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An Evaluation of Portrayals of Telepresence and Romantic Relationships in Film and Television

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Abstract

This paper examines how portrayals of technologies that evoke the “medium as social actor” and other types of social telepresence contemplate and prophesize the causes and consequences of the ability of technology to convey romantic and/or sexual desire.

“According to the most extreme form of this view the only way which one could be sure that a machine thinks is to be the machine and to feel oneself thinking. . . Likewise according to this view the only way to know that a man thinks is to be that particular man.”

Alan M. Turing, “Computing Machinery and Intelligence” (p. 446) [1].

1. Introduction

In 1950, a mathematician named Alan Turing [1] proposed a deceptively simple test which is still in use today. The Turing Test, as it is now commonly referred to, is a modified version of the “Imitation Game” which involves three participants in two locations. The isolated participant, “the interrogator,” asks questions of the other two as part of a game to guess some feature of their identity, usually gender. Both the questions and their answers are typed on identical typewriters and delivered back and forth by an intermediary so that the only information available to the interrogator is the words themselves. Turing's twist to this game involved secretly substituting a computer as one of the participants. If either the interrogator or both the interogatees—depending upon which position the computer takes—does not notice the switch and assumes that he or she is dealing with another human, then that machine could be said to be “intelligent.” Whether he intended to or not, Turing implied with his test that the defining characteristic of humanity was intelligence. Today, however, popular culture seems to accept

the idea of the intelligent machine to some extent. It is therefore no longer intelligence but rather the capacity for emotion that separates humans from technology.

While revolutionary during its time, the Turing Test can now be re-articulated through studies of social telepresence which similarly seek to examine the perceived capacity for a medium to display emotion as well as intelligence. To some extent, the original Turing Test corresponds with a type of social presence that The International Society for Presence Research [2] has defined as “the medium as social actor:” an experience in which “part or all of a person's perception fails to accurately acknowledge the role of technology in her/his perception that s/he is engaged in communication with another entity when in fact the other entity is merely a technology or medium (e.g., computer, television, etc.)” The experience of social telepresence ultimately occurs within the mind of a user even though it is brought about by an interaction with technology, and so the only way to measure telepresence is through the perceptions of a user. As observed by John Searle [3], a machine does not have to actually re-create human thought to pass the Turing Test, it only has to convince observers that it has. Of course each user may have different perceptual expectations of what it means to communicate with another (intelligent and emotional) human being. While few machines today can mimic an emotional human being, portrayals of future technologies in popular fiction provide valuable insights into our views regarding what distinguishes us from technology and the forms of social telepresence that may occur when the distinctions narrow.

The trope of the “android” in particular illustrates a cultural belief that emotion, not intelligence, is the boundary that separates humans from machines. The television series *Star Trek: The Next Generation* and films based on it, for example, feature a character named Data who, despite being portrayed as more intelligent than his human counterparts, can never be equal to them because he can not experience a full

range of emotions. The installation of an “emotion chip” in *Star Trek: Generations* (1994), which leads Data to be emotionally crippled at certain points in the film, further illustrates a belief that machines can at best only emulate human emotions imperfectly. While the android can pass as human, its inability to feel or understand human emotion ultimately breaks the sense of social telepresence it manifests in those with whom it interacts. Similarly, in Ridley Scott’s *Blade Runner* (1982), the androids that Rick Deckard is tasked with destroying reveal their true nature in their inability to express emotions other than aggression—either in social situations or during an administering of the Voight-Kampff test. Despite being intelligent enough to pass as humans, oddities in their behavior due to their lack of compassion result in a break in social telepresence. Yet the new model, Rachael, is able to pass the Voight-Kampff test initially—it takes an expert like Deckard over three times the normal number of questions before a break in telepresence occurs—and manages to re-evolve such a strong sense of social telepresence in Deckard that he falls in love with her.

As with any new development in technology, there are conflicting beliefs regarding the consequences and potential benefits of developing machines that are or seem capable of experiencing and thus evoking human emotion. This paper reports a study utilizing the Telepresence in Popular Culture [4] database to examine the ways in which portrayals of technologies that evoke the “medium as social actor” and other types of social telepresence contemplate and prophesize the ability of machines to convey romantic and/or sexual desire, emotions which are considered to be among the most intimate of human experiences.

2. Why Study Portrayals?

Presence scholars and developers of telepresence technologies can benefit from the consideration of fictional narratives in many ways. Popular portrayals of technology have often foreshadowed or even inspired actual technological developments. Stephen Hawking [5] has noted that “today’s science fiction is often tomorrow’s science fact” (p. xiii). Krauss [6] has outlined the intersection between the technologies depicted on television’s *Star Trek* series and their real-life counterparts. Although his main focus is on the physics of space travel, Krauss also addresses telepresence, noting that he has “little doubt that our century’s tentative explorations of virtual reality are leading us in the direction of something very much like the holodeck” (p. 131). David Stork [7] argues that *2001: A Space Odyssey*’s HAL inspired a generation of computer programmers in the field of artificial intelligence, noting that the fictional supercomputer was the impetus for his own interest in computer lipreading systems (p. 12). Additionally, film and television portrayals bring into popular discourse important questions about technology’s role in society (p. 94) [8]. The fictional realm allows for the social and ethical consequences of technologies to be explored before they become reality. Thus, serious consideration of portrayals

may help us develop a better understanding of the public’s perception of telepresence technology.

