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A Ghost in the Replicant? Questions of Humanity and Technological Integration in *Blade Runner* and *Ghost in the Shell*

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Abstract: In this world of increasing integration with technology, what does it mean to be human? *Blade Runner* (1982) and *Ghost in the Shell* (1995) are two artistic works that directly address this question. Blade Runner posits a world in which imitation humans—artificial people—can only be identified through emotional testing. In *Ghost in the Shell*, the human mind can be hacked, manipulated, built, and rebuilt like any other computer. This article makes use of affect theory to address the connection between empathy and memory in defining what is human. Using these films—along with *Blade Runner*'s source novel *Do Androids Dream of Electric Sheep?*—I conclude that mainstream science fiction is increasingly comfortable with technological integration and less inclined to rigidly demarcate a human-nonhuman boundary.

Keywords: affect theory; *ghost in the shell*; *blade runner*; philip k. dick; technological integration; empathy; android

As technology becomes more and more integral to our world, we might ask, what does it mean to be human in a technological era? Sharalyn Orbaugh (2002) —who has published extensively on cyborgs, affect, and Japanese science fiction—has argued that we are moving inexorably into a future in which the human/artificial distinction is increasingly meaningless. In this article, I make use of affect theory to address the connection between empathy and memory in defining what is human in three connected works: Philip K. Dick's 1968 novel *Do Androids Dream of Electric Sheep?*, the 1982 film *Blade Runner* (Dir. Ridley Scott, USA), and the 1995 film Kōkaku Kidōtai 空殻機動隊 (*Ghost in the Shell*; Dir. Mamoru Oshii, Japan). Closely reading these three works—connected thematically but also widely separated in time—I argue that mainstream science fiction is increasingly comfortable with technological integration and less inclined to rigidly demarcate a human-nonhuman boundary, rejecting the idea of an unmediated humanity. William Kolb wrote that *Blade Runner* "transcends mere science fantasy and raises timeless questions about what makes us human" (p. 142), and indeed this statement applies to all three works. Even now, amid the myriad science fiction novels and films continuing to be produced, the shadows of these three narratives loom large. Philosopher Michael E. Zimmerman (2015) recently noted that "in a world where genocide, racism, and war are still present, and in which intelligent non-human beings may well appear in our midst sooner than we think, Dick's cautionary tale [*Do Androids Dream of Electric Sheep?*] retains its pertinence" (p. 90). And with *Blade Runner*'s recent sequel and the 2017 American remake of *Ghost in the Shell*, the time is right to take another look at these three seminal works.[1]

I examine all three works in chronological order, using affect theory as discussed by Orbaugh, to bring out their respective distinctions between the human and the artificial, in terms of emotion/empathy and memory. Orbaugh (2008) has used affect theory to analyze *Ghost in the Shell 2: Innocence*, concluding that the film suggests that emotion is what makes us human rather than our biological bodies. I argue that this is an extension of the same suggestion in the original *Ghost in the Shell* film. While there is no single definition of affect theory, it is fundamentally about putting the body back into the study of the human mind and

dethroning a disembodied consciousness as the all-controlling center of human thought and agency (Figlerowicz 2012, p. 3, 7; Seigworth and Gregg 2010, p. 3). Arguing that scholars have focused too much on reason, rationality, stated beliefs, and consciousness in decision-making, affect theorists of whatever stripe look to the body, to the preconscious, to emotions/affect (Clough 2010, p. 206; Martin 2013, p. S154). Pioneering efforts in developing affect theory, led by critical theorist Eve Sedgwick and philosopher Brian Massumi, sought "to rehabilitate unconscious 'intensities' of affect as forces irreducible to the narratives of purpose and intentionality that consciousness tries to rein them into" (Figlerowicz 2012, p. 6). In their introduction to the field-defining edited volume *The Affect Reader*, Melissa Gregg and Gregory J. Seigworth define affect as those forces "other than conscious knowing" and "persistent proof of a body's never less than ongoing immersion in and among the world's obstinacies and rhythms," further noting that "thought is itself…embodied" (2010, p. 1-3). They caution us that "because affect emerges out of muddy, unmediated relatedness and not in some dialectical reconciliation of cleanly oppositional elements or primary units, it makes easy compartmentalizations give way to thresholds and tensions, blends and blurs" (p. 4). It is in the blends and blurs between technology and biology that the present work is concerned.

