

Between Man and Machine: The Liminal Superhero Body

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Abstract

This article discusses the liminal bodies of superheroes in the Marvel Cinematic Universe, with a focus upon the blending of the biological and the technological. The article covers the commercial and aesthetic logic of contemporary Hollywood cinema, engaging with discourses around embodiment and digital effects as well as the relationship between visual text and viewer. Furthermore, the article identifies the Marvel franchise's exploration of the politics of social identity and technology, an exploration that is played out over the superhero bodies.

Keywords: Superhero film, liminal, body, technology, identity

Introduction

Iron Man (2008), the first film in the Marvel Cinematic Universe (subsequently referred to as the MCU), features the tagline 'Heroes aren't born. They're built'. The conceit of construction runs throughout the franchise as several of the Avengers' superhero identities consist of biological and technological components. Specifically, Tony Stark/Iron Man (Robert Downey Jr.), Steve Rogers/Captain America (Chris Evans) and Bruce Banner/the Hulk (Edward Norton/Mark Ruffalo) all possess a *liminal physicality* that occupies a conceptual space between biology and technology. These characters highlight the inherently constructed nature of superhero identity, identity that is rife with tensions and riddled with anxieties, tensions and anxieties that

are played out across the bodies of the Avengers, both in terms of narrative and spectacle.

Through my analysis of the Avengers' liminal bodies, this article contributes to the expanding area of superhero studies, combining arguments used in comic book studies and film studies. My analysis of the MCU discusses the commercial and aesthetic logic of contemporary Hollywood cinema, further contributing to discourses around embodiment and digital effects as well as the relationship between visual text and viewer. In addition, I argue that the films of the MCU explore the politics of social identity and technology, using the bodies of the superhero figures as canvasses for this exploration.

Liminal Bodies for Liminal Heroes

Technology is a key element in many superhero texts: Bruce Wayne/Batman (Michael Keaton/Val Kilmer/George Clooney/Christian Bale/Ben Affleck) creates devices to aid his crime-fighting; the X-Men gain their powers from mutations that are channelled through technological prosthetics such as the adamantium claws of Logan/Wolverine (Hugh Jackman) and the visor of Scott Summers/Cyclops (James Marsden/Tye Sheridan). In the MCU, technology abounds: Clint Barton/Hawkeye (Jeremy Renner) and Natasha Romanoff/Black Widow (Scarlett Johansson) use devices manufactured by the Strategic Homeland Intervention and Enforcement Logistics Division (S.H.I.E.L.D.) to perform their missions. Some of the Avengers' superhero abilities are contingent on the explicit *merging* of technology and biology. This merging problematizes the bodies of these superheroes, making them liminal, neither wholly man nor wholly machine but incorporating elements of both. This is especially evident in three of the central Avengers, Stark, Banner and Rogers.

Liminality is a key trope of the superhero, as the superhero operates on the borders of society but not completely outside it (Gaine 2015, p. 114). The importance of liminality is a development of Richard Reynolds' identification of the key superhero tropes (1992, p. 16), and draws upon the liminal figures in many cultural traditions:

Folk literature abounds in symbolic figures ... who strip off the pretensions of holders of high rank and office and reduce them to the level of common humanity and mortality ... All these mythic types are structurally inferior or 'marginal' ... it is the marginal or 'inferior' person or the 'outsider' who often comes to symbolize what David Hume has called 'the sentiment for humanity.' (Turner 1969, p. 110)

These 'mythic types' are similar to Joseph Campbell's analysis of the hero archetype, as discussed by Robert Jewett and John Shelton Lawrence:

Campbell incorporates myths, legends, and the fairy tales of many cultures into this framework, suggesting that the archetype is moulded according to rites of initiation, in which persons depart from their community, undergo trials, and later return to be integrated as mature adults who can serve in new ways. (2002, p. 6)

Jewett and Lawrence also describe the narrative arc of the heroic figure:

A community in a harmonious paradise is threatened by evil; normal institutions fail to contend with this threat; a selfless superhero emerges to renounce temptations and carry out the redemptive task; aided by fate, his decisive victory restores the community to its paradisiacal condition; the superhero then recedes into obscurity. (*Ibid*)

Jewett and Lawrence identify that the superhero ‘emerges’ and then ‘recedes,’ and this arc is demonstrated in the MCU. The Avengers emerge in response to particular threats and this emergence forms their origin stories. With the threat neutralized, the heroes recede, as demonstrated at the end of *The Avengers* (2012) when Rogers, Stark and Banner, as well as Thor (Chris Hemsworth), Romanoff and Barton go their separate ways, or at the end of *Avengers: Age of Ultron* (2015) when Thor and Stark leave Avengers Headquarters, itself an obscure location outside a community. Other examples include the flight of the Hulk after defeating the Abomination in *The Incredible Hulk* (2008) and Rogers’ icy entombment after thwarting Johann Schmidt/Red Skull (Hugo Weaving) in *Captain America: The First Avenger* (2011). The superheroes however do not simply disappear, as they return when needed (both for narrative and commercial reasons). They emerge from and recede into a border, neither part of nor separate from the community that they protect: ‘Liminal entities are neither here nor there; they are betwixt and between the positions assigned and arrayed by law, custom, convention, and ceremonial’ (Turner, p. 95). The superpowered entities in the MCU are liminal in a variety of ways. A key type of liminality, which forms the focus of this study, is that between man and machine.