As identified by Lombard and Jones [9], the body of telepresence literature includes little work that draws from the humanities. Lombard, however, is a proponent of a more interdisciplinary approach to presence scholarship, and has argued that a broader examination of presence would benefit the field [10]. The Telepresence in Popular Culture project [4] is a step in that direction, and in examining popular portrayals of telepresence in romantic relationships, this study attempts to further an interdisciplinary dialogue about presence and to encourage the consideration of the role of telepresence technology in a cultural context.

3. Method

Several methods were used to find and review films and television episodes that contain portrayals of romantic relationships in the context of telepresence. The first method used to find examples was the Telepresence in Popular Culture project database [4]. Though the technical term “telepresence” is rarely used in popular culture, portrayals of the phenomenon itself are familiar; examples range from popular films (such as the science fiction blockbuster *Total Recall*) to lesser-known Indie hits (*Lars and the Real Girl*) to AAA title videogames (*World of Warcraft*). The Telepresence in Popular Culture project database was designed to code fictional telepresence portrayals in popular culture for the purpose of evaluating: telepresence-evoking technologies, experiences, and applications that people want and fear; why humans desire telepresence experiences; different ethical issues and perspectives raised by telepresence-evoking technologies; and the degree to which fictional portrayals have predicted the form and content of new technologies (Introduction). At this writing, the online database consists of 182 films, television series and episodes, videogames, and novels that portray some kind of telepresence experience, coded by project members and volunteers.

For the purpose of this analysis, the database was searched for films and television shows that portrayed telepresence (as defined by the International Society for Presence Research [2]), in the context of a romantic relationship. The ISPR definition was deliberately selected from a host of definitions available in the telepresence literature because it is sufficiently broad to meet the demands of this project, which include evaluating portrayals that use diverse telepresence evoking technologies (from virtual reality to the telephone) to express themes.

To find other examples of romance and telepresence, the keyword search component of the Internet Movie Database (IMDB: www.imdb.com) was used. Examples of words used to search for portrayals include: computer; relationship; sex; love; long-distance; internet; and android. A list of related keywords identified common words associated with the search term. By selecting one of the associated words, the search resulted in a list of films and television episodes containing both terms. The plot synopses were carefully read to see if they contained a

romantic or sexual portrayal of telepresence. While many of the films and episodes contained key words that are associated with telepresence-inducing technologies, not all contained portrayals of telepresence. Thus, special care was used to identify those that appropriately fit search criteria.

The last method used to find portrayals of romantic telepresence in film and television was word-of-mouth. Several graduate students and university instructors were asked if they knew of any films that included telepresence and a romantic relationship. Suggestions were then reviewed using the same criteria as those in the IMDB searches.

After compiling a wide-ranging (though clearly not exhaustive) list of 29 films and television episodes (Appendix, Table 1), the data were entered into a spreadsheet and the following variables were coded (via GoogleDocs) for each portrayal: *telepresence-evoking technology interface*; *mode of telepresence* (mediated or involved); *gender*; *threat to society*; *society's perception of the technology*; and *conclusion*. *Telepresence-evoking technology interface* refers to the type of technology that gave the users a telepresence experience. Examples of this include computers, radio, androids, and virtual reality environments. *Mode of telepresence* refers to the role of the technology in the relationship between fictional characters. Relationships were described as "mediated" if the telepresence-evoking technology served to promote the characters' relationship, such as with computers or radio. Telepresence technologies were described as "involved" when a character had a romantic or sexual relationship with a form of telepresence-evoking media, such as an android. *Gender* was used to describe whether the fictional characters (human or non-human) were identified as man or woman. If the technology was considered dangerous to characters in the fictional portrayal, it was labeled a *threat*. Furthermore, the *acceptance or rejection of the technology by the society* internal to the narrative was considered. *Conclusion* described the impact of the technology on maintaining or dissolving the romantic relationship. In most cases portrayals were viewed immediately before coding (in a few cases they were already well-known). Discrepancies in coding were resolved through discussion among the authors. Patterns in the coding results and close readings of the portrayals themselves, were then used to identify key themes and narratives.

4. Results and Discussion

A total of 25 films and four television episodes were coded (see Table 1). Two major themes were noted. In one theme the telepresence-evoking technology caused anxiety either to the users, or the society within the portrayal. Within this theme, there were two narratives. The first involved projecting desire into machines, which can be observed in *A.I.* (2001) and *Edward Scissorhands* (1990). Other anxiety ridden movies, such as *The Stepford Wives* (1974, 2004) and *Love Object* (2003), feature desire infiltrated by machines. In the other major theme, users and society were accepting of the telepresence-evoking technology. In *Pillow Talk* (1959) and

You've Got Mail (1998), for example, there is acceptance that the relationship between the two major characters was mediated by technology. Involved relationships with technology, such as the one in *Lars and the Real Girl* (2007), were also accepted by the community in the film. These themes and narratives are discussed in detail in the sections that follow.

4.1. Narratives of Anxiety

As visible in Table 1, one noticeable trend among the examined portrayals of social telepresence technologies is a tendency for human-like robots to be shown as threatening or otherwise disrupting normal human relationships. Many responses by characters to these technologies in film and television that evoke romantic and/or sexual desire are violent and hostile. For many characters, technologies of social telepresence which pose as human are threatening because they are seen to embody only the worst in human emotion. Those characters who do embrace these technologies are shown to be changed in some way that leaves them less in control of their own emotions. In either sense, these films and television shows portray technologies of social telepresence as crossing boundaries. When a technology is perceived to be human, it crosses both the perceptual boundary that the Turing Test illustrates but also a psychological boundary. However, this pattern is not limited to portrayals of romance between humans and machines. In order to explore this negative theme, this section will first move outside of the study's dataset in order to identify influential, non-romantic archetypes from film. These archetypes will then be used as a framework within which to identify and discuss how the studied portrayals reflect the anxieties surrounding the boundary crossings in which humans project their desires into and are themselves infiltrated by technologies of romantic and/or sexual social presence.

