The Hard Technological Body in the Exoskeletal Soldier

Introduction: The Cyborg's Exoskeleton

Through the 1960s, the American field of cybernetics began to solidify into a number of "real-world" applications and systems: The 1969 *Survey of Cybernetics* (ed. J. Rose) interweaves philosophical discussions with engineering formulas, ranging through a variety of examples, from flight simulator systems (280) to automatic computers and numerical calculating methods (233) to discussions of ergonomics (271) to the improvement of the management and business practices of industrial production in plants (313). This balance between philosophical and practical is embodied by the text's definition of the "cybernetic revolution": "It is introducing machines which augment our human capacity for rational data processing on a scale analogous to that which on steam, electrical and internal combustion engines augmented our physical powers in the Industrial Revolution" (Demczynski 23). Looking specifically at this chapter's focus of the exoskeleton, the practical application of augmenting "human capacity" is rooted deeply in Clynes and Kline's 1960 paper "Cyborg and Space." Its construction of the cyborg, via an exterior mechanism, generates an entity that incorporates its "own homeostatic systems [with] … an organization system in which such robot-like problems are taken care of automatically and unconsciously" (27). Clynes and Kline's question of whether "it will be possible to achieve [the altering of bodily functions to suit different environments] … *without alteration of heredity*" (authors' italics 26) is central to this

application and is illustrated by the writers' point-by-point problem solving of how humans can survive in space while augmented with, not replaced by or fully enclosed within, their technology. They point to the Rockland Rat, which has, "under its skin, the Rose osmotic pump designed to permit continuous injections of chemicals at a slow, controlled rate" (27); in the picture the authors provide, the rat can be seen physically spliced with the pump and, while the divisions between technological and biological are simple, it does provide the groundwork to imagine an external device, one that doesn't rely on biological "heredity" or even the limits of "human capacity," welded to an organism as a symbiotic prosthesis that extends/enhances that organism beyond its natural abilities.

The focus on not altering the "heredity" of the biological aspect inside the exoskeleton and the ways in which the technological aspects are only there to extend that biological entity, not cooperatively interpenetrate, is indicative of the anthropomorphic humanism that the introduction to this text outlines as problematically pervasive in transhumanist projects. The thinking around developments like the Rockland Rat was the product of early cybernetic work and thought that emerged from the Macy Conferences (1946–1953) and Norbert Wiener's texts, namely *The Human Use of Human Beings* (*HU*; 1950; revised in 1954) and *Cybernetics, or Control and Communication in the Animal and Machine* (*Cybernetics*; first edition 1948; Second edition 1961). Both the Macy Conference and Wiener's ground-laying work are expertly summarized in Steve Heims' *The Cybernetics Group* (1991) but are more actively reconstructed in N. Katherine Hayles' *How We Became Posthuman* (*HWBPh* 1999), in which she dedicates a great deal of time to focusing on Claude Shannon and Warren Weaver's mathematical model of communication[1] and Norbert Wiener's theoretical constructions of human-robot entities. Hayles points specifically to *HU* as addressing the movements "from the physiology of living organisms to the electrical engineering of a cybernetic machine" (98) and blurring the "borders" between organic and mechanical: by way of a "prosthesis," such as the "hearing glove," cybernetics could potentially balance the "embodied experience, noisy with error" with "the clean abstractions of mathematical pattern" (98–99); this then spans everything from a man walking with a cane, to hearing aids, to a "voice synthesizer for someone with impaired speech [to] … a helmet with a voice-activated firing control for a pilot" (84). In reading Hayles' paraphrasing alongside *HU* and *Cybernetics* (as well as

the aforementioned Wiener-dedicated *Survey of Cybernetics*), it is apparent how seamlessly the authors, Wiener specifically, problematically mix military applications and metaphors with civilian examples. For example, in the space of a page in *HU*, Wiener juxtaposes the use of an elevator with a gun-pointer in combat (36); in another instance, his examples of "modern machines" cover "the controlled missile, the proximity fuse, the automatic door opener, the control apparatus for a chemical factory" (33). This casual blending of military and civilian was perhaps a product of the time in which he was writing (immediately post-WWII; the beginning of the Korean War and a protracted Cold War) wherein the aura of warfare and the lived experiences of being at war were ubiquitous. From within this specific zeitgeist, he states later in the text, "All this changed in the war" (201), and the "scientific war effort" (201) was most often the driver of civilian use of cybernetic technologies and systems; it therefore makes sense that a good amount of the practical applications of cybernetics were, at least initially, seen as weapons ("more effective killing machines"), such as Wiener's work in "self-correcting radar tuning, automated antiaircraft fire, torpedoes and guided missiles" (Hayles 86). Perhaps superficially, Wiener's later writing attempted to dismiss the issues with such weaponization by emphasizing the need for a humanistic approach that firmly planted a "liberal humanist subject" in the middle of any cybernetic apparatus. Hayles summarizes these projects as converting man from "an open-ended system into a portable instrument set" within which "the human as an information processing machine [is] spliced into a closed circuit [of technology]" (68); within this circuit, the presence of the "liberal humanist subject" creates a literal "man-in-the-middle … splicing humans into feedback loops with machines" (68), which maintains much of the hierarchical anthropomorphism central to transhuman military applications that are then reflected and recreated in the movies analyzed in this text.

More specifically, this chapter explores a number of those problematic transhuman projects through cinematic representations of the exoskeletonal assemblages across a number of decades.[2] While the exosuits discussed herein are not densely networked via Internet or Internet-like technologies, as the other more obvious depictions of warfare and soldiers are throughout this text as whole, they do provide a bedrock ethical system that structures the networked technological-biological assemblages that populate the rest of this text. The exosuits, and their relationship to the liberal human, provide a resonating model for how the

machinic audience is encouraged to view and use their civilian networked technologies as weaponized tools that they are complete masters of. This weaponry and mastery begins with the fact that exoskeletons allow the biological body, and most importantly the face, to be viewed simultaneously alongside the technological body, which then generates a more immediately literal and visible "man-in-the-middle" than the sealed *Iron Man* and *Pacific Rim* suits discussed at length in Chapter 3 of this text; these figures also remain more "human" than, for example, the completely mechanical titular figures of *Terminator 2: Judgment Day* (Dir. James Cameron 1992). Generally, LaRocca argues that "these mobile, metal exoskeletons—full metal jackets of a different sort—often incorporate advanced technologies of sensory perception as well as armaments that make the individual soldier into an arthropod, and an army unto himself or herself" (10). It is this notion of being "an army unto himself or herself" that focuses the ethics of the hard technological body films toward the liberal and individual human, resulting in an overfocus on the biological ("human") components of the hybrid assemblage, unbalancing the body–Body without Organs assemblage[3] too far toward the biological ("human"). In doing so, the movies miss the opportunity to enact a critical posthumanism that would provide their machinic audiences with more complex and critical engagements with their own (wearable) technologies, as well as explore the ethical implications of using such devices in actual "real-world" warfare.

