

journal of visual culture



Wonder, Magic and the Fantastical Margins: Medieval Visual Culture and Cinematic Special Effects

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Abstract

What are the nature and power of special effects that induce such strong reactions in cinema spectators, and is it possible to find an analog to this contemporary fascination in the visual culture of the Middle Ages? This article contends that spectators during the medieval period *may* have responded to fantastical, supernatural, phantasmagorical, miraculous, satanic, or spectacular images with a similar sense of awe and wonder as contemporary viewers of cinematic special effects. Proposing a reconsideration of the pre-history of cinematic special effects, the author suggests that the allure of cinematic special effects is broader than the historical experience of cinema, and that image-makers were exploiting the embodied modes of viewing offered by special effects far earlier than the invention of motion pictures.

Keywords

automata • medieval visual culture • pre-cinema • special effects • spectatorship • wonder

The Case for the Medieval Connection

What comes to mind when we think of cinematic special effects: devastation wrought upon the planet as in *Armageddon* or *Deep Impact*; computer-generated dinosaurs à la *Jurassic Park* or a possessed girl performing gravity-defying feats with her body in *The Exorcist*? Maybe it's Christ's mutilated body in Mel Gibson's *The Passion of the Christ*, the bow of a massive ocean liner sinking beneath the gray, icy waters of the north Atlantic in James Cameron's 1997 *Titanic* or his more recent effects spectacular *Avatar*. Audiences have loved special effects since the dawn of cinema; cinephiles and ordinary film-goers alike can easily trot

off long lists of their favorite sfx moments, those spectacular scenes responsible for creating the unlikely or nearly unimaginable in what philosophers call 'possible worlds' (Buckland in Redmond, 2004).¹ While film special effects were an inevitable outgrowth of experimentation with the medium of cinema in the late 19th century, their genealogy extends further back to the invention of photography in 1839, and beyond that to the immersive visual spectacles of the Baroque period. Even though the pre-history of visual effects has been ably explored by such scholars as Angela Ndalianis (2004), Michelle Pierson (2002), Norman Klein (2004), Scott Bukatman (2003) and Vivian Sobchack (2004), this article pushes the historical clock back even further to consider the high Middle Ages, a time when image-making was equally, if not more, charged with fantastical power than in the Baroque period. Drawing upon such frames as magic, wonder, fantasy and the margins, this article approaches the subject of special effects from an unlikely perspective, as the paths of medieval image making and cinematic special effects have seldom crossed in film studies.

But why stop at the Middle Ages, one might ask, when one could go back even further and examine Syrian friezes, Grecian sculpture, or even cave paintings? The Middle Ages seems an unlikely era from which to draw analogies to film special effects – what might static paintings, small illuminated manuscripts, decorative altars, processions and religious statuary have to do with a medium whose very ontology is based on movement and the manipulation of time and space? And how do we deal with other major discontinuities across the medieval and cinematic eras, including the seemingly insurmountable differences in mode of address and reception?

Notwithstanding these differences, I argue here that there are three specific sets of correspondences that can be traced across medieval image making and cinematic special effects. The first concerns the vexed status of the visual, which I argue is a common denominator in both periods, a bizarre and at times disarming parallel in the way in which certain imagery was seen to possess magical and devotional properties in the Middle Ages and how an echo of this phenomenon can be found in special effects today. Without pushing the analogy too far, it is possible to view both cinema and the margins of medieval books both as sites invoking a 'reworking of the imaginary' in multiple genres and with broad audiences as well as 'products of massive cultural anxiety in response to radical technological and social change' (Camille, 2003[1996]: 249, 261; see also Freedberg, 1991: 1–40).

The second set of correspondences focus on the shared textual features of image making from both the high Middle Ages and our era of effects-driven cinema, namely, making the invisible, impossible, rare, or fantastical present through representational means. The similarities in content, especially with regards to illustrations found in the margins of manuscripts, are hard to ignore: the preponderance of fantastical, supernatural, phantasmagorical, miraculous, divine, satanic, or perverse images in medieval art suggests that artists and audience alike were interested in seeing both the spiritual higher echelons and liminal underbelly of their world (although we're obviously far less interested in the former today).² A comparative analysis of cinematic special effects and of a

range of image making from the 12th through the 16th centuries can tell us a great deal about ways of seeing the spectacular, divine, grotesque, magical and taboo and invites scrutiny of how these historically and technologically remote representational forms respond to a persistent human desire to make the fantastic, the abject and the sacred visible.

The third set of correspondences concern the kinds of psychic investments made by spectators during these very distinct eras. Spectators of both periods are asked to believe (have faith) in the veracity or existence of the image and, while fully aware of the fact that its coming into being is the work of an artist (or possibly a miracle), are nevertheless mesmerized by its artifice. Whether it's a representation of God in his kingdom surrounded by angels or a meteor spinning headlong toward earth, there is an implied invitation to *believe* in this representation, to accept its conditions of possibility. The idea of faith – defined both as confidence or trust and belief in religious doctrines – serves as a way of annealing differences across the vast historical gulf between cinema and medieval image making as well as addressing both the idea of the effect as posing a challenge to laws of signification and the spectator's faith in the image. Addressing each of these correspondences in turn, this article also briefly examines two other medieval phenomena related to visual effects, automata and the hallucinations experienced during periods of famine. Before dealing with each of these correspondences, I begin with a brief explanation of what I mean by the term special effects.

