ESCAPE: ADVENTURE IN THE UNCANNY VALLEY

A CREATIVE PROJECT

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Introduction

My creative project is a television series, called *Escape*, which is modeled around Masahiro Mori’s (2012) uncanny valley theory. The project is a television script and a website at project-escape.com. Along with the concept of the uncanny valley, the series challenges what is considered to be ‘real’ life. I scripted an entire hour-long pilot episode for a science fiction drama television series. Additionally, I catalogued a synopsis plot for each of the remaining episodes of the entire first season. The season contains ten episodes and can be viewed on the website listed under “The Story.” The website’s “Home” page is a welcome page that explains how the science fiction drama television series is modeled around Mori’s uncanny valley theory and its related themes. Second is the page describing “The Universe,” which describes the time, place, condition, living style, and entire post-apocalyptic world in which the characters live. The next page lists the main characters, Boc Murray, Yahiko Nash, Rayhana Kassandra, and Nanette. Each character’s profile contains their biography, strengths to the team, and shortcomings that make them relatable human beings. As mentioned, the “The Story” page catalogues the plot summaries of each episode. Lastly, the “Contact” page lists my name, shows that I am a graduate student at Ball State University, and provides my email. Mori’s theory claims that as a non-human object develops from a non-human appearance to exactly human, the development has a certain interval in which people are unsettled by the appearance. However, once the non-living object crosses that interval, or that “valley,” people accept it. In other words, as a non-human object appears and acts more human-like without exactly replicating a human, people feel a sense of uncanniness because people are instinctively sensitive to human appearances (Mori, 2012).
Even since ancient Greek and Roman mythology, people have been conscious and cautious about science allowing man to assume the role of God. People once feared the wrath of Zeus, believing Prometheus to have stolen fire and given it to man. Roughly 200 years ago, Mary Shelly’s 1818 novel *Frankenstein*, shared a story about Dr. Victor Frankenstein, “the modern Prometheus,” who used science to create a living being. That concept of giving life or animation to a lifeless, inanimate subject is very disturbing to mankind. Within the narrative of *Frankenstein*, Dr. Frankenstein collects limbs, and pieces of multiple corpses, and then warps, weaves, and meshes them to form his own living creature (Shelly, 1818).

Also since ancient Greek and Roman times, people have enjoyed plays as forms of entertainment. In preparation for Greek and Roman festivals, playwrights would construct plays, which were then performed by actors at these festivals. Before long, scholars began observing the spectators’ favorite plays and common components that the plays possessed. Samuel Henry Butcher (1951) explains Aristotle’s hierarchy of elements of a play. From his deductive observations, Aristotle found that successful plays contained six elements that ranked in a specific order. His hierarchy, from most important to least important, includes: plot, character, thought or theme, language, song and music, and spectacle or visual adornment. Aristotle stresses character as the second most important element, being classified as either simple or complex (Butcher, 1951). His model has been followed in successful productions even up until modern times.

Over the past few decades, technology continually advances in the film industry. In recent years, for example, computers are able to make computer-generated objects look just as real as images filmed in reality. Special effects artists are not only able to design and animate common objects, but also full-bodied characters, too. This essay first explains the theory of the
uncanny valley and how it applies to viewers’ feelings of these full-bodied animations. Second, it provides a brief background over creating computer-generated objects and characters for cinema and television. Thirdly, it reviews specific examples in cinema and television, followed by society and viewer’s acceptance of the concepts and reoccurring themes behind using computer-generated characters in place of real, living actors. Next, it describes the creative project along with the methodology and production steps. Finally, this essay discusses the creative project and how it is model around the recurring themes of the research.

The Uncanny Valley

That disturbing, creepy essence of a person’s reanimation like Frankenstein’s monster is what Mori labels “uncanny.” He explains his theory of *bukimi no tani*, or the uncanny valley, graphing people’s *shinwakan* (affinity/humanness) and *bukimi* (eeriness) with varying subjects resembling humans (Mori, 2012; Ho & MacDorman, 2010). Mori hypothesizes that at a certain point, as a robot resembles more of a real person, the slope in his graph (see *Figure 1*) qualifying people’s comfort level drops to a negative low, a range in which Mori calls the uncanny valley.

