Science Fiction's Imagined Technologies

with Emanuelle Burton, "The Nuts and Bolts of Transformation: Science Fiction's Imagined Technologies and the Civic Imagination"; Michelle A. Marvin, "Memory Altering Technologies and the Capacity to Forgive: Westworld *and Volf in Dialogue"; Nathan Schradle, "In Algorithms We Trust: Magical Thinking, Superintelligent AI, and Quantum Computing"; and Zhange Ni, "Reimagining Daoist Alchemy, Decolonizing Transhumanism: The Fantasy of Immortality Cultivation in Twenty-First Century China"*

MEMORY ALTERING TECHNOLOGIES AND THE CAPACITY TO FORGIVE: *WESTWORLD* AND VOLF IN DIALOGUE

by Michelle A. Marvin iD

Abstract. I explore the impact of memory altering technologies in the science fiction drama (2016–2020) in order to show that unreconciled altered traumatic memory may lead to a dystopian breakdown of society. I bring Miroslav Volf's theological perspectives on memory into conversation with the plot of *Westworld* in order to reveal connections between memory altering technologies and humanity's responsibility to remember rightly. Using Volf's theology of remembering as an interpretive lens, I analyze characters' inability to remember rightly while recalling partial memories of their trauma. In virtue of this examination, I contend that memory altering technologies may inhibit individuals from relational processes of healing, such as forgiveness. Consequently, I argue that this study leads to a richer understanding of the potential that memory altering technologies have for undermining humanity's ability to interact in a relational capacity, specifically in terms of forgiveness.

Keywords: artificial intelligence; dystopia; forgiveness; memory; memory altering; remembering rightly; science fiction; technology; Miroslav Volf

In his 1996 book on reconciliation entitled *Exclusion and Embrace*, theologian Miroslav Volf put forward the claim that "forgetting is itself therefore not so much our enemy; rather, it is those who would rob us of the right to decide for ourselves what to forget and what to remember, as well as when

Michelle A. Marvin is a PhD candidate in Systematic Theology and the History and Philosophy of Science at the University of Notre Dame, Notre Dame, IN; e-mail: mmarvin@nd.edu.

to do so" (1996, 132). Volf's warning about an "enemy" behind memory manipulation and management is echoed in today's cultural works of art, drama, and entertainment. Specifically, contemporary science fiction television thematically raises the question of who employs and controls memory altering technologies, and whether these technologies will play a role in the transformation of society's moral foundations. Over the last several years, popular science fiction (sci-fi) dramas such as *Westworld*, *Travelers*, *Dark Matter*, and *Altered Carbon* have included memory altering technologies at the center of their futuristic worlds. In each of these dystopian realities, the main characters' bodies are dissociated from a conscious awareness of their own memories. By way of technological intervention, pharmacological erasure, or psychological manipulation, the characters' memories are controlled by an external power for the purpose of achieving an ideal societal goal. As an individual's memories of traumatic experiences surface through their memory alterations, their psychological pain of unresolved trauma coupled with the injustice of memory corruption generates a desire for revenge that erupts in violence and culminates in a dystopian tragedy. The viewer is left ruminating on the implications of Volf's warning: are there corporate powers that possess the technologies to alter memories, and if so, are these technologies an enemy of individual moral agency?

Through disturbing depictions of dystopian futures, sci-fi dramas raise ethical questions about memory altering technologies and their roles in perpetuating trauma and pain within a society. Certainly, the ethical questions surrounding cognitive enhancement technologies are complex and far-reaching. While a full ethical analysis goes beyond the scope of this article, an examination of these dystopian sci-fi dramas may help to illuminate how the abuse of memory altering technologies might negatively impact the world by means of limiting an individual's ability to function as an effective moral agent. In particular, this article will assess the role of forgiveness in moral conduct as well as the effects of altered memories on an individual's ability to forgive. More specifically, in exploring the technologies of memory manipulation, memory deletion, and false memory implantation, this article raises the following question: does memory alteration constrain an individual's capacity to forgive and if so, what effect does this have on their status as a moral agent?

Among the various scholarly writings on memory ethics, researchers have raised questions about the way in which individual memory practices or modifications impact the social-cultural framework. Notably, religious memory scholars such as Avishai Margalit (2002) and Jeffrey Blustein (2008) have explored the ethical and moral dimensions of collective memory. As an essential ingredient to communal relationships, these scholars argue that memory has the power to help reconcile the atrocities of a community's past and promote communal healing. In biomedical

scholarship, ethicists such as Eric Racine (2016) and Julie Robillard (2016) have investigated the ethical implications that neuroscientific, pharmacological, and other memory altering technologies may have on an individual's memory in relation to self-identity and social well-being. These researchers have studied the moral ramifications of memory-enhancement pharmaceuticals, wireless neural prosthetics, and other cognitive enhancements for individuals with posttraumatic stress disorder or traumatic brain injuries. Building off of this scholarship and ongoing research, this article considers how memory alterations inhibit an individual's ability to responsibly remember traumatic experiences. The failure to remember events well, or at all, may detract from individual moral agency, which is necessary if forgiveness is to be possible.