Defining Special Effects: A Tricky Proposition for Tricky Business

Special effects in the visual arts, and in film in particular, have always defied easy categorization, drawing attention to their status as artifice while begging for credulity and asking more, or sometimes less, of spectators. Across a range of artistic forms, such as painting and theater, special effects consist of scenes or images that, according to Mary Anne Doane (2002), stress the 'improbable, the excessive, the stochastic' (p. 254). For Doane, the aesthetic of special effects is one of implausibility, of 'impossible things happening in a world in which impossibility is the norm' (p. 134). Special effects pose a challenge to the laws of representation, either because the effect cannot be reconstructed for the camera without inordinate human effort, cost and risk or is so far-fetched that it simply does not exist within our lexicon of verisimilar images and must therefore be imagined and brought to life. Special effects techniques may also be used to create everyday rather than fantastical phenomena, such as electrical storms, tornadoes, and more prosaic events, such as rain and snow. To categorize these different types of effects, the motion picture industry draws a distinction between invisible and visible special effects. As Warren Buckland (2004) explains, invisible effects, which constitute 90 percent of the work, 'simulate events in the actual world that are too expensive or inconvenient to produce ... [they] are not meant to be noticed (as special effects) by spectators. Visible special effects, on the other hand, simulate events that are impossible in the actual world (but

which are possible in an alternative world)' (p. 28). But even these effects, as Scott Bukatman (2003) argues, are still grounded within a spatio-temporal matrix in which they 'emphasize real time, shared space, perceptual activity, kinesthetic sensation, haptic engagement, and an emphatic sense of wonder' (p. 115; on wonder, see Dalston and Parks, 1998). We should also not lose sight of the fact that, as Bukatman and Sean Cubitt argue, cinema itself can be considered one enormous special effect, especially when encountered by early film audiences (Bukatman, 1999; Cubitt, 2004).

Exceptions acknowledged, special effects of a fantastic or wondrous nature enunciate in a different manner than other representations; not only do they hail the spectator, but seem to say while this *could not* or probably *would not* happen to you, thanks to the skills of an effects house or art designer it *is* brought to you. Obviously not all image-making from the medieval era can be considered to have 'special' properties, since a representation of a peasant toiling on the land next to a castle is unlike an image showing a miraculous event or the macabre grim reaper. So, while some images are clearly more special than others, the *idea* of effects, in other words reproducing something which cannot be shown, permeates a great many aspects of medieval image making and for that reason alone forms an important piece of the puzzle.

While space precludes enumerating the technically diverse ways effects have been rendered, from the photo-chemical manipulations of spirit photographers, the stop action technique of the early cinema period, the optical printing effects of a mature film industry, to today's ubiquitous use of CGI (computer-generated imagery), it's also clear that the desire behind making the fantastical visible is not limited to the means of cinema. Moreover, whether dismissed as cheesy or hailed as mind blowing, special effects certainly get our attention, if only because they often trigger the 'how did they do that?' response. This 'hey' moment, I argue in this essay, has a tremendously long history, and is by no means exclusive to cinema; indeed, the power of images to move spectators, to make them gasp, seems especially potent during the medieval period. Let us turn to the first correspondence, the status of the visual in medieval image making, to trace the origins of this age-old response to visual effects.

If Looks Could Kill: Image-Making in the Middle Ages

Images in the Middle Ages were often explicitly concerned with the power of vision, such as representations of saints and angels offering instruction in the *art* of seeing, or material objects possessing magical or hyperrealist qualities, including statues of Christ that bleed or of the Virgin Mary that cry. For devout Christians during the Middle Ages, some religious images and objects functioned as popular blockbusters, including 'The Veil of Veronica' (see Figure 1) – known in Italy as the *Volto Santo*, 'holy face' or *Sudarium* (sweat cloth) – the veil that was thought to have been used to wipe the face of Jesus on the *Via Dolorosa* before the Crucifixion, and the 'Shroud of Turin', the burial cloth claimed to have covered Jesus' body before the Resurrection (Appadurai, 1988: 169–94). Celebrated in the Sixth Station of the Cross, the Veronica (which means 'truthful image') drew huge

crowds of devout pilgrims. Indeed, when it was exhibited during the jubilee year of Pope Innocent III in 1300, an English Benedictine monk was killed in the throng of pilgrims struggling for a view (indeed, others may have been killed and scores were injured). To believe in the authenticity of these spiritual objects required an act of faith that one could argue is strangely re-articulated and re-activated in the moment of viewing special effects. Moreover, if we broaden this fascination with material objects (items of clothing) imprinted with purportedly indexical signs of a sacred body to a broader context of medieval image-making, then one can identify a diverse collection of images that in some way, shape, or form possess some extra quality, either by dint of their mode of production (in the case of the Veronica or the Shroud of Turin) or that evince bizarre traits, such as bleeding statues or religious relics. While contemporary spectators are rarely killed in the crush as they line up at their local multiplex, they nevertheless seek to witness something wondrous, something different, something they would (probably) never again see in their lives but may almost certainly see again in the cinema.