![Figure 1](image)

*Figure 1.* Masahiro Mori’s original graph depicts the uncanny valley, the proposed relation between the human likeness of an entity, and the perceiver’s affinity for it (Mori, 2012).
The slope climbs to its positive peak once the robot embodies and acts as an exact replica of a normal, healthy person. Mori plots points along his slope of references to what people are comfortable with. From zero, he lists an industrial robot, which everyone can tell is clearly an electrical tool. As the graph in human likeness rises in positive affinity/humanness, Mori provides the example of a robot that contains some resemblance to a human (Mori, 2012). Dave Bryant (2006) explains that generally, humans are happy to attribute human characteristics to something nonhuman, which is termed anthropomorphic. Humans can clearly tell that the machine is not real, but like to attribute human traits to any similar structures (Bryant, 2006). Next, Mori’s graph rapidly drops as the robot becomes almost exactly like a human with some flaws (Mori, 2012). Monsters, such as Frankenstein’s creation, zombies, demons, and all of the horrors of humanity’s most twisted imagination land in the canny valley (Bryant, 2006). On Mori’s graph, humanness affinity is fully restored at the sight of a seemingly healthy being, or anything indistinguishable from a real healthy person (Mori, 2012). Steve Theodore (2004), in summary explains, “When we know what we see is not human, we are happy to project human characteristics onto it” (Theodore, 2004). Bryant explains that mankind has always seemed to accept *Aesop’s Fables* with talking animals and human traits attributed to animals, such as the sly fox, for example (Bryant, 2006). However Theodore continues, “But when we think it may really be human, we become much more critical” (Theodore, 2004).

Theodore’s summary leads scholars, such as Karl F. MacDorman, Robert D. Green, Chin-Chang Ho, and Clinton T. Koch (2009) to wonder why humans feel as such. They consider different evolutionary perspectives. For instance, humans view other attractive humans as potential mates. In other words, if something non-human appears to be an attractive human, instinctively the real human will be attracted to it. However, as the real human discovers that
perceived potential mate is infertile, the real human suddenly feels eerie. MacDorman et al. suggest that “…the selective pressure to perceive as unattractive those lacking in reproductive fitness may have led to the evolution of the perceptual and cognitive mechanisms responsible for the feelings of aversion associated with the uncanny valley” (MacDorman, Green, Ho, & Koch, 2009, p. 697).

Evolutionary theory may also explain the tendency for humans to be more sensitive to computer-generated human characters in particular, as opposed to other creatures. MacDorman et al. elaborate, “…it is possible that we inherited perceptual mechanisms favoring symmetry from our ancestors who made reproductively successful mate choices” (MacDorman et al., 2009, p. 697). Bryant suggests that studies show symmetry of the face and body suggest health and vigor, which mean genetic fitness. The flip side of that statement then suggests that asymmetry implies the opposite (Bryant, 2006). MacDorman et al., reasons that leprosy looks disgusting to humans, but spots on a leaf do not. It is from that reasoning why they feel that humans are so sensitive to minor flaws only in near-perfect robots or computer-generated characters, landing the creations in the uncanny valley (MacDorman et al., 2009).

MacDorman et al., 2009 report the results of one study, which presented test subjects with several computer-generated faces of photorealistic, bronze, and line texture models at varying levels of detail. The study found that ratings of eeriness decreased as the level of detail increased for the photorealistic and bronze textures, which is actually contrary to Mori’s uncanny valley graph. However, the line texture fit the predictions of Mori’s graph (MacDorman et al., 2009).

In another experiment, subjects were tested on their sensitivity to the location of the eyes in relation to the rest of the computer-generated face with various levels of facial distortions.
The study found that faces with normal proportions were rated eeriest at lower levels of facial
details. Faces with eyes not proportional to the rest of the face were rated eeriest the more
humanlike the face appeared. In other words, facial proportions that are far from ideal look
erier at higher levels of detail than facial proportions that are nearly ideal. MacDorman et al.
suggest that unless a photorealistic human is required, it may be safer and better received for
designers and animators of computer-generated images to use a less photorealistic texture.
Otherwise, they will need to be extra careful to ensure the proportions of the computer-generated
faces are within human norms (MacDorman et al., 2009).

**Creating Computer-generated Objects and Characters for Cinema and Television**

Steve Wright (2011) explains that the most basic challenge of designing and
reconstructing computer-generated elements to look photorealistic is that the real world is
ridiculously complex. After the computer-generated images are built and designed, the
animation team animates every detail and component of the object’s position, rotation, size, and
transparency. On top of all that, regarding computer-generated faces in cinema and television, it
is the digital compositor’s job is to make sure that everything modeled digitally appears as
though they were all shot at the same time as everything in the original footage, looking
photorealistic. The most basic keyframing animation is setting a keyframe at the beginning point
and then putting another keyframe at the end point and allowing the computer fill in the frames in
between automatically. This method of animating is called interpolation. During this process,
the computer connects the keyframes together with splines, which are mathematical lines that
can be straight or bent into graceful curves. Realistically, though, advanced projects call for
many more than merely two keyframes (Wright, 2011).
For example, one of the many aspects to pay very close attention to is keyframing the mouth to match the recorded words. In times when it is unsafe or practically impossible or for an actor to be in a shot, using a body-double or a full-body digital replacement is necessary (Wright, 2011). Denver D’Rozario and Frank K. Bryant (2013) explain voice-morphing technology, first developed by the military, which accurately clones speech patterns. With text-to-speech software, productions are able to create a voice database through a digital recording of a word, phrase, or sentence spoken by someone. Next, they explain that the software deconstructs the digital voice-clips into their syllabic components and then rearranges and reconstructs them into new patterns. This creates an entirely new pattern of words that were never even spoken by the original actor. By doing this, special effect artists and recording artists can put words into someone else’s mouth that they never actually said without having to hunt for voice actors with similar tones and speech patterns (D’Rozario & Bryant, 2013).

