the right, either to hit it or to keep it away.

Finally, in Figure 7, a person with a human body, beard, hairy loins, and a bird's curved beak wields an equally curved sword with their right arm and raises their left index finger in an interaction with a human face emerging from their own right claw. Their left leg is bent at the knee and extends far under the antenna on which the person is sitting. Under the antenna, the leg

Figure 6. The Walters Book of Hours, fol. 58v, detail.



Figure 7. The Walters Book of Hours, fol. 51r, detail.



Figure 8. The Walters Book of Hours, fol. 87v, detail.



has a pair of wings, a face, and a hand that looks like a claw devoid of nails. The raised finger is a traditional iconographic gesture performed by characters addressing others.²³ It could also be a deictic gesture pointing toward the text (for instance, in Figure 5) or toward other marginal figures. However, the finger in Figure 7 seems to emphasize the fact that an interaction is taking

Figure 9. The Walters Book of Hours, fol. 55r, detail.



Figure 10. The Walters Book of Hours, fol. 59r, detail.



place. Such is also the case in Figure 6, where the stretched neck of the person on the left increases a sense of strenuous interaction.

In the lower margins of Walters MS W.102, categories such as human, bird, leg, arm, finger gesture, joint, face, muzzle, beak are remobilized differently and systematically, suggesting a form of deliberate experimentation. Importantly, when shapes stop functioning as self-evident visual signifiers, other dimensions are liable to come to the fore and become more perceptible. A drastic remobilization of forms and categories can provide a novel access to different types of inferences. In the lower marginalia of Walters MS W.102, kinesthetic inferences are increased, constituting a common denominator between drawings that consistently thwart viewers' expectations regarding bodies' kinematics.

The same gesture may induce a variety of sensations: it may feel fluid or, instead, restricted to the person performing it. To translate kinesthetic sensations into visual representations is highly complex and challenging. A possible and effective solution is to rely on viewers' inferences induced by thwarted sensorimotor anticipations. Experts in visual cognition Irina Harris and Leila Petit have conducted experiments investigating whether possible and impossible body postures, including redirected joints, influence mental simulations. Their conclusion is that

anatomical and biomechanical constraints are taken into consideration during mental transformations of body parts. This implies that the transformation of these stimuli is carried out by a system that incorporates knowledge of the kinaesthetic properties of normal human movements. Familiarity and expertise with particular configurations of body parts influence mental transformation by developing an increased ability to use configural information. When presented with an unfamiliar (physically impossible) configuration of body parts, participants appear to rely less on configural processing (Petit & Harris, 2005: 756)

The representation of a human body with redirected joints is liable to hinder configural processing and enhance a focused attention on the unfamiliar (physically impossible) feature of a posture,

whether the representation is a picture in a twenty-first century scientific journal or a drawing in a medieval manuscript. Everything else may be different, but viewers' cognitive response to redirected joints may share basic common denominators, including an increased attention to thwarted kinesthetic expectations. Redirected joints, in that sense, may be seen to serve an expressive purpose in Walters MS W.102, leading viewers to become more aware of the kinesthetic inferences they cognitively produce.

The artist who created the lower marginalia of Walters MS W.102 had a level of skill and expertise that also appears in the other sections of the manuscript's illuminations, where human anatomy and joint orientation are not modified.²⁴ Redirected joints are thus a token of artistic decision, selectively applied in the lower-margin drawings. To consider redirected joints as potentially deliberate and expressive invites a closer attention to nuances regarding such features. In Figure 8 (fol. 87v), a person has a human body, arms, and hands, one human and one animal leg, long ears, fur, and an animal muzzle. Their left leg is furrer than the right and turns into what looks like an elongated bird's leg, ending with claws. The joint in that leg has a direction that is analogous to that of the human knee in the right leg. Yet its kinematics seem redirected owing to its long avian shape: birds' legs bend in the opposite direction. Above the person's left knee, a line has been made by burning. Although the rest of the folio indicates that it may be accidental, its effect is powerful, as it seems literally to bar the leg, enhancing the general impression of a movement both performed and hampered. The configuration of the whole person in the marginalia is expressively intense because the burnt line is associated with the multiple and divergent directions of the body parts, the animal face turning backward and echoing the wolfish profile in the line-filler above it. This drawing is the work of a remarkable artist, who was clearly interested in the dynamics of movement and the expressive power of embodiment.²⁵