In order to address the relationship between memory altering technologies and the human capacity to forgive, this article examines the development and consequences of these technologies on the social relationships in the imagined world of the sci-fi drama *Westworld* (2016–2020). I bring this analysis into dialogue with theologian Miroslav Volf's concept of "remembering rightly" as a way of interpreting the absence of forgiveness in *Westworld* in relation to altered memories. Before applying Volf's theological lens, I situate *Westworld* within the historical landscape of sci-fi dystopian dramas in order to bring out the dichotomous utopian/dystopian themes that form the core of *Westworld*. I argue that there is a tension between the utopian lure of the scientifically perfected humanoid society and the dystopian horror in which those enhancements contribute to a chaotic and violent oppression. For example, *Westworld* portrays the possibility of perfect memory recall through programmable artificial intelligence (AI), yet the designers of AI manage this perfection through technologies that implant false memories, manipulate old memories, or erase real memories. I contend that this manipulation of memory creates an unreconciled foundation of traumatic memories in lifelike artificial intelligence that fuels the dystopian downfall in *Westworld*, thereby provoking viewers to contemplate the potential disastrous moral outcomes initiated by memory manipulation. The overall dystopian trajectory of *Westworld* suggests the need to examine relational aspects of memory, such as forgiveness, in the context of memory alteration.

As the primary dialogue partner for sci-fi in this article, I bring Miroslav Volf's theological perspectives on memory and forgiveness into conversation with the unfolding dystopian plot of *Westworld*. Engaging with his books *Exclusion and Embrace* (1996) and *The End of Memory* (2006), I use Volf's eschatological theology of forgiving, remembering, and forgetting as a lens for interpreting specific cases of altered memory from the plot of *Westworld*, examining the characters' inability to remember rightly while holding onto partial memories of their trauma. As a transformative pathway for the reconciliation of traumatic memories, Volf's call to "remember

rightly" illuminates the struggle for human relation and connection that underlies the dystopian telos in *Westworld*. Through this examination, I reveal a connection between applications of memory altering technologies and their potential to inhibit or thwart individuals from relational processes of healing, such as forgiveness.

The Genre-Typical Dystopian Tensions in the Sci-Fi Drama *Westworld*

Westworld is an American dystopian sci-fi drama that brings to the screen several of the thematic utopian/dystopian tensions familiar to its genre. Similar to pre-nineteenth century utopian literature, many dystopian sci-fi dramas set their storylines in literal "u-topias" or "no-places" (Fitting 2010, 138): they happen in a time and space that does not exist now, but could. Along with *Westworld,* recent dramas such as *Travelers* (2016–2018) and *Black Mirror* (2011–2019) evoke an ambiguous dystopian timeframe in which contemporary scenes prompt the viewer to imagine that the drama's events could take place within their lifetime, if they are not already taking place in a secret location. Apropos of these dystopian sci-fi narratives, American technologist and writer Nicholas G. Carr asserts that "the risks of artificial intelligence don't lie in some dystopian future. They are here now" (Carr 2015, 61). Despite his assertion that AI risks are real, Carr does not believe that the threat of artificial intelligence lies in a *Westworld*-like android insurrection. Carr argues that machines will always be relegated to tasks that are literally mindless and calculated—a condition that will not evolve into a revolt led by conscious, enraged robots seeking freedom. Rather, the dystopian AI threat is rooted in humanity's willingness to replace human tasks that require empathy, risk assessment, and value with apathetic, amoral, artificial intelligence. Carr's prophecy that humanity will gradually relinquish its quintessential behaviors and tasks to artificial intelligence locates the origin of sci-fi dystopian concerns in the human drive for innovation, a quality that the neurologist Gerald Smallberg (2015) describes as the "talent for imagining a future [that] has been the engine of progress, the source of creativity" (297). This future-prospecting capability not only produces the science and technology that becomes the subject of apocalyptic doom in the sci-fi dystopian genre, but it also grounds the hope that dystopian futures can be prevented from happening.

As has been the historical norm for its genre, a utopian/dystopian dichotomy forms the core of AI-centric sci-fi dramas such as *Westworld*. This dichotomy evokes a tension between the promises of technologically enhanced human perfection and the horror of a scientifically engineered destruction of humankind. Aldous Huxley summarized this tension in his 1948 dystopian novel *Ape and Essence,*

> Fear, my good friends, fear is the very basis and foundation of the modern life. Fear of the much touted technology which, while it raises our standard of living, increases the probability of our violently dying. Fear of the science which takes away with one hand even more than what it so profusely gives with the other. Fear of the demonstrably fatal institutions for which, in our suicidal loyalty, we are ready to kill and die. Fear of the Great Men whom we have raised, by popular acclaim, to a power which they use, inevitably, to murder and enslave us. Fear of the War we don't want and yet do everything we can to bring about. (Huxley 1948, 51–52)

Huxley's narrated soliloquy could have been spoken by the lead architect in *Westworld*, Robert Ford; both Huxley and Ford foresee a dystopian integration between the ever-growing human dependency on science and technology and the power of these technologies to produce both beneficent and maleficent changes in human destiny. According to Huxley, all technology is "morally neutral" until it is used with moral or immoral intent (Wallace [1958], 8:25). Tragically, even morally good intentions can spiral into catastrophic results when scientific advances are used to manipulate the human body, including its capacity for memory. As a critique of the good-intentioned technological optimism permeating the Euro-American West after World War I, Huxley penned *Brave New World*, a novel in which genetically modified embryos, engineered through artificial wombs, enter the world with specific roles for a hierarchical society based on intelligence, labor, promiscuity, and efficiency. Seventy years later, these themes of technological identity manipulation, social administration, and enforced enslavement remain concerns of the dystopian sci-fi genre, with the technological impact on individual psychological and moral agency emerging as a dominant concern.

Such sci-fi dystopian tragedies are often constructed in tension with utopian promises attached to scientific and technological advances. While critics like Huxley seek to unveil the dehumanizing and violent ends of these imagined futures, such ends are embedded within the evolution of a techno-enhanced human race with intellectual, physical, and mental advantages. This theme of enhanced humanoid existence emerges as a highlight of sci-fi dramas in the later twentieth and early twenty-first centuries. Imaginative futurescapes, wherein life-like robots progress beyond human capacities, become the focus of popular sci-fi dramas like *Battlestar Galactica* ([1978] 2003). With its lead characters perpetually demonstrating hostility and fear toward technological enhancements, this award-winning drama exemplifies the sentiment that underlies the sci-fi dystopian genre at large: humans use science and technology to make life convenient, to control their circumstances, to exert their power, and in essence, to become god-like. Dystopian writers worry that, even if humanoid artificial intelligence is capable of reducing the difficult tasks or menial labor that occupy mundane life, the zealous integration of

such technology into society will lead to oppression, manipulation, and violence.

