Digital Frankensteins: the Post-organic Bodies of Digital Animation

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In 1818, Mary Shelley wrote a story about post-organic presence. Most of us know this story reasonably well: Victor Frankenstein, a student of the sciences, discovers how to create artificial life; he animates his monster, a fragmented and hideous being, then abandons him in disgust and horror; the monster wreaks vengeance. This is a story about the tension between nature and technology, organism and machine, beauty and monstrosity, birth and construction; above all, as Anne K. Mellor points out, the novel *Frankenstein* “is profoundly concerned with natural as opposed to un-natural modes of production and reproduction”\(^1\). In writing this tale, Shelley was drawing from myths and stories that were much older. Indeed, Shelley’s *Frankenstein* takes its place in a long line of stories that can be traced back to the ancient Greek myths of Prometheus and Pygmalion – stories that articulate a cultural fascination with the act of techno-production in its oldest sense.

Today, Shelley’s tale still has cultural currency. The novel has been cinematically adapted across the history of film and continues to be reworked in popular culture, while the old Frankenstein films themselves continue to be watched and imbued with cultural energy. Recently, I found myself watching the first filmic adaptation of Shelley’s novel – the 1910 Edison Studios film *Frankenstein* – on YouTube. This film has an astounding creation scene in which the monster emerges from an alchemical cauldron, his hideous features revealing themselves bit by bit. This is surely one of the creepiest images ever to grace the silver screen: the nebulous figure with its outstretched arms has the power to chill audiences even a century after its production, and even in an age when digital effects can be (and are) used to create endless new variations on the horrific, the spectacular, the strange.

This paper is not concerned with early cinematic adaptations of *Frankenstein* or with the process of adapting Shelley’s novel for the screen. Yet I mention this viewing

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experience because it reminds us that Frankenstein’s monster is a figure well suited to the digital age. While watching the monster on YouTube we might be aware that he/she/it is posthuman, post-organic, constructed, fragmented, a technological other, a body removed from nature – in other words, a body well framed by cyber-surrounds. Such applicability is touched upon by Mark Poster who uses the term “High Tech Frankenstein” to describe the construction of posthuman identities in cyberspace. This High Tech Frankenstein, he tells us, is “a figure for the relation of humans online to machines” and “functions as an opening to globalized, machinic post-humanity”.  

In this paper I want to consider a “High Tech Frankenstein” of a different sort: the computer-generated “actor”, the digitally animated body of recent popular cinema. These bodies are appearing on our screens all the time: whether in fully animated films, children’s films, anime, or effects-driven Hollywood blockbusters. This is an era of Frankensteinian reconstruction and reanimation, a time when we are gleefully experimenting with the recreation of human presence on screen, and a time when we are just beginning to accept such digital life as “real”. In this paper I want to use the figure of the Frankensteinian monster as part of a quest to know, understand, rethink, and generate discussion about the digitally animated body.

In making this connection I am particularly interested in the Frankenstein tale’s depiction of a posthuman condition. Victor Frankenstein’s monster is created with the desire that he should make humankind, with its weaknesses and susceptibility to death and disease, obsolete; at the same time, with its theme of techno-genesis, the novel depicts a world in which “reference to a natural humanity is always anachronistic”, as Catherine Waldby tells us. This speculative depiction of a posthuman body/world is what Shelley’s novel shares with fantastic and science-fictional texts of the digital age.

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Films such as *Blade Runner*, *The Matrix*, *I, Robot*, and *AI: Artificial Intelligence* – alongside novels of the cyberpunk genre – all indulge in a depiction of what Mark Williams calls a “literally posthuman future, in which humans are history amid a world of advanced informational dynamics”.

However, posthuman bodies are also appearing on our screens – and often in the same films. In the digital age, new modes of animation allow human presence to be manipulated, restructured, simulated, and overwritten. Thus, writing of the 1999 film *The Matrix*, Joshua Clover warns us about the impending arrival of the “actorless movie”. Humans are history, indeed. He was referring to digital Neo – played by “real” actor Keanu Reeves whose presence in the film was nevertheless impinged upon and at times restructured by digital effects. Other “actorless” movies today might include those fully animated ventures that construct their characters from scratch, from the disparate body parts of a series of actors, or through an unsettling mesh of digital code and human acting. With the emergence of these posthuman screen bodies comes a need to understand them and develop a means of writing about them, teaching them, and reconciling them with our own images of ourselves and our deeply embedded understandings of what it means to be human. This paper attempts to address that need by bringing such digital bodies into dialogue with the mythic figure of the Frankensteinian monster.