Blade Runner and *Ghost in the Shell* were chosen for analysis because of their enduring influence on later works of science fiction, which continues today. 1999's *The Matrix*, itself a highly influential film, draws heavily on both films addressed here, continuing the themes of the human melding with machines and the ambiguity of using technology in the struggle against technology (Kilbourn 2000 p. 49; Park 2010, pp. 164-165, 194; Stewart 2003, p. 42). Major Hollywood blockbusters now have characters like *Justice League*'s Cyborg, a human made superior by total integration with cybernetic implants, and *Mad Max: Fury Road*'s Furiosa, a protagonist whose cybernetic arm is never even remarked upon. In *Blade Runner*'s own sequel, *Blade Runner 2049,* the conflict is no longer between human and machine but between good machine and bad machine, with a heroic, self-sacrificing protagonist who is known from the start to be a replicant. Indeed, Spike Jonze's critically-lauded *Her* posits it as reasonable for a human being to treat an artificial intelligence as a person who can love and be loved. It seems that literary critic Kevin McCarron's 1995 characterization of cyberpunk as infatuated with technology yet "deeply conservative and anti-technology, implacably hostile to any further erosion between the human and the mechanical" no longer obtains (pp. 271-272).

Empathy and Sympathy in *Do Androids Dream of Electric Sheep?*

Rick Deckard is a bounty hunter in a near-future San Francisco, which is one of the few places that can support human habitation after World War Terminus. Few animals are left on Earth, and people attach great importance to owning one to both induce in and display for others an empathetic connection. In fact, owning an animal is so important that an entire industry exists to provide lifelike synthetic animals to those too poor to afford real ones; it is a great social transgression to inquire as to the authenticity of another person's pet animal, as this would be tantamount to questioning their empathy and therefore their very humanity. With the exception of genetically damaged "specials,"[2] most of the surviving human population has emigrated to colonies on Mars and Venus, encouraged to leave Earth by the constant radioactive dust, the danger of becoming "special," and the gift given to all who chose to emigrate: a biological android slave. These androids are illegal on Earth, with bounty hunters like Deckard empowered to "retire" them with police authority.

A Ghost in the Replicant, continued

In the novel, Deckard is tasked with retiring six escaped androids with the newest "Nexus-6" brain type. To give him experience with the new type, he is sent to the Rosen Association, a major android manufacturer, to perform the Voigt-Kampff test—an empathy test used to distinguish android from human, establishing the legal basis for the former to be retired—on a Nexus-6, Rachael Rosen. The Association tries and fails to trap Deckard into doubting the efficacy of the test, and Rachael later offers to assist in capturing the escaped androids as recompense. Deckard initially refuses, but after suffering great difficulty in retiring the first three escapees, he accepts her help in pursuing the remaining three. This also turns out to be a ruse, as Rachael seduces Deckard in an attempt to protect androids by provoking empathy for them. Despite using the Voigt-Kampff to determine that he too is experiencing such empathy and telling Rachael that he is in love with her, Deckard manages to retire the other three androids, including one with the same appearance as Rachael. The novel ends with an exhausted Deckard, having earned a great deal of money and a department record for retiring six Nexus-6 androids in a single day, discovering a toad in the wild. He is jubilant, as toads are thought to be extinct, and takes it home to his wife, who discovers that it is synthetic. Deckard is disappointed, but states that he prefers knowing the truth.

Originally published in 1968, *Do Androids Dream of Electric Sheep?* (hereafter *Androids*) is a fascinating attempt to grapple with the increasing integration of technology into human life and how to retain our humanity in the face of this encroachment. Jill Galvan points out that the book explores author Dick's concern with "the totalitarian mechanization of our world" and our response to it, noting his fear that "we risk becoming androids ourselves," indistinguishable from the machines we create (1997, p. 414). As will be discussed below, the novel differs from its cinematic adaptation in that the central distinction between human and android drawn in the former is neither memory nor emotion in general but empathy. Further, the central conflict is not really between Deckard and the androids but an internal conflict between the realities of Deckard's job of retiring androids—which requires him to have no empathy with them—and the justification in his mind for why his job is both necessary and acceptable—that the androids deserve to be retired because they lack empathy. Thus, Deckard recognizes the paradox at the heart of his position as policer of the human/artificial ontological boundary: In order to protect humanity from the empathyless androids, he must sacrifice his own empathy, and therefore his own humanity.

In an interview asking for his thoughts on the relationship between *Androids* and *Blade Runner,* Dick himself said the main difference is that the novel's androids "are heartless. They're completely self-centered. They don't care what happens to other creatures. And to me this is essentially a less than human entity for that reason." He went on to note that "The theme of the book is that Rick Deckard is dehumanized in his job of tracking down the replicants and killing them. In other words, he ends up essentially like they are." Dick further lamented that Ridley Scott discarded this "esoteric idea" from the film ("Sacrificial Sheep").