Figure 1. *The Way to Calvary and Saint Veronica*, Master of James IV of Scotland, Spinola Hours, Bruges and Ghent, c. 1510-20, (83.ML.114), folio 8v. Reproduced courtesy of the J. Paul Getty Museum.

As part of the governing cosmology of medieval image-making, we could argue that representation itself shares a certain quality with the cinematic special effect inasmuch as producing artworks in the Middle Ages was a vexed activity that in the minds of some clerics attempted to mimic God's work and therefore was far closer to the magician's sleight of hand, what medievalist Michael Camille (1991[1989]) calls a 'sinister magic' (pp. 47, 62). This 'struggle with resemblance' in medieval image-making has little to do with issues of verisimilitude – what Camille calls the 'creation of a mere optical or surface illusion' – and everything to do with the artist's 'incapacity to create the ineffable – moving, breathing, speaking "life" itself' (p. 36). Designated a mere surrogate and lacking any real utilitarian value (art objects were not tools that could be put to work in the everyday world), in some instances even the labor involved in the production of especially elaborate and ornate images made of expensive materials was considered a 'dangerous surplus activity, too time-consuming and therefore expensive for all but the wealthiest ecclesiastical and royal patrons', although in the case of the public arts of cathedrals, altarpieces in smaller churches and processional banners, the means to production and access were more egalitarian (p. 41). Attempts to copy nature undertaken by mere mortals were therefore considered *singesse de nature* ('aping nature') (p. 48).

But aping nature was hard to resist, especially when, as Vincent of Beauvais, a 13th-century scholastic, noted, human imagination was fully equipped, predisposed even, to the fantastical, the imagination acting as a 'repository of images that go beyond those perceived by the five senses, such as the chimera, a creature ... [with] the head of a lion, the body of a goat and the tail of a serpent' (Camille, 2004: 88). This *will to visibility*, which Beauvais seems acutely aware of in his Treatise, lies at the very heart of special effects production, the need to inscribe in visual form that which cannot be perceived in the quotidian, or that which is imagined, fantasized, or dreaded but can be magically conjured up by the special effects artist, or in the Middle Ages, the manuscript illuminator, cartographer, maker of block prints, stonemason and so on, or (as we see in Figure 2) the magician, who, standing in his magic circle, has conjured up two winged demons. Magic was shaped by several cross-cultural currents during the Middle Ages; as a crossroads where fiction and reality, science and religion, and popular and learned culture blurred, magic can help us glean information about how images came to mean what they did and how their troubling status has lived on in our culture in film special effects, where the monstrous, the abject, demons, the devil and all the bogeymen of the Middle Ages resurface in the horror genre. And magic, understood in the broadest sense, is a shared textual trope across medieval image making and special effects, which leads me to the second set of correspondences: spaces of representation and the images themselves.

The Enchanted World of Medieval Visual Effects: Magic, the Margins and Tricksterish Business

Medieval spectators encountered the closest thing to what we would call 'special effects' when they entered the cathedral, a magical albeit sacred space



Figure 2. *The Magician Canoaster (Zoroaster)*, 1425. Add. MS 39844, f. 51. Reproduced courtesy of the British Library, London.

that contrasted so strikingly with their everyday life that it is hard to imagine just how amazing this experience must have been (even today, our jaws are likely to drop when we enter Chartres or even a more modest cathedral). Everything, from the neck-craning ceiling height evoking heaven to the light streaming through stained glass windows reminded spectators that they were in a place quite separate from the quotidian, closer to God and even to heaven. Here was a space resolutely committed to offering spectators a heady dose of multi-sensory effects, including the burning of incense, the act of holy communion, the sounds of the organ, choral singing, possibly quiet reciting or sobbing, as well as the visual splendor of the interior architecture, elaborately sculptured tombs, statues, ceiling bosses, gold goblets and ornaments, misericords and paintings. Of course, the cathedral functioned as a space of wonder long before the motion picture theater, but one could argue that a proto-cinematic sense of narrative logic and sequence can be found in the religious artwork hung on the cathedral wall; the Stages of the Cross, for example, evince a spatio-temporal logic closely related to scene assembly in film. Moving from one painting to the next in a church requires a tacit understanding of events unfolding in time and space and, given the context in which these images were consumed, a heightened sense of immersion in the proairetic space (Griffiths, 2008: 15–36). Processions through cathedrals in

which members of guilds and religious dignitaries wore costumes and vestments provided other opportunities for a narrativized logic and visual spectacle that juxtaposed iconographic set pieces. But if the cathedral represented a sanctioned space for the representation of the Christian religion and rituals of devotion, the margins of medieval manuscripts were spaces where a far more ludic expression took hold and the imaginations of the illustrators went wild.

A key site for excavating this enduring sense of wonder and disruption that special effects continue to conjure up for spectators is the margins of illuminated manuscripts, characterized as 'arenas of confrontation', in the words of Camille (2004): 'places where individuals often crossed social boundaries ... add[ing] an extra dimension, a supplement, that is able to glow, parody, modernize and problematize the text's authority while never totally undermining it' (p. 9). Shortly after the middle of the 13th century, the margins became the place where *babuini* (roughly translated as 'monkey business') and curiositas of all shapes and hybrid forms could be found (p. 12). Even before this, however, concern had been voiced about the 'unseemly exuberance' of early 12th-century Cluniac art; among the most vitriolic of attacks was that made by medieval cleric Bernard of Clairvaux, whose letter to the abbot of Saint-Thierry condemned 'those unclean apes ... those half-apes ... those fighting knights', all familiar tropes in the repertory of marginal imagery.