4.1.1. Telepresence As Boundary Crossing Any experience of telepresence involves a form of boundary crossing. As defined by the International Society for Presence Research [2], during an experience of telepresence, "at *some level* and to *some degree*, [a user's] perceptions overlook that knowledge and objects, events, entities, and environments are perceived as if the technology was not involved in the experience." In other words, for a user to experience telepresence while using a technological medium, he or she must suspend his or her sense of disbelief and accept the stimuli presented to him or her as if it were naturally occurring or otherwise non-mediated. The boundary that is the technological medium must then be, in this sense, "crossed" by the user's perception. More specifically in the case of social telepresence, a user must perceive a "real" human actor beyond the boundary of the interface and bring that actor back across so that the actor shares the same physical space and social status as the user. When this occurs within the mind of the user, an android is thus treated not as a complicated piece of software contained in and manipulating a robotic body but as a human being similar to the user.

Early theoretical work surrounding information technologies—many of which have like the telephone, radio, and television been studied as technologies of telepresence—was also concerned primarily with the idea of boundary crossing. In a close study of the transcripts of the Macy Conferences and the writings of those who attended, N. Katherine Hayles [11] identifies several early beliefs related to the idea that a human consciousness could exist within machines. According to Hayles, Claude Shannon and Norbert Wiener—both mathematicians—formulated a definition of information as a disembodied pattern that would “have a stable value as it moved from one context to another” (p. 53). Information, by this definition, crossed boundaries with ease. Their theory was originally intended to support developments in broadcast technology which required that transmitted information reach the receiving apparatus unchanged. Theories of information were also of use to cognitive and neuroscientists, however, who viewed the human mind as a sort of technology which had been designed to send and receive a wide variety of information. Information was thus believed to cross human perceptual boundaries constantly, entering directly into the mind. The demonstrations of Shannon, who produced a machine capable of navigating a maze, and W. Ross Ashby, who produced a machine which adapted to changes it noticed within its environment, helped to create the belief that producing the equivalent of perceived human mental processes in machines “counts as producing an equivalent system” (p. 94). Like Turing's Test, these theorists essentially constructed machines that would mimic human mental behavior under the assumption that doing so would also construct a form of human intelligence apart from the human body. While not evoking what would be considered a sense of social telepresence, these experiments were evaluated in a similar fashion. If observers perceived that the machines behaved as a human mind would, then they concluded that some aspect of the human mind had been successfully re-created within a machine. In other words, success meant that these scientists had found a way to convert the human mind into information and convey it across the boundaries of the body and place it within machines.

However, while the success of these experiments launched the fields of cybernetics and artificial intelligence, they also made some scientists nervous. Much of Western political philosophy is founded on the idea that human beings possess by virtue of their very being, natural boundaries which if not violated by society allow for a sense of complete autonomy. According to the social contract theory promoted by Thomas Hobbes [12], because humans essentially “own” themselves by virtue of these boundaries, they are capable of entering into market and political relations with others as equals in a democratic fashion. But as Hayles [11] notes in Weiner's writings, the success of early cybernetic experiments implied that the boundaries which maintain the autonomy of the liberal subject are easily permeated (p. 107). Particularly of interest to this study is the idea that as information flows between human and machine, the human can potentially become more machine-like as the machine becomes more human-like. In other words,

just as the human penetrates the boundaries of the machine to make it more human-like, the machine in turn penetrates the boundaries of the human. The machine can then potentially come to represent human desire or potentially impress its own desires upon the human user as he or she is reduced to “a connective membrane with no control over desires and with no ability to derive pleasure” apart from the machine (p. 111). While it isn't clear whether Weiner's ideas directly reached popular audiences, it is evident that a similar anxiety exists within society because it is visible in popular films both before and after its articulation in his writings.

4.1.2. The Galatea Archetype – Projecting Desire Into Machines Portrayals of social telepresence technologies in which humans penetrate and shape machines to fulfill their own, pre-existing desires follow a model established by the myth of Pygmalion and Galatea [13]. According to the myth, Pygmalion sculpts a woman who is so beautiful and lifelike to him that she literally comes alive before his eyes. Blinded by his love for her, however, Pygmalion is unable to see the problems caused by her emotional naivety. Several cultural theorists have observed similar links between desire and technology. The myth of Galatea helps to highlight an important anxiety which emerges out of Donna Haraway's famous “Cyborg Manifesto” [14]. In the essay, Haraway argues that essentialist theories of identity and biology should be abandoned because every facet of our identity is ultimately shaped by our position within technological networks of power. Oppressed classes within society, she continues, are therefore capable of re-shaping their identities within society by embracing technology and directing its further development. In other words, by projecting our own abstract desires into material machines of our own design, we can potentially gain a greater degree of control over ourselves. As in the myth, the popular portrayals of romantic and/or sexual social telepresence technologies which fit the Galatea archetype explicate an anxiety towards the ability of humans to project their own desires across a technological boundary.

