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"D5"

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ATTESTATION OF AUTHORSHIP

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

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ABSTRACT

D5 is a 3D animation set in a virtual world occupied by the central character, “Ben_1167”, a digital copy of a person created from databased information involved in the application and subsequent use of a credit card. The narrative is framed by postmodern notions of human identity as a multiplicitous, fluid, construct of discourse and the notion of the computer database as a form of discourse with the power to reconstitute the self.

Through my creative practice, it is my aim to create an aesthetic that is suggestive of the theories underpinning my narrative. I will explore the effect of the uncanny, achieved when the familiar and the strange overlap. Conveying a sense of the familiar will involve the incorporation of hyperrealistic 3D models and motion captured movement. Conveying a sense of the strange will involve the distortion and disruption of form, time and space within the virtual 3D world that I will create.

INTRODUCTION

Descartes' account of human identity has manifested enduring notions of the self as singular, fixed, coherent and stable. In Western thought, "common sense" dictates that from the day we draw our first breath, nature provides us with a single identity that we possess and control for the duration of our lives.

Alternatively, postmodernist theory has reconfigured the self as a construct of discourse. A postmodern approach to identity constitutes it as a process, constructed through language and social practices, creating multiple fragments of identification that can be decentred and unstable.

D5 is an animation positioned within a historical context of cinematic 3D Computer Generated Imagery (CGI) that situates New Media surveillance within postmodern concepts of human identity.

I have structured this exegesis into three main components:

The first chapter will foreground the theoretical underpinnings informing the concept and narrative of my work. In order to position the conceptualisation of ***D5***, I will begin by contrasting the Cartesian self with postmodern notions exploring the constitution of human identity. The relationship between surveillance, discourse and the subject will be examined through Foucault's (1975) study of a prison design called the *Panopticon*. Finally, I will discuss the theory most central to the concept of my work; Poster's (1995) assertion that the computer database is a "super-Panopticon" reconstituting the self and creating dispersed identities in the process.

The second chapter details my aim to create an aesthetic strategy that is suggestive of the theory influencing my narrative. This involved identifying a broad emotional “core” within these notions, which guided me into an investigation of the uncanny. In chapter two, I will discuss this exploration further, detailing how it has influenced the creative choices that I have made.

The methodology that I have adopted to create my work is highlighted in the third chapter. This will include contextualizing certain processes involved in the creation of ***D5*** within the theoretical and technical research that I have undertaken. I will also discuss particular problems that I have faced and the measures I have utilised to overcome the obstacles hindering my progress.

CHAPTER 1: Theoretical underpinnings - Concept and narrative

> You're three eighths Samoan, a quarter Scottish, one eighth German and the rest of you is made up of English, Irish and Welsh…
>
> Gabrielle Simeti

I was aware from a very early age that my parents were from different racial backgrounds, but I was also somewhat less aware of exactly what this meant in terms of my own identity. My enquiry was originally met with the quoted equation beginning this chapter, which is supplied courtesy of my mother. As a child, the very notion that I, as a singular entity, could be split into several pieces only served to confuse me more.

Besides the persistent sense of otherness that has accompanied me throughout my life, I have formed a particular fragmentation in the way I project or "produce" myself to others. These projections are informed (or misinformed) by perceptions I have accrued through cross-cultural relationships and social interactions. For instance, the way I relate to my Palagi cousins is very different to the way I relate to my Samoan cousins. This is based in part around my perception of what being "the same" constitutes when interacting with individuals within either group. Which begs the question… which one of these fragmented projections is the "real me"?

I have always had questions about who I was. However, in recent times, the focus of my enquiry has become less self-reflective and has shifted towards a more general examination of the self. I will now outline the theories most central to this examination, which have informed the concept and narrative of my creative work.

> Strictly speaking, then, I am nothing but a thing that thinks - that is, a mind, soul, intellect or reason.
>
> Descartes (1639, as cited in Ree, 1974, p. 76)

Through a subjective awareness of his conscious self, Descartes built the foundations for a system of knowledge that elevated rational thought above experienced sensory perception. The senses could deceive and therefore, no matter how much he might have been able to doubt the existence of his body or the world around him, it was impossible to doubt that he was thinking.