The superheroes of the MCU can be plotted on a continuum between biology and technology. At the biological end of this continuum sit the straightforwardly human Romanoff and Barton, only superpowered by virtue of training, experience and the external technological devices that they use. At the purely technological end is Vision (Paul Bettany), an entirely synthetic being with a body fashioned from the metal vibranium and an Infinity Stone, the Mind Stone. The importance of technology to the superhero state varies along this spectrum: James Rhodes/War Machine (Don Cheadle) as well as Sam Wilson/Falcon (Anthony Mackie) owe their superhero state

entirely to the prosthetics that they don – a modified Iron Man suit in Rhodes’ case and artificial wings in Wilson’s. The biology of other bodies is altered by technology, such as Wanda and Pietro Maximoff/Scarlet Witch and Quicksilver (Elizabeth Olsen and Aaron Taylor-Johnson) who obtain, respectively, telekinetic/telepathic abilities and super speed. The Pym particle allows Scott Lang/Ant-Man (Paul Rudd) to alter his size temporarily, while Bucky Barnes/Winter Soldier (Sebastian Stan) has a metal arm and biological enhancements. These varying relationships between technology and biology problematize stable notions of embodiment and identity, and this problematization is most apparent in Stark, Banner and Rogers. Significantly, these three Avengers owe their superpowers at least partially to the military-industrial complex, which ‘gave initial life and meaning to the protagonists’ (Spanakos 2011, p. 15). The Avengers are not simplistic products of the military-industrial complex, but their bodies are indelibly altered by it.

Stark occupies a position towards the technological end of this continuum. He has no inherent superpowers (aside from great intellect and wealth), but technological devices grant him super abilities. However, he is further towards the technological end than the aforementioned Rhodes or Wilson, because his biology is altered by technology. Stark has a physical ailment in the form of shrapnel in his chest, and the arc reactor that powers the Iron Man suit also ensures this shrapnel does not penetrate his heart. Stark’s frailty is emphasized by depictions of his physical vulnerability in *Iron Man*, *Iron Man 2* (2010) and *Iron Man 3* (2013). The opening scene of *Iron Man*, in which insurgents attack Stark and his military escort in Afghanistan, concludes with an overhead shot of Stark pulling open his shirt to reveal a bloody wound caused by a Stark Industries grenade. Stark’s body continues to suffer when he returns home. When Pepper Potts (Gwyneth Paltrow) must replace the arc reactor, Stark is prone on

a bench, bare-chested and limp, while Potts' position above Stark illustrates her power in this sequence. Stark's dialogue refers to the danger of an exposed wire and his exposed torso expresses the vulnerability of his injured body, his body framed as powerless in overhead shots. Once the new reactor is installed, the film cuts to a full shot of Stark rising from his chair, his muscular physique now flexed in a display of potency and power, thanks to the successful merging of the technological with the biological.

This merging continues: in *Iron Man 2*, Stark's body is poisoned by the palladium that powers the arc reactor, and close-ups of Stark's darkened veins display the technological corruption of his body. Stark's body is therefore a site of great irony: his own weapons technology wounds him; the arc reactor preserves his body then poisons him; the reactor also grants him superpowers in the form of the Iron Man armour. Yet technology fails to provide all the answers: in *Iron Man 3* Stark suffers from panic attacks brought on by the traumatic events in *The Avengers*, and when he retreats into the Iron Man suit, he immediately collapses. Stark's computer J.A.R.V.I.S. (Paul Bettany), diagnoses Stark's condition but, crucially, Stark collapses into a kneeling position, rather than his typically dominant poses, the camera following him to the level of his kneeling pose so that the viewer experiences the physical drop as well.

Technology is also responsible for changing Rogers' biology, placing him in the middle of the biology-technology continuum. While he enters the super-soldier program as a small, frail man in *Captain America: The First Avenger*, technology in the form of a serum combined with radiation transforms Rogers' body into one capable of great speed, strength, and endurance. Multiple shots early in the film feature the exposed physique of the small Rogers, a digital effect that integrates Chris

Evans' face with the body of smaller actor Leander Deeny. The repeated image of Deeny's gaunt frame makes the eventual appearance of Evans' muscular physique all the more striking when the film presents this body as a major spectacle. Once the procedure to transform Rogers is complete, shots of Dr Abraham Erskine (Stanley Tucci) and Howard Stark (Dominic Cooper) feature their expressions of awe and wonder. A reverse shot captures the pod that contains Rogers opening up with billowing smoke and swelling music, and the first glimpse of the transformed Rogers draws attention to his abdomen, highlighting his six-pack. As the pod opens wider, Rogers' pectoral muscles, shoulders, and arms become visible, his body presented as a revelation to the characters as well as the audience. The camera tracks forward and tilts upward, framing Rogers from below in a dominating pose. Rogers' new body is a spectacle of enhanced biology emerging from a technological chrysalis. The body is only part of his superhero identity as 'Captain America', however, as later in the film a brief montage features Rogers assembling his equipment including guns, a motorcycle and his shield, which fills the frame with its red, white and blue design. A graphic match between close-ups of the star image at the centre of this shield links two consecutive shots, as Rogers and his team perform a successful mission, the construction of 'Captain America' complete. Rogers' super body is therefore a combination of the biological and the technological.

The body of Rogers/Evans is a repeated spectacle in the MCU. In *Captain America: Civil War* (2016), Bucky Barnes attempts to escape from custody in a helicopter. Rogers physically restrains the helicopter in a visual contest between man and machine. Grabbing hold of a landing skid with one hand, Rogers grabs a safety barrier fixed to the building's roof in the other. A full shot captures Rogers/Evans' straining body, stretched out almost in a crucifix position. As he adjusts his grip from

over to underhand, Rogers' bicep flexes even further, and he starts to pull the helicopter down. Cut to an overhead shot, which shows the helicopter moving incrementally towards Rogers and the roof, before Barnes changes tactic. Rogers' body is presented as a powerful spectacle within a specifically liminal space, quite literally stretching between the building and the open sky where Barnes seeks to escape. The focus of this brief sequence is Rogers' body as a spectacle of dynamic liminality, the technologically enhanced biology triumphing over a straightforward machine.