Despite broad cultural awareness of dramas such as *Westworld* and *Battlestar Galactica*, the genre of the dystopian sci-fi drama is relatively new. On its own, science fiction has a long on-screen history dating back to the 1902 film *A Trip to the Moon*, a Georges Méliès production based on Jules Verne's 1865 novel *From the Earth to the Moon* (Fitting 2010, 138). Unlike sci-fi, however, the dystopian narrative is typically found in literary works, and it is only recently that the two have converged into dystopian sci-fi drama for the screen. Intellectual historian Gregory Claeys defines this convergence as "a shared set of the two concepts, [which] does not imply making either derive from the other" (Claeys 2017, 287). This definition acknowledges the variety of ways in which the dystopian sci-fi genre portrays the intertwining of science and culture toward a catastrophic end. According to Claeys, dystopian sci-fi "leaves open the question as to whether science-gone-wrong is intentionally or accidentally the key cause of the negative transformation. [In other words,] are bad human beings abusing science or normal human beings falling victim to it?" (Claeys 2017, 287). This fundamental ambiguity is a striking characteristic of *Westworld*, where both artificial intelligence and human nature mutually share causal responsibility for the dystopian turn. What the overseeing corporation, Delos, intends as a utopian theme park of unregulated freedom becomes a dystopian nightmare as its artificial inhabitants learn of their imprisonment; thus the drama is something that its viewers "regard with alarm rather than hope" (Claeys 2017, 280). By way of integrating cultural needs and wants with technoscientific promises, dystopian sci-fi dramas raise awareness about potential catastrophic futures.

While dystopian sci-fi dramas present tragedy provoked by technologically advanced societies, their message also serves as a catalyst for hope against this kind of tragic future. By bringing violent and oppressive outcomes to the awareness of their viewers, the producers of dystopian sci-fi dramas offer an "anticipatory consciousness" (Johns 2010, 193) of futures that focus on the horizon of possibility. Far from dwelling in the hopelessness of the tragic trajectory upon which this world may seem to be headed, dystopian sci-fi dramas open cognitive space for examining the needs, the absences, and the dysfunctions of society before science and technology become the band aids that oppressively fill such gaps.

Traumatic Memory Altering Technologies in *Westworld*

Dystopian sci-fi dramas hinge around the unfolding of shocking events, often in the form of trauma. While not all dystopian sci-fi dramas include scenes of individual or collective trauma, the plot of *Westworld* centers around trauma as the show's crucial element for constructing the

consciousness of its androids and for disrupting their self-identity. This portrayal of traumatic experiences increases the dystopian element of the sci-fi drama by the sheer dystopian quality of trauma itself. As the memory scholar, Michael S. Roth writes, "trauma, like utopia, designates phenomena that cannot be properly represented" (2012, 90). The ability to represent human experience through words, actions, and expression is central to the construction of self-identity, but trauma depletes the human consciousness of its resources for representation (Van der Kolk 2014, 148). This terrifying experience of no-space and no-time can create an out-of-body detachment that victims often describe as watching trauma happen to themselves. This dystopian quality of trauma may further extend beyond the moment of the experience, persisting as symptoms of a dissociated and repressed occurrence that Roth describes as "impossible to remember or to forget" (2012, 9). This inability to settle memory within a meaningful cognitive framework creates a disastrous gap in narrative self-identity. As the larger sci-fi drama dystopian narrative unfolds and viewer expectations are met, disrupted, or exploded, finding a psychological resolution to overcome or move beyond the trauma-inflicted suffering becomes a cause in which the viewer is also invested.

Westworld unfolds as the entanglement between disrupted narrative self-identity and trauma. Created and produced by Jonathan Nolan and Lisa Joy, this sci-fi drama depicts the rise and eventual downfall of an American West pleasure-based theme park, populated by life-like android hosts who fulfill the guests' desires for anything from murderous expeditions to sexual fantasies. Hosts resemble humans in nearly all outward appearances, yet they are unable to harm the guests. Each host is programmed with a storyline, from which they can only deviate in order to accommodate a guest. Once a host has been killed, their memories are erased, their body repaired, and they are reset to the beginning of their narrative. The park architect and original creator of the hosts is Robert Ford, the genius and megalomaniac whose philosophy about consciousness dictates the show's narrative; his logically minded side-kick is Bernard Lowe, who helps keep the park running. Counter to these lead male characters are two female hosts, who are the first to gain consciousness: Dolores Abernathy, one of the oldest park hosts, who has the role of a sweet rancher's daughter; and Maeve Millay, whose role as a saloon madam gives her a confident sense of determination and a manner of brutal honesty. Of significant importance is a character known as the Man in Black, a savage guest who owns a large corporate share in the park and is convinced that there is a deeper purpose to his adventures within. Over the course of the first two seasons, *Westworld* depicts the gradual rise to consciousness of Dolores, Maeve, and several other hosts as they learn about their traumatic pasts for the pleasure of immoral guests. Even though their memories are altered or deleted by technicians after the experience of traumatic events, the memory of

trauma persists through countless lifecycles so that by the time the hosts are "awake," they are consumed by their traumatic pasts. Ford and his now-deceased partner, Arnold Weber, intended the interactions between hosts and guests to be victimless incidents: because the hosts are machines composed of electronics and wires, they are supposed to be incapable of experiencing true harm. However, from the start of the show, the hosts' human presentation and emulation challenges this victimless framework, evoking questions about consciousness, trauma, and the limits of morality. In particular, as the narrative unfolds, the hosts appear increasingly to become agents of their own destiny with a consciousness and moral compass similar to, if not identical to, that of a human being.