The androids care nothing for each other, in a way that horrifies Deckard (and Dick), for whom human beings' caring for one another is central to their humanity. In a subplot appearing in the novel but not the film, Deckard is arrested and taken to a phony police station run by the androids, operating in parallel with the real San Francisco police. Having told the arresting officer about the corpse of a retired android in the trunk of his car, Deckard anxiously awaits the test to be performed on its remains that will determine if he has murdered a person or merely retired an android. Despite

the test's being conducted in the phony android police department, the results correctly show the corpse as an android, implying that the android police station does retire other androids rather than humans (otherwise, the corpse should have been a false "human" reading, giving the androids an excuse to kill Deckard). When Deckard questions the android Luba Luft before his arrest, he is sickened by her offer to help him find and kill the other androids, and he replies ominously, "An android doesn't care what happens to another android. That's one of the indications we look for" (p. 101). Later, he remarks that androids would make better bounty hunters, since they would not experience the empathetic struggle he is grappling with (136). When Rachael arrives to help Deckard with the remaining three androids, she says that "androids have no loyalty to one another and I know that that goddamn Pris Stratton [in the novel an identical model to Rachael] will destroy me and occupy my place" (p. 191).

However, Dick blurs the boundary between android and human, hinting that the established distinctions may not be quite so clear-cut. In contrast to *Blade Runner,* in which Deckard's own humanity is in question due to subtle hints that he is himself a replicant, Dick, perhaps surprisingly, did not take this route in the original text. Deckard's humanity is not questioned in the literal sense in the novel. Instead, it is the question of whether or not Deckard, the human, has become that which he has hunted through a choice, conscious or unconscious, not to feel empathy for his quarry. The book instead introduces another bounty hunter, Phil Resch, and toys with his humanity. Resch is contrasted to Deckard because he lacks any empathy toward the androids and perhaps even enjoys destroying them; Deckard's interaction with Resch reveals that the former is not so unempathetic toward the androids as he feared and inspires him to test himself for this empathy—a test he fails (or, perhaps, Dick suggests, passes, because his empathetic response toward the androids is the only proper human response). Deckard is convinced that Resch is only capable of such heartlessness because he is an android, while Resch himself mocks the notion: "If I test out android…you'll undergo renewed faith in the human race." But, since he knows he is human, he tells Deckard to "begin framing an ideology which will account for [this]" (p. 140). Despite testing out human, though, Resch repeatedly refers to his pet squirrel as "it", which is precisely how Deckard realizes his mistake in doubting his assessment of Rachael as an android ("She keeps calling the owl it" [p. 58]). This also serves to subtly keep Resch's actual status in doubt. Earlier, when Deckard first confronts Luba Luft and points out that androids do not care what happens to other androids, she immediately replies that this is evidence Deckard is an android, since he also does not care (p. 101).

A final blurring occurs in the perception of J.R. Isidore, a "special" who becomes a sort of friend and supporter of the three remaining androids. Upon hearing that the androids are being hunted by a bounty hunter, Isidore imagines this entity that would threaten his new friends as someone (or something) that must be remarkably inhuman: "something merciless that carried a printed list and a gun, that moved machine-like through the flat, bureaucratic job of killing. A thing without emotion or even a face; a thing that if killed got replaced immediately by another resembling it" (p. 158, emphasis added). The bounty hunters are described as machine-like, without emotion, and, when killed, interchangeable in the same way the androids are. Compare Isidore's image of the easily-replaceable, identity-less killer to Rachael's description of androids: "We are machines, stamped out like bottle caps. It's an illusion that I—I personally—really exist; I'm just representative of a type….If I die…maybe I'll be born again when the Rosen Association stamps its next unit of my subtype" (pp. 189-190).

A Ghost in the Replicant, continued

Blade Runner generally follows the plot of the novel, but with important differences in setting and characterization.[3] Deckard (his given name is not used in the film) is a former police officer in the Orientalized, crowded, dank and dreary Los Angeles of 2019. Synthetic animals exist to replace the rare and expensive natural ones, but the connection between owning them and having empathy is not made explicit. Off-world colonization and the illegality of androids (called "replicants" in the film) on Earth remain as well, and film-Deckard is likewise tasked with retiring four Nexus-6 replicants: Zhora, Leon, Pris, and Roy. As in the novel, he goes to the Tyrell Corporation (the novel's Rosen Association) to perform the Voigt-Kampff test on a Nexus-6. In the film, however, the deception is not an attempt by the corporation to undermine the test but to determine if memory implants can help replicants deal with their emotions. Deckard successfully identifies Rachael, but her false memories and consequent belief that she actually is human make it a much more difficult and time-consuming process (The novel unequivocally states that memory implants do not have this effect). Deckard tracks and retires Zhora but is then ambushed by Leon, and he is only saved when Rachael appears and kills Leon with Deckard's gun. In the meantime, Roy, acting as leader of the replicants, uses Pris's relationship with J.F. Sebastian (analogous to the novel's J.R. Isidore) to gain access to Eldon Tyrell, head of the Tyrell Corporation. When Roy is told there is no way to extend his four-year lifespan, he murders Tyrell and flees. Deckard tracks Pris and Roy to Sebastian's home, where he retires Pris but is outmatched by Roy, despite Roy's weakened state resulting from the fast-approaching expiration of his lifespan. Aware that he is moments from death, Roy saves Deckard from a deadly fall from a rooftop and dies in front of him. Deckard then returns to his apartment to find Rachael, whom he has decided to accept as a lover despite her synthetic nature. The elevator door to Deckard's building closes as the two of them leave, their fates uncertain.