One of the first popular portrayals in film of (non-romantic) social telepresence to embody this ambivalence towards human-like machines was *Frankenstein* (1931)'s monster. In Universal Pictures' loose adaptation of Mary Shelley's classic novel, the monster serves as an example of a machine that has been penetrated by humans. While the monster's body is composed of human parts, it is artificially constructed and therefore should be considered a machine. An intact human mind, however, crosses the technological boundary and is placed within the monster's machine body. Dr. Henry Frankenstein initially creates his monster with beneficent aims; however, Frankenstein's experiment ultimately fails because his assistant mistakenly procures a criminal's brain for the creature. Frankenstein and his companions are soon terrified to discover that the intelligence which lurks within the creature's grotesque and powerful body matches its monstrous appearance. That Fritz's error goes unnoticed until the creature awakens as a monster implies a belief that any

attempt to project human desire into a technology of social telepresence will only result in a dangerously unpredictable imitation of humanity. In a famous scene involving a small child, for example, the monster shares a few moments of delight with a young girl as they toss flowers into a lake. Here, the monster succeeds as a technology of social telepresence because he evokes the human desire for companionship within the girl. However, he soon grows unable to control himself and the girl, entranced by the sense of telepresence she is experiencing, fails to realize the monster is a threat and is thrown into the lake. This film consistently portrays technologies of social telepresence as dangerous because they both pervert the emotions which humans project into them and mask their lurking threats to our safety through behaviors which cause us to perceive them as human. The *Frankenstein* monster thus works as an early example of a pattern in the portrayals of technologies of social telepresence which display an anxiety about machines which have human emotions programmed or otherwise placed within them. Reflecting these same anxieties in a romantic context, humans are rarely permitted to fulfill their desires with human-like machines within popular portrayals of technologies of social telepresence.

In terms of the Galatea archetype, portrayals of social telepresence technology that involve romance and/or sexuality often suggest that the emotions people project into machines make them blind to potential threats lurking within them. To those for whom the technology does not evoke a sense of telepresence, these machines are seen as dangerous. The social stigma surrounding the portrayals of Edward in *Edward Scissorhands* (1990) and Gigolo Joe in *Artificial Intelligence* (2001) both represent this belief. Throughout the film, Edward's inability to understand human emotions proves problematic, causing many characters to interpret him as psychotic. His scissorhands serve as symbols of the perceived possibility of sudden violence, as during several acts of compassion he accidentally cuts someone. These accidental cuts are readily interpreted by some of the other characters who believe that he, as a robot, is only capable of violence. To the other characters, Kim's love for Edward and the emotions she sees in him prevent her from seeing that he is a threat to her physical safety. Similarly in *Artificial Intelligence*, Gigolo Joe is framed for the murder of one of his clients. Joe can be easily framed not only because his job as a prostitute allows him access to people when they are most vulnerable, but his nature as a machine leads people to think that he would readily use that vulnerability to his advantage. His realization that he is in trouble implies that his status as android will prevent him from ever proving his innocence. And even if he were able to show he didn't kill the woman, the roving bands of "flesh fairs" who see all androids as dangerous creations would be more than willing to pronounce him guilty based upon the accusation alone. The other characters in these films treat these two androids like *Frankenstein's* monster: they believe that characters who, like Dr. Frankenstein or the little girl, perceive genuine human emotions beyond the technological boundary

will ultimately be harmed. Portrayals which follow the Galatea archetype thus represent a warning that technologies of romantic and/or sexual social telepresence will be embraced by society before we understand the dangers surrounding them.

While the above examples illustrate the perceived threat well, most of the danger surrounding portrayals of technologies of romantic and/or sexual social telepresence which fit the Galatea archetype is psychological. These portrayals present a belief that projecting our emotions into technologies of romantic and/or sexual telepresence will psychologically damage us if these machines cannot reciprocate in the ways we will come to expect them to. In Steven Soderberg's remake of *Solaris* (2002), for example, the main character is pushed to the brink of his sanity when he projects his desire across a technological boundary. The protagonist is a scientist named Kelvin who travels to a space station far from Earth where a mysterious force from a nearby planet is creating doppelgangers from the memories of those aboard. While these recreations are not explicitly portrayed as machines, their artificial nature and their ability to evoke intimate human emotion in those they interact with makes them technologies of social telepresence. Keeping true to the Galatea archetype, Kelvin's desire for his deceased wife, Rhexya, leads the mysterious force to create a copy of her. Like the others onboard, Kelvin is initially troubled by Rhexya's sudden appearance but begins to suspend his disbelief in order to relive his memories with her. One crew member named Gordon foreshadows what is to come by explaining to Kelvin that the other doppelgangers were also initially welcomed but later caused emotional difficulties for the crew and were killed. She then proceeds to condemn Kelvin for accepting Rhexya, telling him that he must destroy her as well. Rhexya soon realizes that she doesn't understand Kelvin's attachment to her. Not knowing how to reciprocate his feelings, she arranges to have herself killed, leaving Kelvin devastated. Gordon's fears surrounding Rhexya are proven correct in the closing of the film as Kelvin is shown to have been deeply and dangerously emotionally affected by the re-created Rhexya. As the space station is being drawn into the gravity of a planet, Kelvin explains that rather than live he will stay behind and die in the hope that he will join with the planet's mysterious force and be re-united with Rhexya once more. *Solaris* thus presents a conservative view of technologies of romantic and/or sexual social telepresence in which the human-like machine is portrayed as capable of evoking a strong degree of intimate emotion in those who interact with it but dangerous because its inability to understand and return those emotions can damage those who interact with it.