To complicate the processes further, everything reconstructed, both visual and audible, needs to blend with the rest video and audio. In other words, the computer-generated animation and audio need to blend with the live action shot by the director and cinematographer. Directors and cinematographers often shoot scenes with camera movements, using dollies, jibs, trucks, pans, and tilts. The challenge that animation artists face is to animate and blend their design in perfect sync with the live action camera. This is where special match-move programs become useful to pull off the perception that the digital-generated element is actually in the shot. Match move is a two-step process. The software first analyzes the live action plate. The software notes as many features as it can between frames over the length of the shot. A three-dimensional model is then produced of the scene, as well as the camera move data. The second step is to give the information from the match move analysis to the animation artists. They use the information
as a guide as to where to position their designs. If done correctly, the computer will render the three-dimensional animated objects to blend into the action footage (Wright, 2011).

Charles Finance and Susan Zwerman (2010) explain that a common method to replicating movement is motion capture, or often called mocap. By wearing a mocap suit, the performer’s movements are captured by a number of special cameras that record not traditional video, but record movements like a live animation. A computer records any change in motion. How this is extremely powerful is that animators can use the captured performance as a template for replicating a three-dimensional computer-generated character to look indistinguishable from a real actor or actress. This is a dynamic tool when many three-dimensional computer-generated characters have to populate a scene. This also often works hand-in-hand with match-move software. In instances where a mocap is not suitable for a project, the visual effects supervisor can always fall back on keyframe animation (Finance & Zwerman, 2010).

An additional step that must be considered to photorealistically blending digitally created imagery into real footage is applying matching color correction to both layers. This is often referred to as color grading (Finance & Zwerman, 2010). Wright (2010) explains that typically computer-generated imagery should not need as much color grading because they should be designed using the background as a reference from the start. Nevertheless, each element will need some amount of color correcting. Wright recommends to first match the black and white points of the elements. The reason that this is done first is because all the other color corrections will depend on the black and white points being set correctly. If this is done wrong, then the other color corrections will not match (Wright, 2010). This would result in a potential uncanny element in the computer-generated object or character.

**Uncanniness in Cinema and Television**
Stacey Abbott (2006) explains that the first film to use computer-generated imagery to manipulate an artificial being that blended with the real world was *The Abyss* in 1989. In the film, a tentacle made from water moves around the rig until it finds the humans. It forms a human face and interacts with the crew, making gestures and faces. In 1991, ILM’s team of special effects technicians took what they had accomplished in *The Abyss* and applied the methods to developing a new terminator in *Terminator 2: Judgment Day*. Within the movie’s narrative, the new terminator is made of liquid metal and able to take different shapes. What was really groundbreaking with this movie was that the special effects team was able to blend the digital effects of the T-1000 with the actor in the real world making it look believable within the story of the movie.

Abbott continues with the example of Steven Spielberg’s *Jurassic Park* in 1993. This was the first film to create live creatures rather than aliens or machines. The film used computer-generated imagery to bring the dinosaurs to life, smoothly integrating them into the live-action shots of the actors. After the three *Jurassic Park* movies in 1993, 1997, and 2001, the first *Lord of the Rings* movie, released in 2001, made heavy use of computer-generated imagery in creating the monsters, Orc armies, and the former ring-bearer, Gollum (Abbott, 2006). To this point, the uses of computer-generated imagery have been for creating aliens, machines, and creatures.

Over the years, many movies have undergone the uncanny Frankenstein procedure of character recreation due to the unexpected death of an actor. Alex Leadbeater (2013) claims that Brandon Lee was the first actor to have this operation performed on his likeness. Lee died from a fatal gunshot wound on the set of *The Crow* in 1994 when Michael Massee fired a dummy cartridge from a previous scene, which became lodged in the gun. It created a near bullet speed projectile when fired from the force of a blank. Lee’s death at first seemed to be the doom of the
production. However, the production used a combination of stuntmen, computer-generated body doubles, and script rewrites. After all the modifications and adjustments, The Crow was finished and was a successful feature-length movie (Leadbeater, 2013).