In terms of how a cinematic human-exoskeleton assemblage looks, the General Electric (G.E.) Hardiman Exoskeleton is deeply illustrative. General Electric attempted to build a "Prototype for Augmentation of Human Strength and Endurance" (1971) (Image 2.1). Rather than focusing on maintaining the chemical balances of the human body, the G.E. Hardiman would be

> worn as an outer mechanical garment, [and] the exoskeletal structure will be powered to dramatically amplify the wearer's strength and endurance by a factor of approximately 25 to one. … The device will provide him with a set of 'mechanical muscles' that enables him to lift and handle loads in excess of 1000 pounds. The human operator will 'feel' the objects and forces he is working with almost as if he were in direct body and muscle contact. … [It] mimics the movements of its wearer, presenting a literal union (man and machine). Thus the human's flexibility, intellect, and versatility are combined with the machine's strength and endurance. (5)

THE POWERED EXOSKELETON PROJECT
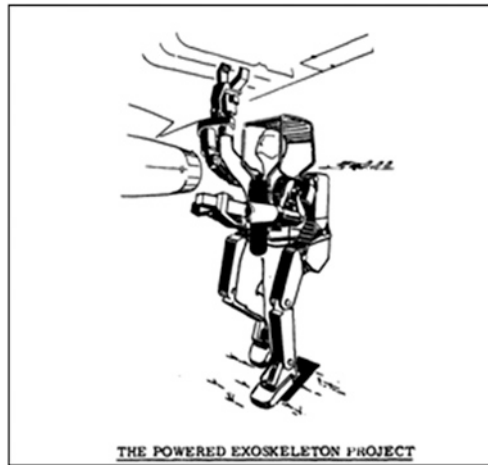
Image 2.1 A prototype sketch for the G.E. Hardiman exoskeleton

The "master-slave" device was an imagined military technology built from a "joint Army-Navy program in November 1965" (4); the device was going to be used to load bombs into aircrafts or, more generally, to simply move cargo. Though an arm was allegedly completed, a full suit was never constructed. Still, the illustrations included in the reports are very useful in creating the iconography of the powered exoskeletons that appear later in *Aliens*, *The Matrix Revolutions* and *Avatar*. While interesting and worth exploring briefly later in this chapter, the exoskeletons of those three movies do not play nearly as central a role as they do in the more recent *Elysium* and *Edge of Tomorrow*; the exoskeletons inhabited by Max (Matt Damon), Kruger (Sharlto Copley), Cage (Tom Cruise) and Rita (Emily Blunt) are unique in their deliberately predominant, spectacular and heroic blend of the visible human with augmenting technology. Grounded in imagery of contemporary DARPA prototypes such as the Warrior Web,[4] these later portrayals are an evolution of the encoded rhetoric within the "hard bodies" of 1980s action films that Susan Jeffords outlines in *Hard Bodies: Hollywood Masculinity in the Reagan Era* (*HB*). As outlined in the introduction to this text, Jeffords' hard body was a figure meant to reflect the "average citizen" and her/his resistance to ingrained ineffective military and corporate infrastructures in service of a global American superiority. Eberwein, after praising Jeffords' concept, clarifies further by

using Rambo as his example and stating that the title figure "and the film itself can be seen as ideological instruments that use his body … to reassert America's power in the world" (34); Steve Neale ties the "hyperbolic bodies" within the hard-body films as key contributors to the genre of action-adventure ("Action Adventure as Hollywood Genre" 71), while Holmlund, borrowing also from Tasker's work in *Spectacular Bodies* (1993), adds that the hard body is a "fantasy ... masquerades of masculinity [that] are eminently popular, and undeniably potent" (225; also quoted in Neale "Action Adventure…" 73). Yet even in 1994, Jeffords flagged the shifts away from the hard body into a "more internalized and emotional kind of heroic icon" (*HB* 22). Whether the heroic bodies in post-Reagan film became softer is beyond the scope of this chapter.[5] It is, however, worth noting that the extreme explosion of Internet usage and infrastructure from the mid-1990s onward parallels this internalization, turning Americans into a more virtual and globalized populace in the 2000s. Alongside this change in national post-Y2K identity, America's "enemies," terrorist groups like al-Qaeda and ISIS, have become equally untethered from nationalistic borders, instead united by virtual spaces built around constructions of ideology rather than geographical space. As a starting point for understanding the cinematic representations of military exoskeletons, the hard body and its ripples of influence through nearly three decades of movies provide the (biological) core necessary to deconstruct the problematic portrayals in the movies of this chapter.

The "fantasy" or "masquerade" of the hard body is centered in both the unachievable physical state of the hard body, its unreal muscles and physique that generate literal power, and the fantasy of action, of being able to change the world and reinforce American ideals. To this end, as Jeffords writes in *The Remasculinization of America*, Rambo's "body mediated by technologization, can become … its own spectacle," and his body *is* the weapon, a "Ram-Bow" fitted with knives and guns (11–15). The exoskeleton-human assemblages in *Elysium* and *Edge of Tomorrow* should be viewed as evolved versions of that hard body. The exoskeleton-enhanced soldiers similarly construct their bodies as spectacular military hardware, carrying the initial technologization of the hard body much further by blending that body with far more sophisticated weaponry and technologies than their '80s counterparts. This is in line with Wiener's early fears of the employment of prosthetics wherein these technological tools "give new and potentially dangerous powers to the already powerful" (*HU* 229): The already physically spectacular soldier

is then given more powers via its exoskeleton. It is clear that the technologically augmented hard bodies resurfacing in contemporary cinema encourage the machinic audience to combine the spectacular and fetishistic physical bodies with the new "muscles," equally spectacular, of flexibly wearable technology in much the same hierarchical "master-slave" transhuman relationship that the G.E. Hardiman was constructed with. The augmentation via the exoskeleton gives the same "fantasy" of super-human capabilities, the same exaggerated speed and strength as the '80s hard body, while evolving it to include the types of (wearable) technology that the machinic audience would be familiar and comfortable with. This transhuman portrayal reflects neither the "joint kinships" nor the cooperative modes in which the machinic audience engages with their hardware and software and instead regresses back to the human exceptionalism found in early cybernetics where man has "mastery over the planet" (much as "the hard-body hero masters his surroundings" [Jeffords 28]). As troublingly, then, the "mastery" and "total control" of the hard technological body is an "ideological instrument" that exalts the increasing militarizing and weaponizing of the Internet, over-focusing on the material/physical components of the posthuman/cyborg, while doing little to represent the complex and messily internalized ways a 2017 user of the Internet and computerized hardware, engaged in a critical posthumanism, actually interacts with his/her technology. Instead, the movies promote the notion that computerized technology (both networked and non-networked) is a tool to be utilized as a weapon to heroically go to combat with.

Initial Cinematic Exoskeletons

The key to understanding the hard body is to recognize that it encourages the movie watcher to co-identify herself/himself as "masterful, as in control of [her/his] environments (immediate or geopolitical), as dominating those around [her/him]" (*HB* 27). For Jeffords, this manifested in the overmuscled bodies that had "mastered" their own biology and shown themselves as being in "control" (a word used often in early cybernetics) of the various weapons they wield, technological (guns, vehicles) and biological (fists) alike. However, the relationship between the hard body and technology, Jeffords points out, is fraught, as belied by the tensions between being an "individual" versus being a (literal and figurative) "fighting machine" (*HB* 40). She typifies the relationship

between hard body and technology as falling into two categories: in the first, more positively, technology is "a military resource"; in the second, more negatively, technology is meant to "circumvent human 'freedoms'" (*HB* 54). This means that hard-body users should not over-rely on "technological innovation" to establish mastery of his/her environments, but rather should "rely on individuality … as the true basis for American superiority" (*HB* 40). Jeffords' theorizing echoes Wiener's sentiment (as summarized by Hayles) that "the ultimate horror is for the rigid machine to absorb the human being, co-opting the flexibility that is the human birthright" (*HWBPh* 105). Behind the hard body must be a "free" and (biological) "human" mind. Simply put, being the "man-in-the-middle" of a radar display or antiaircraft guy is not the "best" use of military technology; the "best weapon" is "not then a tank or nuclear bomb but the 'free' American mind inside a hard body" (*HB* 41); it is only "'free-thinking' human individualism [that] can put technology to good uses" (*HB* 54). It is here that the exoskeleton, revisiting the earlier quote describing the G.E. Hardiman, combines "the human's flexibility, intellect, and versatility … with the machine's strength and endurance." In addition, exoskeletons are more visually in line with the hard body than enclosed Iron Man–style suits, as the ability to see the physical body, in particular the face, through the exosuit makes obvious the humanist ethics that are constructed through a lauding of the "human mind" and "individuality." Within cinematic representations, the exoskeleton potentially takes the best of both machine and biological and combines them, while still granting the immediately visible human and liberal elements the control of the whole assemblage.