“The desire to create a being like oneself”: the new monsters of digital animation


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first artificial flirt, captured so precisely in the classic climax to James Whale’s 1935 *Bride of Frankenstein*. For Lisa Bode, this account:

> evokes something mythic, beautiful and terrifying, a being that hovers unsettlingly between states: neither dead nor alive, neither subject nor object, neither human nor machine… In this erstwhile emblem of cinema’s future, [Parisi] finds an image from cinema’s past – yet evidently not the image intended by its creator. Rather than seeing Marilyn Monroe’s breathy 50s sexuality, situated precariously between natural innocence and knowing artifice, Parisi finds Elsa Lanchester’s fright-wigged, wild-eyed portrayal of a thing, cobbled together in the charnel house and electrically animated.

The words of both these writers, one commenting upon the other, demonstrate the extent to which the Frankenstein myth and, particularly, images of Frankensteinian animation – once so evocative of cinema itself and the spectacle of filmic “life” – have been re-engaged in discussions of the digital replication of human presence. While Parisi and Bode are discussing the unique phenomenon of artificial or computer-generated beauty, their accounts also draw upon the status of the Frankensteinian monster as a resurrected body. Just as Shelley’s novel evoked, in the early 1800s, weighty problems of what it means to be “alive”, digital animation is often received in terms of its ability to alter our understandings of “life” and “death”. This is not surprising given that new digital technologies are often employed in a resurrective capacity. If we can digitally generate an image of anyone, unbound by the laws of nature or physical presence, why not bring to life someone who is both famous and dead, if only to see them speak and act and move again? This perverse logic is, at times, accompanied by seeming necessity. When an actor dies during the production of a film, the filmmakers often use digital technology to bring the actor back to life. This is known as post-production resurrection. 

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production of a live-action film, he or she can now be “replaced” by a CG-simulacrum and filming can continue. The figure of the Frankensteinian monster – as other, and as resurrected or reanimated body (the ghostly and ghastly creature who unsettles the boundary between life and death) becomes a suitable allegory for such digital presence.

Digital animation can indeed be viewed in Frankensteinian terms – as a new means of monster-making for a culture addicted to screen images – and not just because we can use such animation to resurrect the dead. *Frankenstein*, after all, is a story about the act of reshaping and attempting to control human presence. To use J.P. Telotte’s words, Shelley’s tale explores desires relating to the “subjection” of the body: particularly the desire to “rein in or reconfigure the unruly self” and to see the body “rendered as a thing to be explored, mastered, and reshaped”. 9 Such desires, Telotte continues, particularly informed the filmic versions of *Frankenstein* that appeared in the 1930s, which “depict the problematic nature of the modern self, confronted with a science that wants to explore, control, and even reshape the body – to render it as artifice”. 10 These Frankenstein films dwell upon the figure of the scientist/creator and:

this figure’s single-minded concern… with demonstrating his mastery over the body: by carving it up and reconfiguring it, by adding or eliminating parts of it, or, as is most prominently the case in [James Whale’s] *Frankenstein*, by fashioning it into a mocking double of the human. 11

This in turn is demonstrative of “the desire to render the body a manipulable and subject thing, ultimately little more than a raw material upon which the scientific spirit might exercise its will to artifice”. 12 We might ask ourselves if these are the same desires that inform recent endeavours in digital animation. In many of these

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10 Ibid., 75.
11 Ibid.
12 Ibid.
endeavours there is seemingly a very Frankensteinian wish to render the body as “a thing to be explored, mastered, and reshaped”; here too are desires to demonstrate “mastery over the body” by “carving it up and reconfiguring it, by adding or eliminating parts of it” and ultimately “by fashioning it into a mocking double of the human”.

Such desires are particularly evidenced by the recent need to create digital “stars” – computer-generated bodies that take the place of “real actors” and that are made to appear as human as possible. “For years now”, Karen Moltenbrey tells us in a recent edition of Computer Graphics World, “digital artists have been trying to solve one of the most difficult challenges in computer graphics today: the creation and animation of realistic digital humans”. Moltenbrey refers to such endeavours as a “quest”, highlighting the Frankensteinian overtones to what has become a passionate scientific venture. She also reminds us that this “quest to create a photoreal digital human… opens doors for stars to create and license detailed replicas of their likeness without making a physical appearance”. Such a project, then, is steeped in themes of replication, cloning, and the simulation of human presence: indeed, photorealistic digital bodies strive for life in a manner that was preemptively performed by Shelley’s monster and by the replicants and robots of later science fiction cinema, making it significant that science fiction and fantastic texts are often the first to “benefit” (and I use the term questionably) from these technologies.