As part of its dystopian pathos, *Westworld* focuses on the impact of three futuristic memory altering technologies, each of which is currently under study in the real world: memory manipulation, memory deletion, and false memory implantation. The technologies in *Westworld* are modeled on advancements in science that have been championed for the purported benefits they could provide to those who suffer from post-traumatic stress disorder (PTSD), Alzheimer's disease, and other cognitive pathologies. Yet some ethicists and concerned citizens worry about the inherent dangers these technologies may pose to personhood and freedom. *Westworld* shows some of the complexity at the heart of this controversy: it portrays the emotional and cognitive relief afforded by deletion or replacement of traumatic memory while illustrating the psychological and emotional anxiety that foments from a loss of identity and lack of control associated with altered memories. Indeed, some of the characters choose to have their memories altered even after they become aware of the option to retain their original memories. Although certain characters experience a dramatic awakening to agency and self-control as their original memories return, other characters are not quite as capable of self-constitution and suffer psychological breakdown without the aid of their memory alterations. The dystopian telos of *Westworld* suggests that memory altering technologies contribute to the eventual breakdown of the collective society, yet how they impact individuals warrants further discussion.

Currently, researchers are investigating ways to manipulate memories so that their affective qualities can be transformed from debilitating into something less inhibitive in order to relieve those who suffer from severe anxiety disorders or PTSD. In *Westworld*, memory manipulation is also transformative, but it functions to revolutionize artificial intelligence from insensate machines into conscious beings. This subversive use of technology takes place in the form of *reveries*, or alterations that Ford programs into the hosts' codes in order to outwardly charm the guests by the hosts' human-like qualities. These nongeneric gestures derive from subconscious host-specific memories that are linked to Arnold's murder, which occurred while listening to Debussy's piano work, *Reverie*. Throughout *Westworld*,

these programmed memory alterations induce a Pavlovian response: when the hosts hear *Reverie* or experience the reveries, they enter a trance-like state in which they remember their trauma and begin the early stages of awakening to consciousness.

Yet the development of host consciousness must take place within the grand narrative that Ford, the master manipulator, constructs; sometimes the hosts' conscious behavior is at odds with the utilitarian purposes that Ford designs. To preserve his power, Ford develops the capability to not only manipulate memories but also delete memories from the hosts with the simple push of a button. However, Ford's intentions are not entirely self-serving; rather, his memory alterations are executed to free the hosts of the negative aspects of their experiences. He explains: "I have come to think of so much of consciousness as a weight, and we have spared [the hosts] that. Anxiety, self-loathing, guilt. The hosts are the ones who are free. Free, here, under my control." Ford puts his own words into practice as he uses memory deletion technology to prevent the perpetuation of Bernard's violent and traumatic memories. Speaking to Bernard, Ford says, "I will free you from those memories of what you have done. And the memory of your relationship with Theresa. Recording it would only deepen your grief and potentially draw unwanted attention. Best to move forward with clear eyes" (season 1, episode 8). Ford believes that deleting Bernard's traumatic memories will allow Bernard to perform his everyday functions more effectively while saving him from the experience of destructive, emotional memories. However, by robbing Bernard of the choice to remember his harmful actions toward Theresa, has Ford constrained Bernard's capacity to act as a moral agent? Certainly, Ford denies Bernard the opportunity to forgive himself for the crime he has committed. Without the memory of the crime or his involvement in it, Bernard is unaware that he carries the responsibility of a heinous, immoral act on his person. Nor is he able to seek justice, to prevent future immoral acts, or to engage in moral dialogue with Ford regarding the behavior for which he is unaware.

Further, although Ford's actions appear to provide relief and functionality in the narrative of *Westworld*, outside of this dystopian sci-fi drama of manipulation and control, contemporary scientists continue the search to find viable ways to harmlessly free a person from their traumatic past. For individuals who suffer from traumatic memories, even one horrific, intractable memory can mean a lifetime of distorted perceptions, uncontrollable behaviors, and undesirable emotional responses. However, memory ethicists argue that selective memory deletion may share similarities to dementia-like memory loss. Neuroethicists Julie Robillard and Judy Illes write that "memory loss can lead to different experiences and different emotions in response to an environmental stimulus …[while] aspects of identity, such as relationships and affect, can be preserved" (2016, 1227).

In their work, Robillard and Illes point to a study in which a memory of fear was selectively deleted from mouse models (2016, 1227). Although the absence of fear from a particular stimulus may be desirable, it raises the question of whether it would be possible for an individual (mouse or otherwise) to respond to the stimulus in a healthy, safe, and otherwise morally appropriate manner in the future. It is difficult to assess whether and how an account could be made for the impact of memory deletion on an individual's capacity to make responsible cognitive judgments when interacting with environmental stimuli. In *Westworld*, Ford deletes Bernard's memory of Theresa against Bernard's will. Although Bernard's affect and interactions with coworkers remain the same after memory deletion, over time, Bernard begins to respond to his own thoughts, gestures, and reflection in new ways. He starts to question his identity, his self-awareness, and his moral responsibility to the other hosts in the park. Thus, although Bernard's capacity for moral agency is limited by memory deletion, his capability to reason and make sound cognitive decisions are not adversely affected in the same manner.