This mind and body dualism served two purposes; besides providing Descartes with the basis for a rationalist epistemology, the *cogito* also served as his attempt to define the essence of the self (Ree, 1974). He viewed the mind and body as two distinct substances. The essence of the body was mere extension (i.e. matter expressed with spatial dimensions), presided over by the essence of the self, which was the unified mind (Ree, 1974). Individual, indivisible and immortal, the Cartesian self held dominion over the material world.

Notions of the Cartesian self; that we are "born the way we are, that there is a "real me", that our identities are fixed and stable" (Bell, 2000, p.114) have endured within Western society not only as a priori "knowledge" to many within the general populace, but also as a pivotal point of contention for many within academia since first being posited by Descartes hundreds of years ago. For instance, McRobbie (1985) defines the notion of the real me as a fiction, socially constructed to enforce and regulate "legitimate ways of being, legitimate ways of understanding the self and the world" (as cited in Doy, 2004, p.1). Hall (2000) regards identities as "points of temporary attachment to the subject positions which discursive practices construct for us" (p.19). He argues for the notion of *identification* to replace the term *identity*, connoting the self as constructed, mobile and multiplicitous (Bell, 2000). Lyotard (1984) positions the modern self at the intersections of an array of specific communication circuits, constructing the centred self into the "postmodern condition of communicated *selves*" (as cited in Holstein and Gubrium, 2000, p.69)

General postmodern/poststructual notions of identity as fluid, fragmented and

constructed through discourse have been central to my conception of ***D5***. Foucault's (1975) *Discipline and Punish: The Birth of the Prison*, which explores the relationship between discourse, power and society, and Poster's (1990) Foucauldian examination of computer databases have been particularly influential in the formulation of the narrative of my work.

From ritualistic eighteenth century public execution through to the modern penal system, Foucault (1975) examines historical shifts in the processes of punishment as driven by shifts in power relations. The body of the offender, once the theatrical focal point in public displays of brutality, became hidden, contained and regulated within prison walls as the executioner became replaced with the "expert". The soul became the focus of judgement and as such, the criminal became talked into existence, classified through the discourses of the human sciences. Bodies of knowledge constructed by doctors, criminologists, psychiatrists etc. defined normality and standards by which to exclude subjects on the basis of various classifications of "abnormality". Discourse defined the punished and the technologies of power administering the punishment.

Foucault (1975) suggests the move from torture to discipline was driven by the move from feudalism to the rise of the industrial society (Poster, 1990). The mechanics of disciplinary power provided the means necessary for the efficient and economical control of subjects en masse. This is exemplified in Foucault's (1975) discussion on the Panopticon, an eighteenth century prison design using observation to trap the many (the incarcerated) within the gaze of the few (the guards). The design featured a circular arrangement of lit cells, all facing a centrally located, unlit guard tower, ensuring that the guards could potentially see every prisoner. However, because the tower was in darkness, the prisoners could not see the guards. Continuously unaware if they were being watched, the prisoners monitored their own behaviour. Under the guise of constant surveillance, discipline becomes more than an imposition on the incarcerated subjects; it becomes internalised within them.

Although Foucault does not deal specifically with computer technology in his work (Bell,

2000), his discussion on the Panopticon remains as a powerful metaphor for the modern surveillance society, where a seemingly ubiquitous gaze is cast by a multitude of microelectronic surveillance technologies. As we become aware that our actions may be monitored by cameras, that our performance and our internet habits in the workplace may be monitored with great precision, that our interactions with state departments may result in information about ourselves being cross-referenced between bureaucracies, we begin to moderate our own behaviour.

Poster (1995) describes the computer database as a super-Panopticon, the extremities of which are the telecommunications cables enveloping our world "transforming our acts into an extensive discourse of surveillance, our private behaviours into public announcements our individual deeds into collective language" (p.87). He maintains that databases are discourse, in the Foucauldian sense of the word, i.e. they are configurations of language, bodies of texts that "effect a constitution of the subject" (p. 85).

According to Poster (1990), the digital database imposes an "impoverished, limited language" over the top of already existing languages, using the "norm to constitute individuals and define deviants" (p.95). The language of computer databases is limited in that it is constructed from a binary grid of zeroes and ones. The capacity to encode contexts and connotations within written language is infinite. An individual word may have numerous meanings. Digital encoding, however, "derives its peculiar strength from the way it restricts meaning and eliminates ambiguity" (Poster, 1990, p. 94). Propagating information that bears only an arbitrary relation to the subject, the rigidly defined, reduced language of the digital database, the discourse of the super-Panopticon, "constitutes new subjects" (Poster, 1990, p.94). These new subjects are decentred copies, hyperreal representations of the individual from whom information has been gleaned.