One can only imagine the indignation of spiritual leaders when images appearing in the margins of illuminated manuscripts began to take on a life of their own, bringing a certain magical *jouissance* to the page where the Word was increasingly threatened by the visual exuberance of the blossoming illustrations, which crept like vines threatening to strangle the written text. This five-headed beast with a sword-wielding arm for a tail, four human heads and a central dog-like head (Figure 3) – now perhaps evoking a J.K. Rowling creation one might find in the Harry Potter series – may have been precisely the type of visual anarchy Bernard of Clairvaux had in mind when he wrote his manifesto. Prancing with uplifted paws on the *bas-de-page*, the dog-man looks as if he might slice through the words threatened by the margins with a single swipe of the sword held in his arm-tail (or chop off one of his own heads if it started misbehaving). The theme of missing or misplaced heads is illustrated in the next three illustrations, the first of which shows two headless men fighting with swords while one of them holds his head in his outstretched hand (Figure 4) and the last a naked man eating his own leg (Figure 5) which is reminiscent of Georges Méliès's 1898 film *Un homme de têtes* (A Man of Heads) in which Méliès's character repeatedly decapitates himself and puts the heads on a table with macabre aplomb. Méliès's experience as a magician seems to go hand in hand with the inclusion of wondrous creatures and human hybrids on the pages of some illustrated manuscripts. Indeed, André Gaudreault's (2007) argument about the role of 'gluing, matching, and assemblage' in Méliès's films, the fact that the essential quality of his magic is produced 'in a remarkable and primordial way by *fragmentation*, cutting, and *breaks in continuity*' (p. 167, emphases in original) is also suggestive, since the effects in medieval art frequently intrude, disrupt, or fragment our vision. The metaphor of fragmentation describes the relationship of image to text, but also speaks to the production process, since medieval manuscripts were subject to painstaking craftsmanship as artwork

was later added, similar in some respects to the Méliès films, which, Gaudreault argues, contain evidence of gluing in the upper reaches of the frame 'where the viewer is not inclined to gaze' (p. 167).



Figure 3. Beast/monster with five heads: Stowe 17, f. 101v. Reproduced courtesy of the British Library, London.

Thirteenth-century Cistercian Adam of Dore singled out the visual trope of the headless body when he sardonically asked the question:

Which is more decent, which is more profitable, to behold about the altar of God double-headed eagles, four lions with one and the same head, centaurs with quivers, *headless men grinning* ... Is this panorama of the Old and New Testaments so meager that we must needs set aside what is comely in favor of ignoble fancies? (James, 1951: 141, emphasis in original)

Another famous anti-monstrosity critique made by the Cistercian St Bernard to the Abbot William of St Thierry questioned not only the relevance of these ghoulish inscriptions in religious texts but also their impact on monks (Figure 6):

What is the point of ridiculous monstrosities in the cloister where there are brethren reading ... What are those lascivious apes doing, those fierce lions, monstrous centaurs, half-men and spotted pards [leopards] ...? You can see several bodies attached to one head, or, the other way round, many heads joined to one body. Here a serpent's tail is to be seen on a four-footed beast, there a fish with an animal's head. There is a creature starting out as a horse, whilst the rear half of a goat brings up the rear.



Figure 4. Headless men fighting with one man holding his head: Glazier 24, f. 70v, William S. Glazier Collection. Reproduced courtesy of the Pierpoint Morgan Library.

St Bernard's list of hybrid, morphed creatures reads like a list of animatronics creations slated to appear in the next Pixar or DreamWorks movie; questioning their relevance, especially in a religious context, St Bernard finds this anarchic, topsy-turvy world too carnal, too sexual, too excessive for a community of monks.

These examples imply that, when viewed as instances of a human desire to invert, subvert and challenge through representation our relationship to the natural and sacred world, special effects have a very long history. Binary oppositions such as sacred/profane or spiritual/worldly should be avoided in favor of a more ambiguous, fluid conceptual frame when addressing medieval



Figure 5. Nude man eating his leg: Glazier 24, f. 50v, William S. Glazier Collection. Reproduced courtesy of the Pierpoint Morgan Library.

art; inversion and transpositions were in bountiful supply, seen here in this image of a bull milking a woman's breasts (Figure 7) and in the playful construction of a hare astride a snail-man battling a dog on the shoulders of a hare (Figure 8). While the cultural reception of these images remains elusive – one assumes their shenanigans succeeded part way at least in *moving* their readers either via shock, disgust, amusement, or incredulity – the images themselves suggest the aesthetic and discursive freedom of their makers (with scatological, sexual and bestiality themes dominating), a freedom, one might argue, that continues to this day in the world of animation, especially on cable television.