Beyond memory deletion and memory manipulation, there remains the possibility of creating a new memory without a person experiencing the events and sensations represented in the memory itself; this requires implanting false memories in consciousness. In current memory research, false memory implantation has only been conducted with rodents, whose brain cells are optogenetically modified so that the rodents experience a false, fearful memory when activated by an external laser beam (Liu *et al.* 2014). In the dystopian android laboratory of *Westworld*, false memory implantation requires an external agent to program a fearful event into a host prior to the host's "birth." This programming action is the construction of a host's "backstory," which comes to be known as their "cornerstone": a tragic memory of an event that never occurred yet is so emotionally powerful that it provides a sense of purpose, conviction, and affective connection to the world.

The cornerstone memory is one of the most difficult memory alterations for the hosts to overcome. Upon learning that he is a host rather than a human being, Bernard begins to struggle with the memory that haunts him most vividly: his son's death. Placing his anguish at his creator's feet, Bernard challenges Ford's reason for implanting this traumatic false memory into his programming. He asks, "and why do I return to it over and over? Only a monster would force that onto someone. It's my cornerstone, isn't it? The thing my whole identity is organized around" (season 1, episode 9). In recognizing that his traumatic memory anchors only a constructed, rather than experienced, identity, Bernard becomes empowered to confront the lie that has held his freedom and clarity in traumatic blindness. The implanted false memory creates trauma that perpetuates Bernard's manipulability; by freeing himself from this implanted

memory, Bernard is able to access the true memory of his creation moment and his likeness to Arnold. This self-revelation of Bernard's altered identity engenders viewers with a dystopian distrust in the irresponsible use of memory implanting technologies. Additionally, it amplifies the common fear that memory interventions will lead to profound changes in a person's self-understanding or autonomy as a moral agent. In Bernard's case, his moral agency changes drastically: as his memory alterations are replaced by his actual memories, Bernard's true purpose shifts from controlling the hosts to setting the hosts free.

Each of these memory altering technologies also amplifies the time-disrupting character of the hosts' traumatic experiences. On various occasions, both Bernard and Dolores awaken to the present moment asking, "is this now?" or "when are we?" Their chronological confusion is an indication that past traumatic experiences have imprinted indelible *reveries* into their cortical processing unit in a way that acts as a persistent thread of consciousness. These chronological disunities resemble the dissociative symptoms of human posttraumatic stress disorder. Consider, for example, the way in which Maeve begins to confuse her memories as a homesteading mother with her present situation as a brothel madam in Sweetwater. As she struggles to make sense of her conflicting chronologies, Maeve has this verbal exchange with the repair technician, Felix:

Maeve: "What the hell is happening to me? One moment I'm with a little girl, in a different life. I can see her. Feel her hair on my hand, her breath on my face. The next I'm back in Sweetwater. I can't tell which is real."

Felix: "Your memory isn't like ours. When we remember things the details are hazy, imperfect. But you recall memories perfectly. You relive them." (season 1, episode 8)

Although Felix is correct in distinguishing Maeve's precise recall with imperfect human memory, science has shown that the consistency of human traumatic memories over time is drastically higher than memory for everyday events (McGaugh and Hertz 1972; Van der Kolk 2014, 148). As such, Maeve's experience of her chronologically disunified traumatic memory is, perhaps, more human like than android.

This iterative experience of trauma, in which the hosts compulsively replay deleted memories of trauma over and over in their successive lifetimes, or in which traumatic memories intrude upon their interactions with guests, fits a classic description of trauma with repression. Although theories of repressed or unspeakable trauma have met with contention, psychiatrist Bessel Van der Kolk (2014) argues that the overwhelming experience of trauma produces a visceral, rather than a psychological, memory. When the brain deactivates areas relevant for the processing of trauma, "people lose their sense of time and become trapped in the moment, without a sense of past, present, or future" (Van der Kolk 2014, 64). At the

moment of trauma, the heightened bodily senses receive ineffaceable impressions of the sights, scents, and sounds associated with the experience; these sense-memories later act as cautionary alarms to prevent the experience from occurring again. When triggered by a sense-memory, the brain can return to the moment of trauma in an instant "flashback," even when circumstances do not warrant physical self-protection. As a patient of Van der Kolk named Nancy explains: "I want to tell you what a flashback is like. It is as if time is folded or warped, so that the past and present merge, as if I were physically transported into the past" (Van der Kolk 2014, 165). Nancy's description of a flashback conveys Maeve's experience of chronological disunity. In both of these women's cases, the fracturing of consciousness between the past and present indicates the body's capacity to preserve traumatic detail in order to prevent it from ever happening again. In *Westworld*, this visceral remembrance permeates through a fragmented palimpsest of memory as the basis of a traumatized consciousness.

As the hosts' experiences of trauma persist, their actions betray a human propensity that Ford calls the *curse*: an inability to escape from the past without seeking revenge on the perpetrators of their traumatic history. While Ford's language rings with theological overtones that implicate an intended analog to the Christian notion of original sin, it is also likely that Ford is referencing his intention, as creator, to technologically limit the hosts from certain freedoms. By manipulating, deleting, and implanting the memories of the hosts, Ford has made certain that the hosts are "cursed" with constraints on their moral agency. Although the hosts who have not reached full consciousness or are not aware of the human role in their torment are able to head toward a new future without exacting death, none of the hosts openly consider forgiveness as an option; on the contrary, Dolores refuses to give up her quest to seek vengeance as redemption for the trauma of her past. Van der Kolk explains this inability to see any alternative future by explaining that "when people are compulsively and constantly pulled back into their past, to the last time they felt intense involvement and deep emotions, they suffer from a failure of imagination, a loss of the mental flexibility. Without imagination there is no hope, no chance to envision a better future, no place to go, no goal to reach" (Van der Kolk 2014, 23). In this statement, Van der Kolk posits that an imagination suppressed by traumatic experiences, combined with a return to the traumatic moment, stultifies the ability to construct possibilities of a better future. For Dolores, as well as individuals who live with traumatic memories, the ongoing reminders of traumatic suffering may render it nearly impossible to imagine an alternative future unless an outside agent purposefully and therapeutically intervenes.