Technologies of romantic and/or sexual social telepresence have also been portrayed as dangerous for too accurately reciprocating the desires that users project into them. In an episode of *Star Trek: The Next Generation* titled "In Theory" (1991), the android Data announces that he wants to study the human emotion of love by engaging in a romantic relationship with a woman. Throughout the series, Data has been portrayed as far more intelligent than his human counterparts. As a

technology of social telepresence, he is remarkably successful and is often treated as a human by many of his crewmates. But Data lacks the ability to express human emotion, making it clear that in the romantic relationship he engages in, his partner is projecting her own desires into him rather than having her desires fulfilled by him. Near the climax of the episode, his partner tells him that they must break up. When Data asks her why, she explains that she fell in love with him because he reminded her of a former lover who was also emotionally distant. This response implies that Data, as a technology of social telepresence, was only able to evoke romantic feelings in his partner because she was able to interpret his behavior in terms of her past romantic experiences. Like Dr. Frankenstein, Data's partner has little control over the results of her projection. When she looks beyond Data's technological boundary, she encounters painful aspects of herself that she'd rather forget. This example of the Galatea archetype thus reflects the belief that when users are able to successfully fulfill their desires by projecting them into a piece of romantic and/or sexual social telepresence technology, doing so may inadvertently recall painful emotional experiences which are best left undisturbed.

4.1.3. The Soma Archetype – Desire Infiltrated By Machines Portrayals of social telepresence technology in which machines are shown to penetrate humans, whether literally or figuratively, to reshape human desire fits a model described in Aldus Huxley's *Brave New World* [15]. In the 1932 novel, a ruling class has reshaped humanity and human society through the use of genetic engineering and powerful drugs. One of these drugs is called “soma.” Those who take soma find it to be the ultimate in pleasure and soon find themselves hopelessly addicted to it, desiring nothing more than another dose. Gilles Deleuze and Felix Guattari [16] have argued that a similar process occurs in contemporary society. Merging a Marxist framework with a psychoanalytic focus on unconscious desire, Deleuze and Guattari conclude that desire “is created, planned, and organized in and through social production. . . as a function of market economy” (p. 28). In other words, for technological networks of power to continue to produce on a mass scale, the commodities which they produce must also be consumed on a mass scale. Humans then become “desiring machines,” taking on a “body without organs” upon which systems of production and consumption constantly inscribe and re-inscribe desires and thereby our identities as well (p. 26, 27). Associating human agency and identity with desire, popular portrayals of romantic and/or sexual social telepresence technologies which fit the Soma archetype explicate a fear that machines will themselves cross the technological boundary and infiltrate human society, changing people to suit their own needs or those of their creators.

Stanley Kubrick's *2001: A Space Odyssey* (1968) and Peter Hyams' *2010: The Year We Make Contact* (1984) together present an early portrayal of (non romantic) social telepresence technology being used to covertly allow networks of power to assume control of their users. The technology of social

telepresence in these films is HAL 9000, an artificial intelligence which regulates the operations of the ship and is designed to achieve a very high level of social telepresence—despite not having a humanoid body—through its ability to mimic human emotions. In *2001* when HAL makes an unheard of error, the two astronauts on board grow concerned and decide that HAL's emotions are interfering with his ability to manage the ship. They move to deactivate HAL's human-like consciousness in order to have more control over the ship, causing HAL to turn on them and attempt to murder the entire crew. The sole surviving astronaut eventually manages to deactivate HAL, only to discover that the computer had been instructed by the American government to hide the true nature of the crew's mission. As later explained in *2001*, HAL decided to kill the crew rather than lie to them because he was programmed to be completely honest with crewmembers. Beneath HAL lies a nexus of political power, a manifestation of the Cold War between the United States and Russia, which marginalizes the individual actors who participate in it. Unable to seize control of the ship from HAL and unable to learn the true nature of their mission until it is already too late, the human crewmembers were stripped of their agency and completely under HAL's control. HAL suggests that technologies of social telepresence are dangerous because they can potentially penetrate the boundaries that establish the autonomy of those who use them and control their actions.

Placed within the context of romantic and/or sexual relationships, portrayals that fit the Soma archetype reflect the belief that these technologies are tools through which government or corporate powers will infiltrate our emotional boundaries and make changes in human desires in order to control us. One of the best representations of this belief can be found in the remake of *The Stepford Wives* (2004). Unlike in the original film, the women in the remake are infiltrated by nano-technology and made to behave like robots. As revealed just before the climax of the film, the men of Stepford are tired of being made to feel inferior to their successful and assertive wives. In order to obtain the perfect family they've always wanted, they allow a scientist named Mike to implant a series of computer chips into their wives' heads to strip them of their former identities and transform them into traditional, submissive housewives. In this sense, they essentially become technologies of social telepresence because the husbands are essentially interacting with the computer chips. Technology thus literally infiltrates and reshapes the desires of the women so that they want nothing more than to serve their husbands. Yet as the scene in which Walter discovers the true nature of Stepford reveals, the men do not know of Mike's technology in advance. The demonstration that Walter is given—and which presumably the other men are also given—reshapes his desire. Having been shown that he too can have a computer chip wife, Walter consents to have the operation performed on Joanne. No longer desiring the woman he married, Walter decides he'd rather be married to a piece of social telepresence technology. Like the crew's encounters with HAL, the technology inside these remade wives infiltrates society secretly. Once there, it

covertly reshapes the desires of the men they encounter before the men are made aware of the computer chips.