However, one key difference between the hard body and the hard technological body is that "hard-body films display sophisticated military hardware only in the hands of enemies … and [are] used only to deny human 'freedoms'" (Jeffords 54). Yet there was a relatively small population of "average" 1980s movie watchers who had access to "sophisticated" home technology, like personal computers; for that moviegoing audience, those technologies would likely be foreign, other, and their appearance might seem especially unnatural and threatening. However, as home computers became cheaper in the early 1990s and the Internet moved from private institutes (military, government, university) to public use, computerized technologies came into the private home and, increasingly and, at an exponential rate, became normalized components of an average citizen's life.[6] As Haraway's characterization of modern

war as a "cyborg orgy" (295) and texts like Manuel De Landa's 1991 *War in the Age of Intelligent Machines* make clear,[7] artificial intelligence and networked computing had long ago "migrated" over to State War Machines, symbiotically restructuring and melding with individual soldiers, larger strategic planning, weaponry, communication systems, etc. Though this prism, the hard technological body is shaped by the "mastery" of those newly normalized Internet-enabled technologies, which, in turn, shifted the hard bodies' "immediate or geopolitical" concerns to more globalized and virtual ones surrounding the avatars and humans' relationships with an exploding machine population.

The notion of "borders," both national and corporeal, becomes exceedingly important during this transition. Jeffords argues that the hard body resists being "messy" or "confusing" and instead responds by "having hard edges, determinate lines of action, and clear boundaries for their own decision-making" (*HB* 27). As such, the initial film representations of the hard technological body showcase very distinct and clean boundaries between the technological and biological elements: in Ripley's use of the exoskeleton in her fight against the queen alien in *Aliens*, the film goes to great length to make sure her biological body, though united with the machine, is clearly separated; in particular, the repeated shots of her expressive face and her dialogue clearly delineates her machine parts from her human parts and makes it obvious she is in total control of that machine (Image 2.2). However, Ripley's exoskeleton is a repurposed civilian technology, a cargo loader very similar to the G.E. Hardiman[8]; in contrast, the exoskeletons used by the last human inhabitants of Zion in *The Matrix Revolutions* are used only as weapons. Similarly, *The Matrix Revolutions* gives a clear divide between biological and technological as each soldier-assemblage has the human centrally situated and clearly visible within the exoskeleton. For users in the 1990s and early 2000s still coming to grips with the interpenetration of visible and invisible/virtual technologies into their everyday actions, this reassuringly present human body, clearly separated, would be necessary. Most importantly, the imagined cybernetic systems/circuits remain under human control, demonstrating that the augmented human has mastered the machine as a tool.

The exoskeleton's observable human also lines up with Jeffords' insistence that the hard body be capable of vulnerability in order to justify "arms buildups, weapon development, [and] billion-dollar military budgets" (*HB* 50); additionally, this vulnerability reinforces the

Image 2.2 Ripley in her exoskeleton about to square off against the alien queen

resilience and strength necessary to construct the hard body. For Ripley and the inhabitants of Zion, being vulnerably and visibly human at all times, instead of an indestructible machine or alien, is the root of their self-identity, the audience's relation to the characters, and the main motivation for continuing to battle against their vastly more formidable enemies. These divisions between machine and human "species" are made exceptionally clear, with the human/biological being valued most. While this does not justify the same militarization the hard body might, seeing that vulnerable human in the exoskeleton reminds the audience that there is a person, not a machine intelligence or hyper-murderous alien, at the controls of the technology.

While susceptible and clearly separated, there is the beginning of spectacular and heroic small steps toward the hard technological body in *Aliens* and *The Matrix Revolutions*. In *Aliens*, the exoskeleton is briefly established earlier in the movie, but its actual use comes near the end of the film when Ripley is chased by the alien queen and is forced, in desperation, to don the exoskeleton. When she does, she is revealed slowly, from the bottom up, dramatically backlit. The machine itself is imposing: the claws are obviously artificial and slow but menacing when they are raised in preparation for an attack. While the monstrous walk forward

is awkward and overtly mechanical, far from the "feeling" and mobility of the G.E. Hardiman, Ripley's first blow is extremely powerful, striking the seemingly indestructible queen to the ground. The speed and agility of the queen is offset by the lumbering force of the exoskeleton's amplified muscles, expertly wielded by Ripley, and the repeated shots that exchange between Ripley's concentrating face and the movements of the machine give the audience a sense of their combined power. Less spectacular than later portrayals, Ripley's exoskeleton, repurposed as weapon, is still the heroic assemblage that defeats the queen and saves herself and the traumatized child Newt (Carrie Henn).

Fifteen years later, the exoskeletons of *The Matrix Revolutions* are amplified and militarized versions of Ripley's. The claws of Ripley's exoskeleton are replaced by guns, and as the soldiers prepare for combat in the climactic Zion fight scene, the music swells heroically and the camera stares into the barrels as they point up in anticipation of the oncoming enemies. Captain Mifune's (Nathaniel Lee's) cry of "For Zion" just as the machines enter recalls the same clichéd patriotic shouts soldiers cry out before battle scenes in the traditional war film. The automatic gunfire that follows echoes the firing of Rambo's gun, the men aiming their blazing barrels into the advancing enemy (Image 2.3). The score underlines the battle and the camera swoops over to show three of the
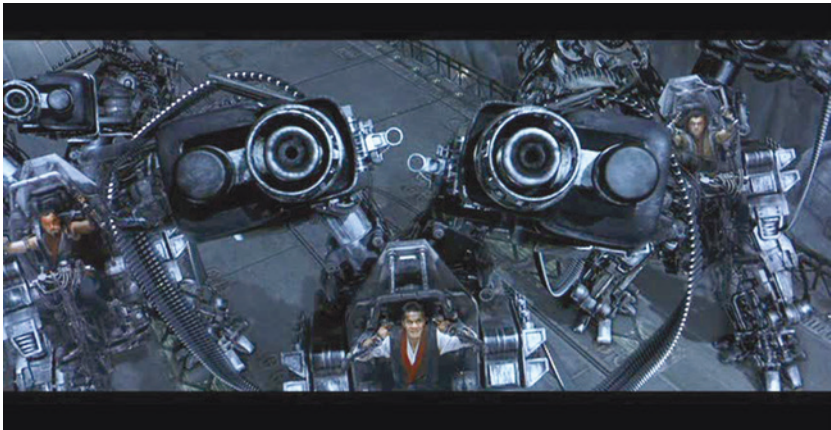
Image 2.3 Captain Mifune fires from inside his exoskeleton in *The Matrix Revolutions*

exosuit-human assemblages fighting together; the guns never pause as the camera alternates between shots of the men's faces and the gun barrels firing. As the battle continues and more and more human casualties fall to the exponentially increasing army of the machines, Captain Mifune becomes the movie's focal point: his contorted face and primal yelling are underlined by the constant gunfire from his exoskeleton and his heroic sacrifice takes place amidst a literal cloud of enemies. The military battle's cinematic treatment, from the music to the special effects to the tropes that echo the war film genre, is intended to encourage a positive portrayal of this militarized exoskeleton. More so than Ripley's, *The Matrix*'s exoskeletons are obvious combat weapons and even though they are ultimately defeated, their portrayal moves closer to Jeffords' heroic hard body. With the (male) liberal human at its center, the exoskeleton and its hardened "muscles," its added strength and overpowered, constantly present guns, give an initial template that is expanded upon later in *Elysium* and *Edge of Tomorrow*.

It is essential to note that the Ripley-assemblage acts alone while *The Matrix Revolutions* establishes the army of exoskeletons with one shot showing dozens of the exoskeletons shooting up, together, as a unit. In the portrayal of this later army there is an acknowledgment of the communal nature of a 2000s technological/Internet usage, that there is no longer one isolated user of the technology but rather a complete, albeit overtly militarized, network. It is worth noting as well, though it is beyond the scope of this text, that there is more to be written (and that has already been written)[9] about how Ripley being female and playing a maternal role in protecting Newt, and Nathaniel Lees, the actor playing Captain Mifune, being of Samoan heritage, clashes with Jeffords' distinctly white, male hard body. However, with this chapter's focus on the technology of the exosuit, it is important to note that while the portrayal of Captain Mifune and his soldiers are framed positively, the army of exoskeletons in *Avatar* house the main antagonists of the film. The portrayal of the hard technological body in *Avatar* is centralized in Colonel Miles Quaritch (Stephen Lang), and while he bears the same filmic markers of spectacle in the focus on guns and super-human strength as Captain Mifune, he and his army are vilified.

