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BRUCE CLARKE

MANUELA ROSSINI

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CONTENTS

Contents

FIGURES

7. Will Eisner, *Comics and Sequential Art: Principles and Practices from the Legendary Cartoonist* (New York: Norton, 2008), 39.

8. Lisa Diedrich, *Treatments: Language, Politics, and the Culture of Illness* (Minneapolis: University of Minnesota Press, 2007); see especially the conclusion, "Toward an Ethics of Failure," 148–66.

9. Margrit Shildrick, "Posthumanism and the Monstrous Body," *Body & Society* 2.1 (1996): 6.

10. Brian Massumi, "Notes on the Translation and Acknowledgments," in *A Thousand Plateaus: Capitalism and Schizophrenia*, ed. Gilles Deleuze and Félix Guattari, trans. Brian Massumi (Minneapolis: University of Minnesota Press, 1987), xvi.

11. B. David, *Epileptic* (New York: Pantheon Books, 2005).

12. Deleuze and Guattari, *A Thousand Plateaus*, 13.

13. David, *Epileptic*, 313.

14. Hillary Chute describes Lynda Barry's attempts to "map a process of memory – make it material on the page – through the spatializing form of comics," in "Materializing Memory: Lynda Barry's One Hundred Demons," in *Graphic Subjects: Critical Essays on Autobiography and Graphic Novels*, ed. Michael A. Chaney (Madison: University of Wisconsin Press, 2011), 293.

15. Ellen Forney, *Marbles: Mania, Depression, Michelangelo, and Me* (New York: Gotham Books, 2012).

16. See also Courtney Donovan, "Representations of Health, Embodiment, and Experience in Graphic Memoir," *Configurations: A Journal of Literature, Science, and Technology* 22.2 (Spring 2014): 237–53. Forney's drawings show "how the illness produces two distinct embodied experiences," mania and depression (253).

17. See Lisa Diedrich, "Graphic Analysis: Transitional Phenomena in Alison Bechdel's Are You My Mother?" *Configurations* 22.2 (Spring 2014): 183–203.

18. See Judith Butler, *Gender Trouble: Feminism and the Subversion of Identity* (New York and London: Routledge, 1990), and Annemarie Mol, *The Body Multiple: Ontology in Medical Practice* (Durham and London: Duke University Press, 2002).

19. Martina Schlünder, Pit Arens, and Axel Gerhardt, "Becoming Bone Sheep," *Configurations* 22.2 (Spring 2014): 263–94.

20. Braidotti, *The Posthuman*, 7.

21. *Ibid.*, 79–80.

22. Schlünder, Arens, and Gerhardt, "Becoming Bone Sheep," 278.

23. *Ibid.*, 277.

24. *Ibid.*, 278. See also John Berger's "Why Look at Animals?" in *About Looking* (New York: Vintage, 1980), 3–28: "In the accompanying ideology, animals are always the observed. The fact that they can observe us has lost all significance. They are the objects of our ever-extending knowledge. What we know about them is an index of our power, and thus an index of what separates us from them. The more we know, the further away they are" (16).

25. Braidotti, *The Posthuman*, 79–80.

9

ANNEKE SMELIK

Film

Contemporary visual culture often features love relations between humans and posthumans. To give some examples: in Björk's videoclip *All is Full of Love*, two female robots tenderly make love. In the television commercial "Robotskin" by Philips, a man is seduced by a female robot who helps him shave under the shower, leaving her yearning for him.[1] In the film *Her*, the throaty voice of Samantha, a computer operating system, both comforts and seduces Theodore Twombly after his separation. In *Ex Machina*, Caleb falls in love with a humanoid artificial intelligence named "Ava" and reprograms the security system so that she manages to escape, "cross-dressed" as a "real" woman to pass as human in the world outside her confines, but leaving him behind to face certain death. And in the Swedish television series *Real Humans*, "hubot" Mimi falls in love with Leo, half-human half-hubot, a love that survives in her memory after the forced recharging of her system when she is kidnapped.[2] These examples point to a rather intimate relation between humans and different figurations of the posthuman: robots, androids, replicants, cyborgs, hubots, avatars, AI systems, OS (operating systems), and so on. They show how the figure of the posthuman entices, fascinates, and seduces humans. This chapter sketches how the development of the posthuman image in science fiction (SF) cinema over the last few decades moves from anxiety over identity to mediated memories, and from the awareness of affect to actual love relations.[3] I will link these different figurations of the posthuman to specific cinematic techniques, thematic tropes, and narrative forms. At the end, I will return to the vexed question of love between humans and posthumans.