Poster's (1995) concept of computerized databases as discourse; as "engines for producing retrievable identities" (p.87), identities that exist as simulacra occurring outside of the individual, is most central to the theme of my animation. His contention that the language of digital databases (i.e. binary code) is impoverished and limited is debateable,

if not antiquated given the ever advancing speed, processing and storage capabilities of technologies involved in the creation, transferral and archiving of electronic data. However, the functionality of databases designed to supply corporations and bureaucracies with specific arrays of information about individuals, still relies on a system of rigidly set parameters programmed to receive finite amounts of data of a specific type. In this respect, regardless of burgeoning technological advances, Poster's notion of the computer database as a mechanism, not only for the dispersal and fragmentation, but also the reconstitution of human identity (i.e. in accordance with a limited grid of information) still has a great deal of relevance.

Within ***D5*** it is not my intention to make definitive statements about human identity or the impact of digital surveillance on society. In terms of my narrative, it is my aim to present the viewer with a metaphorical slice of "cyber-life" that is influenced by the postmodern notions that I have previously discussed. ***D5*** is a story told through the flow of information within databases detailing the work and credit history of an individual named "Benjamin Stanley".

The central character, "Ben_1167" is a dispersed identity created from data in a credit card database; a "cyber-copy" of a copy of his real life alter ego (Ben Stanley). Events occurring in the virtual existence of the main character connote the events that have happened to his "real world" counterpart. However, these real life events are recorded and reconstituted through the discourse of the databases that collect data on real life Ben, meaning only the details most specific to the configurations of these databases are collected. As a result, the complexity and context of human Ben's life are not transferred over to cyber Ben_1167. Therefore, the virtual protagonist is taken on a predetermined journey, being hastily transported from one situation to the next. Ben_1167 cannot change any aspect of his predicament, as he is always one step behind his real world counterpart. However, after reaching "D5" status (a fictional databased code denoting the cardholder as a serious credit risk), virtual Ben_1167 is fixed to become a harbinger, preceding real world Ben before every credit related interaction requiring a credit check.

CHAPTER 2: Creative strategy

When considering possible aesthetic choices for my animation, I wanted to develop a creative strategy that would be suggestive of the readings behind the narrative of my work, without imposing a literal translation of these ideas onto the viewer. This meant "peeling back the layers" of the most central readings informing the concept of ***D5*** to reveal the core of what I was wishing to explore aesthetically through this work.

If we are to consider identity as a process, Poster's (1995) notion of the digitally constructed, reconfigured and dispersed identity alludes to the burgeoning involvement of machines in our everyday lives as processing (or reprocessing) agents. His notion is suggestive of a type of human-machine hybridisation; a fusion expressed not as matter (i.e. biology modified by technology) but as information, an amalgam of identification and binary code.

Developed societies depend on this fusion to operate, including the structures that reward us with consumerism and convenience (online shopping/banking/eftpos etc.). However, I think this amalgamation also speaks to a certain sense of strangeness or unease that exists in our relationship with machines. The ability of machines to function autonomously, to supersede certain human capabilities and our dependency on their use for numerous everyday tasks raises questions about whether we are masters or slaves to technology. Furthermore, in my opinion, the idea of invasive machines creating electronic copies of ourselves outside of our control (or knowledge) is uncanny to say the least. It is this sense of uncanniness that I became interested in exploring aesthetically.

To Freud (1959), the effect of the uncanny is the "class of the frightening which leads back to what is known of old and long familiar" (p.220). In defining the term *uncanny*, he relates it specifically to the German word *unheimlich* (unhomely). Providing a comprehensive description of the latter requires a description of its semantic opposite, *heimlich* (homely), which can be defined as meaning that which is familiar, intimate, friendly etc. However, it can also be defined as meaning concealed, withheld from others.

Unheimlich can mean eerie, weird, etc, but also that which was hidden, but has been revealed. Freud (1959) notes that *unheimlich* is contradictory to the first signification of *heimlich* (familiar), but overlaps with the second (hidden). The overlapping of the familiar with the hidden or strange forms the basis for the effect of the uncanny, with Freud (1959) positing this condition as a return to that which has been repressed within us. For example, the villain in E.T.A Hoffmann's, "The Sandman", is said to rip out the eyes of children, invoking an uncanny fear within the reader that Freud (1959) relates to the repressed fear of castration from childhood.