Bearing in mind the way sensorial information is conveyed by the lower marginalia in Walters MS W.102, it is time to return to folio 56v (Figure 2), while considering two additional human birds (Figure 9 and Figure 10). In contrast to the person in Figure 2, who has human arms and grasping hands (with typically human opposable thumbs), the persons in Figures 9 and 10 have the same human torso but wings instead of arms. The torso displays parallel lines indicating ribs in Figure 9 (fol. 55r) and Figure 10 (fol. 59r) and the sternum in Figure 2 (fol. 56v) and Figure 10 (fol. 59r). The lower boundary of the breast and the diaphragm marking the upper part of the belly are systematically represented. In each of these drawings, the head is that of a bird, supported by a variably elongated neck. The legs are clearly human in Figures 1 and 2, less clearly so in Figures 7 and 10. In Figure 10 the person has a human torso and wears a loincloth similar in shape to that in Figure 2. Its head, neck, and wings may possibly evoke those of a pelican, i.e., a symbol of Christ in medieval iconography because of this bird's aptitude for self-sacrifice. However, a pelican wearing a loincloth creates a sense of surprise that troubles rather than strengthens the effect of this redoubled symbolism. Both Figures 2 and 10 evoke traditional representations of Christ, while precluding a simplistic iconographic categorization of them into either "a crucifixion" or "a pelican symbol of Christ."

The human bird in Figure 9 is naked, has a tail, furry thighs, and animal claws, paws, or hooves. The drawings of these various human birds have different ways of conveying a sense of motoric possibility and impossibility. The persons with wings and no arms could conceivably fly but could not throw a ball as in Figure 1 or carry a bell with one finger as in Figure 2. Because they seem devoid of joints, the legs in Figure 10 suggest a limited access to walking, in contrast to the bent legs of Figures 2 and 3. A sense of limitation also applies to Figure 5 and Figure 10, the kinematics of the persons' legs hindering the perceptual simulation of any form of gait. Other drawings in the lower margins of Walters MS W.102 provide further instances of the same interest in motoric potentialities. For example, in folio 57v, a person with an avian chest and a human head steps on tendrils by means of human legs that end with shoes. Despite their wings, this person is walking, their pelvis wrapped in folds of a loincloth painted in green, just like the loincloth (seen as a Christic *perizonium*) in Figure 2. In folio 58r a horse with human legs is deprived of arms (or forelegs),

Figure 11. The Walters Book of Hours, fol. 60v, detail.



leaning forward without support. Clearly, the lower marginalia of Walters MS W.102 manifest an overriding concern with sensorimotoricity and kinematic constraints and potentialities.

Finally, in Figure 11 (fol. 60v), a fully human person is depicted with a torso where, as in other drawings, lines indicate the sternum and the lower boundary of the breast. Their left leg and foot are whole but hang unsupported. Their right leg is supported by a stilt attached under the shin, as the right foot is missing. The two arms lean on crutches, their wrist joints appearing twisted. The crutches are elongated and, while resting on the antenna below, seem to afford little stability. Yet, the person looks dynamic, apparently moving forward, their facial expression intense because of their open mouth. This drawing, just like the other lower marginalia of Walters MS W.102, raises a sensorimotor question, pointing toward a phenomenology of how it feels to be able or unable to perform specific movements. The sensorimotor literacy of the artist who penned these drawings allowed them to experiment with ways of communicating about such a vital and meaningful issue.