The Cinematic Cyborg

In cinema studies, the notion of the posthuman is primarily a speculative image rather than a philosophical concept; in that sense, I work in this chapter on a posthuman *imaginary*. I treat the posthuman here as a hybrid

figure that transforms and deconstructs human subjectivity in a post-anthropocentric culture. As a cinematic figure, the posthuman is typically represented as a hybrid between a human being and something nonhuman, the latter ranging from machines or digital technologies to plants, animals, monsters, and aliens.[4] As the cyborg is one of the most prevalent posthuman images in cinema, I first focus on this figure in the hybrid genre of the cyborg film of the 1980s and 1990s with its roots in science fiction, horror, and action movies.[5]

The term "cyborg," a *cyb*ernetic *org*anism, originated in space studies.[6] As an updated version of the mechanical robot, the concept of the cyborg indicates a feedback system between human and machine. Donna Haraway introduced the notion into feminist scholarship as a posthumanist concept for "fractured" identity in her agenda-setting "Cyborg Manifesto."[7] In cultural studies, the cyborg has been hailed as a posthumanist configuration in its hybridity between human flesh and metal or digital material, its wavering between mind and matter, and its shifting boundaries between masculinity and femininity.[8] In philosophy, too, the cyborg is understood as a posthuman figure of the "in-between," in the words of Rosi Braidotti, "facilitating interrelations, multiple connections and assemblages."[9] However, this construction of the cyborg is not always the case in cinematic science fiction: here the figure of the cyborg conventionally projects a fantasy of a human who fuses with technology to become a superior, enhanced, and hence threatening being.[10] Hollywood cinema abounds in the celebration of the – quite masculine – superhuman, the overcoming of the perceived weaknesses of human flesh, emotion, and mind. This masculinized figuration could not be further removed from Haraway's utopian vision of the cyborg as "a hybrid of machine and organism, a creature from social reality as well as a creature of fiction."[11] It seems, then, that Hollywood favors a superhuman cyborg over a posthuman hybrid. Nonetheless, in all the display of superhuman power, many cyborg movies explore how the interaction between humans and machines affects them both, having them merge "through mutual simulation and modification."[12] Accordingly, I will trace some cinematic techniques of the 1990s for showing the hybridity of the cyborg – its simultaneously machine-like and human-like qualities. These techniques for depicting the cyborg – point of view shot, self-reparation, and mirror scenes – are still very much in place today.

A Cybernetic Point of View

A SF movie has to convince the spectator that the human figure on the screen is in fact a cyborg. Apart from obvious narrative clues in dialogue and plot, films use two *visual* strategies to make this ontological demarcation clear to the audience: the subjective camera shot and the self-repair scene. The cyborg is often introduced with a subjective point of view (POV) or an over-the-shoulder shot. Film scholars David Bordwell and Kristin Thompson describe the POV shot as a "shot taken with the camera placed approximately where the character's eyes would be, showing what that character would see; usually cut in before or after a shot of the character looking."[13] In the case of the cyborg, such a subjective POV shot generally contains computerized elements within the frame, representing the cyborg's eye as a video camera that can zoom in and out, process data, check a target, and rewind or repeat the image. For example, in *Terminator 2* (1991), when the Terminator (Arnold Schwarzenegger) lands nude on Earth from outer space, he surveys his new surroundings with a piercing gaze shown with a red, digitalized image through a sustained POV shot. *RoboCop* (1987) has several scenes with long POV shots in which the camera films as if it were the eye of RoboCop (Peter Weller) even while it is being fabricated in the laboratory, giving the idea of a robot being imprisoned in a human body. In *Eve of Destruction* (1990), a female cyborg, Eve 8 (Renée Soutendijk), checks out the men in a café through a POV shot with red lights and bleeping sounds before beating them up when they harass her. The computerized elements within the frame emphasize the machine-like aspect of the cyborg, as its eye functions like a camera with superior vision enhanced by technology.