The concept of the uncanny as the combination of the familiar and the strange is complementary to the notion central to the theme of my work, i.e. the combination of humans (centred and familiar) with digital information (decentred), creating dispersed identities (decentred and unfamiliar). Aesthetically, I have strived to weave uncanny elements into the visualization of my animation. I will soon explain the creative choices I have made in this endeavour, however it is first pertinent to mention two additional readings that draw from the concept of the uncanny that have also influenced the creative process of my work: Mori's (1970) *The Uncanny Valley* and Bode's (2006) *From Shadow Citizens to Teflon Stars*.

Bode (2006) discusses the critical response to *Final fantasy: The spirits within* (Aida, Lee, Sakai, Sakaguchi & Sakakibara, 2001), a 3D animated feature sporting an entire cast of photorealistic "synthespians" (or computer generated actors). Despite being promoted as a cinematic landmark due to the photorealism of the characters, many reviewers were critical of the film's synthetic actors, citing a shuddering emotional coldness in their performances. Bode (2006) notes that the cartoonish, exaggerated synthespians in other 3-D CGI films such as Shrek (Adamson, Cox, Jenson, Rabins & Spielberg, 2001) are not met with such unease. An explanation as to why this is so may be found in the concept formed by Masahiro Mori (1970) known as the "Uncanny Valley".

Mori (1970), a Japanese roboticist, created a graph conveying his hypothesis that the more humanlike a robot appears, the more familiar we perceive it to be. However, there is

a peak in terms of human realism and familiarity that the robot can attain whilst still attracting an empathic reaction from the viewer. Just beyond this point is the uncanny valley, attributed to the large dip from positive to negative human responses towards robots achieving a high human likeness but with distinguishable “non-human” characteristics. In addition to appearance, the way a robot moves serves to further exaggerate our sense of familiarity or unfamiliarity. Mori (1970) uses the prosthetic hand as an example of technology that has the potential to slip into the uncanny valley. If it is very realistic in appearance, we will experience a degree of repulsion upon shaking the hand, feeling its coldness and hardness and realising that it is not human, that it is essentially “dead”. Similarly, if the prosthetic is capable of automation, exhibiting movements that do not match the fluidity and velocity of human movement will only serve to exaggerate the sense of strangeness we feel in observing and/or touching the hand.

The uncanny valley provides an indication of why we anthropomorphize the cartoonish creations in features like Shrek (Adamson et al., 2001), yet are uneasy at the deadness in the eyes of the synthespians of Final Fantasy (Aida et al., 2001). Our imaginations are left with the latitude to draw connections between ourselves and the humanlike characteristics of characters that are exaggerated and obviously not human. However, when faced with characters exhibiting a high degree of human likeness, our imaginations give way to our perceptions and we are conflicted by the familiarity and strangeness evident in the verisimilitude of what we are seeing.

Influenced by these readings, I began a creative strategy to develop an aesthetic that would evoke an underlying sense of the uncanny. This would involve weaving together the familiar with the strange.

The characters and environments in my narrative are configurations of binary code, data and databases. However, I decided to represent them as if they were material, “real world” objects. To enhance the familiarity within their depiction, I considered striving towards achieving a photo-realistic mode of representation, i.e. one that looks as if it

could have been created through the use of photographic techniques (Dovey, Giddings, Grant, Kelly, Lister 2003). However, as I did not intend to use human actors in ***D5***, I had concerns about the degree of photo-realism I would be able to achieve.

I decided against attempting to create a piece that could be positioned within the sphere of cinematic works that combine photo-realistic special effects with filmed footage of real actors and environments, e.g. *Terminator 2: Judgement day* (Austin, Cameron, Hurd, Kassar & Rack, 1991). Instead, I opted to position ***D5*** within the sphere of fully animated 3D works that exhibit a hyperreallistic mode of representation. These include feature films such as *Beowulf* (Bing, Rapke, Starkey & Zemekis, 2007), *Final Fantasy: The Spirits Within* (Aida et al., 2001) and *Renaissance* (Burrill et al., 2006).