This quest for digital photorealism also satisfies that particular “desire for resemblance, the desire to create a being like oneself” that Barbara Johnson identifies as the “central transgression in Mary Shelley’s novel”. In the 1910 Edison Studios film, this desire is addressed as the wish to create “the most perfect human being that the world has known”; this film’s use of mirrors further reminds us that Victor seeks to “perfectly” re-create his own image, a transgression that results in the creation of a monster (or a monstrous image of the self). Like the endeavours of Victor, our quest

14 Ibid.
15 Ibid.
for digital photorealism has not unfolded according to plan. If there were certain utopian overtones to the initial declaration that we could digitally recreate a photorealistic human, thus forever changing the fundamentals of filmic production, the cultural reception of these animated “stars” has been uneasy and fraught with problems. Digitally animated bodies are frequently received as cold, lifeless, or repulsive; the early ventures in such animation failed at the box office because they alienated their audiences. As many theorists have pointed out, such bodies are unsuccessful screen bodies because they too keenly evoke the uncanny: they are too real and yet not real enough.17

Aki Ross: “the most perfect human being that the world has known”?  

Let us consider one such body, a body that in many ways represents a milestone in the quest for digital screen life. In 2001, nearly two hundred years after the publication of Frankenstein, Aki Ross appeared on our screens in the 2001 film Final Fantasy: The Spirits Within. Aki was the first fully computer-generated protagonist in the first film to use a blend of CGI and motion-capture to create a photorealistic or “cinemated” digital experience. In other words, she is the product of a quest to create the perfect digital human, to transfer organic life to a digital space. Like the Frankensteinian monster Aki is an abstract life form, a mechanically reproduced body, a fragmented and “put together”18 thing. She is also an uncanny body whose too-real presence incites cultural anxiety and renders her a “monster” for the digital age.

17 See, for instance, Bode (throughout) and Livia Monnet, “A-Life and the Uncanny in Final Fantasy: The Spirits Within”, Science Fiction Studies 31 (2004), 97-118. Both these writers discuss the uncanny in relation to Final Fantasy, the film I discuss below. We should also mention the work of psychologist Ernst Jentsch, who famously tells us that “the uncanny” emerges when we have “doubts whether an apparently animate being is really alive; or conversely, whether a lifeless object might not in fact be animate”, a state that is often appropriated to describe the figure of the digitally animated body. See Ernst Jentsch, “On the Psychology of the Uncanny”, Angelaki 2, 1 (1995), 11.

18 I borrow this term from Telotte, whose chapter on the Frankenstein films of the James Whale years is entitled “A ‘Put Together’ Thing: Human Artifice in the 1930s”. See Telotte, 72.
There is no creation scene for Aki—that is, at least, not within the confines of the narrative. The film is rather conservative about what it shows of her body, especially when compared to many Japanese animation in which the (female) body is repeatedly exposed and apocalyptically deconstructed. Yet although the narrative does not give her a creation scene as such, the publicity surrounding the film betrays an obsession with Aki’s mechanical body and with the technologies used to create her. My DVD copy of Final Fantasy comes with a promotional documentary that details the “making” of the film (and which consequently gives us an echo of Mary Shelley’s announcement, in her 1831 Introduction to Frankenstein, that she will “furnish” us with an account of the making of her “hideous progeny”). This documentary dwells particularly on Aki, revealing the computer models used to create her and thus taking us “inside” her body. The documentary also literally takes Aki apart, fragmenting her body into various parts to be discussed by the animators responsible for them (including a detailed and slightly fetishistic discussion of her hair by the young man whose job it was to construct and perfect each strand).

In his discussion of cinematic presence, Walter Benjamin tells us that the filmic actor’s “creation” is “by no means all of a piece” but is “composed of many separate performances”, because “there are elementary necessities of equipment that split the actor’s work into a series of mountable episodes”. As an animated character, Aki is even further fragmented: like the Frankensteinian monster she is assembled bit by bit, her facial expressions, her voice, her movements, and even her individual body parts originating from different sources. We might also recall the words of Frankenstein himself, who—in James Whale’s 1931 version of the tale—proclaims of his Creature: “That body is not dead. It has never lived. I created it. I made it with my own hands with the bodies I took from graves, from the gallows, from anywhere”. He insists that he is not bringing a dead body back to life; instead, he has created a new body from fragments and animated it into being. We can describe Aki’s creation in a similar

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19 As, for example, in the 1995 anime Ghost in the Shell.
way: she too is created from fragments, built by various actors, voice artists, and animators, and then she too is brought to life; she too, in other words, was never a whole body prior to being animated.