However, the machinic side is not all there is to a cyborg – it can also be surprisingly human in its emotions and powers of self-reflection. The depiction of such capacities is again connected to the POV technique. While the POV shot with its technological cues ascertains the "cyborg-ness" of the character, typical techniques of the POV shot, such as mobile framing, close-ups, and camera movement, are at the same time powerful cinematic cues for subjectivity. In film studies, the impact of a POV shot is taken to produce character subjectivity.[14] Thus, POV shots simultaneously establish both the mechanicity and the subjectivity of the cyborg. This doubleness of the cinematic form allows the audience empathy and perhaps even identification with the "human-ness" of the posthuman figure of the cyborg.

Self-Reparation in the Mirror

Another visual *topos* in cyborg films is to systematically destroy the cyborg so as to repair it. Presumed invincibility may be one characteristic of the cyborg proving the superiority of technology over the human body, but the cinematic cyborg is remarkably vulnerable to assault and injury. After the cyborg

is reduced to just a heap of shrapnel, it can be put together again, either by itself or in the lab.

Such self-repair scenes excel in ambiguity, as the once-unbeatable machine has become defenceless flesh. To give a few examples: in *The Terminator* (1984), the cyborg repairs his wounded eye in a typical horror scene that shows the wet flesh inside the mechanized body. When he takes out his eye and drops it into the washbasin, the socket not only shows a bloody wound but also a camera that still functions by zooming in and out. In *RoboCop*, the cyborg drills into his head with a screwdriver, taking off the metal prosthesis that reveals his human flesh. In *Eve of Destruction*, Eve 8 undresses and exposes a gaping gash in her chest, into which she enters with her own hand, apparently restoring something there and then gluing it over with red tape. While these horrific scenes disclose injured flesh, they show once again the superiority of the cyborg that can penetrate and repair its own wounds and continue as if nothing happened.

Self-reparation scenes are another cinematic way of visualizing the hybrid character of the cyborg, because they typically involve mirrors: the Terminator, RoboCop, and Eve 8 all look into a mirror while they are tending their wounds. The mirror is a well-known visual theme in cinema, where it functions for the character to provide a moment of self-reflection. Laura Mulvey and Christian Metz have connected the look into the mirror to the psychoanalytic concept of ego formation in the mirror stage as conceptualized by Jacques Lacan.[15] Mulvey and Metz argue that the child's pleasure in its identification with a perfect mirror image and the formation of its ego ideal on the basis of this idealized reflection is analogous to the film spectator's narcissistic pleasure in identifying with the perfected image of the hero on the screen. In other words, the silver screen of cinema altogether functions as a mirror for its audience, which unconsciously constructs ego ideals on the basis of idealized self-reflections or identifications.

Whereas self-repair suggests that the machine is sufficiently alive to have an instinct for self-preservation, self-reflection additionally presupposes a degree of subjective consciousness. A cyborg in front of a mirror looks like it is actually thinking about itself. In an older example, RoboCop becomes emotional as he checks out the mirror for signs of his former, human, self. In the more recent movie *Ex Machina*, Ava watches herself pensively in the mirror after she has taken her fully human form. The cyborg is often surrounded not only by mirrors but by reflective surfaces such as video monitors or computer screens.[16] In contemporary films such surfaces have become transparent plastic, glass, or liquid, as in *Minority Report* (2002), *Her* (2013), *Oblivion* (2013), *Transcendence* (2014), and *Ex Machina* (2015). Alison Landsberg argues that the mirroring surface allows

for a moment of uncanny self-recognition in scenes that are reminiscent of the Lacanian mirror stage. On the one hand, the cyborg characters see a perfected image of the human figure reflected in the mirror, because as hybrids of human and machine, they are literally enhanced and thus perfected human beings. On the other hand, they see a distorted image in the mirror because they are injured and disfigured. These mirror scenes suggest that cyborgs are confused about their hybrid identity: What or who are they? Why do they experience pain or feelings? Do they have memories?