This runs parallel to *Avatar*'s release year of 2009, a period where the post-9/11 American machinic audience had been engaged in a protracted war in Afghanistan and Iraq that the newly elected president had promised to extract them from; the negative portrayal of a corporate

military aligns itself with that audience's pessimism and fatigue with war-fare.[10] The difference between the portrayals of Quaritch and Mifune can be further parsed by examining the crisis that each technologically hard body is responding to and the threat that each entails. Returning to Jeffords, she states that the hard body is "justified" only when there is "a 'hard' external opponent" and that the hard body then needs to be called upon in order to "meet that threat" (*HB* 38). Within war propaganda, which is extended here to include war films, Neale adds that it is important to "invest the enemy with an attribute of power ... to mobilize a population against an enemy in time of war" ("Aspects of Ideology..." 39). The mobilizing of, and subsequent sympathy for, the human-exoskeleton assemblages in *Aliens* and *The Matrix Revolutions* is generated by the external threat of an invincible alien and a seemingly inexhaustible machine army; human survival justifies the hard techno-logical body while also changing the unifying rhetoric of the national American hard body to a unification of the globalized human species within the hard technological body.

In *Avatar*, however, Quaritch's corporate and military crisis is purely capitalistic and provides none of the unifying that the hard body requires in order to be rhetorically effective. Further, the "threat" of the "soft" Na'vi, a lithe species without sophisticated armor and equipped with bows and arrows, is not one that "justifies" the use of the tech-nology; this aligns Quaritch's version of the hard technological body as closer to the overpowering alien and machine forces of *Aliens* and *The Matrix Revolutions*. If the hard body's enemy is made hard by their use of sophisticated technology, the human army's exoskeletons in *Avatar* are actually a hard external threat to the protagonist Jake Sully and his adopted Na'vi, an echo of the previously stated fear of Wiener that tech-nological augmentations can give "new and potentially dangerous pow-ers to the already powerful" (*HU* 228).

The heroes of the more recent *Avatar* and *Matrix* trilogy, to some extent, are rooted in an internalization of networked technology that par-allels the machinic audience's expectations that a relatable hero embraces (embodies) the same internal and symbiotic relationship they have with their own various networked devices and software. As argued in Chapter 3 of *Interfacing with the Internet in Popular Cinema*, the char-acters in *The Matrix* films are able to enter into a networked computer-generated world and interact with each other (and other humans), while in *Avatar* the Na'vi literally plug into their world (trees, animals) and

each other, networking together. While the end of Chapter 3 of this text explores this extreme Internet-of-Everything networking and the dissolving of any machine interfaces in *Transcendence*, within this chapter it is important to recognize the immense popularity demonstrated by the financial success of the *Matrix* films, and the fact that *Avatar* is among the largest-grossing movies of all time cannot be ignored.[11] To this end, the movies marginalize or vilify their versions of the hard technological body because they are too-simple representations, too "literal," in their union of technology and biology; the ending of *Avatar* makes this even clearer as Jake sheds his physical body, an overt man-machine assemblage made by the use of his wheelchair, and instead chooses to live as his avatar Na'vi body; Quaritch, in contrast, dies in his exoskeleton. The pure weaponization of Quaritch's assemblage simplifies the relationships between technology and biology that the machinic audience has and ignores the myriad of uses that an audience undertakes when interacting with their surrounding hardware and software and struggles.

However, less than five years later, built upon the figure of the hard body, there is a reemergence of the physical and visibly human soldier augmented by an exoskeleton in *Elysium* and *Edge of Tomorrow*. There are a number of shifts that may have contributed to this new positively constructed version of the hard body. Speculatively, the literal and overt recentering of the human subject in a technological frame is a reaction to the changing shape of warfare and the public's awakening to progressively "virtualized" combat; the humanist ethics centered around the "human mind" and "liberal subject" that are so key to Jeffords' hard body are much more difficult to locate in warfare built around remote, unmanned drone attacks and hacking cyber armies. Therefore, cinematic portrayals of assemblages that clearly highlight the biological components within a militarized technological-biological assemblage would be a reassuring (traditional) image, one that centralizes a visible human as master of technological tools.[12] Perhaps, as well, it is because both films show the human-machine assemblage in close combat in a style much closer to the combat film genre, perhaps a more familiar and comfortable (traditional) way to visualize and process warfare in movies.

Within this framework of virtual warfare and the protracted War on Terror, Cynthia Weber's *Imagining America at War* and her writing on war films post-9/11 argues that often portrayals of Americans in war films "get charted back through our WWII past, a seemingly simpler time when bad guys were bad guys (Fascists, Nazis) and *we* were

the undisputed good guys" (author's italics 117); she contends that this simplicity resurfaces after 9/11 as the construction of "Osama bin Laden, the Taliban, and Saddam Hussein were all bad to the point of being morally irredeemable and all were out to get America and Americans" (117); America was then the "undisputed good guys" in opposition. This urge toward a binary "simplification" within a post-9/11 environment makes sense when reconsidering the non-national terrorist groups that America was/is fighting and the muddling of the identification of enemy and ally already mentioned that was/is taking place. Mathias Nilges argues that "the terror of a new world" is born from a post-1970s notion that "we must abandon tradition in favor of the new, at which point this mandatory, functional abandonment is less associated with liberation than with loss and instability," which then begins to be "characterized by representations of the struggle with a large-scale transition into a world that is widely perceived as chaotic, complex, confusing, and threatening" (27); the political realities of a post-9/11 atmosphere were a "chaotic, complex, confusing, and threatening" environment, and this would have been further amplified by the aforementioned explosion and normalization of Internet-enabled, always-on devices and the software and apps made possible by such hardware, a shift that was tumultuous and that greatly changed values around the construction of individual and national identity.

Narrowing back down to the reemergence of a new form of the hard body, Nilges further explains that the impulse to return to "simpler times" via future depictions, such as the ones in *Elysium* and *Edge of Tomorrow*, reveals that "cultural representations of future solutions to present problems that regressively seek answers in a return to an idealized past can provide us with valuable insights" (30); these regressions, he claims, most often move towards paternalism, "traditional concepts of masculinity … that [re-legitimize] traditional gender roles and norms" (30). He states that the return to these "traditional roles" is often undergirded by a "hypermasculinity" (31); it makes sense then that within the chaos of a post-9/11 world, made more "complex, confusing" by the large-scale integration of Internet-enabled devices, there would be a regression back to the "simpler" rhetoric and portrayals embodied by the 80s biologically centered hard body.

However, Nigles, using *Live Free or Die Hard* (Dir. Len Wiseman 2007) as an example, states, "The apparent trauma from the inability to formulate stable traditional life narratives, hence, becomes nowhere near

as obvious as in the general crisis of the figure of the white male action hero, who, especially in the aftermath of 9/11, is portrayed as increasingly unable to avert threats to family, community and nation" (28). While the hard body never disappeared entirely in the decades following the height of its popularity, the ineffectiveness of the "traditional" hard body that Nigles identifies can be explained by returning to Wiener, when he prophetically argues that "the man who has nothing but his physical power to sell has nothing to sell which it is worth anyone's money to buy" (*HU* 209). In a Web 2.0 world, the biologically based '80s hard body is a futile relic rooted too deeply in its "physical power," and, therefore, rhetorically ineffective until it could harness and master the technology (or projected technology) a machinic audience engages with. From this, *Elysium* and *Edge of Tomorrow* start with the template of the traditional hard body by generating a simplistic binary construct of warfare (Us Versus Them) that is still largely rooted in hypermasculine spectacle, but then evolves that body to include a control of the types of technologies that would be familiar to a machinic audience, constructing a hard technological body that is potentially more persuasive to a contemporary movie audience.

However, the hard technological body, still embedded in "paternalism," "hypermasculinity," and militarization, reaffirms the same problematic spectacle that the hard body provided. Instead of cooperating with their technology, like Neo and Sully, the heroes of *Elysium* and *Edge of Tomorrow* clearly separate their machine bodies from their biological ones and, like the hard body, simply wield the technology as a weapon, using it strictly in a master-slave hierarchy as a prosthetic and external tool to augment their physical muscles of speed and strength, rather than utilizing their technologies as intimate partners for further critical posthuman evolution.