Banner possesses a similarly enhanced biology, further towards the biological end of the continuum since the Hulk represents extreme biology devoid of mechanical devices. Technology created this altered biology much as it did with Rogers, but Banner's continued transformations are caused by emotion. The body of the Hulk is a central spectacle of any film that features the character, and this digital effect receives similar attention as the bodies of Stark and Rogers. The animation of the Hulk's body is extensively detailed, with the play of muscles and the striations of skin apparent. In describing the character's look, director of *The Incredible Hulk* Louis Leterrier states: 'the Hulk, being beyond perfect, has zero grams of fat, is all chiselled, and is defined by his muscle and strength so he's like a tank' (Cairns 2011). While the technologically-enhanced biology of the Hulk is emphasized in a similar way to that of Rogers, the character requires no supplementary technology as Rogers and Stark do. Like Stark and Rogers, therefore, Banner/the Hulk has a liminal body between biology and technology.

As noted above, these heroes 'emerge', and their liminality is narratively motivated. Over the course of the MCU narrative, these three men occupy pre-super states, super-powered phases and, in some cases, *post-super* states. In *The Incredible*

Hulk, Banner succeeds in containing the Hulk with the help of Dr Samuel Stern (Tim Blake Nelson), and there are moments in *Iron Man* when the arc reactor is removed from Stark's chest. These sequences emphasise physical weakness: Banner is easily captured and Stark only survives because of the timely insertion of another arc reactor. A return to liminal physicality is also vital to narrative demands that the superhero fight a super villain and commercial demands for a visual spectacle. Rogers' technologically enhanced biology is permanent, so his physicality remains liminal; however, his *social* identity fluctuates over the course of the MCU.

The pre-super state occupies the early part of the origin stories, as seen in *The Incredible Hulk*, *Iron Man*, and *Captain America: The First Avenger*. Banner's initial irradiation takes place in the opening sequence of *The Incredible Hulk* that also features glimpses of the Hulk, but his first visible transformation occurs twenty-two minutes into the film; the first appearance of the Iron Man prototype is at the thirty-four-minute mark in *Iron Man*; Rogers's altered body is revealed thirty-five minutes into *The First Avenger*. All these appearances are swiftly followed by demonstrations of the superpowers in spectacular set pieces. Therefore, all three films quickly establish the liminal physicality of the Avengers and its importance to their superpowered bodies and the spectacle of the film(s). This continued liminal physicality places the Avengers in an ambiguous position.

Turner describes a 'state' as 'any type of stable or recurrent condition' (p. 94), and liminality as a transitory phase in which 'the characteristics of the ritual subject ... are ambiguous' (*ibid*). As the Avengers remain liminal and never fully integrate with either pre- or post-super normality, what would otherwise be a temporary *phase* appears to become a permanent *state*. Liminality is the site of 'more than human powers' (Turner, p. 106), and in traditional rituals these powers lead to initiates

occupying new community positions such as adult or chief, a point made explicit in Marvel's *Black Panther* (2018). In the case of superhero narratives, actual powers affect and change the subjects into something exceptional. As noted above, the threat of 'evil' (Jewett and Lawrence, p. 6) necessitates transition, such as the damage caused by Stark Industries' weapons in *Iron Man* and Hydra in both *The First Avenger* and *The Winter Soldier*. However, threats persist and return in ever more elaborate forms, necessitating the continuation of the liminal bodies. This continuation is therefore a consequence of a particular social niche: 'with the increasing specialization of society and culture ... what was ... principally a set of transitional qualities ... has become itself an institutionalized state' (Turner, p. 107). The increased 'specialization of society and culture' in the MCU is extraordinary threats but also interactions with technology, demonstrated by the attention paid to technology across the various films. Stark is often presented in his workshop interacting with devices, the *mise-en-scene* placing him at the centre of these devices just as the arc reactor is at the centre of the Iron Man armour. The assembly of the armour is itself a repeated spectacle: during the Monaco sequence in *Iron Man 2*, in twenty seconds and across eight shots, the Iron Man armour transforms from a suitcase into a fully articulated combat carapace, the sequence given added tension as Stark must defend himself against Ivan Vanko/Whiplash (Mickey Rourke). The importance of the spectacle is further emphasized within the diegesis of the film: a cutaway from Stark shows nearby spectators clustering for a better view of Iron Man's emergence. The stakes are raised in *The Avengers* when a suit deploys around Stark over eleven shots in seventeen seconds as he hurtles towards the ground. A shot from Stark's POV displays passers-by on the street below him, looking up *in wonder at the wonder* hurtling towards them. Despite the danger within the diegesis, the films

take the time to depict the intricate assembly of the Iron Man suits, and the attention to technology is both intra and extra-diegetic as viewers within and outside the films witness the spectacle of the suit in action and the spectacle of the visual effect.

Similarly, the technology on display in *The First Avenger* includes hover cars, mini-submersibles, and directed energy weapons, anachronistic for a film set during World War II. Scenes of military hardware populate *The Incredible Hulk*, in contrast to the pure physicality of the Hulk himself. Further spectacle comes from the technology of S.H.I.E.L.D., such as the giant helicarrier in *The Avengers* and *Age of Ultron*.

Technology in the MCU is a response to ever-increasing threats, as are the Avengers: the integration of human bodies with technology is a consistent result of the franchise's logic. This sustained integration means that what was a *phase* becomes a *state*. Despite the maintenance of liminality, the Avengers' bodies remain contingent, unstable, and constructed beyond the integration of the biological and the technological. This is highly ironic, as a superhero is ostensibly a power fantasy. Yet the films of the MCU highlight powerful bodies as unstable sites of constant renegotiation.

