

Rehabilitating the mind: *Avatar* (2009), *Inception* (2010) and the science fiction imagining of lucid dreaming in the treatment of post-traumatic stress disorder in the U.S. military

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Abstract

Transcultural psychiatry has increased awareness of alternative approaches to mental health and wellbeing, influencing developments in Western psychotherapeutic treatments. In this article, I look at the recent interest in alternative therapies by the U.S. military, which has explored the possibilities of lucid dreaming in order to help soldiers cope with the adverse mental and emotional effects of combat—commonly referred to as post-traumatic stress disorder (PTSD). In this context of concerns about effective rehabilitation and the cost of veteran care, I examine the popular science fiction films *Avatar* and *Inception*, which have been discussed in the media as illustrations of the potential use of lucid dreaming and digitally created virtual worlds to “heal” the minds of soldiers affected by modern warfare. In these media portrayals, psychology and science fiction come together to envision and promote human-machine fantasies of the endlessly salvageable and, therefore ultimately, invincible American soldier.

Keywords

lucid dreaming, media psychiatry, post-traumatic stress disorder (PTSD), science fiction, traumatic brain injury (TBI)

Introduction

Transcultural psychiatry examines the intersection of diverse psychotherapeutic practices of Western and non-Western societies.¹ In this article, I explore claims for the potential value of non-Western psychotherapeutic techniques by analysing the media’s use of science fiction films to report on new developments being made in military medicine. In recent years, popular science fiction films such as *Avatar* and *Inception* have raised the possibility of combining practices such as lucid dreaming with digitally created virtual worlds to “heal” the minds of soldiers adversely affected by war. Such high-tech fantasies of rehabilitating the mind have attracted media attention in part because of the large number of war veterans currently diagnosed with post-traumatic stress disorder (PTSD). The anthropologist Allan Young (1995) has argued that the increase in the diagnosis of PTSD was a historically contingent phenomenon, which followed on from its official incorporation into the American Psychiatric Association’s

(1980) *Diagnostic and Statistical Manual of Mental Disorders, Third Edition (DSM-III)*.

Young’s assertion of the historic contingency of PTSD is evident in the recent association of PTSD with the increase in Traumatic Brain Injuries (or TBIs)—a noted “signature injury” of modern warfare.² This shift in diagnostic criteria, which presents PTSD as a physically acquired condition, is ripe for exploitation in media-driven fantasies of the rehabilitation of soldiers psychologically debilitated by war. For instance, according to media reports, advances made in modern medicine and biotechnology, such as state of the art prosthetics, now make it possible to “fix” and return soldiers to active combat duty

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(Koebler, 2012, n.p.). It is in this context of rehabilitation and returning soldiers to war that I wish to consider the ways in which alternative forms of psychotherapy and science fiction have come together in the media to envision and promote human-machine fantasies of the endlessly salvageable and invincible American soldier.

Science fiction imaginings of military rehabilitation in the media

In 2011, a series of articles appeared in the media reporting on the U.S. military's venture developing new psychotherapeutic treatments for soldiers with PTSD and making explicit comparisons with recent science fiction films. For example, in an article titled "Avatar, Inception, and Treatment of PTSD" (Kuhn, 2011), it was claimed that "[t]he U.S. Army is attempting to harness some of the innovative technology and creative thinking...[of] Hollywood blockbusters *Avatar* and *Inception* to help veterans combat nightmares associated with post-traumatic stress disorder (PTSD)" (Kuhn, 2011, para. 1). Immediately under the article's title is an image of a soldier with his face buried in his hands suggesting his struggle to cope with combat. Similarly, the title of another article reads: "Real-Life *Inception*: Army Looks to 'Counteract Nightmares' with Digital Dreams" (Lim, 2011). Under this title is a graphic novel style image shaded in hues of green depicting a soldier sitting bolt upright in bed, his face contorted in a grimace. With teeth clenched, the soldier's eyes remain tightly closed in anguish as he awakens from a nightmare, represented in the image by a dream bubble showing a soldier (presumably the dreamer) standing behind an armored car under attack. Under this image a caption describes the following scenario:

A soldier tries to sleep. But he is not safe in his dreams. Jolted awake by a nightmare, the combat veteran fumbles in the dark for his 3-D glasses.