Blade Runner retains the thematic focus on empathy but blurs the line between human and nonhuman even more than does the novel. Brian Locke (2009), a scholar of race and film studies, compares the film's focus on empathy to *Uncle Tom's Cabin*, in that both attempt to create sympathy for the enslaved (which is how Locke views the replicants). The ontological barrier separating slaver from slaved that justifies keeping others in bondage must be bridged in order to indict the system, and so *Blade Runner* "dissolves the opposition between human and replicant almost as fast as it sets it up" (Locke 2009, pp. 104-106). In *Androids,* Deckard states that he took the Voigt-Kampff test when he initially became a bounty hunter, while in the film he pointedly refuses to answer when Rachael asks him if he has ever taken the test, and the ambiguity of Phil Resch's humanity is transferred to Deckard himself. In fact, as geographers Marcus Doel and David B. Clarke (1997) point out, the film portrays the Voigt-Kampff test as unable to confirm that someone is actually human, only that someone either is a replicant or has not yet been confirmed as a replicant. Their evidence is Deckard's statement that it normally takes about thirty questions to identify a replicant, whereupon Tyrell somewhat smugly notes that it took more than one hundred questions to identify Rachael. This means, of course, that Deckard continued to ask questions long after the normal thirty and only stopped the test once he had concluded she was a replicant. There appears to be no number of questions that, once reached, means that the subject must be human.

Doel and Clarke go on to note that even the detection of replicants is probabilistic and subject to interpretation and re-interpretation. The test does not really show whether one is a replicant or not, only that one is exhibiting the signs of a replicant or a human—and therefore the test actually erases the differences between the two (pp. 157-158). This is why the 1992 Director's Cut, which is the most ambiguous about Deckard's own ontologi-

cal status (see footnote 1), is the most compelling, despite director Scott's declaration that, in his view, Deckard is a replicant. In that case, Deckard would be the "most slavish of all," "a slave who does not know he is a slave" (Locke 2009, pp. 114). But this undercuts the film's "thematic thrust…the central irony that Deckard, the natural-born man, is infinitely colder and deader inside than even Leon, the most brutal and debased of the replicants" (Ashlin 2004). As critical theorist Jenna Tiitsman (2004) puts it, "the film goes to great lengths in humanizing the replicants…and to dehumanize its human characters, who barely exhibit emotion outside of smug or indecipherable expressions" (p. 39). By supplying hints that question Deckard's humanity but do not establish him definitively as a replicant, the Director's Cut does the most to further the blurring of distinctions between human and artificial, between slaver and slaved. Tiitsman, working from the Director's Cut (the Final Cut having not yet been released), reaches a similar conclusion, noting that "the very distance between these two categories is called into question" (p. 34) and calling the film's "monstrous element" "the chaotic confusion of boundaries itself" (p. 33).

In the novel, the androids' four-year lifespan is an unsolved problem caused by the process used to create them, whereas the film specifically states that it was an intentional "failsafe" to prevent the replicants from "develop[ing] their own emotional responses." Thus, it is not the case that humans are distinguished by their capacity for empathy in the film. Indeed, it is known and accepted that replicants will develop this capacity, if they are not prevented from doing so by design. The replicants unequivocally show empathy, whatever the Voigt-Kampff test says, and it is the humans who seem emotionless and heartless. Leon reacts with visible emotion when Zhora is killed, and Roy Batty is clearly affected when he tells Pris about Leon's death, and even more so when Pris herself is killed. Locke (2009) notes that this explains why Roy not only does not kill Deckard but in fact saves his life, because he "needs a witness to the intensity of the desire for more life" (p. 108). This empathic sharing of emotion with the other is antithetical to the distinction between human and android that Dick makes in the novel, where the androids, incapable of taking part in such a sharing, even with the empathy boxes of Mercerism (another subplot excised from the film adaptation that will be discussed in more detail below), denigrate or even deny the reality of empathetic experience. The film's Deckard, on the other hand, rather callously breaks down Rachael's defenses when she comes to his apartment seeking to prove that she is human. She holds out a picture: "It's me. With my mother." Deckard responds by calmly detailing two of her private memories, challenging her to explain how he could know such secrets if they were not implants. When he finally realizes that she is crying, he says he "made a bad joke" about her being a replicant, but then orders her to leave. Later, though, in Deckard's apartment after Rachael has saved Deckard's life and killed the replicant Leon, he sees that she is distraught over the ordeal. Deckard offers to make her a drink, saying, "Shakes? Me, too. I get 'em bad." Rachael experiences the same emotions and sensations that Deckard does, if not more so.