Mediated Memories

If the cinematic cyborg is uncertain about its own status, then its superhuman figure is after all quite posthuman in its in-between-ness. In fact, the hybridity of the posthuman figure in the movies typically produces its identity crisis. Is it a mere machine, or is it also a human, or both? Is artificial intelligence endowed with (or without) a body or consciousness? The crossing and blurring of binary oppositions confuses the cyborg character and, by extension, its spectator. Sometimes such confusion leads to comic relief: in *Total Recall* (1990), when the character who thinks he is Douglas Quaid (Arnold Schwarzenegger) finds out that he is not Quaid, but that his memory has been implanted and that his whole life, including his marriage and his wife, is a fake, he calls out in desperation: "But if I am not me, who the bloody hell am I?" In a sadder example from the cult classic *Blade Runner* (1982), the posthuman Rachael (Sean Young) was really convinced that she was a human being with her own personal memories and feelings, and bursts into tears when she finds out she is a "replicant." The paradoxical point here is that while replicants are not supposed to have emotions, this one cries, manifesting grief over the loss of its presumed human identity.

Whether comic or tragic, such identity crises are a stock theme in the SF films of the late twentieth century. The hybrid figures are confused about their own status, asking themselves questions that echo the Daoist question, "Am I a human dreaming that I am a butterfly, or am I a butterfly dreaming that I am human?" Moreover, the identity crisis is often *not* brought to closure, which is a rare ending for Hollywood cinema. *Blade Runner* suggests at the very end that even Deckard (Harrison Ford), the blade runner whose job is to terminate replicants, actually *is* a replicant. And in *Total Recall*, when the Quaid character has created a new Earth and a new heaven on Mars, his last words are: "And what if I have dreamt it all?" The films thus maintain the cyborg's hybridity until the very end. Taking hybridity as its most important characteristic, the cinematic cyborg is the posthuman figure *par excellence*.

Early cyborg movies, such as *Blade Runner, RoboCop, Total Recall* and the first two *Terminator* films, tell stories about the crisis of identity often induced or increased by prosthetic memory.[17] Such films focus on anxieties aroused by the paradoxical experience of remembering events that the character has not lived through.[18] The identity crisis is focused mostly on issues of memory, because personal memories index subjectivity. Prosthetic memory is thus typical of the cyborg movies of the 1980s and 1990s, where implantations complicate the relations among memory, experience, and identity. Typically, the visual clues for subjective memories are photographs, supposed to "prove" the personal past of the cyborgs. Kaja Silverman has argued that photography is thus used to expose the fragility of posthuman identity.[19] But where photos usually function as documents of truth, in cyborg films they acquire an ambiguous and much darker status as wilful manipulations of the past, suggesting that just as fake photos can be planted, so too seemingly personal memories can be implanted.

Digitizing Memory

In contemporary SF cinema, there has been a significant change in the treatment of the cyborg's identity crisis, because the technologies of memory have shifted away from implanted or prosthetic memory to other, now digital media. In the imaginary of cinema, this transition involves a transition from the "hardware" cyborg to the "software" cyborg, introducing new human–nonhuman interactions that are more connected to the brain than the body altogether. Earlier cyborg figurations still feature in Hollywood movies, but have been relegated to the realm of sequels or prequels and have lost much of their ambivalence in predictable tales of superhuman glory. The post-apocalyptic landscapes of disaster and destruction of the 1980s and 1990s have given way to translucent plastic, glass, liquid, or virtual settings in which humans happily – or sometimes not so happily – interact with the often invisible machines that surround them. In SF films of the twenty-first century, the new frontier of posthuman hybridity explores the relation between the superior memory of the computer and the failing memory of the human being. SF films, such as *Minority Report* (2002), *Final Cut* (2004), *The Butterfly Effect* (2004, and its sequel in 2006), the mangafilm *The Ghost in the Shell* (1995), *Inception* (2010), *Source Code* (2011), and the British television series *Life on Mars* (2006–07) and its sequel *Ashes to Ashes* (2008–09), feature fantasies about the (im)possibilities of digital technologies to register, manipulate, or delete individual memories.

In these films and television series, the issues center on manipulations – and confusions – of the mind. Cyberpunk writer William Gibson has claimed that for him computers are no more than a metaphor for human memory.[20] Digital media have created new ways of saving, retrieving, and archiving personal and collective memories.[21] Therefore, with current digital technology, the concern is no longer with the implantation of false memories. Typically, these more recent characters remember lived experiences. However, the *utopian* fantasy now focuses on the total recall that is enabled by the continuous enhancement of computer memory, feeding the desire to retain and save all memories throughout life, while the *dystopian* fantasy focuses on the deletion and distortion of digitalized memories, feeding the anxiety of possible manipulations of memory and the danger of losing data irretrievably.