In animation, *hyperrealism* refers to an aesthetic that adopts codes of cinematic reality without being constrained to the real world physics within live action cinema (Dovey et al. , 2003). Therefore, in developing the aesthetic for my work, my focus would not be on creating an immediate replication of the appearance of the real world as it is conveyed though the human eye or camera lens. I would, however, strive to closely approximate this appearance, and at times, distort it. Through an imitation of the appearance and dynamics of the physical world, I would achieve a sense of "believability" and familiarity in the aesthetics of my work. Through intermittent exaggeration or distortion of this familiarity, I would hope to achieve a sense of the uncanny.

To realise these goals, I opted to use 3D animation, as I believed this would enable me to place my imagery in closer proximity to cinematic realism than I could achieve with traditional cell animation or stop motion, whilst also offering manifold possibilities for the disruption of said imagery.

Creating an object in a 3D software package (I used Maya) involves the virtual sculpting of a mesh, which is positioned in 3D virtual space along *X* (width), *Y* (height) and *Z* (depth) axes. As the structure of the mesh is mapped to a grid, a consistency of form is maintained when moving, rotating or viewing it from different angles. However, there are also various

tools that may be used to seamlessly distort a 3D object. I will discuss the tools I have used in the methodology section. Maya also features dynamics systems to simulate (and/or exceed) real world physics, including the simulation of cloth, hair and clouds, all of which I have used in ***D5***. Finally, using Maya would also allow me to incorporate motion capture data to replicate human movement in my character's animation, a choice influenced by Mori's (1970) assertion that motion exaggerates familiarity and uncanniness.

When conceiving the visual style of my work, I considered what, in the most literal sense, I would be representing within ***D5***. The characters are digitally encoded composites of information residing within a complex web of databases. Although it may take many forms, the idea of the computer database as an efficient, performative machine working "behind the scenes" has also influenced the creative choices I have made. For the most part, Ben_1167's world lies outside of the vibrant exterior of the professionally designed web page. It is a world designed to be functional over fashionable. Stability and efficiency are achieved through the stringent control of information.

With this in mind, George Lucas' *THX 1138* (Coppola, Lucas & Sturhahn, 1971) became a point of reference. There are parallels between the dystopic future society portrayed in this film and the virtual world of ***D5***. Both worlds are situated within structures of surveillance and control that programme inhabitants into passive conformity and uniformity. Lucas (1971) conveys this through a prevalent use of stark white. Citizens are all dressed in the same white robes, have shaved heads and are enveloped by sparse, sanitary, white backdrops. I decided to incorporate similar elements into ***D5***, although I opted for a largely desaturated palette for the backdrops in my work over the intense whites used in *THX 1138*, which I felt were a little too bleak for my story, which is not entirely dystopic. My decision to create bald characters attired in the same white outfit was both an attempt to create a sense of uniform conformity as well as a time saving measure, allowing me to avoid having to create a range of clothing and hairstyles.

CHAPTER 3: Methodology

From the beginning I realized making this 3D animation would be very time intensive. It involved modeling and texturing several characters and environments, creating animatable rigs to drive character movement and the creation and editing of Motion Capture data. I would also have to keyframe animation, create facial expressions, create dynamics to simulate the effect of real world physics and complete the most time intensive process of all; rendering each layered frame. Therefore, planning was an essential part of my methodology.

I began by drawing up a planner containing everything I could think of that this project would require for completion and set myself deadlines for each component. This would be revised a number of times over the duration of my thesis year. Then I completed a treatment and storyboard, which I split into frames and imported into After Effects to be animated. Although the animation was very basic, it provided me with a sense of the timing required for each movement and the duration required for each shot. Once I had created my characters and environments, I keyframed an approximation of what their final animation sequences would be and created a series of low quality rendered movies which were imported into After Effects and edited together to create a 3D animatic. This was invaluable as it informed me of exactly what I needed to render, ensuring I did not waste time rendering excess footage that would not be used in the final cut of my piece.

After completing a storyboard, the initial stages in the production of my work involved creating the 3D models for my characters and environments. When modeling the main character, I decided to use photographs of myself as a guide. These were imported into Maya and were placed at points that provided me with front and side views of my head. Starting with a simple 3D polygonal object, I dragged the individual vertices making up the object to match key features on the photographed images and then divided it up into a more complex mesh. This process was repeated until I felt I had achieved a high enough degree of human likeness within the model.