Abjection and Social Roles

As noted above, Rogers' physical transformation is permanent. However, the socio-cultural identity of 'Captain America' only exists in relation to threats. In the post-credits scene of *The First Avenger*, Rogers asks Nick Fury (Samuel L. Jackson), 'You here with a mission, sir? Trying to get me back in the world?' Only with a mission can Rogers be in the world – without a use for his liminal physicality he has no place. The contingencies for the Avengers are demonstrated by the films' attention to their bodies, which highlights the contingency of superhero identity. The specific social

niche that the Avengers fill is that of remarkable soldiers in extraordinary wars, as Nick Fury describes the Avengers Initiative. The editing of *The Avengers* encapsulates this as Fury states that wars are ‘won by soldiers.’ The next shot is of Rogers (the soldier) in a gymnasium as Fury delivers him a mission. But the films of the MCU ‘contest an officialist and simplistic vision of patriotism’ (Spanakos, p. 15), making the Avengers more than simple tools of the military-industrial complex.

The MCU’s contesting of simplistic patriotism is demonstrated repeatedly across the franchise. Stark initially constructs the Iron Man suit to escape his imprisonment, but later uses it to help others when he realises the suffering caused by his weapons. Banner evades the US military because they would weaponize the Hulk. Rogers’ motivation for the joining the US military is the rather naïve ‘I don’t like bullies’ rather than a desire to kill Nazis. When the Avengers come together, Stark, Banner, and Rogers all question Fury’s orders and S.H.I.E.L.D.’s weapon program, while in *The Winter Soldier* Rogers and Romanoff go rogue once they learn that S.H.I.E.L.D. is compromised, and in *Civil War* half of the Avengers reject the notion of state control.

The heroism of the Avengers is assured by their altruism, unlike similar exceptional individuals like Johann Schmidt and Loki (Tom Hiddleston) who would rule the world. The contrast between these villains’ megalomania and the Avengers’ willingness to serve rather than rule demonstrates the importance of *limiting* the exercise of power. The self-limitation of the Avengers is similar to those in cultural rituals: ‘The chief has to exert self-control in the rites that he may be able to have self-mastery thereafter in face of the temptations of power’ (Turner, p. 102). The Avengers are not corrupted by power but *humbled* by it, making them exceptional soldiers and also contemporary knights:

The chastening function of liminality [that] forms a component of ... the medieval knight's vigil, during the night before he receives the accolade, when he has to pledge himself to serve the weak and the distressed and to meditate on his own unworthiness. His subsequent power is thought partially to spring from this profound immersion in humility. (Turner, p. 105)

The early films in the MCU take time to demonstrate that power is earned and therefore appreciated. Dr Erskine explains to Rogers that 'a weak man knows the value of strength', similar to Turner's argument: 'Liminality implies that the high could not be high unless the low existed, and he who is high must experience what it is like to be low' (p. 97). All the Avengers experience moments of lowness and learn the value of strength: basic training for the army is too physically demanding for Rogers' frail body and the super soldier procedure is clearly agonizing; Banner is a fugitive who wakes up naked in the wilderness; Stark lives in constant danger of the shrapnel as well as that posed by his other inventions, most explicitly Ultron. In *Thor* (2011), the god of thunder experiences lowness when banished to Earth without his godly powers, where he must learn to appreciate the strength he has lost. Lowness and suffering humble these men and give them an appreciation of suffering and the will to use their strength to help others. As a result, they all epitomize the 'good man' that Erskine urges Rogers to remember.

The suffering of the Avengers manifests as *abjection*: 'a degraded or cast out status within the terms of sociality' (Butler 2011, p. 186). The technologically altered bodies of the Avengers cause them to be cast out and isolated, demonstrating Scott Bukatman's argument that, for superheroes, 'their first and most dangerous enemies are their own bodies' (2003, p. 66). Stark's abduction and incarceration is 'a shattering of the illusion of invulnerability' (Brody 1995, p. 173). While imprisoned,

Stark learns that his company's weapons killed the family of his fellow prisoner Yinsen (Shaun Toub), and Yinsen himself dies helping Stark escape. This is a narrative turning point as Stark realises that he is responsible for others as well as himself. However, in *Iron Man 2* Stark systemically rejects others as the palladium of his reactor poisons him. His closest confidant may appear to be Potts, but it is actually J.A.R.V.I.S., who tells Stark the truth while keeping his condition secret – at Stark's command 'Mute', J.A.R.V.I.S. is silent. Stark's compromised physicality therefore repeatedly places him in a state of abjection.

Stark's physicality leads to abjection again in *Iron Man 3* because of his distance from the Iron Man suit, his attempt at a post-liminal/super state. A central plot point in *Iron Man 3* is Stark controlling the Iron Man suit remotely, due to devices that he injects into his body. This remote control might suggest increased power, making the Iron Man suit more like a drone with the pilot at a safe distance. However, over the course of the film it becomes apparent that the separation disempowers Stark. In a key sequence, Potts returns to the house she shares with Stark, to be greeted by what she believes is Stark in the Iron Man suit. However, a cutaway reveals Stark operating the suit remotely. The separation and consequent removal of power causes Stark's downfall when armed helicopters attack the house. Stark assembles the suit around Potts in a spectacular slow-motion sequence in order to protect her, then attempts to assemble the suit around himself. This spectacle emphasizes the constructed nature of the 'Iron Man' social identity, a repeated visual trope across the MCU. In *Iron Man*, the suit comes together as a metallic coalescence with Stark at the centre, a smoothly edited series of shots displaying the various pieces neatly slotting together before a panning shot captures the fully assembled Iron Man. But during the attack on Stark's home in *Iron Man 3*, the pieces of the suit come

together separately and intermittently, affixing themselves to Stark's body in a seemingly random and chaotic sequence. Stark's surroundings are also noticeably different from the earlier sequences, the frame cluttered with the *mise-en-scene* of destruction and disassembly as his house collapses rather than the construction and assembly of earlier sequences. Therefore, this sequence denies Stark and the viewer the triumphant union of man and machine, Stark left as too much man and too little machine to fulfil the role of superhero. Unable to assert liminality and therefore assume the superhero role, Stark is literally cast out into the snowy wilderness of Rose Hill, Tennessee, a far cry from his technological kingdom. An overhead shot captures Stark as a tiny figure, his abject powerlessness apparent from his location and isolation.