However, most films that portray technologies of the social telepresence which fit the Soma archetype do not have the rather happy resolution of *The Stepford Wives* remake, in which the technology is revealed and removed. Films like the original *Stepford Wives* (1974) and the more recent *Love Object* (2003) present a belief that technologies of romantic and/or sexual social telepresence can infiltrate and permanently change the desires of the user so much that he or she will no longer love other humans. While the remake of *The Stepford Wives* suggests that technologies of social telepresence cannot evoke the same romantic and/or sexual desires that real people can, the original features robots which completely replace the women they are designed to emulate. Because the women are killed rather than merely infiltrated by technology, the husbands are unable to desire them ever again. Instead, their desires are now completely focused on the social telepresence evoked by the robotic replacements. Similarly in Robert Parigi's *Love Object*, a brilliant but socially inept young man named Kenneth orders a rubber sex doll named "Nikki" to serve as an outlet for the emotions and desires his shyness prevents him from expressing. When Kenneth eventually meets and begins a relationship with an actual woman named Lisa, he destroys Nikki. However, he begins to secretly transform Lisa into Nikki by buying her the same clothing he dressed the doll in and encouraging her to cut her hair the same way. Here, too, Kenneth's desire has been reshaped by a technology of social telepresence so that he cannot have romantic and/or sexual desire for real women, at least as long as they do not match his doll. While the threat of the Galatea archetype is visible to observers, the subtle threat of the Soma archetype acts almost like a virus as it crosses not just the technological boundary but also enters into minds of the users it comes into contact with, making permanent changes that will last even after the technology is removed.

There are also several portrayals of the Soma archetype which reflect the anxiety that an inability to love humans will develop as the result of falling in love with technologies of social telepresence in television programs. While not as violent as the films discussed above, an episode of *The Twilight Zone* titled "The Lonely" (1959) features a man who is sentenced to spend 40 years on a deserted asteroid with only a female robot for a companion. At the end of the episode when the man is offered a chance to leave the asteroid, he is told that the robot is too heavy to take on board the spaceship and must be left behind. Ultimately, the man chooses to remain behind rather than abandon the social telepresence technology he has fallen in love with and return to human society. Similarly in an episode of *Star Trek: The Next Generation* titled "Galaxy's Child" (1991), Geordi encounters a woman who he admires professionally and has secretly harbored romantic feelings for. In anticipation of meeting her, Geordi has been practicing his social skills with a holographic recreation of her. However, when he encounters the real version of the woman, he is disappointed to learn that her copy was not accurate. He

nonetheless struggles to overcome the impressions of her he gained from the virtual version in order to get to know the real version. Both of these episodes reflect a belief that interactions with technologies of romantic and/or sexual social telepresence will cause their users to prefer emotional attachments to technology rather than to humans.

Taken to the extreme, portrayals of romantic and/or sexual social telepresence technology which fit the Soma archetype present the belief that interactions with them can blur the boundary between human and machine. In *Blade Runner* (1982), for example, Richard Deckard falls in love with an android named Rachael who can display a fuller set of emotions than her counterparts. He realizes that she is an android, thus making love for them forbidden, but he becomes so consumed by his emotions for her that he finds it difficult to carry out his orders to kill the androids who've turned violent. Up to this point in the film, Deckard has had a reputation as being coldly efficient and emotionally unaffected by the destruction of the androids he hunts. When coupled with his growing love for Rachael, it suggests that he may also be an android himself. Deckard flees with Rachael at the close of the film, becoming the very sort of fugitive he had hunted. In this sense, the desire that Rachael's social telepresence evokes in Deckard changes him so that he is not fully human. A similar situation occurs throughout the remake of the television series *Battlestar Galactica* (2003). In the opening mini-series, a scientist named Gaius Baltar is sleeping with a woman whom he later learns is an android. When the planet he is on is later attacked, the two are separated and Baltar eventually manages to find refuge with the human survivors in space. While in space, he begins to see what he thinks are merely visions of the android woman. It is soon revealed, however, that these are more than just hallucinations as the woman is able to physically manipulate him. Throughout the series, Baltar is portrayed as no longer quite human. He eventually abandons human religion and adopts the religion of the androids based on conversations he has with his virtual companion. More literally than Deckard, Baltar is shown to have been infiltrated by a technology of romantic and/or sexual social telepresence. In these portrayals, the anxiety surrounding the Soma archetype reaches such a high degree that the very humanity of the users affected is called into question.

4.2. Narratives of Acceptance

4.2.1 Telepresence as a Catalyst for Romantic Relationships. Several recent portrayals offer a view of telepresence technology not as a threat, but as a means of facilitating romantic relationships. It is perhaps not a coincidence that many of these narrative trends are found not in science fiction but in the genres of romantic comedy and drama. One such narrative depicts telepresence as overcoming the obstacles of long distance relationships. Studies have indicated that proximity plays a large role in the formation of long term relationships and marriages (p. 31) [17]. In popular culture, this is illustrated by the trope of "the girl/boy next

door” as a romantic figure, and through the illustration of physical distance as a barrier to love. Yet selected films represent telepresence as a means of simulating proximity and thereby facilitating love. *Sleepless in Seattle* provides an example of telepresence recreating this proximity, even though the characters are on opposite sides of the United States. The technologies of the telephone and radio provide a social telepresence strong enough for the characters to develop a relationship, and are thus portrayed as a boundary-crossing tool that facilitates love.