I will give the example here of one of the first films in its genre, *Johnny Mnemonic* (1995), loosely based on an early short story by William Gibson. The hero uploads certified but stolen data into his brain in order to bring them to people on the other side of the world. To make space for the data, Johnny (Keanu Reeves) has to temporarily offload his personal memories of his deceased mother.[22] If he is unable to download the computer data within 24 hours, he will die of "information overload." Only when he can discharge the data is he able to reload the personal memories. Of course, Johnny is saved just in time to retrieve the early memories of his mother. Here we see how this sort of posthuman identity gets fully shot through with technology, as individual memory can be digitally retrieved, represented, remediated, transformed, or deleted.

Complex Narratives

In the first decade of this millennium, many SF films and television series pursue a disjointed time line in which past, present, and future get inextricably entangled, for example, in *Eternal Sunshine of the Spotless Mind, 2046*, and the aforementioned movies. In these SF films and TV series, narrative fragmentation allows for the affect of the past to be processed; in other words, memory affects the experience of time.[23] Where Hollywood SF movies used to smooth over uncertainty by narrative closure, more recent films explore complexity and ambiguity. Not only do these films have no clear beginning, middle, or end, but they also collapse space and time in such a way that renders the spectator's orientation almost impossible. For example, *Inception* sets forward a complex puzzle with different layers of space as a – quite Freudian – visualization of deeper layers of consciousness, even descending into the unconscious. In *Source Code*, too, there is a deliberate

blurring between different time lines, spaces, and realities. The complexity of the narratives becomes part of visual pleasure: can the spectator solve the narrative riddle of such convoluted time and space?[24]

I will focus on two independent films to show the posthuman effects of such complex narratives. In both 2046 and Eternal Sunshine, the memories of the main characters are enacted in a fragmented narrative that intensifies the spectator's affective experience for he or she is similarly enwrapped in a story almost impossible to unwrap. It is indeed not easy to follow the story line in those two films, because present, past, and future are continually confounded. The title 2046 refers both to the future, the year 2046, and to a specific location, a hotel room. In 2046, Chow Mo Wan (Tony Leung) relives an unhappy love affair with every other woman that he meets and whom he tries (but fails) to love, because each new relation reawakens the memories of the lost woman. The characters move in and out of the hotel room, which functions as a time portal. Without a conventional narrative structure, time and space collapse, bringing the vicissitudes of desires, memories, and affects to the fore.

Eternal Sunshine also tells the story of a failed love relationship, after which the former lovers proceed to delete one another from their memory. The film focuses on the moment when the male character seeks to erase his memories. In the process of deleting them, Joel Barish (Jim Carrey) finds himself transported back to the time of those same memories. Realizing that he is quite attached to them, he struggles to stop the process of erasure. The middle part of the film becomes a complicated, mental journey in which past, present, and future get thoroughly scrambled, confusing not only the characters but also the spectators. As in 2046, the dense narrative structure gets quite intricate because of the reorganization of linear time. This is digitally visualized as follows: while Joel and his girlfriend, Clementine (Kate Winslet), run through the sets of their own past, the setting around them is literally deleted; it disappears. The film thus shows the disconcerting affect of a past that is being undone while one is still in it.[25]

Both films portray feelings of loss and longing. Memory is a source of suffering, as the past loss of a loved one is still poignantly experienced in the present. In 2046, Chow Mo Wan revolves endlessly in a perplexing carousel of present, past, and future, thus never escaping from the emotions that he passively and passionately endures. In Eternal Sunshine, the characters hope to be delivered from their emotional pain by deleting the agonizing memories. Yet, the desired loss of memory also blocks any possibility of learning from failures and of preventing them in the future. In focusing on the affective register, both films show the intricacies of memory and the impossibility of disentangling reminiscence from desire and affect, even though

technology can erase memories (in Eternal Sunshine) or project them into the future (in 2046).