Rogers' liminal physicality also causes him abjection, as the super soldier treatment designed to give him a place in the social mobilization of World War II instead makes him a ridiculous cartoon figure. As 'Captain America', Rogers is initially pure propaganda, featuring in live shows, comic books, trading cards and even a film within the film. When Rogers first meets soldiers at the front in Europe, they reject him in favour of dancing girls. His exceptional physicality led to him being used for propaganda, and in this role, he is socially cast out. In *The Winter Soldier* as well as *Civil War*, Rogers experiences a different form of abjection as he becomes a fugitive. All of the Avengers experience abjection in *Age of Ultron*, as the conceit of technological dependence reaches its logical extreme in the form of a robot army bent on destroying humanity.

Banner is abject because the army 'mis-recognized him as a weapon, a technological missing link, but certainly not a man' (Spanakos, p. 18). Banner is also monstrous, his monstrosity on full display in *The Incredible Hulk* at Culver

University, *The Avengers* aboard the helicarrier and in *Age of Ultron* when Hulk goes on the rampage through Johannesburg. Similarly, Stark becomes monstrous in *Iron Man 2*, as his impending death makes him hedonistic and reckless. The monstrousness culminates with a fight between Stark and Rhodes in a commandeered Iron Man suit (subsequently to become War Machine).

The physicality of the Avengers makes them abject, yet it is from abjection that the Avengers use their liminal physicality to create a *social* role for themselves. Sociality is essential: ‘there can be no natural way of considering the body that does not involve at the same time a social dimension’ (Douglas 1996, p. 74). The Avengers’ bodies combine technology and biology, and the characters create unique social roles for these liminal bodies by fighting the battles that no one else can.

Stark constructs the social role for his liminal physicality by weaponising the Iron Man suit, encapsulated in a key scene in *Iron Man*. Stark is once again abject after being barred from Stark Industries by managing director Obadiah Stane (Jeff Bridges). Furthermore, he is outraged that his company’s weapons are sold to the warlords who kidnapped him and now use these weapons against civilians. Stark wears an undershirt in this sequence that exposes his muscular arms, the light of the arc reactor clearly visible through his clothing. His liminal physicality, consisting of both man and machine, is therefore visually emphasized. He wears an Iron Man gauntlet equipped with a repulsor ray, which he uses to attack his own reflection in a glass pane, repudiating his outcast identity. This incident is prompted by a TV report in which a newscaster asks who will help the victims of Stark Industries’ weapons, and Stark constructs an alternative image of himself to provide an answer. Like many sequences featuring Stark’s technology, this sequence fetishizes the spectacle of the Iron Man armour through multiple close-ups that draw attention to the metal

components fitting together. The spectacle of the assembly is immediately followed by a spectacular set piece as Stark flies off to help the refugees, which enables him to create a connection with them. Stark's links with others continue as he enlists the help of both Rhodes and Potts in defeating Stane. Finally, he creates a social place for his new body by publicly announcing, 'I am Iron Man'. He makes this declaration in a low-angled shot that places Stark above the viewer in a dominant position, and at the moment he speaks he looks directly into the camera. The announcement is made at a press conference, so Stark's statement is publicly broadcast. Much like 'Captain America', 'Iron Man' is a figure for public consumption within the world of the film as well as for the film's viewers, and Stark's declaration of his bodily identity is also a declaration of his social role.

Stark escapes his abject status again in *Iron Man 2* through work on his liminal body, creating a new element to power his arc reactor. During this sequence, Stark again appears in an undershirt that exposes his muscular arms along with the light of the reactor, but there is a further development. Stark inserts the upgraded reactor into his chest in a medium shot with his torso partially exposed. Darkened veins contaminated by palladium are visible around the reactor's cavity, and the glow of the reactor steadily brightens as the darkened veins retract. The camera tracks towards Stark's face as he reacts to the new element, initially exclaiming that he tastes 'coconut, metal,' before the shot (and possibly Stark) climaxes with his shout of 'Oh wow, yeah!' Stark's suffering and subsequent ecstasy demonstrate Bukatman's argument that only the armoured body of the superhero 'has the constitution, organs, and abilities equal to the rigors of the Machine Age' (p. 53). Stark's injuries left him physically and psychologically scarred, while the technology that saved him subsequently poisoned him, but 'technological trauma has produced its own antidote'

(Bukatman, p. 53). Stark's liminal physicality shifts from a site of pain and abjection to one of delight, power, and once again, sociality, as Stark saves civilians, significantly at a public event, and reunites with Potts and Rhodes.

In *Iron Man 3*, Stark creates a new social role during the Rose Hill sequence. Far from his familiar hi-tech surroundings, Stark must adapt to more primitive technology, including a payphone located at a rundown Texaco garage – older communications located at a site of internal combustion propulsion, which seems prehistoric compared to the arc reactor. Interestingly, Stark steals a blanket off a wooden 'Indian,' the sculpture forming another historical connection. Stark takes refuge in the workshop of young Harley Keener (Ty Simpkins) where, in a Lacanian moment, Stark and the Iron Man suit appear side by side in a two-shot. Initially they are face-to-face but Stark turns the metallic face away, suggesting that he does not want to look at 'himself', thus continuing the film's conceit of Stark trying to separate himself from the technology that makes him simultaneously an integration, a liminal figure, and a superhero. Stark's return to his liminal state is facilitated by his surroundings. Much like the teenager's bedroom for Peter Parker and the Batcave for Bruce Wayne, Harley's workshop serves as a Bakhtinian 'threshold', where 'one is renewed or perishes' (Bakhtin, p. 169, qtd. in Flanagan 2007, p. 290). The devices Stark builds reconstruct him into a new liminal phase between the abject and the fully assembled Iron Man. A montage sequence of Stark assembling these devices echoes *Iron Man's* sequences of Stark building the earlier Iron Man suits, demonstrating the construction and indeed reconstruction of the superhero identity.