However, the emergence of such counter currents as aniconism (the prohibition of the representation of religious figures) and iconoclasm (destruction of religious icons, often as part of the political overhaul of an existing regime) within the broader Reformation movement all significantly affected the status of images



Figure 6. *Medicina de quadrupedibus*, Old English version, 11th century. Cotton Vitellius MS CIII, f82. Reproduced courtesy of the British Library, London.

and icons after the medieval period (abiding by the principle *non adorabis ea neque coles* [thou shalt not bow down or worship them]), and present a serious challenge to any cyclopean vision of the perception and reception of images in the Middle Ages. There was heated debate about image-making and its socio-religious meanings for over 400 years (especially after the Byzantine iconoclasm); at one extreme, we see stained glass praised for its role as a visual Bible for the poor – the ‘books of the illiterate’ [sic] in the words of 14th-century French theologian Mathier-Nicolas Poilleuillain de Clémanges – and, at the other, the substitution of images of Christ with a simple Cross, an interpretation of the Ten Commandments’ edict against the production and worship of graven images (BesanCon, 2009).



Figure 7. Bull milking a woman: Trinity B.11.22, f.118v. Reproduced courtesy of Trinity College Library, Cambridge.



Figure 8. Dog and hare, titling: Y.T. 8, f. 294. Reproduced courtesy of the British Library, London.

Viewers of the marginal mayhem that often erupted in the *bas de page* of illuminated manuscripts were nevertheless eminently capable of making sense of the chaotic interaction of word and image, not dissimilar, in some respects, to the way internet surfers navigate their way across the countless web pages they view in a single day or the way a green screen of video becomes a blank canvas upon which to re-situate and resignify images, done with wonderfully anarchic aplomb by viewers of the *Colbert Report* on Comedy Central when invited by the eponymous host to respond to 2008 presidential candidate John McCain's unfortunate selection of green background for a political speech. The results were pure magic, with McCain appearing in everything from *Planet of the Apes* and *Star Wars* to *Saturday Night Fever*.

Spectatorship and Visual Effects: I See Therefore I (Want to) Believe

Gazing upon this scene of *The Last Judgment* (Figure 9) from the workshop of the Master of James IV of Scotland and circulating in a Ghent Book of Hours from c. 1500, we marvel at the spectacular visualization of Christian eschatology, where sin assumes corporeal form in the twisted, naked bodies of the doomed sinking pitifully into the bowels of the earth. Bridging heaven and purgatory are two rainbows linking the virtuous, who, fully clothed, wait patiently in line to enter the Kingdom of God alongside God himself, who sits magisterially on a green globe surrounded by six blue angels and staring straight out at the viewer while performing a blessing. God's bright red robe forms a visual link with the heaven-bound who are also clothed; sin disrobes the wicked, and the people on the far bank are naked and appear to be reaching their arms up to the sky. The pasty, contorted bodies of the damned descending into the earth in the foreground imbue this image with kinetic energy, and the tiny figure with arms uplifted in the mid-ground underscores this sensation, pulling our eye from the multitude that fades into spatial infinitude in the background to the topsy-turvy chaos of the foreground. Heads are where feet should be, as people appear to be diving headlong into the abyss.

What comes to mind when we gaze upon this late 14th-century illumination? What cultural, theological, or fantastical referents do we draw upon to make sense of it, and how might they have differed from the perceptual predicates of medieval spectators who saw God sitting in the clouds and who firmly believed in the physicality of heaven, hell and purgatory? More precisely, can we read the Biblical tropes contained in this image through a discourse of special effects? In other words, what is it exactly about *The Last Judgment* that makes it work as a special effect? When I first saw this illumination, I was immediately reminded of the 1905 Pathé film *Le Vie et la Passion de Jesus Christ*, especially the ascension scene when Christ appears on a cloud in front of Mary and the kneeling disciples with their backs to the camera. Representing Christ's resurrection demands effects, yet the medieval spectator had no conception of visual effects in the sense we understand them and would have interpreted this image through the prevailing theme of the mortification of the flesh, which, as medievalist Susannah Biernoff (2002) argues, was one of the most enduring images of medieval



Figure 9. *The Last Judgment*, Roman use, Workshop of the Master of James IV of Scotland, Flemish, probably Ghent, c. 1500. Reproduced courtesy of the British Library, London.

Christianity (p. 23). More to the point, our contemporary disbelief in images that cannot be found in the physical realm just would not be acceptable for the average medieval spectator; as Margaret Wertheim explains in *The Pearly Gates of Cyberspace* (1999): 'the medieval world picture encompassed both a physical and a spiritual realm – it incorporated a space for body *and* a space for soul. This was a genuinely *dualistic* cosmology consisting of both a physical order and a spiritual order' (p. 33, emphases in original). In the absence of 'special effects' as an epistemological frame for reading this scene, what did this image ask of its spectators and, more generally, in the context of this article, what do cinematic special effects ask of their viewers?

For medieval spectators, the devotional context of this image overdetermined other ways of seeing, whether or not viewers were moved by its apocalyptic theme (see Beckerman, 1984: 9).³ While we will never know with certainty what kinds of visual competencies were activated when medieval viewers gazed upon

these images – and we should not lose sight of the fact that heaven, hell, the devil, even the Grim Reaper, may have been regarded as quite real by medieval men and women – they indicate that artists and audiences may have accepted the idea of the miraculous, fantastical, supernatural, or phantasmagorical existing in artistic form. Indeed, popular phantasmagoria in the Middle Ages was replete with devils and angels (Figure 10) (Huizinga, 1924: 151). And just as special effects can be consumed on both the giant screen and on handheld devices, so too did certain images in medieval image production work on both missals and cupolas during the Middle Ages. The continuity of the pictorial imagination, regardless of scale and location, is a critical overlapping feature/component of visual effects production across these distinct periods.