He puts them on. Around him are the faces of people whom he trusts. They fight the darkness with him. The soldier's re-lived this scene in his head and the laboratory over and over again, until it has become reassuringly familiar. The soldier knows that his pixelated friends will take him away from these troubled dreams. When the scene is over, he takes off his goggles and looks around him. The soldier is home. (Lim, 2011, para. 1–2)

As the article goes on to explain: "The U.S. Army wants this dream sequence to become reality" and confirms that "No, this is not the script for the sequel to

Inception," but rather the U.S. Army's goal to produce "soothing, digitally-made dreams crafted in virtual worlds" in order to "create customized healing imagery (therapeutic dreams) to counter the impact of nightmares" (Lim, 2011, para. 3).

In these articles, science fiction film, technology, and the military all come together to offer a futuristic account of developments in rehabilitation and psychotherapy in order to explain the "Power Dreaming" project. Drawing upon popular filmic representations of lucid dreaming, which "creatively explore the porous boundaries between waking and dreaming" (Zeimer, 2014, p. 157), the articles suggest that with the latest technology it will become possible to help soldiers consciously control their dreams and alter their emotional and physical responses to traumatic events. In the development of "Power Dreaming," science fact will realize and supersede science fiction. The claim that the army's dream therapy is the "Real-Life *Inception*" is a direct reference to the science fiction film *Inception*, released in 2010 and directed by Christopher Nolan. The film employs dramatic computer generated effects to tell the story of a team of experts who are hired to steal or alter people's thoughts by entering their dreams through a kind of virtual reality. At the centre of the film's narrative is a character named Cobb who is affected by a past trauma that threatens to jeopardize the team's latest covert military-style operation. As part of the film's resolution, Cobb must find a way to counter the traumatic thoughts that haunt his troubled mind.

Similarly, in *Avatar*, another striking 3D special effects film directed by James Cameron (2009), the consciousness of a disabled war veteran called Jake Sully, is transferred into the body of a genetically engineered avatar made in the form of one of the native "Na'vi" that live on an alien planetary moon, Pandora. Sully learns to control his alien avatar, becoming a formidable warrior. Conceptually, *Inception* draws upon the theories of dream therapy and the therapeutic possibilities of shared dreaming. *Avatar* connects the science fiction vision of digital technology with the military's attraction to the "popular, virtual world platform, Second Life—a [computer] simulated environment in which users can become virtual citizens by creating their own self-representations called avatars" (Kuhn, 2011, para. 2). In the "Power Dreaming" project, the avatars are fellow service personnel who help the dreamer combat their nightmares. However, despite the appeal to science fiction to imagine the potential of the army's "Power Dreaming" project, the articles acknowledge that the use of *Avatar* technology and *Inception* dream therapy remains a treatment yet to be developed. As one of the articles states: "The

research project is in its early planning and it is not expected to launch until next year” (Lim, 2011, para. 4).

Science fiction imaginings of yet-to-be-developed future technologies are explored in Charles E. Gannon’s book *Rumors of War and Infernal Machines: Technomilitary Agenda-Setting in American and British Speculative Fiction* (2003). Gannon explains that science fiction culture has historically shaped “actualizations” of “future-war” (2003, p. 218), including technology that promises to create nearly invincible human-machine cyborg soldiers, who can “absorb and inflict damage,” while also benefitting from technology that has the capability of “upgrading them” (p. 246). The fantasy of returning soldiers to war via a technological “upgrade” or “fix” is, as Gannon discusses, a staple of science fiction’s speculation on future soldiering.³