Whereas machinery is essential to the liminal identity of Stark, technology is presented as Other and even threatening to Banner, his liminal body is continually distanced from urbanized and therefore technological areas. The *mise-en-scene* of

Banner's early sequences in *The Incredible Hulk* emphasises outdated technology, much like that of the Rose Hill sequence in *Iron Man 3*. Banner works at a bottling factory, surrounded by old, unstable machinery that not only breaks down but also cuts him (with serious repercussions). He uses a dilapidated laptop, a quaint umbrella antenna and a homemade centrifuge, while timing his meditation with the clockwork mechanism of a metronome. These devices contrast with the fetishized technology of Stark and S.H.I.E.L.D. Paradoxically, however, Banner attempts to technologically manipulate his body by using Dr Stern's equipment to contain and eradicate the Hulk. The sequence in Stern's lab depicts Banner's bare torso and his agonized reactions as the Hulk starts to emerge but then recedes. The abortive transformation is presented as a scene of grotesquery, with Banner's body bulging outwards disproportionately and again demonstrating Bukatman's argument that the 'first and most dangerous' (p. 66) enemy to the superhero is his own body. The Hulk is famously powered by rage, and this sequence expresses the rage of the transformation itself, a furious eruption of the body against its technological containment. The sequence contrasts vividly with an earlier scene in Brazil, where Banner manages his anger through bodily rather than technological control. The Brazil sequence emphasises the bare torsos of both Banner and his martial arts instructor, who contorts his abdomen into unusual shapes. Banner's well-toned physique suggests mastery over the body, as does a sparring session between the two. The instructor initially overpowers Banner, but Banner then successfully executes a hold that is captured in slow motion, emphasising bodily control through movement and discipline. Banner here controls his body by channelling and directing energy rather than trying to alter and ultimately expel part of his physical form.

The successful containment of the Hulk in Stern's lab places Banner in a post-super state. As noted earlier, this post-super state, the direct result of technological manipulation, makes Banner weak and vulnerable. Thus, technology is again coded as dangerous. The Hulk can be technologically contained but Banner's abjection remains as he is captured by the military, until the Abomination's rampage through Harlem presents an appropriate role for the Hulk: combat. Significantly, Banner unleashes the power of his body through the natural motion of falling, which would be fatal for his post-super state. The liminal body, produced by the influence of technology on biology is placed in a suitable (if very unusual) social role, and is essential to keep Banner/Hulk alive – a fall from a helicopter high above the ground poses no danger to the Hulk. Much like Stark, the Hulk proclaims his identity verbally, his first words in the film being his battle cry, 'HULK SMASH!' Hulk's proclamation is presented much like that of Stark at the end of *Iron Man* in a low-angled shot, emphasising dominance as he makes the decisive blow in his battle with the Abomination.

Banner's attempts to remain separate from industrialized society are undone by his penetration into increasingly urbanized locations. Rogers remains abject until he utilises his liminal physicality by going into combat, and much like Banner does so by jumping out of an aircraft. Rogers' first combat mission also includes his first encounter with Johann Schmidt, the only person physically comparable to himself, and he rescues his friend Bucky Barnes and the rest of the soldiers who become his team, the Howling Commandoes. Rogers therefore creates a social place for his liminal physicality – his team fights Hydra and he has a specific adversary in Schmidt. He may have previously been a figure of propaganda, but Rogers takes ownership of his title when he rescues Hydra's prisoners. Like Hulk and Stark before him, Rogers declares 'I'm Captain America' in a low-angled shot, expressing his

mastery over and the role of his body. After this successful mission, Rogers receives a resounding cheer from the soldiers as he returns from combat. A crane shot captures the now respected and honoured 'Captain America' surrounded by soldiers, where he always wanted to be. Rogers' heroic identity is completed with his combat uniform and the technological addition of his shield – the soldier referred to as the 'Star Spangled Man' finally has a plan and, more importantly, a place.

The socialization of Stark, Banner, and Rogers continues through their alliance with S.H.I.E.L.D. and each other as they create a shared space for their liminal bodies. This space is best depicted during the battle of New York in a 360-degree tracking shot that captures the six assembled Avengers, as well as a long take that features them utilizing their powers against the extra-terrestrial Chitauri army. The continuous shots link the Avengers together in a mutual space where they share Paul Ricoeur's notion of recognition: '[a] just distance is maintained at the heart of mutuality, a just distance that integrates respect into intimacy' (p. 263, qtd. in Spanakos, p. 19). The Avengers recognize each other's liminality and abjection, and this mutual recognition enables them to assemble as a team. In a lab aboard the helicarrier, Stark and Banner discuss their respective conditions. Stark describes the arc reactor as a 'terrible gift' and suggests that Banner see the Hulk in the same way. After the death of Phil Coulson (Clark Gregg), Stark and Rogers recognize each other's grief and their own failure to stop Loki, and this shared experience spurs them into unified action. The Avengers' unity creates a community, 'no longer side by side ... but *with* one another of a multitude of persons ... Community is where community happens' (Buber 2014, p. 37). The Avengers create their community of similarly liminal bodies, a team who support each other and recognise each other's heroic potential. Rogers demonstrates this recognition when he assigns the team combat

tasks based on the abilities of their liminal physicalities, and when Stark describes the community that is ‘pissed off’ with Loki. Amidst the carnage of New York, the Avengers escape abjection by creating the community of ‘Earth’s mightiest heroes’. In *Age of Ultron*, the community is expanded with the recruitment of Vision and the Maximoffs, and a montage sequence depicts the Avengers old and new preparing for the battle ahead that facilitates their community.