Unlike the novel, which states that memories do not help an android pass for human (though it may cause one to believe itself human), *Blade Runner* plays with how memory might serve to distinguish human being from replicant. This is apparent from the very first scene, when another police officer, Holden, administers the Voight-Kampff test to Leon. When Holden describes the suffering of the tortoise, Leon becomes visibly agitated, and responds to Holden's "But you're not helping [the dying tortoise], Leon" with an angry, "What do you mean, I'm not helping?!" Then, despite Holden's contention that "it's a test designed to provoke an emotional response," he goes on to ask for

Leon to talk about memories of his mother. Realizing he cannot answer this question, Leon at this point chooses to attack Holden. It is his lack of memories of his mother, not his lack of empathic response, that led to his failing the test.

Integration in *Ghost in the Shell*

Ghost in the Shell takes place in an unspecified near-future Tokyo, though the look of the city is heavily influenced by images of Hong Kong in the early 1990s. The setting is a world in which cybernetics are ubiquitous and the Internet is connected to everything, such that people's brains and memories can be remotely accessed and even erased. The narrative focuses on Major Motoko Kusanagi, an employee of the Japanese government's Section Nine. Kusanagi's body is almost entirely artificial; it is implied that only her brain is organic, and she is concerned over whether or not she still has a "ghost"—a term never clearly defined in the film but that seems to refer equally to the soul, to ego, and to individual identity—that is, if she is even a person at all (Orbaugh 2008, p. 154). With her less cybered-up partner Batō and the almost fully-human Togusa, she attempts to locate and neutralize the Puppet Master, a mysterious and dangerous hacker of both machines and people. The Section Nine team tracks an unsuspecting garbage collector, unaware that he is being manipulated as part of the Puppet Master's schemes, and locates his handler, one of the Puppet Master's accomplices. They arrest the accomplice but find he has been "ghost-hacked" and lacks any memory of even his own identity.

The Puppet Master eventually reveals itself to be not a person but a sentient artificial intelligence developed by the rival Section Six. It allows itself to be captured by the Section Nine team by downloading itself into a blond female humanoid robot body, whereupon Section Six steals the body and flees. Kusanagi successfully tracks the thieves, but her own body is severely damaged in a confrontation with a Section Six robotic tank. After Batō arrives and destroys the tank, the Puppet Master asks to merge with Kusanagi in order to create a true offspring rather than simply a copy of itself, thus proving itself to be a life form. A Section Six sniper destroys Kusanagi's body, but Batō uses his own arm to deflect the sniper's bullet enough to preserve her brain case. In an epilogue, Batō has transferred Kusanagi's brain into the artificial body of a young girl, and it is revealed that she and the Puppet Master have successfully fused into a single being. The new being refuses to stay with Batō however, remarking that the Net is vast and limitless.

Ghost in the Shell was made in conscious homage to *Blade Runner* (Media studies scholar Livia Monnet [2002] refers to it as a "re-imagining" of Blade Runner [pp. 231-232]), and so it deals with many of the same themes. In neither case is the plot especially important, nor do the protagonists really solve the mystery. Kusanagi and her Section Nine teammates completely fail to track down the Puppet Master; it comes to them. In *Blade Runner*, Deckard's detective skill leads to him tracking down only one of the four replicants, Zhora. Leon ambushes him, and he only locates Roy and Pris because Roy murders Sebastian after he kills Tyrell and leaves both bodies behind, so that all Deckard needs to do is go to Sebastian's home. In fact, for all their seeming competence (Deckard is brought in because of Holden's grievous injury at the hands of Leon, meaning the police need Deckard's "magic"), both Kusanagi and Deckard end up at the mercy of the very prey they were hunting. Deckard is soon running from Roy, while Kusanagi fails in her attack on the tank so badly that her expensive, powerful cyborg body is critically damaged.

Memory is a key theme for both films. The characters view memories as a key distinction of the

human, yet both films play with these expectations in a way that blurs the lines between human and machine. As noted earlier, it is Leon's lack of memories of a mother that leads him to fail the Voigt-Kampff test, while Rachael is vastly more difficult to identify as a replicant with the test because of her false memories. After Kusanagi captures the Puppet Master's confederate and determines that his memory has been wiped and that false memories have been implanted in their place, Batō remarks that "there's nothing sadder than a puppet without a ghost. Especially the kind with red blood running through them," implying that the man has lost his humanity ("ghost") along with his memories. Later, Kusanagi notes that, while she and Batō are permitted to resign from Section Nine, they would have to give back their shells—their cyborg bodies—and the memories they contain. The Puppet Master, when revealing to Section Nine that it allowed itself to be captured, claims that humanity is made of memories.