After The Crow was seen to successfully replace body doubles with computer-generated imagery, the 2002 movie Gladiator was forced to consider undertaking the same process for one of their actors, according to Alex Santoso (2009). Actor Oliver Reed played the role of Proximo. Reed had been known to be an extremely heavy drinker. While on the Island of Malta in 1999 during the production of Gladiator, he went to the bar and reportedly overindulged. That night Reed passed away due to a heart attack before the movie was completed. Most of Reed’s scenes had already been shot, but a few were not. Director Ridley Scott chose to use a body double and then composite Reed’s face onto the double’s body (Santoso, 2009).

The Imagination of Doctor Parnassus in 2009 also lost an actor, Heath Ledger, who died January 22nd, 2008. Fans were concerned about the completion of The Dark Knight in 2008. However, The Dark Knight was already in its postproduction phase prior to his death. Leadbeater reports that Ledger passed away due to an overdose of painkillers and antidepressant drugs. At the time of his death, The Imagination of Doctor Parnassus was only halfway through shooting the movie. Within the context of the movie, each time Ledger’s character, Tony, enters the Imaginarium, his appearance changes, resembling the look of Johnny Depp, Colin Farrell, and Jude Law respectively. This appearance change represented elements of his psyche being opened, which allowed Director Terry Gilliam some wiggle room to work around Ledger’s unexpected death. Luckily, Gilliam and the production team had already shot most of the real world elements of Tony when he was not in the Imaginarium. Gilliam had the option to simply create a new character each time Tony entered the dream world. Depp, Ferrell, and Law, all of
whom were friends with Ledger, offered to stand in for the role. Gilliam used a combination of their images, which was already close to resembling Ledger, and some amount of computer-generated imagery adjustments (Leadbeater, 2013).

Vanessa Thorpe (2009) reports that in the case of Iron Cross in 2009, the movie was saved by a talented make-up artist, a latex mask, and computer-generated imagery. Actor Roy Scheider was best known for his roles of portraying tough police officers. He found his breakthrough playing central roles in The French Connection in 1971 and Jaws in 1975. When Scheider died during the production of Iron Cross, director Joshua Newton was left with a crucial scene yet to be shot without his lead actor. Newton ordered a prosthetic latex mask, which matched Scheider’s face and his distinctive features. Between the mask, the make-up artist Louis Lazzara’s make-up skills, and the computer-generated imagery, the film was able to see its completion and its leading actor to be nominated twice for Oscar Awards (Thorpe, 2009).

In a more recent case, Sarah Hedgecock (2014) reports that Paul Walker died November 30th, 2013 midway through shooting Fast & Furious 7, scheduled to release in 2015. This left the producers with three options. They could write Walker’s character out of the movie after already shooting many scenes with him, use stunt doubles shot from behind with pre-recorded sound bytes, or use computer-generated imagery doubles to embody him (Hedgecock, 2014). Chanelle Berlin Johnson (2014) reports that producers wisely chose to employ computer effects to make four body doubles to look like him (Johnson, 2014). Considering that two out of the four body doubles are his brothers, Caleb and Cody Walker, the computer-generated imagery work would be more minimal compared to other situations (Johnson, 2014; Hedgecock, 2014). It is also worth noting when discussing the ethics of the producers’ decisions to use computer-
generated imagery and body doubles in *Fast & Furious 7*, that the close-up dramatic scenes with Walker had already been shot along with most of his action (Hedgecock, 2014).


While the movie industry has thrived in the art of digitally compositing computer-generated characters into scenes, television has not experienced the same success. Todd VanDerWerff (2010) describes a less successful case, an episode of *The Sopranos* in 2001 when the series attempted to use a digital face replacement of Livia Soprano, played by Nancy Marchand. Between seasons two and three, Marchand passed away due to emphysema and lung cancer. Creator David Chase decided to use old footage of Marchand’s face from past episodes, and then composite it over a stunt double’s face. This allowed Tony Soprano to have one final scene with his mother. Viewers who followed the show from earlier seasons quickly recognized that Livia is obviously saying the exact comments that she has said before from earlier episodes. VanDerWerff argues that the face replacement was ineffective and killed any dramatic impact in this case of *The Sopranos* episode. During this episode Livia dies, and so her character is removed from the story after her funeral (VanDerWerff, 2010).
Unlike the prior example, the Fox television show *Glee*, airing from 2009 to 2015, found it wiser to simply cut its losses immediately upon the death of one of their stars. Alessandra Stanley (2013) reports that actor Cory Monteith, who played Finn Hudson in the television show, passed away July 13th, 2013 due to a combination of heroin overdose and alcohol use. One of the *Glee* episodes opens three weeks after Finn’s funeral, and the entire school is grief-stricken. Little explanation within the story of the season addresses how the quarterback-turned-singer died, other than the fact that he somehow did (Stanley, 2013). How this case differs from the prior cases is that the series did not even hassle with face replacement, even though modern technology has the ability to produce it, which could have filled plot holes and provided better closure for the fans.