Between Text and Spectator

Much as the bodies of the Avengers exist between man and machine, so does the MCU as a cinematic product blur the distinction between the biological and the technological. This blur is a longstanding generic trope of action and science fiction cinema:

The contended boundaries between technology and the body, nature and artifice – the oldest themes of science fiction – are thus repositioned through the ambiguous status of the bodybuilder star, who is both natural and unnatural, biological and constructed. (Mizejewski 1999, pp. 153-154.)

The body of the superhero figure, now occupying a similar space in popular film culture as the bodybuilder did at the time of Mizjewski’s writing, is even more ambiguous. Bukatman points out that bodybuilder ‘Lou Ferrigno was the Hulk for a few years’ (60), but now actors build their bodies as part of their performance. Whereas in comic books the superhero body ‘can only be compared to those of other superheroes and not to the common world of flesh, blood, muscle and sinew’ (Bukatman, p. 59), the superheroes of live action cinema are embodied by actors such as Chris Evans and Chris Hemsworth, both of whom bulk up significantly to play, respectively, Steve Rogers and Thor. The physiques of these performers are as much a

part of the spectacle as the digital animation of the Hulk or the Iron Man armour. Furthermore, publicity for *The Avengers* emphasized Mark Ruffalo's double performance, Ruffalo explaining, 'I'm actually going to be physically playing the Hulk. No other actor's ever done that' (Lichtig 2010). Physical development is only one aspect of representation at work here: Van Norris cites the presence of Robert Downey Jr. as a major draw for non-superhero fans (2015, p. 22), while Lucy O'Loughlin (2008) as well as director Jon Favreau (2014) draw parallels between the personae of Downey and Stark.

The films and their publicity's emphasis upon these performers and their bodies creates an assertion of the 'real' – these are films featuring 'real' people, 'real' bodies, and even 'real' issues, such as *Iron Man*'s modest critique of arms dealing and the US presence in Afghanistan. The MCU therefore negotiates tension between live action film conventions and the spectacular presentation of fantastical superheroes. Lisa Purse identifies that advances in digital imaging have been central to the success of superhero cinema:

These films' popularity proceeds in part from their special effects displays, which can convey super-powers with a photorealism not possible in earlier decades, thanks to advances in digital imaging technologies which gathered pace across the 1990s and into the 2000s. (2011, p. 104)

Digital effects enhance actors both in terms of their exploits such as flying and emitting energy beams and also giving their bodies technological 'clothing' like the Iron Man armour and even providing a complete transformation of Norton and Ruffalo's bodies into that of the Hulk. Much as the Avengers are liminal characters, so is the visual spectacle of the Avengers' bodies a combination of the biological performers and the technological effects. This demonstrates the *technomythic critical*

theory of Jewett and Lawrence, the ‘evolving technologies of presentation that function to preserve [the] currency and aura of credibility’ (p. 8) in superhero representation. The constant reminders that these extraordinary onscreen figures are people are so insistent as to undermine the apparent intention, as the emphatic assurances of ‘realness’ highlight the constructed nature of the superhero, making the actors as much a component of the construct as the effects.

The technologies of presentation become part of the narrative in *Captain America: Civil War*. In an early sequence, Stark demonstrates new technology he has invented that allows memories to be manifested as holograms. The technology provides a spectacle for a diegetic audience at an MIT alumni event who see Stark’s (idealised) memories. The scene also provides a spectacle for the film’s viewers: Stark’s face is initially obscured by a hat that his father Howard (John Slattery) removes, revealing the face of a startlingly young Robert Downey Jr. De-aging technology is a visual effect used several times in the MCU, but this appearance in *Civil War* is its first application to one of the principal Avengers. For it to appear in relation to Stark is appropriate as he is the foundational figure of the franchise and inextricably linked with technology. At a key moment during the sequence, another Stark/Downey appears in the frame, this time at his contemporary age and familiar appearance. A focus pull directs the viewer’s attention to the older Stark in the background, who then explains this new device and ends the simulation. Stark’s memory, which forms a scene within the scene, his explanation and justification for what he calls ‘Binarily Augmented Retro-Framing,’ and the disappearance of the hologram all take place in a single take, effect and ‘reality’ integrated into a continuous shot. This visual spectacle is as extraordinary as the Iron Man suit, and like the suit it is an acknowledged artifice: the image is convincing, as a comparison

with Downey's appearance in the 1990s will demonstrate, but it highlights the figure of the superhero as a construct, the actor himself reconstructed as an effect alongside his own physical presence.

The acknowledgement of artifice is even diegetic: as he returns to 'normal', Stark explains that the simulation is what he *wished* had happened. He then attempts to blow out a holographic candle but the simulation glitches, demonstrating its flaws. Even the acronym is absurd: B.A.R.F., which Stark acknowledges needs to be improved. The sequence emphatically declares that this effect is not real: spending time in the simulation is a liminal combination of fantasy and reality. Notably, Stark is returned to reality with the reminder that his relationship with Pepper Potts has ended and that his exploits in *Age of Ultron* caused innocent deaths. The 'technologies of presentation' may generate an 'aura of credibility' (Jewett and Lawrence, p. 8), but that aura is temporary and inescapably false. Nonetheless, the aura is perpetuated, beyond Stark himself as he provides a sophisticated Spider-Man suit to Peter Parker (Tom Holland) which he describes as 'an upgrade. Systemic, top to bottom, hundred-point restoration'. Biology and technology remain in flux, both in terms of the devices within the films and the performance capture and digital overlays of the films' production.