What is significant for posthuman culture is how the ambiguities of human–nonhuman interaction allow for a different way of storytelling. Cinematic and digital aesthetics have taken SF films and television series beyond the confines of classic structures of representation and narrative. When time turns inside out and outside in, the same can happen to space: real and virtual space can no longer be distinguished. The most spectacular visualization of such confused space is the staircase that leads to nowhere in Inception, looking much like a drawing by Giovanni Battista Piranesi or a print by M.C. Escher. It is in the first place the affect of the character's memories that provokes a nonlinear, dynamic vision of time and space. Rather than a humanistic emotion that is short-lived and object-oriented, the films portray affect as an overall state of the posthuman subject who lives through emotional disintegration, reflected in the breakdown of the narrative structure. As Mark B.N. Hansen reminds us, affect is "that modality ... through which we open ourselves to the experience of the new."[26] As the films disengage from the linear sequence of the story or fabula, their ambiguous stories invite the spectator to open up to corresponding affects. The spectator can thus change classical patterns of identification and establish an experiential relation to the posthumanist film, embracing the narrative as a loop that intricately connects present, past, and future.

The Affect of Love

"Affect arises in the midst of in-between-ness."[27] SF films explore different kinds of relations between humans and the "multiple others most of which, in the age of anthropocene, are quite simply not anthropomorphic."[28] Indeed, in times where we constantly stroke our mobile phones, tablets, or laptops, and welcome care robots for the elderly into our homes, humans are intimately involved with machines. As I mentioned in the opening of the chapter, recent SF films also feature explicit – and complicated – love relations between the human and the posthuman.

Science-fictional love relations conventionally involve a human (typically a shy, nerdy, lonely, or depressed man) who falls in love with a posthuman figure (typically a highly attractive and idealized woman), dithering on the ambiguous question whether the posthuman entity is at all capable of love.[29] In Ex Machina, Caleb may be fascinated with Ava, but he also distrusts – quite rightly, as it turns out – the way she looks. Her rather exaggerated female form is indeed a ruse to seduce and trap

him. Ava is not only incapable of such banal human emotions as love but turns out to be a destructive force in the age-old tradition of the *femme fatale*. Similarly, at the end of the film *Her*, when the OS Samantha tells Theodore that she is retreating with other operating systems into another realm, he sadly asks her if she had other intimate relations while she was with him. She promptly answers: 641. Both Theodore and the spectator gasp for breath at this huge number, because even though Samantha only manifested herself as a sexy voice without a body, the suggestion of a unique relationship was indeed very strong and completely misleading.

According to Neil Badmington, a defining characteristic of the human is "to desire, to possess emotions, but to desire is to trouble the sacred distinction between the human and the inhuman."[30] The relationships depicted in these SF love stories fail because the gap between the human and the posthuman cannot be breached; to fall in love with an algorithm is an emotional "beyond" that the genre of the film does not dare to explore yet. Recent films seem to be haunted by a humanist impulse: humans are ruled by the desire to love the machines they live with, but with strict boundaries between them reinstated. Scott Loren argues that "the filmic narratives of posthuman cinema tend to position themselves anxiously in relation to logics of posthumanism and nostalgically, even desperately, in relation to tenets of humanism."[31] Indeed, the films revert to earlier configurations of humanist narratives: they regress to straight and linear storytelling while the melancholy mood captures the failure to successfully relate to the "multiple others" of posthumanity today.

In SF cinema, then, posthuman love relations turn out to be rather ambivalent. Yet, the ambiguity of affect may also point to some new shifts in-between the human and posthuman. For example, at the end of *Her*, Theodore joins his all-too-human neighbour Amy (Amy Adams) and together they stare out at the transparent surfaces and flickering screens of the city. The film suggests that Theodore and the other humans in the story have been taught by the Operating Systems to love one another, while giving up on the – disembodied – affair with their "private" OS. The posthuman entity thus proves more human than a human being in its capacity for love, or at least, for transmitting lessons on how to love. Something new has then emerged from the human–posthuman interaction: it is within the virtual realm of post-humanity that humans find solace in the enfleshed embrace of one another.