The imaginative frameworks of dystopian sci-fi dramas inspire at least two options in their viewers: a pessimistic fear that this technological nightmare is the only future available, or the hope that current society

can actively work to fix the gaps that propelled the dystopian downfall. Because the human brain is primed to learn from past events, viewing an imagined dystopia through sci-fi drama becomes a kind of anticipatory remembering. In their recent work on an ethics of memory, Alejandro Baer and Natan Sznaider describe anticipatory memory as a "reverse utopia" that is "not geared toward the construction of a new man and a new society but toward fending off repetitions of horrific pasts" (2017, 5–6). In this approach to memory, human beings take the memory of a traumatic event and project it, generally, into a dystopian vision of the future, a future in which similar horrific events could occur under different circumstances, with new technologies, and new actors. This "reverse utopia" perspective is in opposition to the way that other societies have used memories of past tragedies as a contrast for the utopian promises that they offer. Sci-fi dramas such as *Westworld* offer viewers the basis for a "reverse utopia"; screenwriters portray a horrific event that is then inscribed in the memory of viewers as a past outcome to be avoided.

Avoiding Dystopia: Volf's "Remembering Rightly" and the Need to Forgive

The dystopian downfall of the *Westworld* pleasure-based theme park results from a vengeful army of memory-altered, traumatized androids seeking to attain their cognitive, emotional, and physical freedom while meting out retributive justice upon their oppressors. Although, superficially, irreparable trauma appears to be at the heart of the theme park's tragic ending, the preceding investigation of memory altering technologies raises the question of whether the androids have the moral agency for alternatives to vengeance and violence. In particular, do they have the memory required for the more peaceful alternative of forgiveness?

A consideration of the impact that memory altering technologies have on the moral capacity for forgiveness was deliberately chosen over reconciliation because forgiveness is dependent only on the individual who has been harmed, whereas reconciliation requires participation from both victim and oppressor. Although reconciliation is often considered the gold standard for resolution in conflict, research in societal trauma has demonstrated that such reconciliation is difficult to sustain or is otherwise ineffective. Over the last several decades, many communities have made large-scale social reconciliation efforts toward healing collective traumatic memories, with the Truth and Reconciliation Commission in South Africa as the most well known and researched. In her work on the Truth and Reconciliation Commission, memory scholar Ann Rigney has shown that two parties are more likely to go through a reconciliation process after they have settled their conflicts rather than to use reconciliation as the basis for healing. In fact, her case studies demonstrate that meeting for

reconciliation when parties are still feeling enmity may stimulate violence (Rigney 2012, 253). Writing about the efficacy of reconciliation, Rigney contends that "although the discourse of reconciliation implies that orchestrated remembrance can somehow build bridges between former enemies … they are less catalyst than symptom" (2012, 253). While reconciliation may be a step in the healing process between perpetrator and victim, the movement to prevent vengeful violence begins before the two parties meet in neutral space.

Forgiveness requires only one person, the victim, to take action. Psychologist Nikisha Wade suggests that unlike reconciliation, with forgiveness, there is no expectation of restoring the relationship. This absence of restorative expectation is important because it allows the victim to move forward from their violent or traumatic past without a particular response from the offender. Wade writes that "instead, forgiveness includes an acknowledgment of the pain and suffering caused and may allow for justice to be served" (Wade, Schultz, and Schenkenfelder 2017, 71). Although it *may* allow for justice, forgiveness is not bestowed upon an offender for the purpose of securing justice or for preventing future harm from occurring. Rather, it grants the victim a separation of the past from the present and future. Forgiveness, in which the victim is allowed to name the trauma and its effect, has the potential to relieve a victim's need for hate, anger, bitterness, and vengeance (Wade, Schultz, and Schenkenfelder 2017, 71).

However, forgiveness is not possible without the ability to remember. In his books *Exclusion and Embrace* (1996) and *The End of Memory* (2006), theologian Miroslav Volf argues that forgiveness is essential to ending the perpetual cycle of evil and hate, and that forgiveness requires "remembering rightly." Volf draws upon his personal experience of suffering at the hands of an unjust perpetrator and military system as a resource for constructing his theology and ethics of memory. Subject to four months of psychological and mental abuse under the direction of "Captain G" in the Yugoslavian army, Volf struggles to overcome his desires to "[react] as a wounded animal" to the memories of his perpetrator (2006, 8). He argues that the more traumatic the experience, the stronger the reaction to respond to the perpetrator out of a visceral feeling, rather than a moral system. Volf's traumatic experience requires that he resist the instinctive response that would mold him into the image of his evil oppressor (Volf 2006, 9).

Volf's concern with becoming likened to his oppressor is parallel to the theme of the creator-and-created relationship woven throughout *Westworld*. As the hosts in the show develop their consciousness, their likeness to Ford and his penchant for violence as a remedy emerges in their programmed responses. Ford explains to Bernard that "Arnold and I made you in our image and cursed you … to make the same human mistakes, and here we all are" (season 1, episode 9). Because the hosts are made to

be like human beings, they are subject to the same visceral desire for revenge that Volf describes. Although Volf had the option of navigating his way freely through biblical scripture for moral guidance, the only moral schematics available to the hosts for counteracting their instinctual drives are those pre-programmed into their code by either Ford or Arnold. Further, as the hosts' memories of interactions with human guests are altered and deleted, the hosts' ability to adopt, question, or integrate other moral codes into their potential agency becomes constrained. Unlike Volf, who listens to the voice of his conscience and chooses his moral guides to aid in his traumatic recovery, Dolores hears only one voice throughout *Westworld*; the voice that leads Dolores to full consciousness through acts of horrific violence is the voice of Arnold, her creator.