The practice of using computer-generated imagery to continually keep the image of a late actor or actress alive has been seen in television commercials. Michael Hiltzik (2014) reports of Audrey Hepburn, who died January 20th, 1993, was digitally resurrected in a Dove commercial and animated to look like a realistic actress filmed in real life. The same way that the producers of *Fast & Furious 7* hired Caleb and Cody Walker who look like their brother Paul Walker, the producers of the Dove commercial hired a look-alike double for Hepburn. However, using the double was not close enough to the original Hepburn, so the producers chose to model Hepburn entirely digitally. Hiltzik shares that the commercial saw a range and variety of reactions. Some people reacted with delight to seeing the beautiful Hepburn on screen again while others were appalled to see her falsely being portrayed on screen digitally (Hiltzik, 2014). How this differs from the scenarios of *The Sopranos*, and *Glee*, is that the public knows that the actors’ unfortunate accidents occurred during the productions. Specifically, in the case of Paul Walker’s incident, The public may not ever know which scenes of the movie were actually shot with the
real Paul Walker before his death and which scenes were shot with his brothers as doubles, unless revealed by a director in later DVD commentary. With this Dove commercial, though, the public knows full well that Hepburn has been deceased for many years, and find it uncanny to see her looking the same as 21 years ago, as if witnessing a zombie or ghost.

Abbott argues, “photography and cinematography can be seen as creating ghosts, images of the dead trapped in time” (p. 15). Digital technology, on the other hand, “creates cyborgs, images that are a combination of their living referent and the technology that has reinterpreted them, no longer forced to repeat their motions as recorded but instead programmed to perform entirely new functions” (Abbot, 2006, p. 15). James Naremore (1988) comments on Lev Kuleshov’s experiments of warping and weaving different shots of body parts belonging to different people. He argues that this process “undermines the humanistic conception of acting, turning every movie editor into a potential Dr. Frankenstein” (Naremore, 1988, p. 25). Lisa Bode (2010) suggests that the special effects artist, the modern Prometheus, takes preexisting footage of the deceased actor, redesigns the actor’s image, wraps the old skin around the new design, and connects reanimating body parts, giving life to perceivably, but deceptively, the same character on screen as before his death (Bode, 2010). In other words, if digital technology, which can design computer-generated people, is used in cinematography, then one can argue that computer-generated imagery in film, movies, television, and commercials still creates monsters, machines, aliens, and other creatures, just like the first uses of computer-generated imagery. Taking a deductive look at these statements, computer-generated characters are, in essence, zombified versions of that actor, immortalized, never able to die (Abbott, 2006).

This practice raises legal and ethical implications regarding the image of the deceased celebrity, which D’Rozario and Bryant call a Deleb (D’Rozario & Bryant, 2013). Legally, the
actor’s character, performance, appearance, likeness, name and voice in the production
oftentimes belong to the production company. For example, an actor’s contract from Sonnyboo
states the following:

The Actor hereby grants to the Production Company and to its licensees, assignees, and
to the successors-in-interest, all rights of every kind and character, in perpetuity, in and to
the Actor’s performance, appearance, likeness, name and/or voice (the “Performance”) in
connection with the motion picture (Picture Filmmaker IQ, 2009).

The arrangement also clarifies, “In the event of the Actor’s death or total incapacity, “Actor
means the Actor’s heirs, devisees, beneficiaries, trusts, assignees or other successors-in-interest.”

The agreement then continues saying the following:

The Actor hereby authorizes the Production Company…to use and to license others to
use such records and photographs in any manner or media whatsoever, including without
limitation unrestricted use for purposes of publicity, advertising and sales promotion; and
to use my name, likeness, voice, biography or other information concerning me in
connection with the Picture and for any other purpose associated with the (Picture
Filmmaker IQ, 2009).

Similarly, an actor’s agreement with Film Contracts states, “I hereby grant to Producer all rights
of every kind and character whatsoever in perpetuity in and to my performance, appearance,
name and/or voice and the results and proceeds thereof (the “Performance”) in connection with
the adult video…and to use my name likeness, voice, biographic or other information concerning
me in connection with the Picture, commercial tie-ups, merchandising, and for any other purpose”
likeness rights vary around the country. For example, California offers 70 years of protection; whereas Indiana offers 100 years (The Associated Press, 2012).

Regarding the ethical concerns to digitally resurrecting the dead, D’Rozario and Bryant suggest several recommendations and cautions of using Delebs. They explain that Delebs offer several unique advantages to using celebrities. For example, unlike Delebs, living celebrities often can be challenging to work with and demand high payment. While the estate of the Deleb still requires negotiations to use the Deleb’s image and likeness, the budget to reanimate a dead celebrity may be cheaper and easier than a living one. For instance, David Beckham was paid £30,000,000 ($44,284,800) for endorsing Gillette, while a one-year license to the image of James Dean could have been attained for as low as $15,000 (D’Rozario & Bryant, 2013). Additionally, the reputation and commercial value of a Deleb remain consistent in accordance with the legacy that they leave behind and lasting image. The reputations and commercial value of living celebrities, on the other hand, often changes based on their behavior and their professional image (D’Rozario & Bryant, 2013).