The media’s drawing on science fiction to imagine and relate potential future developments in technology and medicine is a common cultural phenomenon that writer and critic Eugene Thacker (2001) has described as the “science fiction of technoscience” (p. 155). According to Thacker, in science fiction’s “futurological forward thinking” (p. 157), technoscientific innovation has two possible outcomes. The first outcome actualizes new technology, and is primarily driven by the economic imperative to generate new profitable markets. The second outcome, which Thacker terms as the “potentiality” of science fiction, advocates the use of science fiction to imagine and promote less exploitative technological solutions to human medicine, which prioritize the wellbeing of the patient or user of that technology over profit (pp. 157–158). Thacker’s cultural framework of science fiction and technology and the military’s interest in developing “Power Dreaming” are complex. The proposal to combine alternative psychotherapeutic techniques with the latest in digital technology and create innovative solutions to new psychological problems is the result of modern soldiering. The need for practical solutions to counter the adverse effects of modern warfare on U.S. soldiers is driven by the economic needs of the military and government (basically, to reduce the cost of care for veterans with combat-induced life-long debilitating conditions). It is also driven by a genuine desire to develop effective rehabilitative psychotherapy and help soldiers cope and live with the adverse and enduring debilitating effects of war.

The “Power Dreaming” project is motivated by an alarming increase in the numbers of soldiers returning to civilian life with combat-induced PTSD. Of concern are the long-term effects of PTSD on military personnel, as “52% of veterans with PTSD report having frequent nightmares, compared to 3–7% of the general population” (Kuhn, 2011, para. 1; Lim, 2011, para.

5). In a report titled “Costs of War” produced by Neta C. Crawford and published by the Watson Institute at Boston University in the U.S., it was estimated that by 2053 it will cost a total of one trillion dollars to care for veterans permanently debilitated by war (Crawford, 2016, p. 2). Therefore, as part of a drive to mitigate the growing cost of predicted future care, “half a million dollars [has been awarded] to research ‘virtual reality to assist veterans suffering from PTSD/TBI related nightmares’” (Kuhn, 2011, para. 1). The military’s desire to treat and rehabilitate soldiers with PTSD is ideologically underpinned by a rhetoric of war, which reflects the fantasies and anxieties deeply embedded within the American psyche. As John M. Kinder argues in his book, *Paying with their Bodies: American War and the Problem of the Disabled Veteran* (2015), Hollywood films such as *Avatar* reflect how “Americans remain seduced by war” (Kinder, 2015, p. 300), as well as fascinated by the “possibilities of a technologically augmented postdisability world” that envisions the “biotechnological transcendence” of the disabled war veteran (Kinder, 2015, pp. 288–289). In other words, Hollywood’s depiction of disabled heroes miraculously cured by technology or transformed in some way to supersede personal debilitating conditions, serves to legitimize the USA’s ongoing foreign policies and military operations abroad. This suggests that protecting U.S. interests both at home and overseas is worth the price of a soldier’s wounds and personal trauma.

Kinder (2015) argues that U.S. military attitudes towards war, rehabilitation medicine, and the desire to return soldiers to combat duty are maintained ideologically by the promise of technology to “fix” the “damaged” mind and body of the American soldier. Often, the promise of technology to heal and even enhance a soldier disabled by war is disseminated through images of human-machine invincibility in popular culture. Kinder’s disability critique of rehabilitation medicine and of the military primarily urges the U.S. to rethink its role in global conflicts. Kinder’s concerns over war and rehabilitation also usefully draw attention to the military’s own ambivalent attitude towards rehabilitation and psychiatry. For instance, according to Sidel and Levy (2003), the ethics of medicine demands of the physician “to do no harm,” while the ethics of war aims to optimize the “effective function of the fighting force” (pp. 295–296). This inherent tension between medicine and the military is also explored in Hans Pols and Stephanie Oaks’ (2007) article “War and Military Mental Health: The US Psychiatric Response in the 20th Century,” in which they state:

Military officials everywhere have displayed a strong ambivalence toward the involvement of psychiatrists

in military affairs. For example, they have often labeled soldiers suffering from psychiatric symptoms as cowards lacking moral fibre. Military officials have also been concerned that the presence of psychiatrists encouraged the display of psychiatric symptoms. However military officials have also been interested in psychiatric issues whenever they were perceived to affect the primary mission of the armed forces. When psychiatrists were perceived to be able to contribute to the primary goal of all army medical services, which is to conserve the fighting strength, their contributions were appreciated. (p. 2133)

Pols and Oaks reveal the dilemma at the heart of military psychiatry, namely that the military demands to “conserve the fighting strength” of its army, often at the expense of a soldier’s wellbeing.⁴ The historical trend of identifying and treating the symptoms of PTSD has also “stimulated the development of new perspectives...and suggested new models of mental health care” in the military (p. 11.). Indeed, the military’s “Power Dreaming” project is a recent example of the historical and contradictory relationship that psychiatry and medicine have with the military, which, although problematic, drives new developments in psychotherapy that may prove crucial in the treatment of soldiers with war-induced PTSD.