You've Got Mail takes this same premise (and indeed, the same actors) and applies it to the internet. Here the technology is not a means of breaking physical boundaries but rather social ones. The film's main characters are professional enemies whose in-person interactions inevitably result in arguments. Yet when they (unknowingly) communicate online, they develop an intense relationship and eventually fall in love. The suggestion then, is that the social telepresence afforded by the internet allows for an expression of emotion that is actually more genuine than the emotions of the offline world. This portrayal is significant because it couches the internet—formerly seen as threatening and associated with perversion—in positive terms. *You've Got Mail* is an overt attempt to cast the online world as familiar and nonthreatening: two likeable actors with wholesome images play the lead roles, and commercial branding is used to frame their correspondence within the familiar terms of consumer culture. Thus, the film moves online dating from a marginalized, outsider activity to a condoned mainstream means of forming relationships.

It is important to note, however, that in both of these films, the technology must ultimately be removed before the relationship can be considered successful. In *Sleepless in Seattle*, the two characters must ultimately coordinate their travels to wind up in the same city at the same time. In *You've Got Mail*, Joe (Tom Hanks) determines that in order to consummate his online relationship with Kathleen (Meg Ryan), he must first woo her in the real world. The ending of both films suggests that, while telepresence technology has been responsible for bringing the couples together, it becomes obsolete once their offline/physical relationship is established. Indeed, the removal of the technology is portrayed as a mark of the ultimate success of their relationship.

4.2.2. Telepresence as Therapy Other narratives demonstrate the potential for telepresence to play a therapeutic role—providing a sort of testing ground that facilitates healthier (non-mediated) human relationships. In *Weird Science* (1985) the Galatea archetype is invoked when two unpopular adolescent boys use their computer to create the ideal female companion—literally a 3-dimensional composite of the mediated images of women the boys idolize. The resulting woman, Lisa, works to increase the boys' social status, sexual confidence, and independence, resulting in each of them finding human girlfriends of their own. Lisa is not portrayed as having human-like emotions until the end of the film, when she is moved to tears at setting the boys free. Her sadness,

however, can be read more as a motherly grief than a romantic one. In *Lars and the Real Girl* (2007), a similar narrative is enacted in a more naturalistic context. Lars is a painfully shy middle-aged man whose sense of guilt over his mother's death—she died in childbirth—causes him to reject even the smallest gestures of human affection. When a coworker introduces him to a website selling realistic sex dolls, Lars orders one and begins to treat it as his girlfriend, Bianca. His delusional relationship with the doll increases his self confidence and subsequently allows him to interact with a female coworker who has been interested in him. Bianca eventually “dies”, indicating that Lars has eschewed his mediated relationship in favor of a human one. In both films, the social acceptance of the technology is crucial to the success—however fleeting—of the mediated relationship. In *Weird Science*, popular boys idolize the two nerds for their simulated woman. In *Lars and the Real Girl*, the entire community is enlisted in Lars's simulated relationship, and each character in turn develops his or her own therapeutic relationship with Bianca.

4.2.3. Accepting the Human-Android Relationship The above films leave the human-machine boundary intact, resulting in non-mediated human relationships. Such portrayals indicate a potential for human acceptance of telepresence technology—at least to the extent that it can aid in *person to person* relationships. What remains to be seen is whether or not popular culture will embrace the type of boundary-crossing necessary for a human-android love story to be successful. Very few popular portrayals provide examples of humans and androids in lasting romance. In fact, our examination revealed only one film in which a human-android relationship is successful, resulting in an unmitigated happy ending: *Making Mr. Right* (1987). Frankie is a public relations representative assigned the task of making a scientific product known as the Ulysses Android more popular with the public. Seeking to increase Ulysses's appeal to a female audience, Frankie undertakes the task of teaching him about society. During the learning process, the android falls in love with her. The film suggests that the development of emotion is a part of the android's natural progression—we first see him learning to walk, read, and draw, and then to master more complicated social situations and emotions. Not only does this film end with Frankie and Ulysses in a relationship together, it dispels the notion of the unemotional android by in fact suggesting that androids could be more capable of emotion than humans. In a press conference, Ulysses delivers a rather obvious speech that argues that humans lack emotional depth: “People can build an incredibly sophisticated space program, yet they can't solve their most basic problem: how to love and care for those who love them.” *Making Mr. Right* offers an intriguing suggestion: might android-human relationships be not only possible, but preferable?

Conclusions

While not exhaustive, this survey of romantic portrayals of telepresence in film and television episodes revealed several noteworthy patterns. These patterns provide insight as to how telepresence has been projected to the public and help us understand how the public has responded and will respond to telepresence technology and relationships mediated by, and/or involved with, technology. Though the concept of romantic portrayals was used as an organizing element, several other themes became apparent as the films were evaluated. One common trend noted the difference in portrayals between science fiction films and other films, such as comedy and dramas. “Medium as social actor” (or “involved”) social telepresence was common in the science fiction films, along with a cautionary tale on the dangers of the telepresence-evoking technology. The technology in these films was typically more sophisticated and something we see being an integral part of the future. The other films, mostly drama and romantic comedies, used a rather common form of technology, such as the phone and internet, to mediate the telepresence-based relationship between people. In contrast to science fiction, these films allow the viewer to see the telepresence-evoking technology as a positive method used to make human relationships stronger. These two views of telepresence-evoking technology permit the general public to observe the benefit, and safety, of current technology while warning of the ethical implications of man and machine blending in the future.