The impossibility of such macabre figures as the Grim Reaper (Figure 11) would doubtless have had a visceral impact on medieval audiences, especially given the mutability of the spaces of the living and the dead, the same perceptual jolt we feel when we view special effects (Wertheim, 1999: 45). Viewers may also have



Figure 10. *A Man and a Woman, a Devil and an Angel, Conversing on a Path*, 1482. Royal MS 15 E II, f.38. Reproduced courtesy of the British Library, London.

been entranced by visual tropes that challenged laws of representation, such as this 1146 image of St John the Evangelist from the Gospels of Liessies (Figure 12), which includes eight circular vignettes of varying size situated in the corners of the image and along each side of the representation. Two of the vignettes include hands that appear to extend from the edge of the circular frames in order to interact with St John, offering him ink for his pen in the middle right circle and a dove in the top image. Like God, who, Camille argues, was positioned at the center of the medieval panopticon, “all seeing” and everywhere at once’, St John seems to be co-present with these munificent hands, even though their interstitial status on the edge of the frame – neither fully within nor separate from St John’s world – was part of a visual grammar whose idiomatic meaning within a language of emblems was understood not so much as a surreal juxtaposition but as a conventionalized way of representing time and space. The hand coming toward John the Evangelist from the top of the frame suggests not only a certain play across spatial boundaries, but also a heightening of the 3-D effect of the entire image, as do the circular vignettes superimposed on top of the ornate blue and red internal frame.



Figure 11. *Death Overcoming a Lady*, Roman use, Circle of the Master of Jacques de Besançon, France, Paris, 1480s. Reproduced courtesy of the British Library, London.

But devotional objects such as these Books of Hours (private prayer books) also invited readers to alter or augment the written text that resonate in the interactive 'textual poaching' of movie fans, especially fans of science fiction, what Vivian Sobchack (2004) calls the "Swap that Shot" or "The Robot You Love to Remember" game played by audiences, or the paratextual activities of *Star Trek* fans (p. 4; Jenkins, 1992: 448–73, Brooker, 1999: 50–72). And herein lies one of the key points of correspondence across cinema and medieval images: a belief in the magical potency of visual images, mechanical objects and cinematic representations, in spite of knowledge, in the case of cinema, that it is the work of artifice rather than alchemy. So for those spectators viewing these images within a faith-based context, a belief in their veracity – as the definition of faith makes clear, confidence and trust are vital to the idea of faith – can possibly be extended to a consideration of film special effects, in which the spectator invests some degree of 'faith', albeit a secular kind, in the veracity of the image within the diegesis. A different kind of faith is triggered by the automaton, less it would seem about its veracity or legitimacy than about its mechanism, its ability to do what it does.

Automata: Uncanny Similarities, Miraculous Effects

The connection of automata to cinema is especially beguiling; in the words of film theorist Guilian Bruno (2002), as 'objects of leisure, the automaton and



Figure 12. St John the Evangelist from the Gospels of Liessies illustrated by the English artist responsible for the Lambeth Bible, c. 1146. Reproduced courtesy of the British Library, London.

the cinematic apparatus both hide the mechanism that creates movement, pretending to require no effort in representation or reception and creating the illusion that the graceful technical exhibition entertains automatically' (p. 148). Cinema and automata also share a spatio-temporal logic, 'the automaton's spectacle of repeated movement, simulating the body's own, was a step in film's genealogical phantasmagoria – an earlier mechanical attempt to extend the life of time and space' (p. 147).

From the Greek for 'a thing that acts for itself', automata were known to Aristotle and other classical writers and later encompassed sound-making statues, like a 13th-century statue of Moses designed to be placed over a tomb so that when the wind blows it delivers a 'panegyric on the greatness of the Maccabees', and this 1291 figure (Figure 13) of a *poucinet* (who sings and blows his horn), talking-statue water clocks, fountains with figures and birds, and an array of other artificial devices (Camille, 1991[1989]: 247). A fascinating thread in Gunalan Nadarajan's (2007) argument about the history of automata in Arabic science and technology concerns its status as a '*manner of submission* rather than a means of control', conceived as that of '*referring to and making*



Figure 13. Automaton of man, '*un poucinet*', who sings, sounds his horn and 'seems alive'. From the manuscript of Girart d'Amiens' romance, *Meliacen*, commissioned for Margaret of France, eldest daughter of Philip the Fair, some time before 1291. Image shows Margaret and other members of the Royal family in the court of a pagan king. Paris, Bibliothèque Nationale. MS. fr 1633 (*Roman de Meliacen*), fol. 4. © Photo: Bibliothèque Nationale, Paris. Reproduced with permission.

manifest God's creative work rather than "showing off" one's own ability to create' (p. 166, emphases in original; see also Kieckhefer, 1989: 116–50). While this could be construed as precisely opposite to the work of the contemporary effects artist (and echoes the notion of God alone being permitted to create images), there is undoubtedly an element of submission inscribed in the work of an effects artist, inasmuch as the effect itself might not necessarily work the way it was intended. Likewise, audiences have no control over the playing out of the special effect and must submit to both its technological virtuosity and residual magic.