Nonetheless, how valid or ethical is it for the media to use science fiction to imagine and disseminate ideas about new developments in psychotherapy practices, such as the “Power Dreaming” project? The media articles discussed above make little mention of the association of PTSD with TBIs, which suggests some soldiers with PTSD may suffer from a broader physical and psychological condition.⁵ PTSD consists of a wide variety of symptoms, including blurred vision, disorientation, maladjustment, headaches, memory loss, and a reduced ability to communicate. The construct of TBI suggests that such symptoms may not be the result of “unhealthy reactions,” like nightmares in response to stressful or traumatic situations, but rather may be the consequence of actual physical damage to the brain, which may be difficult to detect and treat. What is also not mentioned in the media articles on the “Power Dreaming” project is the potential social stigma that may be attached to dream therapy particularly when “dreams” are regarded as “meaningless biology” (LaBerge, 1985, p. 110).

Lucid dreaming is a practice in which the dreamer becomes conscious of his or her own dream state as if awake (hence the term “lucid”), resulting in the dreamer interacting with both their dream and dreaming self. Western psychiatry generally has regarded “lucid dreaming” as an ancient, pseudo-scientific, shamanistic practice primarily practised in low-tech non-Western

cultures such as those in low- and middle-income countries like India (Kukhareno, 2017, p. 10). However, attitudes toward lucid dreaming in psychology and psychiatry are changing and research on lucid dreaming is “becoming a part of the mainstream [in] cognitive neurosciences” (Gavie & Revonsuo, 2010, p. 13). Combat-induced PTSD has given rise to a new range of psychotherapeutic treatments that are more patient-centred (Pols & Oaks, 2007, p. 11; Reisman, 2016, p. 632). This has meant that in the U.S. military there has been a tendency to tolerate and even be curious about marginal and diverse practices in psychotherapy when treating PTSD (Reisman, 2016, p. 632). Together with the recent research interest, this has made lucid dreaming an acceptable experimental form of psychotherapeutic treatment for PTSD (Gavie & Revonsuo, 2010, p. 14; Kukhareno, 2017, pp. 10, 12–13).⁶

Inception, Avatar, and the technoscientific imaginary

The narratives of *Inception* and *Avatar* freely and imaginatively intermingle ancient dreaming techniques with fantasies of futuristic technology, suggesting that individuals may be able to learn to manipulate their unconscious and conscious worlds. Films like *Inception* and *Avatar* are important cultural texts because they provide the general public with access to new ideas about alternative psychotherapeutic techniques—in this case, techniques that are currently undergoing development in the U.S. military. In particular, media interpretations of popular cultural representations of dream technology in *Inception* and *Avatar* help to express the potential benefits of transcultural psychotherapies in Western society. Presenting the idea that soldiers could be treated for debilitating conditions like PTSD through a complementary form of psychotherapy that uses computer simulation programs controlled by the patient is portrayed by the media as a welcome alternative for both veterans and the military (Kuhn, 2011; Lim, 2011).

This media portrayal may also serve economic or political interests. “Because of cinema’s technoscientific impact, Hollywood science consultants deliberately use the medium ‘to convince the American public that a research field or a scientific subject needs more political, financial, and scientific attention’” (Miller & McFarlane, 2016, p. 214). As Miller and McFarlane indicate, science fiction circulates within the *technoscientific imaginary*—a cultural space in which the “potentiality” of science fiction, to use Eugene Thacker’s (2001) words, provides a futuristic and fantastical platform from which to consider and promote new developments in science and technology. The overall effect is that science fiction in the media

operates to actualize science and technology that is of interest to certain institutions and organizations desiring its development and use.