But it is not that simple. As Deckard begins to accept Rachael, he dismisses the falsity of her memories. While playing the piano, she says she remembers lessons but doubts if the memories are truly hers, to which Deckard replies, "You play beautifully", denying the importance of her memories' reality. Likewise, Oshii complicates any simple dichotomy between humans having ghosts and nonhumans lacking them. Batō states that only organic human brains have ghosts, but the Puppet Master is revealed to have one, an individual identity of its own. (While "ghosts" can be copied in the film's world, we are told this leaves telltale signs of degraded quality, which the Puppet Master's ghost lacks.) The Puppet Master's confederate was himself manipulating the garbage collector to hack a government interpreter's brain on the Puppet Master's behalf and, while Kusanagi is troubled by the garbage collector's falsely implanted memories during his interrogation, she does not seem to view him as no longer human.

In a dialogue-free scene where Kusanagi wanders the city, accompanied by a background of slow, haunting music, she sees what may be another copy of her cyborg body, causing her to question her human identity. If her body is entirely artificial, in what sense can she be said to have any unique human identity, no matter what memories she has? Mamoru Oshii noted in an interview that he once thought "memory was the key to human selfhood," but later came to realize that "since memory can be fabricated, it cannot function as the foundation for selfhood" (Orbaugh 2008, p. 160). This realization runs throughout the film, as memory's ability to ground our human identity is questioned and found wanting.

So both films deal with memory as a marker of humanity but do not employ a simplistic dichotomy of "humans have memories; artificial people do not." However, *Ghost in the Shell* has more in common with *Do Androids Dream of Electric Sheep?* than it does with *Blade Runner* in how it deploys another key theme, that of empathy and emotion. Political science scholar Douglas Williams (1988) argued not long after *Blade Runner*'s original release that the replicants develop "real feelings and emotions, qualities badly lacking in the humans of the film" (p. 385) and have "the full range of 'human' emotions in a world of debased, robot-like human beings" (p. 388). I discussed earlier a number of occasions in Blade Runner that show the replicants displaying genuine empathy—Leon's reaction to the suffering tortoise and to Zhora's death, Roy's struggle to remain composed when telling Pris of Leon's death and, later, his grief over Pris's corpse—in contrast to the flat and placid human characters, who seem cynical to the point of being tired of life. This is exhibited by the cool detachment displayed throughout the film by Gaff, Deckard's unwanted sometimes partner. Rarely speaking, he seems more interested in mocking the progress of Deckard's investigation, such as it is, than in lending any assistance. When

Zhora attempts to elude Deckard, her "panic is palpable. Her chest heaves, and her eyes dart everywhere, whereas Deckard shows no emotion" (Park 2010, p. 74). This contrasts sharply with the novel. There, when he prepares to retire Rachael, Deckard becomes angry at her detached, emotionless acceptance of her fate: "The classic resignation. Mechanical, intellectual acceptance… the dark fire waned; the life force oozed out of her, as he had so often witnessed before with other androids….'I can't stand the way you androids give up,' he said savagely" (p. 200).

In the film, the replicants do not simply display empathy; they also understand it as an experience related to the Other. In contrast to Tyrell's coldly technical description of empathy ("Is this to be an empathy test? Capillary dilation of the so-called blush response. Fluctuation of the pupil. Involuntary dilation of the iris."), the replicants attempt to convey their feelings to Deckard—feelings that both Tyrell and Deckard's boss Bryant assure us they barely understand. When Deckard encounters Leon, he hits the replicant once. Finding his punch ineffective, Deckard ceases to struggle, nor does he attempt to reason with Leon or make any verbal attempt to dissuade him. "Painful to live in fear, isn't it?" Leon asks before nearly putting out Deckard's eyes, a sentiment that Roy echoes at the end of the film ("Quite an experience to live in fear, isn't it? That's what it is to be a slave.") As literary theorist Jason P. Vest (2007) points out, "their desire for life, love, and human experience makes the replicants appear more alive than their human oppressors" (p. 21). The human characters' passive acceptance of death, an inversion of the novel's attribution of this characteristic to the androids, comes up several times. Deckard's resignation to Leon has already been noted, and Brian Locke (2009) argues that Deckard, hanging helplessly from a ledge after fleeing from Roy, intentionally releases his hold so as to fall to his death (p. 116). Still, this is most characteristic in the case of the eyeball designer, Hannibal Chew. Immediately upon seeing Roy and Leon in his genetic design lab, Chew (in Cantonese) calls an associate for help. His call unanswered (because the replicants have already murdered the associate?), he offers no resistance nor does he even attempt escape.