Automata that assumed human form were often assigned specific duties, such as defending a castle entrance, bridge, or treasure. Mechanical heads as sources of mysterious or occult powers were popular during the Middle Ages (see Kitredge, 1916: 147–94), one of the most famous literary examples being the brass head created by Friar Bacon in the Elizabethan play *The Honourable History of Friar Bacon and Friar Bungay* by Robert Greene (Bacon was based on the actual 13th-century Roger Bacon, a mathematician-cum-wizard who had become a 'symbol of unorthodox ideas and practices' (LaGrandeur, 1999: 417). If mechanical heads were excluded from the hallowed space of the cathedral, mechanized animals or birds, such as the eagle designed to hold the Bible in its wings and that turned its head when the Deacon pressed a concealed lever, were welcomed (Sherwood, 1947: 567, 577, 585).

As striking as these examples are, however, what makes automata especially fascinating when analogized to special effects is the discourse that accompanied them, especially philosophical musings on differences between the marvelous and the miraculous, seen here in this quote from Thomas Aquinas, whose ideas at the time furthered a rationalist epistemology on magic and effects. According to Aquinas:

We marvel at something when, seeing an effect, we do not know its cause. And since one and the same cause is at times known to certain people and unknown to others, it happens that, of those seeing an effect, some marvel and some do not; for an astronomer does not marvel at an eclipse of the sun because he knows the cause, but a person ignorant of this science, not knowing the cause, must marvel at it. (Aquinas, 1296, in Hansen, 1978: 500, see also Camille, 1991[1989]: 244)

If miracles are the 'outcome of divine power', marvels are the 'product of artifice', although someone with scant knowledge of science, astronomy, or natural phenomena would also, according to Aquinas, attribute marvelous qualities to natural phenomena like lightning. Gerald of Wales defined a marvel as an event occurring 'contrary to the course of nature and worthy of wonder'; automata were therefore perceived not as miracles but as 'tricks of knowledge, working by duplicity to hide their real workings' (Camille, 1991[1989]: 249, see also Chapuis and Droz, 1958). Whereas a miracle was a revelation of truth, a marvel effaced its own mode of production, underscoring once again an anxiety about its maker as a creator 'not of nature (like God), but against nature'. Automata might therefore have offered spectators of the Middle Ages somewhat similar subject positions as

today's special effects, positions also rehearsed by spectators of Books of Hours illustrations, ludic marginalia and mystery cycle plays.

What ultimately connects automata, illuminated manuscripts and special effects is an enduring tension between a perception of the effect or representation as somehow having produced itself (Camille's idea of the artist or maker having been blotted out), and foreknowledge or understanding of the *essence* of the experience, or at minimum some sense of what it is and how it is produced. Historian of science Bert Hansen (1978) tells us that medieval people lived in a world that was 'above all, a world of *essences*', in which things had inner "natures" or qualities characteristic of them and inherent in them'. Within this schema, 'to know *what* some thing is, or *what virtue* (power) it has, explains it' (p. 489, emphases in original).

Life Without Bread: Special Effects as the Harbinger of Death

No other epoch has laid so much stress as the expiring Middle Ages on the thought of death. (Huizinga, 1924: 124)

In this final section, I want to briefly suggest an argument about special effects spectatorship inspired by the Italian medievalist Piero Camporesi's 1989 book *Bread of Dreams*, an astonishing study of food, famine and suffering in medieval Italy. If Camporesi's argument about the somatic and mental horrors experienced by the poor in medieval southern Europe is even partially correct, one could argue that many aspects of daily life in the Middle Ages might have been experienced through a reality-altering prism that in some respects is a hallmark of special effects. The apocalyptic, the grotesque, the macabre, the unimaginable, what we would today consider the staples of cinematic special effects, were a grim daily reality for people barely maintaining human existence, people who resorted to cannibalistic practices (the man eating his leg in Figure 5 is no longer a playful *babuini* in Camporesi's universe) in order to survive. And as Huizinga reminds us, toward the end of the 14th century, pictorial art fully began to exploit the motif of death and degradation, including graphic depictions of the horrors of decomposition and the putrefying corpse. With the help of hallucinogenic seeds and herbs and a background of 'chronic malnourishment and often hunger (which is the simplest and most natural producer of mental alternations and dream-like states)', there became manifest what Camporesi (1989) calls a 'collective delirium, of mass trances, of entire communities and villages exploding into choreal dancing' (p. 18). But even when food was bountiful, it could be extremely potent and with amazing, mind-altering effects, as Camporesi explains:

Breads filled with seeds and powders bestowing oblivion, expansive and euphoria-producing herbs, narcotic cakes, stimulating roots and aphrodisiac flours, aromas and effluvia of devil-chasing plants and antidotes for melancholy ... created a network of dreams, hallucinations, and permanent visions. By altering measures, relations, proportions and backgrounds,

they made three fingers seem like six, boys armed men, and men giants ... everything much bigger than usual and the whole world turned upside down. (p. 20)

This experience may therefore have been so intense for people that life itself was lived during moments of famine or deprivation *as if* one were experiencing special effects, what Camporesi describes as being 'conditioned by a hallucinated and altered state of awareness of reality, where the layers are overturned, the universe reversed, the world ending up head-over-heels, with head on the ground and feet in the air' (p. 18).