The rehabilitation of soldiers returning from war with combat-induced PTSD is complex. Nonetheless, imagined possibilities of rehabilitation alongside fantasies of technological innovation remain at the forefront of popular Hollywood films.⁷ Films like *Inception* and *Avatar* may be especially persuasive science fiction narratives for imagining and popularizing the military's "Power Dreaming" project. This is because film and film making as a medium and visual process is analogous to the act of dreaming itself, in which the mind visually restructures past events and posits possible futures. In dreaming, memories emerge in distorted form, as visual images, which are then selected, edited, and replayed to reconstruct and even manipulate past experiences and events. With regard to its biological function, dreaming has evolutionary significance, preparing the psyche for potential, real-life (possibly life-threatening) situations by rehearsing them in dreams (Zink & Pietrowsky, 2015, p. 41). At the same time, dreams can function to help an individual resolve internal psychological conflicts by altering the outcome or their perception of traumatic events already experienced (Zink & Pietrowsky, 2015, pp. 41–42).

Inception

In a discussion of *Inception* (Nolan, 2010) in the online blog *Psychology Today*, Clyman (2010) argues that "Nolan's films...mirror the aims of psychologists: a relentless dissection of common yet complex mental processes, and a case study of relatable characters battling psychological woes" (Clyman, 2010, para. 2). At the centre of *Inception* is key character, Cobb, a dream architect, played by Leonardo DiCaprio, who is brilliant at his craft, yet has a troubled mind. Cobb is haunted by a past trauma in which he witnessed his wife commit suicide.⁸ As a result, he is no longer able to control his dreams. Cobb's inability to control his dreams manifests in the form of his dead wife, Mal. Mal is a projection of Cobb's guilt that repeatedly, unexpectedly, and violently emerges from his subconscious, intruding into and disrupting his dreamscapes. Mal's repeated intrusions, which Cobb is unable to predict or control, threaten to jeopardize the success of the dream experts' latest mission. For much of the film, therefore, the plot concerns not only the dream experts and their mission to "incept" or insert an idea into their chosen target's mind, but also Cobb's struggle to effectively counter the trauma that prevents him from returning fully to waking life. If Cobb can regain control and resolve the trauma that debilitates him, then the mission will be successful. If he cannot, then the mission is

threatened and may fail. Furthermore, if he loses his grip on reality, Cobb is doomed to inhabit the dream world of "Limbo," from which he will never return.

In classic psychoanalytic terms, Cobb is trapped in the feminine subconscious of the unknown, his masculinity, rationality, and self-control put into question, and his life placed in jeopardy, until he can re-enter the symbolic order of the Father.⁹ Nolan has been criticized for this gendered representation, in which Cobb must absolve himself of all blame of Mal's death and overcome his guilt-induced psychological debilitation (Leab, 2010, n.p.). However, while a woman represents Cobb's impaired mental state, it is a woman known as Ariadne who is his salvation. In brief, Ariadne is employed to take over Cobb's role as the dream architect. Ariadne's name and role in the film associate her with the Greek myth of "King Minos and the Labyrinth," in which a young woman helps the warrior king, Theseus, escape the Maze after he kills the mythical beast, the Minotaur, which once roamed its dark corridors. Similarly, in *Inception*, Ariadne is the key to Cobb's release from the labyrinthine nightmare world of Limbo. Like Cobb, Ariadne is a powerful dream architect who, while learning to construct a dreamscape in Cobb's mind, triggers a flashback in which Cobb's dead wife violently erupts from his subconscious. In this scene, Mal is the product of Cobb's trauma—her presence is the surfacing of guilt that he feels for her suicide, creating emotions he is unable to control. At this moment, Mal is terrifying and destructive as she strides forward to brutally stab Ariadne in the chest. Awaking just in time, Ariadne is saved from the wrath of Mal.