D’Rozario and Bryant also urge practitioners to ensure that there is a necessary fit between the image of the Deleb and the use of the Deleb’s image. In Superman Returns in 2006, Director Bryan Singer negotiated with Mike Medavoy, the legal representative of the late Marlon Brando’s estate, to use existing footage and recordings of Brando’s past performances as Jor-El in past Superman movies. In doing so, Singer bridged a meaningful connection between the movies and also paid a special tribute to Brando’s legacy (Head, 2006). D’Rozario and Bryant caution practitioners to use this technique respectfully. They warn that stretching a Deleb’s image with posthumous work can cheapen the Deleb’s image (D’Rozario & Bryant, 2013).
Jacob Davidson (2013) claims that doing so is comparable to grave robbing. For example, he explains that Johnnie Walker’s commercial, titled *Change the Game* in 2013, does not correctly represent Bruce Lee (Davidson, 2013). In the commercial a reanimated Lee gives an inspiring speech to follow one’s own instincts. The end of the commercial promotes Johnnie Walker’s Blended Scotch Whisky. Even though Lee is never seen holding the scotch, his image and likeness is associated with the promotion of the whisky brand (Cheng, 2013). The issue with in this case is that Lee is well-known as a teetotaler, or someone who abstains entirely from alcohol (Davidson, 2013). In the prior contrasting scenario, in an interview with *IGN*, Singer states that he honestly believes that Brando would have approved the use of his image, voice, and likeness as Jor-El if he were still living. Singer continues in explaining that the technology to do so fascinated Brando, and that he even let video game designers scan his body to use as an animated character (Head, 2006).

Another ethical concern that D’Rozario and Bryant warn against is to avoid diluting the Deleb’s image. This means licensing the Deleb’s image to too many productions. The difference between cheapening and diluting is that cheapening may result in only a single use. On the other hand, diluting results from too many uses, and both instances result in a loss of credibility for the Deleb’s image (D’Rozario & Bryant, 2013).

Finally, D’Rozario and Bryant suggest that practitioners be aware of conflicting Deleb images. Going back to the example of Brando, they take another approach by noting how he gained excessive weight, changed looks, and left too many competing images before he passed away. Dying young freezes an actor’s body in time. As previously mentioned, in the same manner that the reputation and commercial value of a Deleb remain consistent in accordance with the legacy that they leave behind, so does their body (D’Rozario & Bryant, 2013).
This ethical quandary extends to even beyond film and television studies to live performances. Early in 2012, Tupac Shakur was digitally resurrected and rose from the stage as a hologram to perform alongside Snoop Dogg in a live concert in Los Angeles, California. Because Shakur was displayed as two-dimensional, he technically was not a true hologram, which, by definition, meant three-dimensional (the technology was not yet developed to do so). However, this digital achievement set a technological breakthrough because this concept, seen only in movies, was witnessed in real space without even needing a screen. The Associated Press reported that audiences accepted the spectacle well, with the performance, itself, gathering 15 million YouTube hits within only 48 hours and winning a top award at the creative marketing gathering Cannes Lions (The Associated Press, 2012).

The portrayal of Shakur met D’Rozario and Bryant’s list of ethical suggestions. First, this performance was a proper fit. Considering the many conspiracy theories as to whether Shakur was still alive, bringing him to digital life fueled the imagination and escapism behind the theories and therefore matched appropriately. Furthermore, this performance also certainly did not cheapen or dilute the Deleb’s image, and carefully recreated the Deleb’s lasting image as envisioned by many fans (D’Rozario & Bryant, 2013; Associated Press, 2012). Dylan Brown, owner of The Yard Entertainment, and Philip Atwel, owner of Geronimo Films, both commented that their primary concern was to be respectful of the family and the reanimated Shakur’s likeness and to make sure that the portrayal was maintained in good taste. In the performance, the digital Shakur calls to thousands of screaming fans, “Come with me.” Then at the end of his performance, he disperses into little light particles. Following him is exactly what other estates of Delebs are now considering. Both Elvis Presley and Marilyn Monroe’s estates are expressing interest in authorizing the use of holograms so that fans can see their beloved stars perform again.
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In summary, within reasonable ethical limits, society’s values appear to accept the reanimation of a Deleb in certain circumstances if done properly with good taste.