If we think of Aki’s construction in these rather violent terms, we might find it strange that the narrative of Final Fantasy is so peaceful and presents her in such a non-violent manner. Physically, there is nothing particularly monstrous about Aki; with her smooth freckled skin, her shiny hair and her slim figure, she is a digital angel, made to appear “perfect”; she is not overtly seductive but instead somewhat wholesome, a digitally animated girl-next-door. The narrative presents her as fully human rather than as a cyborg or mechanical body. She also remains whole, unscathed, and unruffled throughout the film; indeed, she is so unproblematic a body/character that she almost becomes invisible. Livia Monnet suggests as much when she writes of Aki as a vanishing character who is “erased or abducted” and ultimately robbed of both her agency and her physical presence. Overall, little bodily violence appears on screen in Final Fantasy: in this sense, the film refuses to physically deconstruct the bodies of its characters.

Final Fantasy is not thematically concerned with monsters, cyborgs, and mechanical bodies – even if the animation process behind the film suggests a Frankensteinian narrative of construction, replication, and fragmentation. Rather, it shares with the Frankenstein tale an interest in ghostliness. At its core, the film investigates what happens after death and ponders the existence of a “soul”. These concerns are performed through the negotiation between Aki and creatures known as “phantoms”, revealed to be the spirits of long-dead alien beings. When these phantoms steal a human life a glowing spirit is pulled from the lifeless body. The visualisation of both these phantoms and the human ghosts is perhaps the film’s most beautiful aspect – ironically, the half-real human characters seem no more alive than when they are colourful, transparent spirits pulled from their dead human form. Here, the film intersects with Shelley’s tale. As we know from the 1831 Introduction, Shelley created Frankenstein in response to the challenge of writing a “ghost story”; if her

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22 Monnet, 111.
monster seems not at all like an incorporeal ghost, we might remind ourselves that Victor is driven by a quest to suspend mortality – to “renew life where death had apparently devoted the body to corruption”.23

The theme of “ghostliness” becomes a useful link between the two texts in question here. Shelley’s Frankenstein was a ghost story for the industrial age: a period in which traditional images of spirits and phantoms were less important (in the mind of one eighteen-year-old writer, at least) than a monstrous, posthuman, sewn-together-and-reanimated body. Similarly, we might read Final Fantasy as a ghost story for the digital age: a period in which spirits, phantoms, and resurrected bodies have strange equivalents in the digitally animated bodies that populate our screen texts. Ultimately, then, it is not merely Aki’s mechanical and fragmented nature that allows her to be read in conjunction with the Frankensteinian monster. She is also a ghostly body, a body that is only half alive; with her strange half-presence she becomes the focal point for the film’s concern with spectrality, even though she is depicted by the narrative as “human”. While she is not a literal resurrection of a dead actor, furthermore, she embodies cultural anxieties over the digital recreation of human presence and its potential link to the macabre.

Conclusion: origin stories and (lost) organicism

Let us return momentarily to Frankenstein and to the figure of the monster. It is well understood that this monster is a fragmented and hideous being; but I also want to draw attention to the fact that he/it is presented in Shelley’s novel as an artificial being in strange negotiation with the organic world. Indeed, Shelley’s monster is frequently depicted traversing the majestic natural landscapes that form such a distinctive part of the novel (mountains, forests, the Orkneys, and finally the ice-floes of the Arctic circle). At the same time, he/it is excluded from such natural surrounds, an exile from the organic world because he/it did not originate there. In this vein, Waldby describes Frankenstein as “one of the earliest attempts to deal with the malleability of life and the possibilities of human ‘technogenesis’, the loss of an

23 Shelley, 43.
origin securely located in nature”. This, she tells us, leads to the crucial question around which the novel is structured: “what does it mean to be embodied when the body cannot claim the status of nature?”

We might consider how this problem of organic origins – of the instantly created being who is excluded from the evolutionary narrative – is articulated in quite a different context by theorists today. Palaeontologist Stephen Jay Gould, for instance, tells us:

> Living creatures have to have some form of historical continuity, to grow and to reproduce, to inherit the characteristics of their ancestors. But artificial systems exist, and ones which are capable of behaving in the same way. The only reason we refuse to say they’re alive is that they’re not historically linked to what we call life.