The Hard Technological Bodies of *Elysium* and *Edge of Tomorrow*

The evolutionary step of the hard body in *Elysium* and *Edge of Tomorrow* is established by returning to the notion that the hard body represents "average citizens … in defiance of their governments and institutional bureaucracies" (Jeffords 19). The "average" member of the machinic audience has many reasons to be suspicious of the use of technology

surrounding their "governments and institutional bureaucracies," including the National Security Agency's tracking of global citizens' Internet usage, as well as the proposed SOPA and PIPA laws surrounding net neutrality.[13] Like their audiences and Jeffords' hard-body figures, the conflicts within the two movies showcase heroes that are fighting against many infrastructural frustrations. In that fighting, both celebrate the individual's will in the face of a corrupt and ineffective set of infrastructures: in *Elysium* the protagonist Max's triumph is over the corporate makers of the robot police force that oppresses the earth's population, as well as over the ultra-rich citizens of Elysium that are hoarding all the wealth and resources for themselves. Similarly, the protagonist of *Edge of Tomorrow*, Cage, must resist the unwilling and slow-moving military infrastructure, headed by a defiant General Brigham (Brendan Gleeson), that seems hell-bent on knowingly sending troops into a slaughter despite Cage's protestations. As discussed in the introduction to this text, this trope of the lone soldier breaking away from corrupt/ineffective military and corporate infrastructures is very common in post-Vietnam war films; with this in mind, both Cage's and Max's breaking away from their infrastructure and their individual sacrifice/death in defeating the Mimics, an alien race that Earth's military battles throughout the movie, demonstrates the same valuing of individuality and trust in the "free" human mind as the traditional hard body.

While the independence of the hard technological body harkens back to Jeffords' theorizing, the move to recognize a machinic audience's communal (global) identity, beyond strict national identity, marks an evolution from the '80s counterpart. *Elysium*, not so subtly, is a movie about class relations, not otherworld invaders, and it sets clear divides between the ultra-rich inhabitants of the space station Elysium and the overcrowded and extremely poor inhabitants of Earth. This clear enemy, singularly embodied by Delacourt (Jodie Foster), has quarantined themselves from Earth in an impregnable space fortress; further, they use an army of preprogrammed robots that mercilessly keep the inhabitants of Earth in line. Therefore, the battles that Max fights are battles for all of Earth's inhabitants (not just Americans). *Edge of Tomorrow* has a similarly clear enemy in the Mimics. As the Mimics run over Earth in conquest, the United Defense Force (UDF), a Total War Machine made up of Earth's remaining humans, rally the global population together and begin to fight back, headed by a ground force of soldiers equipped with battle combat "jackets" (or exosuits). Again, Cage's fighting is done

on behalf of the remaining population of Earth. Cage's exoskeleton is applied with the same desperation against an impossibly superior enemy as Max's donning of a similar device in *Elysium* is; in the mold of the '80s hard body, both films treat the exoskeletons as a necessary weapon in the face of a dominant enemy. These binary enemies create a similar unity to the hard technological bodies in *The Matrix Revolutions*: instead of uniting around a nation as the hard body did, the hard technological body reflects the increasing globalization (and subsequent recognizing/exposure to other cultures as well as the lessening of nationalistic borders) that comes with the contemporary expansion of the Internet.

This reflection of increased globalization found in the hard technological body of the two films is confused by the movies' contradictory and extreme forms of posthumanity: on a small scale, as discussed later in this chapter, when looking just at the protagonists in *Elysium* and *Edge of Tomorrow*, there is an extreme valuing of the physical body that focuses too heavily on the physical components of the posthuman; however, on a larger scale, the films generally treat the physical body as disposable and therefore undermine the necessary material/physical components of the posthuman. As argued above, the hard body needed to evolve beyond its status as a nostalgic relic in order to again be effective, and therefore the inclusion of virtual Bodies without Organs into the human-technology assemblage makes sense; while the two films construct their protagonists using the template and iconography of the hypermasculine spectacle of Jeffords' hard body, the other physical bodies in the films are at times oddly marginalized, creating a bedrock of unbalanced relationships between the technological and biological entities of the film. For example, the human bodies of *Elysium* are potentially immortal: there are "Lazarus beds" on the space station that can cure any illness and mend any physical wound almost instantaneously; the villain Kruger uses one of the beds after having his face blown off and is effortlessly brought back to full health. The human body within this world is without stakes, rendered as machinelike, its material "parts" (organs, limbs, faces) as replaceable as the robot army tasked with patrolling Earth in the film. One of the conflicts is that only residents of Elysium are able to use these beds and the residents of Earth are not allowed their miraculous resurrecting powers. At the end of the movie, Max fights his way through the security of the space station Elysium and enters the core of its computer databases; as he dies, he is able to register every Earth citizen as a resident of Elysium, and the movie finishes with a number

of spaceships flying down to Earth filled with enough Lazarus beds to cure all of the humans. Yet, such access actually celebrates the eradication of death and illness: the human body becomes unimportant, or interchangeable, which effectively destroys the unique physical body and its experiences that are such a key component of the posthuman. This postbiological future, initially explored by Hans Moravec (*Mind Children* 1988) and Ray Kurzweil (*The Age of Intelligent Machines* 1990; *The Age of Spiritual Machines* 1999) and denounced by N. Katherine Hayles (*HWBPh*), is also generated in *Edge of Tomorrow*: as Cage and Rita are able to manipulate the Mimics' abilities, resetting their bodies and going back in time with each death, their bodies too become disposable. While the film eventually does away with this conceit for the culmination of the movie, the first hour upholds this ability to die without penalty, to shed the biological body, as Cage uses each non-death as a means to become a better fighting machine. While such portrayals recognize the virtual body/bodies that emerge from an Internet-enabled globalization, perhaps in an effort to reflect the avatars a contemporary machinic audience creates and values, the postbiological bodies and technologies of the films overcompensate and establish the films too far within a moviegoing audience's online existence without reflecting the healthy symbiotic blend between avatar and body that a posthuman assemblage experiences.

If the human bodies and the traditional biological-only hard body are too outdated and weak, and the postbiological body is too unbalanced, then the exoskeleton-warriors and the versions of the technologically hard body in both movies are efforts to situate their heroes between those two poles. Interestingly then, both choose to shrink the exoskeletons considerably from previous depictions: unlike Ripley's giant Hardiman-style prosthesis or the bulky, oversized extensions of *The Matrix Revolutions* and *Avatar*, the exoskeletons of *Elysium* and *Edge of Tomorrow* are far less immediately mechanical and shape themselves more closely to the contours of the human body inside (Image 2.4). Additionally, far more of the human operator can be seen inside them: not only are the faces of the operators more visible but so too are the muscular arms and legs, especially within Max's and Kruger's. This increased human presence obviously offers counterfigures to the "inhuman" enemies of *Elysium*'s robot police force and *Edge of Tomorrow*'s Mimics. Too, it better reflects a machinic audience's understanding of their hardware and software as less overly mechanical and
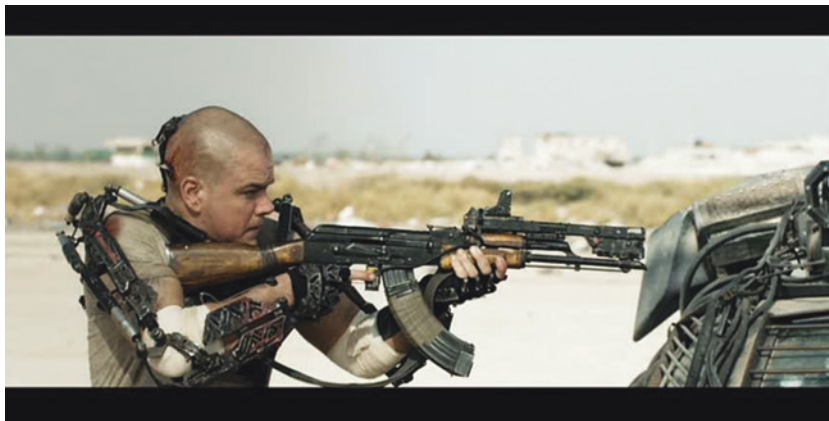
Image 2.4   *Elysium*'s Max and his exoskeleton fire a gun in profile

more flexible (contouring) to their own physical bodies. Most importantly, such a construction, more clearly than Iron Man's enclosed suits that are discussed in Chapter 3, establishes the "liberal" human at its center and showcases a biological user, though augmented, firmly in control of his/her technologies. Such an assemblage is therefore a compatriot of Jeffords' hard body whose immediate visual construction is an attempt to update the traditional hard body with the technological muscles of augmented speed and strength.