Methodology

In consideration of the topic discussed thus far, my creative project is modeled around the recurring themes and respective concepts. This was completed by implementing several digital storytelling tools and methods. In the process of gathering the assets for the webpage, I first took pictures using a Canon EOS 7D SRL Digital Camera with a 28-135 mm lens in a warehouse, which I felt gave a dark, underground feeling. I used the three-point lighting method to light my talent. Two of lights contained orange gels, and an HMI 800 Watt equipped with a chimera filled the desired area, leaving the excess background dark. The camera was placed on a tripod, set to the desired settings, and then locked into place. In order to maintain frame consistency throughout the website, the pictures were taken after the camera was locked into place, with the only change in each shot being the actors and objects in the shots. With the camera locked into place, I took five different pictures: one for Boc (Jim Kremer), Yahiko (Carson White), Rayhana (Nicole Loshe), an iPad, and an empty space. Later, Nantette (Lauren Shank) was pictured with the same camera, tripod level, and lens, but inside the Ball Communications studio in front of a green screen. The studio lights were already set by engineers for a clean greenscreen key.

I used a combination of Photoshop and Illustrator to design and edit the assets for Boc and Nanette’s character profiles. The content was then masked and blended appropriately to portray how a hologram might look within the location. Also, using Photoshop, I edited the graphic image at the top of the website. The picture of sun and Earth I originally designed as an animation using After Effects. I exported a single frame from the animation, and then I rotated it
and elongated it to the left using samples from other portions of the picture. The logo to the left of the header is four different E’s in two different fonts with several effects applied to them. The blue graphic image behind all of the content is an asset from within the content package of Encore, which is available in Creative Suite 6. I applied a color correction adjustment layer to the graphic image in order to match the colors of my website.

Next, with the help of Carson White the cascading style sheet and html code were written using Dreamweaver. Once we designed rough structure, I began copying pages and adjusting the text on each page as it corresponded to the respective content. Having planned and typed the text, such as each episode synopsis, in Microsoft Word in advance, I copied the text in between each ID and class name in the code. In the end, the project contained 22 different html pages and two style sheets. Finally, I bought a URL domain name and published the website to A2 Hosting. As mentioned the website is hosted by A2 Hosting at project-escape.com.

Discussion

My pilot script models the uncanny valley theory in the way that Boc meets a peculiar hologram lady named Nanette. She promises to provide him with directions to reach a safe haven, and her claim is the reason for the adventure. Nanette’s story arch roughly corresponds to five respective arch points on Mori’s uncanny valley graph’s curve (see Figure 1 and Figure 2). Mori plots his first point as his graph begins its initial rise (Mori, 2012; Ho & MacDorman, 2010; MacDorman, Green, Ho, & Koch, 2009; Theodore, 2004). At first in the Escape script, Boc is merely amused by a hologram of an attractive lady. About midway up the first slope on the uncanny valley graph, Mori plots where likable objects, such as toy robots, rank at fairly positive affinity (Mori, 2012; Ho & MacDorman, 2010; MacDorman, Green, Ho, & Koch, 2009).
In the script, Boc, as well as other characters view Nanette just like Siri’s voice, used on many iPhones today. The third stage involves Mori’s plot point ranking on the negative level of affinity on the uncanny valley graph. He mentions a prosthetic hand in his discussion on how it somewhat seems real, but obviously is fake (Mori, 2012; Ho & MacDorman, 2010; MacDorman, Green, Ho, & Koch, 2009). As time passes, Boc finds that Nanette can feel angry, joke, and even access and hack computer systems, which rule everything in the time period of the universe. However, the fact remains that she is only a hologram tied to a mobile device. Boc, along with the other two main characters, Yahiko and Rayhana, repeatedly question whether to address her like a human, or like Siri.

The forth stage on Mori’s graph is a Bunraku puppet. He explains that even though the puppet’s realism in terms of size, skin texture, and other features do not reach the level of realism like a prosthetic hand, audiences enjoy a puppet show from the perspective of their seats (Mori, 2012; Ho & MacDorman, 2010; MacDorman, Green, Ho, & Koch, 2009). This stage,
along with the final stage, does not occur in the script, itself, which reaches roughly three-fifths of Mori’s graph. The last two stages take place in the final two episodes, catalogued on the website. Boc finds Nanette’s real human body held captive in a state of suspended animation. From his perspective, he then realizes that she has actually been a real person throughout the adventure. Finally, the fifth stage, correlating to the uncanny valley graph’s uppermost affinity-ranking point, Mori claims that only something bearing the exact qualities of a healthy person may reach that upper level (Mori, 2012; Ho & MacDorman, 2010; MacDorman, Green, Ho, & Koch, 2009; Theodore, 2004). By the end of the first season, the journey that Nanette guides Boc, Yahiko, and Rayhana through is not safe haven, but to the location of her real, healthy body, where her essence is united with it; and she seemingly appears to be human. However, just how the likelihood of robots, who reach the uppermost point of Mori’s graph, possessing abilities that humans do not have; so, too, Nanette possesses extra abilities in the end that the other characters do not have.