Besides resembling a human in shape, it was important to create a skin texture for the

protagonist that also looked humanlike if I was to achieve my aim of creating a hyperreal aesthetic. I projected the imported frontal photograph of myself onto the modeled head. Under certain lighting configurations this provided a desirable degree of realism, however, under bright lights, the skin texture often looked flat. I began experimenting with subsurface scattering, a technique involving the scattering of light once it has entered a translucent (or partially translucent) surface, like human skin (Mental Images GmbH, 2004). As an example, shining a light behind a person's earlobe will make it appear to glow red. This is because light has penetrated the epidermal layer of the back of the lobe and is illuminating the subdermal blood and tissue before making its way out of the front of the lobe . Using subsurface scattering resulted in a richer, more realistic looking skin texture.

The first scene in my animation shows the “birth” of Ben_1167, who morphs from a featureless robot into human form. This metamorphosis was achieved by making a copy of Ben_1167's polygonal head and shaping the copy into the head of the robot. As both heads had the exact same number of vertices within their structure, I was able to use the *Blend Shape* function within Maya which corresponds each individual vertice from a source shape (in this case, a robot head) to a target shape (Ben_1167). A slider control is provided to determine the positioning of all the vertices in the source shape (the target should be discarded or hidden at this point). Leaving the slider at zero will have no effect on the mesh. A value of one will transform all vertices to their positions as determined by the target shape. Values in-between produce a hybridisation of form determined by the degree of influence that one shape has over the other. Therefore, a smooth transition from zero to one will result in a smooth metamorphosis from source shape to target shape. However, I discovered that a smooth morph did not provide the emotion that I was wishing to convey in this scene.

Ben_1167 becomes a conscious being for the first time. He enters the world, exiting the safety of the “womb” (his former robotic state). His response to this transition should be more akin to the shock and trauma that one may associate with the initial stages of birth. Smoothly morphing from one state to another was suggestive of a gentle, stable emergence, which was not what I was wanting to convey. Instead, I found that making a quick jump in the metamorphosis from robot to human state provided me with a more

dramatic entrance.

After experimenting with Maya's dynamics systems, I was then able to exaggerate the sense of shock within Ben_1167's performance in this scene by converting his head into an *nCloth mesh*. By doing this, I could make parts of his face mimic the kinetic qualities of cloth. I animated him to look around, trying to make sense of his surroundings and was able to make parts of his face wobble in accordance with simulated physics of the earth's gravity that I had set for this scene. This made his head movements look more severe and frantic. It also emphasized the stark contrast in his transition from cold, hard steel to soft, living, vulnerable flesh.

Although subtle and perhaps not immediately noticeable, the elastic movement of Ben_1167's face epitomizes the kinds of phenomena I have wanted to create for this work; visual elements that carry with them a real world familiarity. Being influenced by Poster's (1995) notion of the dispersed and reconstituted human identity, it has been my aim to explore ways of attributing human qualities to characters that are little more than composites of digitally data based information.

Mori's (1970) assertion that movement further emphasizes the familiarity/unfamiliarity of objects that have been manufactured to look human was influential in my decision to use motion capture to drive much of the character animation in my work. The process involves a human actor donning a suit with strategically positioned reflective sensors which are identified by several infrared cameras. The cameras transmit information to a computer which locates each sensor within a virtual space. After the motion has been captured, it must be "cleaned" of any glitches that have occurred (often due to certain sensors being momentarily hidden or too close to each other). Finally, the motion capture data is exported and attached to a rigged model in a 3D software package.

If the captured data is full of glitches, it can be very time consuming to clean. I discovered that it was often more efficient to completely edit out parts of a motion captured performance using a program called MotionBuilder. This resulted in a sharp jump in the virtual "actor's"movement. However, MotionBuilder is able to interpolate or smooth out any jumps in the animation. It can also be used to manually alter the movement of any of

the individual limbs on the virtual actor, which proved to be very useful as I was able to use certain animated sequences multiple times, but make subtle adjustments to suit the action for each scene. For example, initiating a walk cycle for a character, but stopping it earlier in some shots, or changing the character's direction, or head position etc.

I had planned to use several characters for the “processing” scene, featuring a long queue of individuals waiting restlessly to be processed. This was potentially going to be problematic, given that each individual character model is comprised of several hundred thousand polygons. Incorporating dozens of characters would require a great deal of computer processing power. Each character would also require a different animation sequence, as I wanted a line of independent individuals to contrast with the synchronized robotic characters in the birth scene.