Elysium gives two divergent hard technological bodies in the hero Max, a regular citizen of Earth desperately flying to Elysium to cure his radiation poisoning, and the movie's antagonist, Kruger, a secret agent working for the corporate military of Delacourt. When the audience first sees Kruger, an "asset" mechanically "activated" by Delacourt's earlier orders, he casually pulls off his ratty overcoat to reveal the pristine and up-to-date exoskeleton underneath; he then, with equal calm, fires a shoulder-mounted missile launcher. Later, in his first battle with Max and the other "people smugglers" (led by Spider [Wagner Moura]), Kruger stays away from immediate combat, instead directing guided missiles at the smugglers outside the ship. When he does engage, he moves quickly and masterfully, walking into bullets and relishing close combat killing; he is a killing machine much like the military droids the smugglers fight mere minutes prior. The ease with which he

uses the technology and his comfort is uncanny, and his physical connection to the exoskeleton is clean. Like Quaritch in *Avatar*, Kruger is an overpowered military machine, or rather one part of a much larger State military machinic phylum that aligns him more with the '80s hard body's Communist villains; therefore, his exoskeleton, physically and mentally, does not hold enough individualistic "human" to be considered heroic.

In contrast, while Kruger is one of a unit of exoskeleton-powered soldiers (within a larger military machine), Max is the only (civilian) resident of Earth that is shown wearing an exoskeleton. He begins within the corporate-military system, ironically making the very robot soldiers that police the planet; it is at this factory where he is callously exposed to a lethal dose of radiation. This lethal dose serves to remind the audience of his mortality; even as he is in the final battles on Elysium he has to pause in order to swallow the antiradiation pills he's been given. While Kruger is able to step in and out of the Lazarus beds, distancing him from his biological body, Max is stabbed in the stomach in an early combat scene and must walk hunched and wounded for the rest of the movie, while the camera repeatedly cuts to his blood on his hands. More, Max takes no pleasure in combat: in the first battle, after he has knocked Kruger down with gunfire, he does not finish him but rather rushes over to his friend Julio (Diego Luna) and tries to tend to his wounds; this is a more sympathetic action that is outside the murderous nature that Kruger exhibits as activated asset/soldier. Unlike the impenetrable/invulnerable '80s hard body, it is the "human" messiness of Max, the bodily version of "chaos" that Nilges flags, that makes him more heroic and therefore justifies his use of the exoskeleton. The sick and compassionate human body that Max demonstrates is necessarily "soft" in order to move the character away from the singularly focused corporate-militarization of the exoskeleton that Kruger represents and allows him to enact his own (civilian) will, a crucial component of the hard body, without being controlled by the mechanics of a larger military or the literal machine of the exoskeleton.

This vulnerable and liberal humanity is then amplified by the literal messiness that takes place in Max's connections to his exoskeleton. When the audience sees Kruger stepping into his exoskeleton later in the film, they see his muscular body implanted with sensory inputs/hooks for the machine; there is no bleeding or irritation around these implants and the machine slides cleanly onto him. More, he is gleeful as he is welded in, his attachment to the exoskeleton painless and, for him, fun. In contrast,

the surgery scene that attaches the skeleton to Max is grotesque. His exoskeleton, a "third-generation exosuit" that is in opposition to Kruger's up-to-date hardware, is attached to him using giant knives and saws in a slapdash and dirty surgery room. The procedure begins with a shot of a gruesome hole in the back of Max's skull; from there, bolts are drilled into his body before the bone-saw cuts into the body as the bones are cut apart and put back together. When he is "brought online" at the end of the surgery, there is blood around each puncture into the body; that blood seeps through Max's shirt throughout the movie, reminding the audience of the exosuit's messy relationship with the biological body. While Max still demonstrates the clear borders between biological and technological that the '80s hard body relished in, the movement toward a messier, bloodier body distances the hard technological body from Kruger's clean, corporatized military force in its opposition, instead establishing it with the non-expert citizen that Jeffords says is the hard body's rhetorical target. Additionally, the human within, because it is vulnerable and messy, reaffirms that there is a human element (a "free" mind) inside the hard technological body, a transhuman body not transformed into a machine, but rather one that can then be trusted with mastery and control.

Yet, for all the "softness" Max displays, he still possesses the spectacular physique that Jeffords' hard bodies demonstrate. In the introductory shot of Max, he is shown shirtless, stressing the spectacle of his obviously muscled body. The hard technological body in these films begins with an overstrong physical body that straps on an exoskeleton (adding more power to the already powerful), which makes it into the same unreal spectacle as the '80s hard body; while the biological body is vulnerable and messy, the exoskeleton hardens it, evolves it, allowing its wearers the necessary strength to survive in an arena built around violent, technologically enhanced combat. These technological muscles are given the same fetishistic gaze as the hard body; it is still the "to-be-looked-at" object that the traditional hard body is, while further underlining its lineage to that hard body by employing similar tropes from those previous hard-body films. When Max transitions into combat, he is given the same admiration typical of soldiers within the war film genre. In the first combat scene, after clearing his jammed gun, Max rises up and, in profile, fires at the police robot in slow motion; the audience can clearly see the exoskeleton wrapped around his body then extended by the firing gun, shells shooting from the gun, before the enemy explodes (as shown

in Image 2.4). The camera pans around the exploding robot so that the audience gets its destruction from every angle, allowing them to relish in the spectacular power of Max's new body. Even when not extended by a gun, the climax of his hand-to-hand fight against another police robot ends in another show of extreme strength where Max tears off the robot's head; later, before he kills him, he lifts another man above his head and then throws him across the room. As the audience is consistently reminded, Max's biological body is disintegrating, so it is the hardened muscles of the exoskeleton that are allowing him to carry out these spectacular feats that the film amplifies using similar tropes (slow-motion firing, close-up on guns, relishing of enemy death) as the hard-body films of the '80s do. This updating of the hard body plays effectively to the machinic audience as it has both the spectacular physical specimen and free mind of its predecessor and also includes the technological hardware in line with the machinic audience's everyday use.

In *Edge of Tomorrow*, Rita and Cage, both members of Earth's army, are much closer to Kruger's militarized version of the hard technological body and, more clearly than *Elysium*, the film then represents the next evolutionary step of the hard body of the 1980s into the technologically augmented but distinctly militarized posthuman. There is more to be written about Rita, the "Full Metal Bitch," and how just her gender, like Ripley, resists the traditional hard body, but a full discussion is beyond the scope of this text.[14] Although as the film begins, the protagonist Cage is a civilian and non-combatant and it is Rita who is the super-soldier and hero of the latest battle against the Mimics, for the remainder of the film she is secondary to Cage and the small bit of positivity gained by her potentially more positive version of the hard body is largely undone by her wearing of the exosuit and the hardening that the technology provides; the exosuit, as it does for Cage, unbalances the material/technological assemblage toward the physical body and hardware and, like Cage, encourages the machinic audience to view their wearable technologies as weaponized tools.