While *Inception* represents the potentially vivid world of dreams, emphasizing the reality of Cobb's trauma as both violent and disturbing, the film also conveys the potential power of lucid dreaming through its special effects. According to Freud, "a major function of dreams [is] the fulfilment of wishes" (McLeod, 2009, p. 8). In *Inception*, Cobb wishes to free himself from the guilt he feels for his wife's death. So strong is Cobb's desire to protect his ego from the moral dilemma of his wish to rid himself of the memory of Mal, that his unconscious mind constructs a complex labyrinthine dream world. Buried deep within this labyrinth are both Mal and the unresolvable problem of her suicide and Cobb's guilt—the root cause of Cobb's trauma and inner conflict from which he cannot escape. Unable to escape, Cobb exiles himself to the realm of Limbo—a permanent dream state from which he cannot awaken or possibly refuses to awaken from. The trope of lucid dreaming, in *Inception*, in which reality and unreality are indecipherable, but are nonetheless consciously inhabited and controlled by the dreamer, is represented through the film's form and

visual language. For instance, the film's *mise en scene* of digitally created Escheresque environments that seamlessly rise and fall, collapse and enfold the dreamer in confusing, illusory and mind-bending perspectives, convey the creative power of Cobb's mind to confront, struggle with, and yet still survive his repeated traumatic encounters with Mal, in order to cope with his personal guilt.

Indeed, Nolan's film has been lauded for its representation of Cobb's "traumatic memories" (Clyman, 2010, para. 16). Primarily citing the work of psychologist Ernest Hartmann (1995, 2006), Clyman argues that:

Ever the psychologist, . . . The contemporary theory of dreams most central to Nolan's plot posits that dreams serve as a therapeutic function. According to this theory, dreams are the cognitive echoes of efforts to work out conflicting emotions [that are] repeatedly experienced in the service of resolving negative emotion and improving coping for future threats. (2010, para. 9–10)

Furthermore, as Clyman explains, another theory utilized by Nolan in the film "proposes that dreams may serve as a training ground for self-preservation in which life-threatening scenarios are rehearsed in a safe and virtual environment so that later, real-life crises are responded to in a maximally optimal and efficient manner" (2010, para. 11).

Dreaming as therapy is central to *Inception*. In *Inception*, Cobb's repeated encounters with his repressed traumatic experience increase in power and effect, leading him to realize that it is time to respond differently, in order to bring about an alternative future outcome—meaning that Cobb must face and counter the trauma that threatens his sanity and grip on reality. Needless to say, and somewhat controversially, by the end of the film, Cobb manages to resolve the guilt that has perpetuated his unresolved "negative emotions" by reasoning that it is time to let Mal go. Significantly, in the final instance, Cobb is relieved of his debilitating psychological trauma and healed. In *Inception*, shared dreaming serves a vital function and it is Ariadne who plays a key role in leading Cobb out of the traumatic realm of Limbo back into the real world, which he refers to as "home."

As a cultural text, *Inception* provides a meaningful link to contemporary concerns over war-traumatized soldiers. In this respect, a film like *Inception* may be useful for understanding some of the images circulating in American public culture about alternative psychotherapeutic treatments at a time of increased national concern over the mental health of wounded soldiers abroad and at home (Reisman, 2016, p. 623).

Avatar

While *Inception* has a militaristic subtext to its story line, the science fiction film *Avatar* (Cameron, 2009) directly addresses the issue of the disabled soldier and rehabilitation.¹⁰ *Avatar* is a cultural text that considers the rehabilitative potential of combining advanced technology with indigenous traditions in order to heal the body and mind of a soldier damaged in combat. As discussed earlier, *Avatar* concerns the plight of a young disabled soldier named Jake Sully. In exchange for the promise of a medical cure to enable him to walk again, Sully is hired to remotely control an alien body "avatar" in order to infiltrate the alien tribe of the Na'vi and locate a valuable mineral known as "unobtainium." When he occupies his avatar, Sully becomes an able-bodied Na'vi warrior. However, as the narrative progresses, Jake finds that he no longer favours the interests of the military-backed corporate profiteering venture, but instead uses his newfound abilities to fight and save the endangered world and lives of the Na'vi.