This lack of a “historical link” to natural “life” is the very quality that defines the Frankensteinian monster, in all its guises. Even Poster’s “High Tech Frankenstein” is described as a figure “who will stare backwards at us, his/her historical ancestors, like Benjamin’s angel, as if observing a monster”. Poster is referring here to Walter Benjamin’s reading of the Paul Klee painting Angelus Novus, which represents for Benjamin the “angel of history”. Benjamin writes:

> This is how one pictures the angel of history. His face is turned toward the past… The angel would like to stay, awaken the dead, and make whole what has been smashed. But a storm is blowing from Paradise… this storm irresistibly propels him into the future to which his back is turned, while the pile of debris before him grows skyward. This storm is what we call progress.

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24 Waldby, 29, my emphasis.
27 Poster, 30.
28 Benjamin, 257-258.
We can appropriate Benjamin’s “angel” and use it to express the predicament of the Frankensteinian monster: a technologised or posthuman body which, although forever being blown towards the future, is always in negotiation with a receding origin in nature.

This, I propose, is also a quality that defines the digitally animated body. Motion-capture “actress” Aki gives us one of the best examples of this. Thomas Lamarre cites the makers of Final Fantasy as initially stating that “[n]o reference models were used or digitizing of real humans done to create these characters; they were all built from scratch within the computer”.29 As Lamarre points out, however, Aki and the other characters were not created “from scratch” by a computer; instead this process was aided by the capturing of human movements located in the “real” world. This ambivalence is itself indicative of the importance of origins, and of the relationship between animated body and “real” body, to this film. What kind of historical link to the organic world does Aki have? She is not fully computer-generated or created from scratch, but neither is she fully real or fully human. What we see on screen when we watch this film are traces or memories of movement, expression, and presence that are rooted in the organic world. Such hybridity and ambivalence links her to Frankenstein’s monster. Both bodies are boundary creatures who unsettle our understandings about what it means to be embodied and what it means to be human. Both bodies also have strange origin stories and represent new negotiations between “organic” and “mechanical” life.

Of course, Final Fantasy was made in 2001 – nearly ten years ago now. Over the years, our digital screen bodies have become less creepy – clambering out of the “uncanny valley”30 in which Aki resides. Nevertheless, the origin stories of these new digital bodies, and the balance between organism and machine enacted here, still

30 A term coined by roboticist Masahiro Mori to describe the human reaction to robots. According to Mori, when a robot is too real and yet not real enough, they evoke the uncanny. See Masahiro Mori, “Bukimi No Tani [The Uncanny Valley]”, Energy 7, 4 (1970), 33-35.
recall Frankenstein’s monster. It remains to be seen how this balance between organism and machine will shift in the future, and what new origin stories will be created.

The most successful experiment to date in this sort of animation has been James Cameron’s Avatar. Unlike Final Fantasy, Avatar has been hailed as a technological masterpiece rather than a disaster, a successful blending of live-action, motion-capture, and other digital effects technologies. Interestingly, both films share an ecological “message”; they exude reverence for the natural world. They also both allow their digital characters to traverse a vivid and beautiful nature-scape. This might remind us of the Frankensteinian monster, an artificial being who is framed by the natural world and whose troubled origin stories are made visible by such framing. The attempt with Final Fantasy and with Avatar, furthermore, is to bring such a landscape to life using digital technologies. The “abstract lifeforms” in question here are not just the digital bodies but the organic worlds as they are digitally depicted. These nature-scapes are as Frankensteinian as the characters that traverse them: they too are vast fragmented bodies, pieced together by ambitious creators – a replication of something we are no longer sure is real.

In conclusion, then, Frankenstein – as a tale about embodiment, technology, and the interface between the two – has long functioned as a sort of depository of cultural thoughts about selfhood, about what constitutes a person/subject, and about what it means “to be embodied when the body cannot claim the status of nature”. In the digital age, these are also the sort of questions we ask about our media. What does it mean to be embodied on screen? What does it mean to be a viewing subject? What role do external cultures, technologies, and discourses, including the media, play in shaping our selves? Can we, as embodied subjects, “claim the status of nature” if we are constantly interfacing with media technologies, if we are reproduced and even replaced by them?

31 Waldby, 33.
This paper has addressed merely one of these Frankensteinian concerns: the construction (or reconstruction) of human presence in digital animation. My goal has been to demonstrate that we can use the mythic figure of the Frankensteinian monster to generate discussion about digital presence. In particular, this paper has identified the relationship between organic presence and technology – and more specifically, the relationship between a body and its origins in “nature” – as an area of concern in such discussions. As digitality and concerns about digital presence become more central to scholarly work in all areas of media and communication studies, mythic tales about posthuman presence, including *Frankenstein*, can be mobilized as part of our academic attempts to approach, write about, and teach the digital body.

Works Cited