Produced in England in the fourteenth century, the Luttrell Psalter contains numerous folios where imaginary bodies share the margins of the manuscript with represented scenes of medieval life (Backhouse, 1989, 2000). In folio 186v of the Luttrell Psalter, a handicapped child is depicted with striking medical accuracy (McPherson & McPherson, 2021).²⁶ In the Walters Book of Hours, the accuracy lies in the means deployed to hamper the configural processing of the human body in order to elicit an enhanced attention to sensorimotor expressiveness, kinesic potentialities, and inferred kinesthetic sensations.

4. Conclusion

By foregrounding the value of sensorimotor literacy and its manifestation in the marginalia of Walters MS W.102, the aim of this article is to call attention to drawings that have been unduly neglected, owing perhaps to their eccentricity vis-à-vis conventional iconographic classifications.

To address such works more carefully, new analytical tools are needed, which may help to focus on the visual features and original qualities of such images. The analytical 4Ks (kinesic, kinesthetic, kinetic, kinematic) constitute one such set of tools, among others. They can help approach embodiment as a complex sensorimotor phenomenon, which may be expressed in multiple and inventive ways, possibly eliciting forms of communication grounded in sensorial imagination, as powerful at the turn of the fourteenth century as they are today.

The 4Ks are neutral in the sense that they are not evaluative. They describe sensorimotor features regardless of aesthetic judgment and symbolical meanings. The purpose of the 4Ks is to afford a more focused perception of, say, a redirected joint in art. Perception is anticipative and we often see what we have been trained to expect. It is therefore beneficial to have means of slowing down the cognitive processing and habitual treatment of artworks. This effort must not conflict with iconographic erudition, quite the contrary. Perceptual habits in art analysis can hinder perception and lead either to oversimplification or to unnecessary opacity. Inherited concepts and categories are active in art reception, giving an orientation to what we see and feel. It is thus useful to develop new methodologies—and kinesic analysis is one—which modulate perceptual automatisms and allow for diverse forms of erudition and interpretation, based on sensorial imagination and the possibility of surprise.

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Notes

1. See for instance Baltrusaitis, 1960; Randall, 1966a; Sandler, 1981; Schmitt, 2002; Wirth, 2008.
2. On women and books of hours, see Reinburg, 2009. On books of hours in general, see Morgan, 2013.
3. Hybrids may obviously represent devils and vices in other artworks. But to impose this reading onto the marginalia of the Walters Book of Hours is an oversimplification, for the reasons I shall outline below.
4. Although this does not apply to the lower-margin drawings of Walters MS W.102, the text-image relationship in other psalters and books of hours is instrumental to an understanding of their illuminations, cf. Bolens, 2022. For more on the text-image relationship in marginalia, see Sandler, 1997.
5. In the field of cognitive studies, the theory of embodied cognition has recently demonstrated that humans predominantly think by way of sensorimotoricity and perceptual mental simulations of sensorimotor processes and events (Berthoz, 1997; Fischer & Coello, 2016; Jeannerod, 2006; Markman et al., 2009; Stewart et al., 2010).
6. A dance or a literary work (oral or written) also constitutes such an artefact. On embodied cognition and sensorimotor literacy in literature, see Bolens, 2021.
7. My point is not that illuminators were illiterate: they were probably able to read and write. Rather, I wish to stress the significance of a different type of intelligence, which, by being

sensorimotor and kinesic (i.e., interactional via movements), does not depend on language. This type of intelligence grounds the visual literacy illuminators obviously had. Socially speaking, illuminators in the thirteenth and fourteenth centuries did not necessarily belong to the Church, and it must not be assumed that they were the scribes who wrote the texts in the manuscripts they illuminated. On the relative autonomy of illuminators, see Easton, 2021.