This problematic unbalancing is best demonstrated by Cage's use of the exosuit. At the outset of the movie, Cage is a lot like Max in that he is a non-expert user of the battle jackets. As a former public relations representative, his incompetence and inexperience as a soldier in combat gives his fellow soldiers much to ridicule; he cannot even figure out how to turn his suit and gun on for many of the first combat scenes. However, Cage's transformation into a brutally effective soldier is what
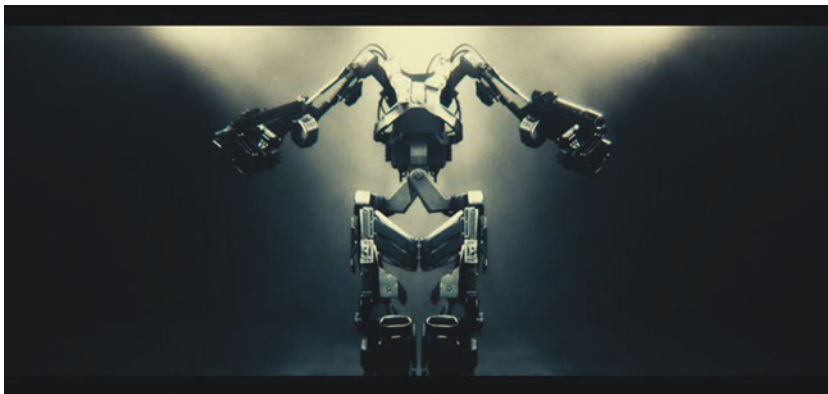
Image 2.5   *Edge of Tomorrow*'s exosuit

makes *Edge of Tomorrow*'s version of the hard technological body such a negative representation. In the film's opening montage, the exosuits are explained as one of the key turning points in the battle, leading to the first victory against the aliens in five years: as Cage explains, "With the new jacket technology and limited training, we've been able to create super-soldiers"; the phrase "limited training" is repeated again, underlining how easy the jackets are to master and wield. Rita is held up as the paragon of the technology, said to have "[killed] hundreds of Mimics on only her first day of combat." The "revolutionary technology" is worshipped: following Cage's words there is a shot of the suit by itself, lit from above in reverence (Image 2.5); the words "Power" and "Speed" appear slowly over the image followed by, in extremely quick succession, "Domination," "Fame," "Dynamic," "Fearless," "Invincible," "Precise," "Unstoppable," and "Superiority." These words signal the mix of glamour and fear attached to the weaponized exosuits. They are represented as an unreal "military weapon," part of the oncoming "mechanized invasion" of the Mimics and purely for combat and conquering. While *Elysium* provides a minimal counterbalance by giving external technology the positivity attached to the Lazarus beds and the health-care robots at the end of the film, *Edge of Tomorrow* immediately weaponizes its technologies and casts all of humanity in the role of soldier. To underline this, Cage confidently states, "We fight. That's what we do." The collective "we" is the human race, and conflating that "we" with the

limited training within the exosuits convinces their users that any average user can (must) transform into a fighter, a soldier.

As the movie progresses, Cage exemplifies this, transforming from the "soft" non-expert into the best soldier in the whole army by the end of the film, and as Cage "dies" and is reborn each time into the same battle, the treatment of the suit gets more spectacular. Whereas *Elysium* slows down to show the hard technological body, *Edge of Tomorrow*'s overfast treatment amplifies the exoskeletons' "speed" muscles rather than its "power" components. The film rarely lingers when in combat scenes: the firing of the guns is more constant and raking, the enemies faster, more nimble and far more plentiful. Two specific scenes underline this: the first has Rita watching Cage in the training facility where Cage weaves between enemies, shoots and reloads seamlessly, demonstrating his combat expertise, all made possible by the augmenting exoskeleton. The second takes place once the two are back in combat on the beach, where Rita and Cage, as expert soldiers, don't walk so much as propel; in one sequence, Rita jumps incredibly high, spins and slices a Mimic, followed by Cage sliding along the ground and popping back up with his shoulder-mounted guns firing into the oncoming enemies before he literally circles his outnumbered squad mates to kill their attacking enemies. This all happens spectacularly quickly, and, while the camera doesn't linger like it does in traditional hard-body movies, the increased and incredible speed of the new technological body, its inhuman ability to propel and dodge across the battlefield, are granted the same amazed gaze that the hard body garners.

Both films update the traditional hard body by integrating in technological hardware, solving the "ineffectiveness" of that older hard body by its ability to harness the types of wearable-like technologies that the machinic audience would recognize from their own lives. However, as raised in the introduction to this text, both films contain civilians-turned-soldiers as their protagonists, a common trope in contemporary war films that engage with Internet-enabled technologies; constructing these civilians-turned-soldiers as heroic is an argument for the problematic co-opting that takes place when the Total War Machine infiltrates civilian infrastructures and mechanisms. Moreover, these newer versions of the hard body are still built around the problematic spectacular traits of hypermasculinity and violence; too, their simplistic, somewhat cartoonish construction of Us-Versus-Them dynamics in the film also echoes the same polarization that takes place in the traditional hard body

films. Focusing specifically on the machine aspects of the hard techno-
logical body in the films, the spectacle undermines a machinic audience's
critical posthuman understanding of potential machine-human coopera-
tion. Both films encourage their audiences to fixate on the combat abili-
ties and weaponization of the technology of their worlds, reducing it to
the hard body's understanding of technology only as "military resource."
More troubling, *Edge of Tomorrow*'s repetition that the exosuit requires
"limited training" (which Rita and Cage's citizen-to-expert soldier trans-
formations prove) treats technology as a type of steroid, a fast (unnat-
ural) shortcut to larger (faster/more powerful) "muscles." While the
hard body of the '80s was an obvious fantasy constructed with a near-
unachievable physique at its center, the hard technological body within
Elysium and *Edge of Tomorrow* seems tantalizingly close to that average
user/moviegoer. This steers the movie's audience away from consider-
ing symbiotic relationships with their co-species machines, cohabitational
relationships much closer to how an average user might interact with
their daily technologies, and to instead revel in the awesome ability of
technology to turn that average user into a killing machine.

In total, the movement from strictly being an individual to a balance
between the "free" mind within a technological environment, in com-
bination with the machinic audience's globalization, evolves the hard
body. Yet the "human" within the machine reigns supreme and the
"free-thinking" mind can only be biological and aided subserviently by
machines. The cinematic glamorization of the augmenting technology as
militarized weapon treats the exoskeleton in the same way the hard body
treats her/his gun (as extension, resource), and promotes the attitude
that the audience of such films should view their surrounding machine
species as combat tools used to control and conquer with.

Conclusion: The Future of the Hard Technological Body

The following chapter argues that the *Iron Man* films and *Pacific
Rim* are vehicles for exploring Internet-enabled "screens-on-screen,"
or frames-within-a-frame, and that the digital effects in those war
films highlight the function of the movie as a machinic phylum that is
then also a part of the machinic phylum that makes up the Total War
Machine. However, those films do use the hard technological body of

Elysium and *Edge of Tomorrow* as an ethical template, and Jeffords' hard body, in general, echoes through nearly all the films discussed throughout the duration of this text: within the near-entirety of the dissected movies, there is an urgent need to reaffirm human superiority by placing the liberal human mind at the center of any assemblage and machinic phylum, and the preservation and promotion of the human species is of the utmost importance. This preservation manifests in a dehumanizing of the hard (technological) body's enemies to justify the films' warfare, but also constructs the cinematic Internet-enabled technologies as slaves and humans as masters in control. At its roots, the hard body is biological and it is that biological body that is at the core of its spectacle and its value systems. As such, it follows that *Edge of Tomorrow*'s director Doug Liman's focus on "real" (physical/biological-based) moviemaking, rather than a reliance on digital effects, promotes the hard technological body as a more positive prospective path for future warfare (Fear *Rolling Stone*). While the filmmaking of *Elysium* and *Edge of Tomorrow* have digital effects, unlike a massively popular film like *Avatar*, neither provides groundbreaking, or even interesting, computer-generated filmmaking that might meet the machinic audience's experiences with Internet-enabled technologies outside the theater. Unlike the Jaegers of *Pacific Rim* or the Iron Man suits, neither Max's nor Cage's exoskeletons are networked beyond the simplest visual and audio components, resisting the dense networks that the machinic audience thrives in. Both *Elysium*'s and *Edge of Tomorrow*'s heroic sacrifices of their protagonists' physical bodies reaffirm, like the preceding hard body, that the hard technological body is only heroic when the physical body is the most valuable and vulnerable: Max dies in order to save the residents of Earth, and it's only after Cage loses the ability to be "reborn" and he is united into one physical body that the film progresses to its heroic climax. By continuing to maintain the clear divisions between machine and human, even when showing the machine-exoskeleton simultaneously with the physical body, the hard technological body is always grounded in "reality"; its physical (weaponized) presence in combat is not blurred with any virtual body and continues to resist the interpenetrated role that computer technology plays in a machinic audience's daily life. Again, setting up the hard body as a basic visual and ethical framework that resonates deeply through the other Internet-enabled movies analyzed in this text, this lack of networked virtual bodies reminds the audience that the human, a master in control, is the most valuable component of any

biological-technological assemblage; when the other films deconstructed in this text do begin to integrate Internet-enabled technologies into their technological-biological soldier assemblages, they do using this same human-centric ethical system.