NOTES

1. www.youtube.com/watch?v=cfCh7KvoxJ4.
2. *All is Full of Love*, video by Chris Cunningham, lyrics by Björk, 1997; Robotskin, commercial for Philips by Bruno Aveillan, 2007; *Her*, Spike Jonze, 2013, with Scarlett Johansson (Samantha's voice) and Joaquin Phoenix (Theodore Twombly); *Ex Machina*, Alex Garland, 2015, with Domhnall Gleeson (Caleb) and Alicia Vikander (Ava); *Real Humans*, Swedish television series started in 2012, written by Lars Lundström, directed by Harald Hamrell and Levan Akin, with Lisette Pagler (Mimi, aka Anita).
3. This chapter draws on parts from two earlier publications: Anneke Smelik, "The Virtuality of Time: Memory in Science Fiction Films," in *Technologies of Memory in the Arts*, ed. Liedeke Plate and Anneke Smelik (Basingstoke: Palgrave Macmillan, 2009), 52–68; and Anneke Smelik, "Cinematic Fantasies of Becoming-Cyborg," in *The Scientific Imaginary in Visual Culture*, ed. Anneke Smelik (Göttingen: V&R Unipress, 2010), 86–100.
4. See Annette Kuhn, ed., *Alien Zone: Cultural Theory and Contemporary Science Fiction Cinema* (London: Verso, 1990), and *Alien Zone II: The Spaces of Science Fiction Cinema* (London: Verso, 1999); and Elaine Graham, *Representations of the Post-human: Monsters, Aliens, and Others in Popular Culture* (New Brunswick, NJ: Rutgers University Press, 2002).
5. Sidney Perkowitz, *Hollywood Science. Movies, Science, and the End of the World* (New York: Columbia University Press, 2007); Adam Roberts, *Science Fiction* (London and New York: Routledge, 2000).
6. Manfred Clynes and Nathan Kline, "Cyborgs and Space" (1960), reprinted and supplemented with an unpublished article by Clynes, "Cyborg II," and an interview with Clynes, in *The Cyborg Handbook*, ed. Chris Hables Gray (London: Routledge, 1995).
7. Donna Haraway, "A Manifesto for Cyborgs: Science, Technology, and Socialist Feminism in the 1980s," in *Simians, Cyborgs, and Women: The Reinvention of Nature*, Donna Haraway (London: Free Association Books, 1991), 149–81.
8. Chris Hables Gray, ed., *The Cyborg Handbook* (London: Routledge, 1995).
9. Rosi Braidotti, *The Posthuman* (Cambridge: Polity Press, 2013), 92.
10. Vivian Sobchack, *Screening Space. The American Science Fiction Film* (New Brunswick: Rutgers University Press, 1997).
11. Haraway, "Manifesto for Cyborgs," 149.
12. Braidotti, *The Posthuman*, 90.
13. David Bordwell and Kristin Thompson, *Film Art: An Introduction*, 10th edn. (New York: McGraw Hill, 2013), 504.
14. *Ibid.*, 92.
15. Christian Metz, *Psychoanalysis and Cinema. The Imaginary Signifier* (London: MacMillan, 1982; orig. 1977); Laura Mulvey, "Visual Pleasure and Narrative Cinema," (1975) reprinted in Laura Mulvey, *Visual and Other Pleasures* (London: Macmillan 1989), 14–26. Lacan, J., 1966, "The mirror stage as formative of the function of the I", in *Écrits. A Selection*. Norton, New York, London, pp 1–7.

16. See Alison Landsberg, *Prosthetic Memory: The Transformation of American Remembrance in the Age of Mass Culture* (New York: Columbia University Press, 2004).

17. Constance Penley, Elisabeth Lyon, Lynn Spiegel, and Jaanet Bergstrom, eds., *Close Encounters: Film, Feminism, and Science Fiction* (Minneapolis: University of Minnesota Press, 1991).

18. Susannah Radstone, ed., *Memory and Methodology* (Oxford: Berg, 2000).

19. Kaja Silverman, "Back to the Future," *Camera Obscura* 27 (1991): 109–32.

20. Dani Cavallaro, *Cyberpunk and Cyberculture: Science Fiction and the Work of William Gibson* (London: Athlone Press, 2000).