Avatar has been critiqued for its attitude towards disability and its portrayal of indigenous people. *Avatar* offers an ableist vision of a disabled soldier, who is miraculously cured by technology and offered a new life in the non-disabled body of an indigenous alien. The film has been viewed as overtly racist, perpetuating the "white Messiah fable" (Singh, 2010, n.p.), in which a solitary white man saves an entire indigenous population unable to save itself. While these representations are inherent problems of *Avatar*, it must also be acknowledged that the representation of trauma and healing in a transcultural context also deserves attention. For instance, in *Avatar*, the Na'vi are an indigenous people who are physically and psychologically connected to the land. The attack on their home, the planetary moon Pandora, by a military force threatens to break that connection. In fact, the violence and destruction visited on the land in order to acquire the sought-after commodity, "unobtainium," takes the form of physical and psychological trauma that has planet- and species-wide consequences. Sully's war-damaged body becomes synonymous with the collective desire of an indigenous people to heal a world that has endured war-induced trauma. His final decision to embrace an alternative alien world affirms their self-healing.

In *Avatar*, disability remains a convenient ableist trope that justifies the transference of Sully's consciousness into the body of an avatar connecting him to the collective consciousness of the Na'vi and their environment. The possibility that technology can connect individuals across communities and collectively heal the mind and body of a soldier makes *Avatar* attractive to the media reporting on the military's "Power Dreaming" project as a new form of

rehabilitative medicine. The collective transcultural healing in *Avatar* involves a form of psychological and physical reparation that also provides a critique of war. In *Avatar*, Sully's disabled body is the outcome of an imperialist military culture, which threatens to permanently damage, disable, and even destroy Pandora. The Na'vi are connected to their environment through the biological and chemical neural network that constitutes the moon's unique biosphere. In effect, Pandora is an organic, global "super brain" that allows the Na'vi to communicate with the flora and fauna, and grants the Na'vi access to their shared memories and ancestral past. The military's efforts to destroy Pandora's biological neural network are analogous to the destruction experienced by soldiers with combat-induced TBI. While the overall approach of Sully's technologically transformed body in the film remains highly problematic, his desire to connect with the land, nature, and people in order to heal both self and Other can be viewed as symbolic of the West's desire to take responsibility for the reparation and rehabilitation of body, mind, land, as well as the people damaged by the USA's military ventures abroad.¹¹

Implications for alternative therapy

Inception and *Avatar* are popular fictional representations of futuristic trauma and healing. However, the concept of dream therapy and the use of computer technology to create virtual avatars that can help individuals work through trauma in a safe, collaborative setting are actual research developments in psychotherapy. Nonpharmacological treatments of veterans with combat-induced PTSD may be more effective than medications (Reisman, 2016). For example, Prolonged Exposure (PE) Therapy which involves the repeated revisiting of trauma memories in a safe, clinical setting "has been shown to be effective in 60% of veterans with PTSD" (Reisman, 2016, pp. 623–624).

Similarly, in *Inception* and *Avatar*, and the military's "Power Dreaming" project, the opportunity to repeatedly revisit a particular traumatic moment allows the individual to confront, manipulate, and even change the outcome of their emotional and psychological trauma. The "Power Dreaming" project is based on the potential of an avatar to transform the negative thoughts and actions associated with trauma into thoughts that contribute to recovery, providing a patient responds effectively to stress induced situations and can cope with deeply troubling emotions. In Cameron's *Avatar* and Nolan's *Inception*, computer technology, avatars, and dream therapy are depicted as a promising combination of alternative techniques to relieve the debilitating effects of psychological trauma. Despite the films' ideological problems, *Avatar* and *Inception* help introduce

novel psychotherapeutic practices into the Western cultural imaginary, popularizing novel, emerging treatments.