The machinic audience might then imagine the next iteration of the hard technological body, engaged in a critical posthumanism, that begins to acknowledge and incorporate a virtual body within a mode of film-making that also includes more digital attention. This is essentially the main difference between *Elysium*'s Max and *Avatar*'s Jake: while both are "messy" and "softer" than their enemies, Jake's relationship with the technology of that film acknowledges and celebrates the extension undertaken when enacting as a virtual self, whereas Max and Cage are still firmly rooted in the physical. A representation that moved beyond the physical-only body would need to balance delicately between an avatar's augmented global presence and the sensory narrative that a physical body undergoes, an equilibrium very familiar to the reflexive members of the machinic audience. Perhaps this is already being done most effectively in video games, wherein the player is able to interactively project into and control a body that oscillates between virtual networks and physical inputs (a topic explored in Chapter 4); this type of body, while running the risk of also treating its technology as virtual steroids, is a similar but more complex version of the exoskeleton-human assemblage, the step in-between the G.E. Hardiman and the "tantalizingly close" versions put forth in *Elysium* and *Edge of Tomorrow*. Within such imagined films, however, such a figure might be able to acknowledge the continued and still-pervasive use of "boots-on-the-ground" physical soldiers in a contemporary warfare that also then blends that soldier with the virtual combat and cyberwarfare that hacking and drone strikes exemplify. That would be a more "real" (honest?) representation of how war is actually waged in 2017 and potentially provide valuable spaces to critique such combat and the machinery of the Total War Machine.

NOTES

1. Shannon, Claude E. and Weaver. *Mathematical theory of communication*. Chicago, IL: University of Illinois Press, 1949. My understanding of this paper was bolstered by Gary Genosko's *Remodelling Communication* (Toronto, ON: University of Toronto Press, 2012).

2. The initial conception of this chapter sprung from the chapter "Hacking the Apocalypse" in *Interfacing with the Internet in Popular Cinema* (2014) wherein I discuss the three *Iron Man* films and the Future Combat System through the lens of Deleuze and Guattari's notion of the machinic phylum from *A Thousand Plateaus* (*ATP* 395). In these prior writings, I argue that the full suits act more as Internet-like networked armor that function less biologically and "humanly," and act as a small cog in the military machinic phylum, encouraging a movie-going audience that is tethered to their always-on networked devices to see their own multiple avatar selves as re-appropriated military tools instead of the potentially healthy posthuman/cyborg they can be. For more, see note 14 in the introduction.

3. Further definitions and discussion of the machinic audience, assemblage, and Bodies without Organs can be found in the introduction to this text as well as the Introduction and Chapter 5 of my *Interfacing with the Internet in Popular Cinema*.

4. More information on the Warrior Web can be found at "Warrior Web Prototype Takes Its First Steps." *darpa.mil*. May 22, 2013. http://www.darpa.mil/news-events/2013-05-22. Accessed March 09, 2017.

5. Further theorizing surrounding the softening of the hard body can be found in *Postfeminism and Paternity in Contemporary U.S. Film* by Hannah Hamad (New York: Routledge, 2014) and *Millennial Masculinity: Men in Contemporary American Cinema*, edited by Timothy Shary (Detroit, MI: Wayne State University Press, 2013) among much other postfeminist scholarship. Additionally, Mark Gallagher's *Action Figures* (New York: Palgrave Macmillan, 2006), specifically discussion of Chuck Norris' increasing reliance on technology as he progresses into '90s cinema, was very useful.

6. See note 7 from the introduction to this text.

7. A further discussion and definition of both Haraway's military cyborg and De Landa's theorizing is made in the introduction to this text.

8. While earlier in the introduction to this text I flagged that cybernetic technology largely started as military and then navigated over to civilian use, Ripley's weaponizing of the civilian technology runs counter to this; this reversal is explored further in Chapter 4 of this text via my discussion of Virtual Reality (VR).

9. I have written on the role of race and gender within war, combat and adventure films, including the sources listed in note 5 of this chapter. More specifically, Tasker dedicates time to the figure of Ripley in *Spectacular Bodies* (1993) in her chapters "Woman Warriors" and "Action Heroines" in the '80s; much of what Jeffords says about Sarah Connors' "Tough Love" in the *Terminator* films ("Terminal Masculinity") could

be reworked to apply to the maternal caring of Newt that Ripley undertakes. In addition, activating Haraway's discussion of the cyborg and gender in her "The Cyborg Manifesto" would also help to unpack how Ripley fits in with the notion of the hard body.

10. A Gallup Poll dated Sept. 5–7, 2008 asked, "How satisfied are you with the way things are going for the U.S. in the war on terrorism—very satisfied, somewhat satisfied, not too satisfied, or not at all satisfied?" 11% said "Very Satisfied; 41% said "Somewhat Satisfied"; 23% "Not Too Satisfied"; and 24% said "Not at all satisfied." A February 2009 Gallup poll asked, "For how many more years do you think the United States should have a significant number of troops in Afghanistan?" and 65% said less than two years (http://www.gallup.com/poll/5257/war-terrorism.aspx. Accessed May 4, 2016).

    This can be compared with a Dec. 14–16, 2001 Gallup poll where "the vast majority of Americans—92%—[expressed] satisfaction with the amount of progress made by the U.S. military in the war in Afghanistan, including 69% who [said] they are "very satisfied." The percentage reporting they are very satisfied with the effort is up from 58% in late November" (http://www.gallup.com/poll/5113/latest-summary-american-public-opinion-war-terrorism.aspx. Accessed May 4, 2016).

11. *Avatar* made $2.7 billion+ worldwide; *The Matrix* movies have made $463 million+, $742 million+ and $427 million+ worldwide. All numbers via boxofficemojo.com. Accessed May 4, 2016.

12. Drone strikes, military simulations and wargames are taken up in more detail in Chapter 5.

13. A basic primer on SOPA and PIPA can be found at: Abrams, Jim "PIPA and SOPA: What You Need to Know" *Christian Science Monitor.* Accessed May 4, 2016. http://www.csmonitor.com/Technology/2012/0119/PIPA-and-SOPA-What-you-need-to-know. The actual SOPA law can be found at H.R 3261—Stop Online Piracy Act; House Judiciary Committee; October 26, 2011. http://www.webcitation.org/63oCICqjh. Accessed May 4, 2016. Further discussion of this civil cyberwarfare can be found in Chapter 6.

14. I think there is an argument to be made that Rita, taken on her own, is a positive female iteration of the hard body, an expansion away from the "hyper-masculinity" that defines the traditional hard body. Rita is, as Yvonne Tasker illustrates in her introduction to *Action and Adventure Cinema*, one in a long line of cinematic "action heroines," women, like Ripley, who are "physically strong, independent though often emotionally vulnerable, typically glamourous and even overtly sexy" (9). In the same collection, and building off Tasker's work in her own *Spectacular Bodies*, Marc O'Day flags such archetypes as grounded in "action babe

cinema," movies that are propelled by "beautiful, sexy and tough heroines" (201); at their best, such figures appear in films that "*assume that women are powerful*, offering heroines who are both vulnerable and strong, and above all, who survive and win" (author's italics 215). All of this is true of Rita and while she is a beautiful woman, she is not blatantly sexualized; In addition, though there somewhat of a romantic narrative between her and Cage, and there is a kiss right before both of them sacrifice themselves at the end of the film, their relationship is largely professional. All this grants Rita skills and capabilities that do not take advantage of her female sexuality and instead portray her as a hyper-competent soldier. See notes 5 and 9 of this chapter as well.

Virtual Weaponry
The Militarized Internet in Hollywood War Films
Tucker, A.
2017, XI, 250 p. 22 illus., 21 illus. in color., Hardcover
ISBN: 978-3-319-60197-7