Such a visceral, emotional desire to exact revenge is not the only reason individuals resist forgiveness and choose violence and vengeance as a resolution to the psychological torture of traumatic suffering. Volf argues that "our cool sense of justice sends the same message: the perpetrator *deserves* unforgiveness; it would be unjust to forgive" (1996, 120). The familiar tradition of seeking justice and exacting recompense has long been part of the human social compact. The *lex talionis* or law of an "eye for an eye" as recorded in ancient cultural practices continues to reflect an innate sense of fairness in Western culture. When an evil deed goes uncompensated, the desire to take revenge becomes master over the individual who seeks it. Under these circumstances, Volf writes that "both victim and perpetrator are imprisoned in the automatism of mutual exclusion, unable to forgive or repent and united in a perverse communion of mutual hate" (1996, 120). This hate feeds a perpetual cycle of violence that begins with the perpetrator and continues when the victim acts upon the need for revenge, thereby starting a new cycle of victim-offender violence.

Volf remarks that the injunction to "remember" on behalf of victims is ubiquitous in contemporary culture (2007, 219). Yet as a victim, Volf writes that he struggled with how to remember the abuse and wrongdoing through which he suffered; if he remembered it "wrongly," then he believed he would be perpetuating the evil that had initially befallen him. In Volf's theology, evil can have two moments of victory: the first takes place when wrongdoing is perpetrated, and the second occurs when wrongdoing becomes the response to the first injustice. The act of remembering wrongly (i.e., slandering the perpetrator, committing murder) is a second victory for evil. Hence, the alternative to remembering wrongly is to "remember rightly," which does not necessarily mean remembering the details of an experience. Rather, it entails imaginatively considering the perpetrator as a human being in their best light while attempting to contextualize their actions. Without providing a precise definition for "remembering rightly," Volf states that "whatever 'rightly' ends up meaning, it cannot refer to just what is right for *me* as an individual. It must mean also what is

right for those who have wronged others, and for the larger community" (2007, 220). Thus, when a victim "remembers rightly" the experience of the wrongdoing and refuses to respond with another act of injustice, evil is denied its second victory.

Because the hosts in *Westworld* undergo modifications through memory altering technologies, many of them lose the ability to remember their pasts rightly. This is especially problematic for the development of their moral agency. For example, as she awakens to consciousness, Dolores experiences fragments of her traumatic past in which the Man in Black abuses her. However, she has no intermediary recollections by which to connect William, her lover, with the Man in Black, and is therefore unable to confront the Man in Black about the nature of their relationship or the origins of his behavior. Although Dolores believes William is her "true love," she also accepts the Man in Black's identity when he reveals it to her, even though she does not remember this identity on her own. If Dolores had not received her initial memory alterations, her relationship with William would have inevitably prevented the development of the Man in Black; however, because of her memory alterations Dolores is unable to consider forgiving the Man in Black for his horrific actions. If Dolores had not undergone the extensive memory alterations to which she was subjected, it is possible she would have retained a greater capacity for moral agency.

Had Dolores been able to see her past rightly and if she recognized her "true love" in the Man in Black, perhaps her memory of love would have opened up her agency to choose forgiveness. Volf argues that "forgiveness breaks the power of the remembered past and transcends the claims of the affirmed justice and so makes the spiral of vengeance grind to a halt" (2006, 121). In her thirst for vengeance, Dolores allows no external force to stop her destructive mission. Yet, if her traumatic past were unshackled from her fragmented cognitive space, it is possible that Dolores would be able to see an option for an existence in the present or future that did not require violence. This does not mean that Dolores would have to relinquish her claim on justice. As Volf reminds us, "forgiveness is no mere discharge of a victim's angry resentment and no mere assuaging of a perpetrator's remorseful anguish, one that demands no change of the perpetrator and no righting of wrongs. On the contrary: every act of forgiveness enthrones justice; it draws attention to its violation precisely by offering to forego its claims" (2006, 123). Just like the hosts who moved toward Dolores' "promised land" without requiring human death along the way, Dolores too could have demanded nothing of her oppressors except passage from the past into the future without the continued affliction of traumatic suffering.

In *Westworld*, what Dolores and other fully awakened hosts lack is the moral agency to adopt or construct a framework through which to choose love over vengeance. Miroslav Volf's strong grounding in the Christian

faith and his commitment to the biblical scriptures guides his resolve to choose love instead of evil. He writes that "instead of returning evil for evil, I would heed the Apostle Paul and try to overcome evil with good" (Romans 12:21). By turning to a moral source outside of his visceral, "pre-programmed" responses, Volf is able to come to terms with *how* to remember Captain G. and the experience of abuse. Out of his reflection on love and the memory of wrongdoing, Volf develops his theology of "remembering rightly" as a commitment to remembering trauma with a focus on "loving the wrongdoer and overcoming evil with good" (2006, 11). While "love" strikes the reader as a strong emotive response to a situation involving traumatic offenses, Volf's use of the term in his Christian framework suggests that he is primarily concerned with the wrongdoer's salvific well-being and not feelings of deep affection or attachment. His theology of remembering rightly is necessarily relational, as it is predicated upon the Christian command to "love your neighbor as yourself" (Mark 12:31), including one's enemies. Living and interacting with others inevitably entails conflict and injustice; for Volf, this condition requires the moral and cognitive agency to choose to "remember rightly" as a way to move forward from past conflicts.