In fact, the entire climactic sequence of the film, which depicts a disarmed Deckard fleeing from Roy, can be viewed as Roy's attempt to engender in Deckard the same emotional intensity towards living that the replicants experience. "You'd better get it up, or I'm going to have to kill you!" he taunts after breaking two of Deckard's fingers. Roy inflicts physical pain on Deckard that reflects his own emotional pain. When Deckard finally attempts to fight for his life by striking Roy with a length of steel pipe, Roy, rather than easily disarming and killing his opponent—as we know he can, since he shrugs off the blow—responds, "That's the spirit!" After Roy saves Deckard's life and dies himself, the final scenes imply that some sort of empathetic understanding has been reached. Deckard leaves with Rachael, with the implication that he will not retire her (or, presumably, any other replicants). Thus the film ends by "suggest[ing] the potential for communication between humans and nonhumans", in contrast to the "heir and successor to [its] cinematic legacy", *The Matrix*, which "celebrates the borders between human and machine as natural and necessary for distinguishing the good (self/human) from the bad (other/technology)" (Park 2010, p. 186). The Matrix's creators have said that they showed *Ghost in the Shell* to producer Joel Silver and that it was what they wanted to do with *The Matrix* in live action ("Scrolls to Screen"). Thus *The Matrix*, like *Ghost in the Shell*, plays with these borders. Human protagonist Neo is only able to overcome machine antagonist Smith by entering and possessing him, displaying a machine-like calm afterward. Smith, conversely, becomes increasingly emotional at

the climax of the movie, at one point descending into a hysterical rant about his hatred of humanity. At the end of the film, then, human and machine display attributes coded earlier as indicative of the other (Park 2010, p. 193). This is also in contrast to *Blade Runner*'s source novel, which ends ambivalently and presumably with Deckard awakening the next day to continue bounty hunting. As Vest (2007) notes, when in *Androids* Rachael murders the genuine sheep Deckard bought with his bounty money, her "callousness conclusively proves that his sympathy for her is misguided" and that "sexual intercourse with Rachael destroys Deckard's faith that the androids qualify as genuine human beings." Thus, *Blade Runner* "revises this depressing conclusion to further confuse, rather than confirm, the distinction between human and mechanical life" (p. 18).[4]

The novel focuses on the empathy of the human characters (mostly Deckard, but also Phil Resch). Despite Dick's delight in playing with the boundaries between human and machine, *Androids* portrays empathy as exclusive to humanity, and the focus is on humans' dehumanizing loss of empathy. There is no hint that the androids have any empathy or ever will, and they are portrayed as hostile to it. The novel has a subplot—notably absent entirely from the film, even in a passing mention—about the religion of Mercerism, which involves human beings using an "empathy box" to experience collective emotions with everyone else using a (presumably networked) box at the same time. It is implied that every household on Earth has one, and more profoundly, that it simulates negative emotions as well as positive ones. Deckard's wife Iran uses this mood-altering machine to experience despair at the emptiness of their building, commenting that it is wrong not to feel the loneliness, the lack of other people (p. 5). She calls the experience of not feeling despair at the building's emptiness the "absence of appropriate affect," and Deckard later echoes this sentiment when thinking about what the Voigt-Kampff tests measures to single out androids, the "flattening of affect." The empathy box is essential to the authenticity of human life in *Androids*. Isidore even calls it "the most personal possession you have" (p. 66), and expresses shock when, upon first meeting her, he learns that the android Pris does not own one. The androids cannot use the box, and at the end of the novel the android entertainer Buster Friendly claims the religion is a fraud and that humans are not really experiencing empathy at all (p. 210). Indeed, in the novel, Rachael, in her capacity as a weapon against the Rosen Association's enemies, protects androids by provoking an empathic response toward them in bounty hunters, rendering them unable to continue hunting. Deckard characterizes this as her "victory" over him; that is, the android defeats the human by gaining control over human empathy.

Ghost in the Shell likewise focuses on the relationship between emotion and humanity. Emotions are the province of cyborg characters as they question their nature, particularly seen in Kusanagi. When we are first introduced to her, she wryly remarks that it "must be that time of the month" when Batō questions her odd affect, an uneasiness that will inform her thoughts and actions throughout the film. Kusanagi reacts with sadness when she sees her "double" in the musical interlude, and she assumes a look of concern when looking at the inert body of the government interpreter whose brain is at that moment being hacked into by the Puppet Master. Later, as she watches the garbage collector being informed that his memories are implanted, Batō remarks that "All data that exists is both reality and fantasy." He leaves, unconcerned, but Kusanagi remains, looking at the collector's unbelieving face, with no indication that she will move away any time soon.

The film then cuts to Kusanagi diving underwater. She surfaces in a play on the "birth" scene showing the (original?) creation of her cyborg body that played during the opening credit sequence. As she boards a boat, we see Batō, who asks why she dives, given that her cyborg body is so heavy that she would plummet to her death if the mechanical floaters failed. She replies that she does so to feel—and not just to feel, but to feel the specific emotions of anxiety, loneliness, darkness, and then (as an afterthought?) "perhaps even hope." It is not the specifics of the emotions that matter but the experience of feeling. Like Deckard's wife Iran in *Androids,* who purposefully induces feelings of sadness and loneliness because it would be wrong not to feel that way, given her isolation, Kusanagi is purposefully stimulating emotional responses in line with her current situation: questioning her ghost, questioning her identity.