This idea of the world turned upside down is powerfully evoked in the visual trope of the falling figure (Figure 14), a ubiquitous and discursively charged image in medieval culture indicating a subversion or negation of that individual and the Fall of Idols. How we 'read' the representation of the inverted figure is telling, and one could argue that, post 9/11, the image of the falling figure with head where feet should be has taken on a more disturbing quality as it references the victims falling from the World Trade Center recorded by photo-journalists



Figure 14. Fall of Idols, Amiens cathedral, west front, south portal relief.
© Photo: James Austin (Camille, 1991[1989]: 3).

and television cameras before the towers themselves fell; the world was turned upside down on that day and the image of the inverted body somehow captured that.⁴ Other scholars have commented on the occlusion of reality coordinates in disaster situations such as 9/11, the Asian tsunami, Hurricane Katrina, or the Haitian earthquake, when survivors speak of suddenly feeling as if they're in the middle of a disaster movie, except the images they see are not the work of a special effects artist but that of terrorists, nature, or incompetent governments (see Kakoudaki, 2002: 109). Although some people are overwhelmed by the 'effects' they experience during times of disaster, in the medieval Italy examined by Camporesi, people may have paradoxically responded to representations of these inversions less as 'special' effects than as a confirmation of their lived experiences. The catastrophic effects of famine may have drained the body of life while transforming the external world into a grotesque mockery, where bodies no longer looked real and the world itself seemed gripped by disease and decay. While Camporesi's study may seem remote from the examples of image making discussed earlier, the cannibalism, self-mutilation, and animal-human subversions definitely resonate (and add a perverse twist to the leg-eating man from Figure 5), along with the idea that visual effects could be somehow experienced not through choice but as some kind of sick corporeal joke with cataclysmic effect.

At the end of this journey into the unexpected correspondences of medieval visual culture and cinematic special effects, we should recognize the methodological risks involved in any act of historical conjecture. And yet Biernoff's (2002) argument about the symmetry between the *pre-modern* and *post-modern* in the periodization of vision reminds us that there is much to be gained from exploring alternative interpretive frames for familiar visual practices like cinematic special effects in academic fields remote from cinema studies. Likewise, Camille's suggestion that we are no less obsessed than our medieval ancestors with the 'spectral realm of self-created simulacra', what he calls this 'half-repressed need for relationship with images, fear of their danger as substitutes and consequently the need to unmask them', reminds us that the desire and need to create special effects, whether reproducing phenomena that would be near impossible to film or conjuring up images that (thankfully) exist only in the imagination, have existed since time immemorial. Long before cinema emerged in the late 19th century, its chimerical origins could be observed, as Sean Cubitt (2004) notes, in 'the public scale of torchlight processions through Altamira, the play of sunshine, moonlight, and dappling clouds on the stained glass windows of medieval Europe, [and] the fireworks and waterworks of the Baroque' (p. 6). When our knuckles turn white during sequences of thrilling cinematic special effects, we may simply be rehearsing a very old fascination with seeing and (dis)-believing that goes back at least to the Middle Ages.

Acknowledgements

My thanks to Karen Beckman for inviting me to present an earlier version of this essay at the Program in Cinema Studies Colloquium Series at the University of Pennsylvania and for her thoughtful feedback. Thanks are also due to William Boddy, Peter Decherney, Zoë Sheehan Saldana, Kristen Whissel and Associate Provost Dennis Slavin in the Provost's Office at Baruch College, CUNY, for securing funds to support the color reproductions.

Notes

1. The *Stanford Encyclopedia of Philosophy* defines modal logic as 'the study of the deductive behavior of the expressions "it is necessary that" and "it is possible that"' (<http://plato.stanford.edu/entries/logic-modal/>).
2. In making this argument, I am sensitive to medievalist Suzannah Biernoff's (2002) question of whether it is ever really possible to 'reconstruct historical viewers – *how* people looked – from *what* they looked at?' (p. 3, emphases in original).
3. The surfeit of bodies in this Book of Hours illustration recalls theater historian Bernard Beckerman's (1984) theory that 'spectacle ... depends on infinite redundancy', the sheer numbers of bodies on display vividly illustrating this precept (p. 9).
4. The HBO Films Emmy winning documentary *Telling Nicholas* (James Ronald Whitney, 2002) about the struggle facing a Staten Island family as they decide how to tell a 7-year-old boy his mother died in the attacks has several images of bodies falling from the burning Twin Towers. On the morning of the attacks, cable, network and local news programs initially showed images of people committing suicide by jumping from the Towers until news producers decided to refrain from including the image in live footage. Although bodies are not seen falling in the documentary made by the French filmmaker brothers Jules and Gédéon Naudet and New York firefighter James Henlon, they can be heard falling and breaking through glass in *9/11* which initially aired, commercial-free on 10 March 2002.

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