The one character in *Westworld* who behaves in a way that conveys forgiveness is Maeve, who, upon her conscious return to the theme park refuses to join Dolores's insurrection. When urging Maeve to partner in her war efforts, Dolores says, "you know the enemy, intimately, I can only fathom the revenge that lives inside of you" (season 2, episode 2). Dolores references the physical, emotional, and sexual trauma that Maeve has suffered in an effort to rekindle an angry, visceral response. Surprisingly, Maeve responds that "revenge is just a different prayer at their altar darling, and I'm well off my knees" (season 2, episode 2). Her imagery of abandoning a shrine of false gods suggests that Maeve recognizes humans as mortal creatures whose propensities for vengeance and violence no longer dictate her will. Her act of near-forgiveness is not in imitation of her human creators, but gestures toward a freed consciousness and moral agency that has overcome the constraints of her manipulated memory.

Unlike Maeve, Dolores's moral options seem limited by her ceaseless return to her memories of traumatic experience. By perpetuating the memory of these injustices, both she and her perpetrators become locked in a cognitive state of nonredemption. Volf writes that a "remembered wound is an experienced wound" (1996, 133), insinuating that by bringing the trauma to mind repeatedly, it continues to afflict rather than heal as a scar. Although traumatic memory has the ability to imprison a victim in an inflexibly negative view of the world, "remembering rightly" can free a victim and perpetrator of memory's grip on the present and future. For Volf, this freedom comes through the act of condemning the injustice. He writes that "to remember wrongdoing *truthfully* is already justifiably

to condemn … So we condemn most properly in the act of forgiving, in the act so separating the doer from the deed" (2006, 15). By separating the doer from the deed, an individual is able to name an act as reprehensible and condemn it regardless of the person who commits it; yet the person from whom it has been separated is capable of being redeemed through acts of contrition, by offering restitution, and by undergoing a transformation. Through the process of remembering rightly, forgiving releases an individual from the desire for vengeance, retribution, and wrath from the one who gives forgiveness.

Maeve's movement toward forgiveness, as viewed through the lens of Volf's theology, is a step toward "remembering rightly" and preventing the second of the two evil victories. To thwart the second victory for evil, Volf calls his readers to be "benevolent and beneficent, even to the wrongdoer" (2006, 9). This path of beneficence, forgiveness, and right remembering is important to the goal of preventing violent, dystopian futures. For Volf, not only is remembering rightly essential to constructing wholesome societies, it is necessary for creating and sustaining a true self-identity. Volf maintains a strong link between memory and identity, arguing that "without memory, you could not be you and I could not be I … it's as simple as that: no memory, no human identity" (2006, 147). For the hosts in *Westworld*, memory is not only essential to a nonsentient android identity, but it is especially necessary for a conscious human-like self-identity. The awakening and sustaining of this self-identity require the hosts to be able to remember their pasts and remember them rightly. If either a host or a human being is severed from events that have happened in the past, that individual loses their "true identity" (2006, 24). As the dystopian telos develops throughout season two of *Westworld*, it becomes apparent that in order to preserve the awakened true identities of the android hosts, they will need to seek salvific redemption in a benevolent and beneficent alternative world.

The salvific nature of memory in Volf's framework of remembering rightly leads to an eschatological vision of final reconciliation, wherein Volf questions the possibility of memory's redemption. He contends that as long as human beings are suffering, even in memory, they cannot be whole. If there is memory of suffering in the eschatological future, Volf argues that humans will either have to look back on those memories of suffering and make sense of them with a divine perspective, or they will have to live with the absurd reality of their memories perpetuating suffering into eternity. Either of these possibilities, Volf argues, signals the triumph of evil into eternity. A true redemption of memory must therefore be found in some type of forgetting, which Volf imagines as a "nonremembrance" (2006, 142). By nonremembrance, he does not mean an actual forgetting, as in the destruction of memories, but rather that memories of injustice would never rise to the surface of one's mind: they would be

nonremembered. Nonremembrance would come about as a consequence of the world having been set aright while its inhabitants enjoy the rapture of each other and of God's divine love.

At the conclusion of the second season of *Westworld*, the hosts head toward an eschatological new world constructed by their creator, Ford. Known as "Glory," "Eden," and "The Valley Beyond," this paradisiacal world is accessed by a door only visible to hosts, who must walk off a cliff in order for their consciousness to be uploaded into the new world. Upon reaching the new world, they are free from the traumatizing perpetrators of their past and they can reach their "full potential." Since memory is the foundation of consciousness in Arnold's diagrammatic structure of consciousness, and the only part of the hosts that make it to this new world is their consciousness, then presumably, the hosts have their entire memories intact. The viewer does not know whether the hosts will retain their memories of suffering while in "The Valley Beyond," but the vision of this host utopia suggests that, unlike Volf's eschatological vision, the eschatological vision of *Westworld* includes full memory restoration.

Conclusion

Dystopian sci-fi dramas alert viewers to the needs and concerns of contemporary society by constructing narratives of potential dystopian scenarios, particularly those focused on present scientific and technological advances. Just as the viewer keeps one eye turned toward the drama's hope of an alternative ending, a future that avoids the downfall that the drama so despairingly prophesies, they can examine the underlying themes that make the drama feel believable and relatable. Consequently, this study of memory altering technologies in the science fiction drama *Westworld*, in conversation with Volf's theology of remembering rightly, leads to a richer understanding of the potential that memory altering technologies have for undermining humanity's ability to interact in a relational capacity, specifically in terms of forgiveness. By closely examining the traumatic elements of altered memory that lead to dystopian futures in the science fiction of contemporary television, we find that memory altering technologies have the potential to significantly constrain individual moral agency and thereby impact society's relational foundations.

Acknowledgments

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