8. The Walters Book of Hours MS W.102 (26.2 x 18.5 cm; parchment) is accessible online: <https://www.thedigitalwalters.org/Data/WaltersManuscripts/html/W102/> [last accessed 28 March 2022].
9. On this Court style, see Sandler, 1986: 24–26. See also notice 153 of *The Walters Art Gallery*, 1949: 56.
10. There is ample room for more research on the marginalia of Walters MS W.102, regarding topics that are beyond the scope of this article, e.g., sexuality and gender.
11. The Luttrell Psalter is accessible online: http://www.bl.uk/manuscripts/FullDisplay.aspx?ref=Add_MS_42130 [Last accessed on 28 March 2022.] For another example, see the representation of St John dressed as a bishop in Bede's *Commentary on the Apocalypse* (England, 1150–75; Cambridge, St John's College Library, MS. H. 6, fol. iiv) in Evans, 1969, Plate 50, description on p. 28.
12. “Les scènes marginales sont souvent reproduites comme des détails et arrachées ainsi à leur contexte formel et iconographique, mais il faut éviter résolument ce point de vue mutilant” (Bräm, 2008: 51).
13. *Antenna* is the name given by art historians to this kind of structural ornamentation in manuscripts.
14. For other examples (among many) of a similar representation of the feet in the crucifixion, see folios 28v and 55v of The Pabenhams-Clifford Hours (England, 1315–1320), The Fitzwilliam Museum MS 242, <https://www.fitzmuseum.cam.ac.uk/illuminated/manuscript/discover/the-pabenhams-clifford-hours/section/panel-intro> [Last accessed on 28 March 2022].
15. On cognition and drawing, see Tversky, 2019. On drawings by children in a medieval manuscript, see Thorpe, 2016.

16. On the issue of artistic transmission, see Scheller, 1995.
 17. Such an emphasis on the connection between kinematics and kinaesthesia is relatively rare.
 18. I refer to the drawings' figures as *persons* to avoid a confusion with illustrations called Figures, and to acknowledge the fact that personhood is expressed in the drawings while the latter override such cultural oppositions as human vs. animal.
 19. Misdirected joints may or may not have an expressive function. They do when reiteration suggests that they are due to an artistic decision. Such is the case in the marginal drawings of Walters MS. W.102. For this reason, the latter should not be assimilated to traditional representations of distorted bodies extant, for instance, in *Mirabilia Mundi* (marvels of the world), fol. 117r-120r of MS. Ludwig XV 4 (Northern France, after 1277; Los Angeles, J. Paul Getty Museum). Cf., Bennett (2002), entry 40.
 20. See the online bibliography of the Walters webpage: <https://www.thedigitalwalters.org/Data/WaltersManuscripts/html/W102/description.html> [Last accessed 28 March 2022].
 21. A rushed reading of this drawing would see in it a *sciapode*. Sciapodes are usually represented lying and using their gigantic foot as a parasol. Such is not the case here.
 22. The adjective *haptic* qualifies sensations that combine tactile and kinesthetic sensations (cf., Bolens, 2021).
 23. For one example among many, see the Prophet Joel in *The Book of Judith* in the Winchester Bible, vol. I (2), fol. 200v, by the Master of the Apocrypha Drawings, ca. 1165 (Winchester, Cathedral Library), Fig. 18 in Strauss and Felkner (1987: 31).
 24. See for instance, the large line-filler representing Adam in folio 28v and the human figures inserting omitted lines into the main body of the text in folios 33v and 39v.
 25. It is noteworthy that the second artist, who drew the marginal cycle of Reynard the Fox, is evidently not interested in such aspects. The same rigid posture is repeated in all the figures of the cycle.
 26. McPherson & McPherson explain that the child represented in the Luttrell Psalter has "multiple limb anomalies consistent with Split Hand Split Foot with Long Bone Deficiency (SHFLD)" (157). An illustration in a text by the sixteenth-century French surgeon Ambroise Paré was "thought to be the earliest depiction of SHFLD, but the *Luttrell Psalter* predates Paré's work by two centuries" (157). McPherson & McPherson emphasize the fact that the child "is portrayed in a sympathetic manner. His clothing and grooming suggest that he is loved and valued despite his obvious disability. Rather than being downcast, his posture and expression are alert and interactive" (158).
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