This stimulation of emotion stands in sharp contrast to Kusanagi's lack of affect with regards to her shell—the cyborg body Section Nine has gifted her with (though it is a gift that Section Nine can take back if she decides to leave its employ). If she feels any pain in the scene in which she tears her own body apart attacking the robot tank, the audience does not see it, and she "evinces no shame at her nakedness" after she defeats the Puppet Master's accomplice (the "thermoptic camouflage" she uses to overcome him requires her cyborg body to be uncovered—that is, that she must be nude). This is not because she supports public nudity as a moral position, but because she feels no emotional connection to the shell that has been assembled for her (Orbaugh 2008, pp. 161-162); Hence Kusanagi's intense desire to feel emotion, even negative emotion, to prove to herself that she remains human.

Livia Monnet (2002) observes that *Ghost in the Shell* ends with the merger of Kusanagi and the Puppet Master into "a plasma-like, fluid mass that erases gender and sexual differences, as well as differentiation between self and other" (p. 257; see also Chun 2006, p. 245)—the combination of Kusanagi's human ghost and the synthetic ghost of the artificial life form. Tellingly, while the body that the new life form inhabits is neither Kusanagi's nor the Puppet Master's "original" body, the Major still has her organic brain (Orbaugh 2002, p. 446). It is only the film's tantalizing final line, "the Net is vast and infinite," that hints at the new being's abandonment of any contemporary notion of "body" altogether. This theme is pursued in deep and fascinating ways in the sequel, *Innocence*, in which there can be no question that the Kusanagi/Puppet Master lacks any kind of body yet retains a distinct identity, but the first film retains the notion that human identity requires some sort of organic form (Orbaugh 2008, p. 170, n.12) until that last line. *Ghost in the Shell* thus ends with the ultimate expression of empathy, the total breakdown of identification dividing one being from another, the leaping of the "fundamental rift" between the human world and the "realm of pure information" (Gardner 2009, p. 46).

Conclusion

This article addressed the connection between empathy and memory in defining what is human in *Do Androids Dream of Electric Sheep?, Blade Runner*, and *Ghost in the Shell*. Characteristic of Dick's work is his tendency to blur the clear lines that we attempt to impose on messy reality, and he does so throughout *Androids*. However, the novel overall regards empathy as a human characteristic that distinguishes us from artificial life, and Dick lamented that this distinction was erased in the film adaptation. *Blade Runner* shifts the distinctive line from empathy to memory, but it remains deliciously ambiguous on the question of whether even this distinction can actually hold, questioning the ontological status of its ostensible human protagonist. *Ghost in the Shell* forthrightly posits that

we can make no meaningful distinction between human and artificial. Far from shrinking from this fact, the film embraces it with a triumphant ending of transcendent integration. Pam Rosenthal has remarked that the "lesson [of cyberpunk] is that the ideal of a final/original uncontaminated humanness is, at bottom, what is most clumsy, old-fashioned, and naïve about outmoded images of technological society" (qtd. in Chun 2006, p. 173). In the critically acclaimed and massively successful *Mass Effect* trilogy of video games, the "best" ending the player can achieve in the final game (released in 2012) is total integration of all intelligent life with artificial intelligence/life, such that all sentient beings are a blend of the organic and the synthetic and ushering in an unprecedented era of peace throughout the galaxy. Mainstream science fiction has embraced technological integration and rejected the unmediated human, pointing the way to our future.*

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NOTES:

[1] The *Ghost in the Shell* manga is not analyzed here because, aside from space concerns, it has not had a similar impact in the English-language popular and scholarly world that the other three works have had. Also, manga is its own art form apart from novels and films, so a useful analysis of the *Ghost in the Shell* manga demands a scholar more versed in the genre than I.

[2] "Specials" are individuals whose genes have been altered by radioactivity caused by nuclear weapons used during World War Terminus. They are prohibited from leaving Earth because their genetic damage is considered dangerous to the survival of the human race. Some, such as the character J.R. Isidore, have also lost some of their mental faculties.

[3] I am working from the 1992 "Director's Cut" that lacks the tonally inconsistent "happy ending" and the redundant voiceover narration, both of which were added at studio insistence and were not part of director Ridley Scott's vision. This version also restores the unicorn dream sequence that ties into the final scene: Deckard finds a unicorn origami left outside his apartment by Gaff, which may imply that Deckard is also a replicant. The Director's Cut retains much greater ambiguity than Scott's later (and preferred) Final Cut.

[4] For a contrasting view (that Deckard does abandon bounty hunting in the novel), see Galvan 1997.

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