My solution to this was to record a fairly lengthy motion capture sequence that involved standing and fidgeting. This was applied to Ben_1167's mesh. I then rendered the full sequence featuring only Ben_1167's body. I was now able to import this animation into After Effects. I duplicated it several times and moved the position of each copy on the screen until I had formed a line. I then set a different starting point in the animation for each duplicate, which gave the impression that all were moving independently. I could now render several different looking heads to place on the different bodies. This meant that I had created a long line of individual characters, yet had only had to attach one motion capture sequence to one body, which only had to be rendered once per camera view in Maya.

As mentioned, the numerous time intensive processes involved in creating a 3D animation have been of concern to me, especially as my story follows a character through a number of different situations occurring in a number of different environments. Where possible, I have used metamorphosis as a means to transition from one location to another. In animation, Wells (1998) regards metamorphosis, or the "ability for an image to literally change into another completely different image" (p.69) as a narrative strategy capable of achieving "the highest degree of economy in narrative continuity" (p.69). It allows for a destabilization of the image and the disruption of spacial and temporal construction. For

example, real world Ben is a frequent consumer of retail goods. In order to narrate this in the most economical way possible, I decided to morph his virtual counterpart into the more literal form of a credit card, which quickly travels along a ramp to different locations, each revealing a different purchased item. This gives the impression that Ben_1167 is on a journey involving a number of different events, whilst avoiding the necessity of revealing specific details of his travel that are grounded in real time.

CONCLUSION

A general interest in the ways human identity has been theorized inspired me to create ***D5***. My narrative is influenced by postmodern notions of the self as multiplicitious, fluid, unstable and constructed by discourse. Most central to my story is Poster's (1995) theory of the dispersed identity, which is generated and reconstituted through the discourse of the computer database. The digital database is generally built to glean specific types of information in strict accordance to a set of predefined parameters. Therefore, the discourse it constructs lacks the context and connotation that may be found in literature or spoken language.

With this in mind, I have structured the narrative of ***D5*** as if it were an adaptation of a person's recent data based work and credit histories, as opposed to a richly detailed biography. Only specific details of real life events have been recorded. These are then reconfigured through the discourse of databases and “re-enacted” in the virtual world occupied by Ben_1167. Placed on a predetermined path as set by the actions of his real life alter ego, he is hastily guided from event to event.

I feel that taking this approach has enabled me to achieve an economy in the continuity of my narrative. This was important to me, as the medium I have chosen to create this work with (3D CGI) could be regarded as being very time “expensive”. So, in terms of narrative, my goal has been to condense a series of situations, which in real time would occur over several months, into minutes of 3D rendered animation. Although I think I have met this goal, I also feel that time constraints have limited the amount of character development I have been able to achieve. I'm not sure that I have been successful in creating a protagonist that audiences will empathize with. However, it could be argued that this lack of depth is consistent with the theory underpinning my work, i.e. the notion of the decentred, computer generated identity, which is created from the reductionist functionality of the database.

In terms of visual style, my aim has been to identify an emotional core within the theoretical underpinnings of my narrative and to develop a creative strategy to connote this within the aesthetics of my work. I regard Poster's (1995) notion of the dispersed identity as uncanny. It disrupts commonly held Cartesian notions of the self as fixed, stable and unified. It brings into question what it is to be human and where we are positioned in our relationship with machines.

Informed by readings from Freud (1955), Bode (2006) and Mori (1970), I aimed to create a sense of the uncanny in ***D5*** by overlapping the familiar with the strange. I believed I would achieve familiarity through imitating the appearance and physics of the real world. I would then hope to achieve uncanniness by distorting this familiarity.

I feel this approach has been largely successful in terms of creating an uncanny aesthetic to connote postmodern notions of the self. I believe I have created characters that exhibit, not only a human likeness in their appearance and movement, but also an intermittent strangeness. This has been achieved overtly through the use of metamorphosis to disrupt the spacial and temporal construction grounding the characters and environments in ***D5***. However, I have also at times incorporated a more subtle “deadness” in the eyes and expressions of Ben_1167 and his peers, belying their representation as living beings.

Mori (1970) defined the *uncanny valley* to identify a particular design flaw that should be avoided, but it describes territory that I have been happy to traverse. Although I believe I would have achieved a greater sense of the uncanny with photorealistic characters, overall I feel the animation I have created exhibits aesthetical qualities that are consistent with the narrative of my work and are suggestive of the theories underpinning it.

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