Other characters and the films around them in the MCU also display the flux between technology and biology. A development and seemingly more stable form of liminal physicality appears in *Black Panther*, which warrants a more in-depth discussion than there is space for here. In brief, the fictional African country of Wakanda, first introduced in *Civil War*'s mid-credits sequence, is a fantastical space where biology and technology have a harmonious relationship, and where the social role of superhero is combined with that of ruler. Wakanda takes centre stage in both

Black Panther and *Infinity War*, the first of which introduces a new technological aesthetic: nanotechnology, used by T'Challa (Chadwick Boseman) as well as Erik Killmonger (Michael B. Jordan). The aesthetic, both within and beyond the diegesis, is of technology that follows the contours of the human body. The human body itself becomes a spectacle during the ritual combat sequences of *Black Panther*, when T'Challa defends his throne against, first, M'Baku (Winston Duke) and, later, Killmonger. In both sequences, the bodies of the performers are exposed and displayed, their muscles and physical movement emphasised. The ritual combat takes Turner's discussion of indigenous people's rites into superpowered terms, as T'Challa's enhanced abilities are taken from him, so he is in a post-super state and, like Stark and Banner, overpowered and cast into an abject state. His return in the film's climax involves a judicious use of technology and his own physicality, allowing T'Challa to eventually triumph. Rather than integrating biology and technology, the two are harmonised, the figure of the Black Panther occupying the centre of the biology-technology continuum.

Captain Marvel (2019) takes the conceit of power that follows the human form further, as Carol Danvers (Brie Larson) emits energy from her entire body. The digital overlay in this case turns Danvers/Larson's body into the source of power itself with flamelike waves of light on her limbs, face and hair, as well as glowing eyes. Danvers' power does not come from a technological source, rather she is imbued with the energy of the Space Stone. This alteration to her physical form is similar to that of Rogers, but in a way that is not dependent on technological devices like the chrysalis that helped to create 'Captain America'. Indeed, *Captain Marvel* presents technological devices as adversarial, as the principal villain of the film is the Supreme Intelligence, A.I. leader of the alien Kree Civilisation. Furthermore, Danvers wears an

implant through most of the film, believing that her super abilities are produced by this device which is actually an inhibitor. When Danvers removes the implant, she gains full control of her body/powers, the character arc emphasised by the visual spectacle of her incandescent body. Danvers thus represents a further form of liminal physicality, one that also found in other figures in the MCU, such as Doctor Stephen Strange (Benedict Cumberbatch) and Wanda Maximoff (Elizabeth Olsen): a flux between energy and matter. This flux is distinct from the biological/technological liminality under discussion in the current, and it is a promising area for further study.

As noted, the MCU includes various fluxes and instabilities. The franchise as a whole and the individual films acknowledge these instabilities with ‘knowing humor’ (Purse, p. 103), as frequent winks to the audience encourage us to participate in the shared knowledge that these heroes are absurd constructs. As mentioned, the acronym for Stark’s holographic technology is a synonym for vomit. When Banner searches for new clothes in *The Incredible Hulk* he tests how much they stretch. Rogers’ assembly as a propaganda figure in *The First Avenger* emphasises performance, and his statement of identity, ‘I’m Captain America’ is immediately questioned by an incredulous (British) prisoner: ‘I beg your pardon?’ The nationality of this speaker expresses scepticism over American superiority, which emphasises the scene’s acknowledgement of the absurdity of ‘Captain America’ the character and *as* character. *Avengers: Endgame* mocks the superhero body with a repeated joke about ‘America’s ass’, the film openly acknowledging the homoerotic display of Evans/Rogers’ body in a figure-hugging costume by placing his posterior centre-frame. This mocking comes from the liminal space between text and consumer, as Purse notes, ‘knowing humor does a significant amount of work, acknowledging the audience’s extra-textual awareness’ (104). This humour combines with the intra and

extra-diegetic elements of the Avengers to create ‘a particular mode of heroic masculinity that is explicitly uncertain, one that brings together playful knowingness with a sense of the powerful male body as unruly’ (Purse, p. 105). So unruly is this powerful body that it can only exist when its component biological, technological, and social elements are suitably assembled and, crucially, maintained by seriality.

At the conclusion of *The Avengers*, Fury reassures his audience (which includes the World Security Council that oversees S.H.I.E.L.D. as well as the film’s viewers) that the Avengers will return, ‘Because we’ll need them to’. The continuation of the fantasy of superheroes that conquer terrible threats provides a form of certainty – other films will provide further reason for the liminal bodies to be utilised. Bukatman argues that ‘narrative can become a testing ground for the conditions of being’ (p. 49), and what the narrative tests of the MCU reveal is that superheroes only exist for combative, adversarial purposes, without which they are literally nothing. Stark announces ‘I am Iron Man’ and the credits roll. *Iron Man 2* begins at the same moment and features a new adversary. Stark, Banner, and Rogers are only introduced in *The Avengers* once Loki steals the Tesseract. Similarly, continuation of the franchise demands that the harmony created by the Avengers will not last. At the end of *The Avengers*, the ‘A’ on the side of Stark Tower signifies the Avengers and their liminal space of assembly and acceptance. The stability they have achieved, however, is undercut by immediate juxtaposition with the contemptuous smile of Thanos. This sequence is reiterated at the conclusion of *Age of Ultron*, when the Avengers assemble in their new headquarters but a mid-credits sequence once again features Thanos (John Brolin), foreshadowing his presence in *Avengers: Infinity War* (2018). The post-credits scene of *Civil War* features Peter Parker testing his new technology, and the final words ‘Spider-Man will return’ create anticipation for a

future instalment. The nanotechnology effect from *Black Panther* is used both for the Iron Man and Spider-Man suits in *Infinity War* and for all of the Avengers in *Endgame*, where the technology integrates their bodies into a uniform (pun intended) visual display. Therefore, both within and beyond the fictional world of the narrative, the Avengers are overtly constructed artifices, regularly reassessed and reconstructed.

Conclusion

The contingency of the Avengers suggests that it may be misleading to characterise the Avengers' bodies as stable liminal states of superheroism. Rather, the bodies remain in an ongoing liminal phase, constantly being upgraded, both by Tony Stark tinkering with his suits, Steve Rogers' uniform being updated, and the extra-diegetic technology being developed to render ever more dazzling spectacles. As the franchise and the cinematic technology that presents it continue to develop, the Avengers illustrate the continued and seemingly endless negotiations of identity, embodiment and representation.

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