Conclusion

The U.S. military's "Power Dreaming" project offers a hopeful vision of innovative and potentially effective psychotherapeutic treatment. At the same time, the ideological implications of rehabilitating the mind in a military context, as represented in films like *Inception* and *Avatar*, also pose ethical dilemmas. To begin, there are questions of journalistic ethics: How appropriate is it for the media to draw upon science fiction films to portray lucid dreaming or other forms of psychotherapy as potentially effective to help soldiers with PTSD? There are also questions about medicine's collusion with fantasies that support the culture of war. Kinder's (2015) postdisability analysis of science fiction film and its futuristic representation of the disabled war veteran cured by technology highlights the ways in which rehabilitation medicine is rarely critical of the wars that create the traumatized and wounded lives it seeks to heal. This culture of uncritical rehabilitation medicine is supported by film and media representations of soldiers who are miraculously fixed and used to showcase the latest research in medical cures and treatments. Recently, for example, there have been stories in the media reporting on disabled veterans rehabilitated with prosthetics, "fixed," ready, and eager to return to war.¹² At a moment when new technology gives rise to narratives and images of the endlessly salvageable and invincible soldier, war is naturalized as a necessary part of American culture facilitated by medical rehabilitation. Science fiction fantasies of technology repairing, regenerating, and fixing the body and minds of men thus serve to legitimize war even as they may stimulate much needed research on innovative interventions by presenting imaginative possibilities. In addition to continuing to develop novel and effective treatments, rehabilitation medicine and psychiatry must engage critically with the USA's culture of endless warring.

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Notes

1. See Jacob (2013, p. 324) for a discussion of differences between the “therapy-centric,” singular-cause approach of Western psychotherapy and the non-Western “patient-centric,” multi-perspective approach to treating mental health issues.
2. McKee and Robinson (2014) state that the “prevalence of mTBI [mild TBI] among returning service members range[s] from 15.2% to 22.8%, affecting as many as 320,000 troops” (p. 243). They further note that of the 60% of TBIs that are blast-related, 80% are mTBIs (p. 246).
3. For example, see Robert Heinlein’s novel, *Starship Troopers* (1959).
4. As Pols and Oaks (2007) explain, when placed under pressure military psychiatrists *must* prioritize military goals and maintain optimum “manpower” by treating soldiers with the primary aim to return them to combat zones in the most expedient manner.
5. In fact, it has long been suggested that PTSD or “shell shock” is the consequence of the direct physical effect of explosions on the soldier’s brain. For instance, see Alexander (2010, n.p.), in which she states: “Early medical opinion took the common-sense view that the damage was ‘commotional,’ or related to the severe concussive motion of the shaken brain in the soldier’s skull.”
6. Although it must be noted that a recent article confirms that the “efficacy of LD over other cognitive-behavior therapy for PTSD-related nightmares has not been established” (El-Solh, 2018, p. 413).
7. Classic examples include Paul Verhoeven’s *RoboCop* (1987), James Cameron’s *The Terminator* (1984), and Duncan Jones’s *Source Code* (2011).
8. After spending a lifetime with Mal in the realm of dreams, Cobb places an idea into her mind in order to persuade her to return to the real world. This idea or “inception” that Cobb plants into Mal’s subconscious involves her taking a leap of faith, in which in her dream she commits suicide with her lover (Cobb). Basically, this is to prove to Mal that her dreaming life was not real when she reawakens to real life. Unfortunately, however, in the real world, Mal continues to suffer and is unable to tell the difference between dreaming and reality and subsequently, in her confused state, finally kills herself.
9. Gender biases are evident in interpretations of the subconscious (or unconscious) in the work of Sigmund Freud and Jacques Lacan, which attempts to explain the psychodynamic process of the human subject’s entrance into the social order. In these interpretations the male subject moves from the pre-Oedipal realm of fantasy linked to the Mother to the realm of the Father, acquiring a masculine identity defined as complete and whole in opposition to the fragile, weak and incomplete feminine identity of the female “other.” In effect, the male subject gains social power and control, while the female subject remains

associated with the realm of the Mother—a position of inferiority in patriarchal culture. See, for example, Jacques Lacan’s *Ecrits* (1966), and Sigmund Freud’s *Three Essays on the Theory of Sexuality* (1905) and *The Interpretation of Dreams* (1900).

10. It is explained in *Inception* that the development of shared dreaming to infiltrate other minds is an experiment developed by the military. Furthermore, *Inception* is played out as a covert military operation as the intended target defends himself from the violent intrusion of the “dream experts.”
11. Reparation, rehabilitation, and healing relates to the national trauma of the colonial mistreatment of the Indigenous people of America that is deeply embedded within the American psyche. Because of this association, *Avatar* has been regarded as a revisionist Western (film genre) presented in the guise of science fiction. See Young-Roberts (2012, p. 63).
12. For instance, see Koebler (2012).

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