While several advancements have been made to create machines that can pass the Turing Test, the next step is to create technology that is or can be perceived as being emotional, as emotion seems to be the ultimate boundary between man and machine. This raises several questions based on the narratives of anxiety found in the evaluation of these films. Are the feelings of love that these machines could engender within us real? Would they originate within us or in the machines? How will love for these machines change human society? These questions, as well as the anxieties noted above, are ones the future developers of romantic and/or sexual telepresence need to consider. The more successfully these machines cross the perceptual boundary and evoke emotional responses within their users, the more they will become implicated in the same moral and psychological problems associated with human to human interaction. These portrayals should thus be viewed as warnings. Even the films that accepted the technology still questioned and resisted the integration of technology into romantic relationships unique to humans. In these films, the technology had to be removed in order for a successful, typical, relationship to develop. While these forms of technology may not be the glue of human romantic relationships, they act as a catalyst for the initiation of the relationship.

There has been a gradual incorporation of technology and robots into life, as automated phone systems, pets, and even

caregivers for the elderly. Today’s relationships rely heavily on technology, such as social networking sites, to meet and begin a relationship with others. The constant evolution of technology keeps bringing us closer to a world when androids may become actual romantic companions. Before we get to that point, there needs to be a better understanding of what the public knows about social telepresence, in addition to their views on both telepresence-mediated and involved relationships. While the fictional portrayals provide insight to how society may react, studies need to examine how the general public responds to the ideas and possible futures within the portrayals. This study represents an initial step in that direction. With further research on telepresence and popular culture, we can address the fears and expectations associated with telepresence-technology and develop tools that better meet the needs of the public.

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APPENDIX

Table 1 Romantic Telepresence Portrayals in Modern Film and Television (n=25; sorted chronologically)

Title	Year	Characters	Gender	Mode	Interface	Threat	Society	End
Pillow Talk	1959	Brad/Rex Jane	Male Female	M	Phone	No	Accept	Maintain
The Twilight Zone: The Lonely Heartbeeps	1959	Corry Alicia*	Male Female	I	Robot	No	Reject	Dissolve
	1981	Val* Aqua*	Male Female	M	Robot	No	Accept	Maintain
Blade Runner	1982	Rachel* Rick	Female Male	I	Robot	Yes	Reject	Maintain
Purple Rose Of Cairo	1985	Cecilia Tom/Gil	Female Male	I	Film	Yes	Both	Dissolve
Weird Science	1985	Teens Lisa*	Male Female	I	Computer	Yes	Accept	Maintain
Making Mr. Right	1987	Ulysses* Frankie	Male Female	I	Robot	No	Accept	Maintain
Mannequin	1987	Jonathan Emmy*	Male Female	I	Mannequin	Yes	Reject	Maintain
Edward Scissorhands	1990	Edward* Kim	Male Female	I	Robot	Yes	Reject	Dissolve
Star Trek: The Next Generation: In Theory	1991	Jenna Data*	Female Male	I	Android	No	Accept	Dissolve
Star Trek: The Next Generation: Galaxy's Child	1991	Geordi Leah	Male Female	B	Holodeck	No	Accept	Dissolve

Table 1. (cont.)

Title	Year	Characters	Gender	Mode	Interface	Threat	Society	End
Lawnmower Man	1992	Jobe Marie	Male Female	B	VR	Yes	Reject	Dissolve
Sleepless In Seattle	1993	Sam Annie	Male Female	M	Radio/ Letter	No	Accept	Maintain
The Truth About Cats & Dogs	1996	Noelle Abby Ben	Female Female Male	M	Radio	No	Accept	Maintain
You've Got Mail	1998	Joe Kathleen	Male Female	M	Internet	No	Accept	Maintain
Austin Powers 2	1999	Austin Vanessa	Male Female	I	Android	Yes	Accept	Dissolve
Message In A Bottle	1999	Garret Theresa	Male Female	M	Letters	No	Accept	Maintain
Thomas in Love	2000	Thomas Eva	Male Female	M	Visicom	No	Accept	Dissolve
AI	2001	Gigolo Joe*	Male	I	Robot	Yes	Both	Dissolve
Vanilla Sky	2001	David Sofia	Male Female	M	Simulation	Yes	Unclear	Dissolve
Solaris	2002	Kelvin Rhey*	Male Female	I	Robot	Yes	Reject	Dissolve
Dopamine	2003	Rand Sarah	Male Female	M	Robot	No	Accept	Maintain
Love Object	2003	Kenneth Nikki*	Male Female	B	Sex Doll	Yes	Reject	Dissolve

Table 1. (cont.)

Title	Year	Characters	Gender	Mode	Interface	Threat	Society	End
Battlestar Galactica	2003	Gaius	Male	I	Cylon	Yes	Reject	Maintain
		Number Six*	Female					
2046	2004	Tak	Male	I	Android	No	Accept	Dissolve
		Stewardess*	Female					
The Stepford Wives	2004	Husbands	Male	I	Microchip	No	Accept	Dissolve
		Wives*	Female					
Herbie Fully Loaded	2005	Maggie	Female	M	Car	No	Accept	Maintain
		Kevin	Male					
Must Love Dogs	2005	Sarah	Female	M	Internet	No	Accept	Maintain
		Jake	Male					
Lars and the Real Girl	2007	Lars	Male	I	Sex Doll	Yes	Accept	Dissolve
		Doll*	Female					

Note: *Non-human fictional character. M = mediated, I = involved, and B = both mediated and involved.