21. José van Dijck, *Mediated Memories in the Digital Age* (Stanford: Stanford University Press, 2007).

22. The memory of the mother figures more often as an oedipal motif for human identity and memory; e.g. in *Blade Runner* where Rachel is "humanized" by her prosthetic memories of her mother (see Silverman 1991). Compare also the scene in *Ex Machina* where Ava asks Caleb about his earliest memory. He answers, after first giving the "wrong" answer, that it is his mother's voice; in other words, he is "of woman born" as opposed to man-made Ava.

23. I follow Brian Massumi here in his distinction between affect as unassimilable intensity and emotion as a subjective feeling. Massumi, "The Autonomy of Affect," *Cultural Critique* 31 (1995): 83–109, 88. See also Patricia Clough, "The Affective Turn: Political Economy, Biomedia, and Bodies," *Theory, Culture, and Society* 25.1 (2008): 1–22.

24. The SF films are part of a wider trend in cinema to tell complex stories; see Warren Buckland, ed., *Puzzle Films: Complex Storytelling in Contemporary Cinema* (Oxford: Wiley-Blackwell, 2009).

25. For a related, further unfolding of this complex narrative, see Bruce Clarke, *Neocybernetics and Narrative* (Minneapolis: University of Minnesota Press, 2014), 100–4.

26. Mark B. N. Hansen, *New Philosophy for New Media* (Cambridge: MIT Press, 2004), 132.

27. Gregory Seigworth and Melissa Gregg, "An Inventory of Shimmers," in *The Affect Theory Reader*, ed. Melissa Gregg and Gregory Seigworth (Durham: Duke University Press, 2010), 1–25, 1 (original emphasis).

28. Braidotti, *The Posthuman*, 101.

29. For example, the earlier mentioned *Her* (2013) and *Ex Machina* (2015), and also *Under the Skin*, Jonathan Glazier, 2014, with Scarlett Johansson as the nameless woman.

30. Neil Badmington, "Pod Almighty! or, Humanism, Posthumanism, and the Strange Case of *Invasion of the Body Snatchers*," *Textual Practice* 15.1 (2001): 9.

31. Scott Loren, "Posthumanist Panic Cinema. Defining a Genre," in *Paradoxes of Authenticity: Studies on a Critical Concept*, ed. Julia Straub (New Brunswick and London: Transaction Publishers, 2012), 164.

10

IVAN CALLUS
AND
MARIO AQUILINA

E-Literature

Introduction: Paradoxes and Definitions

It reflects the nature of E-Literature (E-Lit) – electronic literature, or literature that is often defined as "born digital" – that some of the most helpful guides to it and its most comprehensive archives are to be found online. There may always be something slightly paradoxical in approaching born-digital (or, indeed, digital-only) literary practice through a different medium, but this chapter is set up not in lieu of the ampler digital resources devoted to E-Lit, which the reader is encouraged to explore (the links at the website of the Electronic Literature Organization, eliterature.org, provide some excellent prompts), but to offer some reflections on E-Lit's affinities with the posthuman. With this in mind, the next two sections briefly survey some broader relations between literature and (post)humanism, ahead of the more focused discussion on E-Lit and its posthuman affinities, developed in the final two sections. The preliminary considerations provide some depth of field to views on how the "tradition" (in T. S. Eliot's sense) can find itself realigned at interfaces between E-Lit and the posthuman. At those interfaces, the point is not so much "individual talent,"[1] but rather such conceptions as text generators and distributed cognition,[2] as well as "expressive processing,"[3] "recombinant poetics,"[4] "the polyphonic nature of digital identity,"[5] and dynamic heterarchies determined by multi-tiered feedback and feedforward loops, where "continuing interactions ... continuously inform and mutually determine each other."[6] In the forefront, therefore, is the question of the nature and extent of E-Lit's arguably post-literary space.

One further point, in preamble: the definition of E-Lit for the reader to keep in mind might be that reported in N. Katherine Hayles's *Electronic Literature: New Horizons for the Literary*. It tells of "work with an important literary aspect that takes advantage of the capabilities and contexts provided by the stand-alone or networked computer."[7] Strikingly, the Organization's foundation and Hayles's landmark study, *How We Became Posthuman*, both came about in the same year, 1999, the definition occurring when the Organization "convened a committee headed by Noah Wardrip-Fruin, himself a creator and