The stages of the uncanny valley corresponding to the described plot take place gradually over the course of the entire season. Earlier in this essay I analyzed how the uncanny valley applies to cinema and television through the use of digitally replacing dead actors. Each case shares a common theme and concept: In order to extend a life past death, a life has to die. This unnatural idea is a common ritual practiced by the antagonists within the Escape storyline. The antagonistic organization, called the Enigma, uses a satanic ritual of transferring their essence into the essence of a different being, essentially being able to live forever. Going back to my prior explanation of computer-generated imagery, the limitations of death are no longer an absolute boundary in maintaining one’s likeness in digital media. The same concept is applied to the Enigma’s practice. The difference in concepts is that the Enigma’s use of the practice is
forced upon other innocent people against their will, whereas in Hollywood, it only circumstantial.

Some members of the Enigma possess special abilities stemming from the same concept. For example, Kip, the leader, has the ability to “stock up” on lives. He can die a certain number of times, but will keep reviving as long as he has remaining lives. Another variance is Zane’s special ability. By the use of his triple scythe aligned with saw blades, he can convert fresh blood into life energy, transforming it into youth and allowing him to stay young in his own body.

Relating back to the difference between the Enigma’s use of their reanimation practice and Hollywood’s reanimation practice, Boc symbolizes Hollywood’s practice. The Enigma brings him back to life because they need his expertise and for him to finish his unique work. Comparatively, Hollywood brings back actors and actresses for them to finish the production and their unique image.

Conclusion

The concept of trading a life for a life, whether realistically or digitally, poses challenging considerations. Considering the prior examples, it appears as though society and audiences cautiously accept the practice only under certain, reasonable circumstances. If an actor dies in mid-production, it seems reasonable to use the means necessary to finish the production if it is achieved with respect for the Deleb and with good taste, as D’Rozario and Bryant elaborate in their recommendations. If this is produced poorly, disrespectful, or in bad taste, then the director and special effects team run the risk of grave robbing and playing Frankenstein, which will lead to an uncanny feeling among viewers. Future research applying the uncanny valley to digital resurrection may someday involve live, three-dimensional, holographic performances. The practice is already accepted under certain, reasonable circumstances in film, television, and in the
case of Shakur’s two-dimensional holographic performance. Therefore future studies, depending when the technology has achieved the appropriate level of advancement, may be how society and viewers accept live, three-dimensional, holographic performances of Delebs.

In summary, this essay explains the theory behind that uncanny feeling and viewers’ attitudes toward these full-bodied animations. Second, it provides a brief background explaining creating computer-generated object and characters, followed by specific examples in cinema and television. Next, it describes the supplemental creative project and how it is model according to the recurring themes of the research. Finally, this essay draws conclusions to society and viewer’s acceptance of the concepts and reoccurring themes behind using computer-generated characters in place of real, living actors. It is important to be conscious when blurring the lines between what is real life and what is not real.

The theme within the narrative of Steven Spielberg’s movie *A.I. Artificial Intelligence* in 2001 serves as a closing illustration to the premise behind this peculiar phenomenon. In the movie, taking place many years in the future when major coastlines are drowned due to global warming, Monica and Henry are a married couple whose child has a disease and is frozen until a cure could be found. In an attempt to fill the lost life of their son, Henry buys Monica a humanoid robot, called a mecha. This mecha, named David, is a machine programmed to love his parents and to learn, as a real young boy would do. David strives to earn the love of his “mommy.” However, he is considered to be only a machine, like a toy programmed with responses that only copy human emotions, and is abandoned in the woods with Teddy, a mecha teddy bear. The film challenges human emotions and philosophies and questions what makes something alive. ‘Is David a child, a pet, a
computer, or a combination of each? is the uncanny question that challenges viewers to consider (Ebert, R. 2001).

Going back to Dr. Frankenstein, how is the creation of cute, little David any different from the creation of Frankenstein’s atrocious, fearful monster? Both creations seek acceptance from their masters, but are always regarded as only objects programmed to animate and to act in certain ways. In conclusion, the purpose for analyzing Mori’s uncanny valley theory with the practice of reanimation is to reflect and to learn how viewers accept the interweaving of dead and alive performances of actors to the point where viewers cannot distinguish what was digitally added after the actor’s death and what was really filmed with the actor. D’Rozario and Bryant’s ethical recommendations add reasonable guidelines to Mori’s uncanny valley theory when applied to computer-generated imagery in cinema and television.
References


Figure 1. Masahiro Mori’s original graph depicts the uncanny valley, the proposed relation between the human likeness of an entity, and the perceiver’s affinity for it (Mori, 2012).
Figure 2. The Escape graph depicts the evolution of Nanette, the relation between the human likeness of an entity, and the other character's affinity for it. Her development directly influences the plot and the story over the course of the series.