

Database Logics and New Media Convergences in Science Fiction

A reading of Spielberg's *Minority Report* and *AI*

Pat Brereton ©

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Email: Pat.brereton@dcu.ie

Address: School of Communications

Dublin City University

Glasnevin

Dublin.

Ireland

Abstract

This paper will examine how *Minority Report* and *AI: Artificial Intelligence* as examples of contemporary science fiction cinema successfully reflects and connects with new media pleasures, by framing an apparently new form of database logic, which calls on critical analysis of video games and smart cinema aesthetics in general. Jeffrey Sconce's seminal essay (*Screen* 2002) focused attention on the term 'smart' cinema, which is acquiring popular currency within academic circles, alongside more recent investigations of music video and digital games; all of which have sought to question the continuing orthodoxy of the linear Classic Hollywood Narrative structure, which has dominated film studies.

Preamble

This paper will examine how contemporary science fiction cinema successfully reflects and connects with new media pleasures, by framing an apparently new form of database logic, which calls on critical analysis of video games and smart cinema aesthetics in general. Jeffrey Sconce's seminal essay (*Screen* 2003) focused attention on the term 'smart' cinema, which is acquiring popular currency within academic circles, alongside more recent investigations of music video and digital games; all of which have sought to question the continuing orthodoxy of the linear Classic Hollywood Narrative structure, which has dominated film studies. So-called smart films have helped to break down old divisions between more radical *avant-garde* formats, as opposed to mainstream linear Hollywood cinema. Understanding and appreciating how this new aesthetic helped promote a new 'digital logic' for audiences can be mapped through a review of Lev Manovich's endorsement of the database as a new metaphor to help explain the dynamics of new media in particular, alongside Marie-Laurie Ryan and her taxonomy of new media aesthetics.

Brooks Landon in his influential *The Aesthetics of Ambivalence* (1992), sites Tom Gunning who suggests the roots of science fiction is in spectacle rather than narrative and affirms that while science fiction writing has always been a narrative media, science fiction film actually began as a non-narrative tradition, or at least there remains a strong ambivalence between these two possible trajectories. Hence it is somewhat unfair to continuously compare the two media. Landon foretells how this special effects (SFX) driven medium might in the future offer the realization rather than just the representation of science fiction narrative (xxv). I will demonstrate how Steven Spielberg as a mature auteur has developed a fusion of spectacle and narrative in these two recent fantasies. The computer database, which ostensibly has helped spawn a revolution in special effects, can in itself be used to appreciate the collapsing of spectacle and narrative and goes a long way to illustrate Vivian Sobchack's assertion that viewing such 'electronic simulation' engages the spectator' in an entirely new sense of phenomenological presence' (Landon, 151).

Much recent American smart films calls into question the boundaries between perception, memory and reality, a preoccupation which was the preserve of European art cinema from the 1960s and 1970s. Films such as *eXistenZ*, (David Cronenberg 1999) *Being John Malkovich*, (Spike Jonze 1999) *Mulholland Drive*, (David Lynch 2001) *Memento*, (Christopher Nolan, 2000) *Adaptation*, (Spike Jonze 2002) and *Eternal Sunshine of the Spotless Mind* (Michel Gondry 2004) among others, address similar debates and issues, connecting with a new generation of cineastes, while using a range of innovative new media techniques. (see Allen 2003) At the same time, critics have long noticed how the mechanisms of humor and gags have become central to this so-called smart aesthetic. Sconce affirms the presence of a growing 'culture of irony' and of parody, with an ever-increasing tendency for the more disillusioned yet highly educated new generation to display a form of ironic contempt and emotional distancing from their surroundings and conditions of existence, especially in terms of American politics and socio-cultural activities. To embrace these apparently conflictual trajectories within contemporary film

and its convergence with what can loosely be defined as database logic; writers like Manovich encapsulate the complexity and uniqueness of this new media.

To underpin this analysis, this paper will focus on two science fiction narratives from a well-established auteur in his late 50s, who ostensibly continues to adopt classic Hollywood narrative protocols,¹ by exploring how these films might reflect such new digital logics and smart aesthetic protocols, which in turn provide new generational pleasures. Above any other auteur, Spielberg is able to satisfy Landon's call to arms in discovering where 'media offers the realization rather than just the representation of science fiction narrative' (Landon, xxv). Based on the short story by Philip K Dick, *Minority Report* (2002) is so smart and layered, while focusing on well-trodden tropes around perception and uncovering crime. The twist of course being discovering such deviancy before it actually happens – which has been read as an allegorical comment on the flawed rationale for the current 'War on Terror' and of taking out an enemy, before concrete evidence is available or due process is considered or enabled (See for example Grusin, 2004; Shapiro, 2005 or Packer, 2006).

Like many contemporary films, the complex storyline encourages re-viewing on DVD. Stephen Mamber suggests that narrative mapping, as concretized on the DVD format of chapters and scenes etc., is a useful tool for dealing with complexity, ambiguity, density, and information overload. This new digital format offers possibilities for approaching and explaining ideas that would otherwise be difficult to express. Described as a new digital logic, it is an aid to visualizing – a guide, an interface, an analysis, a critical method. (in Everett et al.: 157) With such complex narrative structures, smart film is supported and underpinned by this form of mapping and database logic, which requires a menu, that enables the user the capacity to take control and view the narrative in any sequence they wish. (See Brereton et al., 2007) Furthermore, re-viewings on DVD, especially using key scenes as a framing device, which is encouraged by the digital format, help audiences to savor and appreciate the complex array of various subtexts buried within the schematically layered and opaque text.

Based on the short story 'Super Toys Last All Summer Long' by Brian Aldiss, *AI: Artificial Intelligence's* (2001) mode of perception at the outset appears very different to the noir thriller motor at the heart of *Minority Report* and corresponds with Spielberg's long-term philosophical investigation of childhood innocence and what it means to be human. Carolyn Jess-Cooke in her insightful Lacanian study in *Screen* (2006: 345-365) affirms, 'the fear of forgetting is so great that images of the past, images of the dead create an uncanny sense of ever-present absence'. As already signaled, this preoccupation also pervades much smart film, where the ubiquity of human experience is sometimes marked as a faulty database of memories as explicitly dramatized in *Memento* (2000) most notably. The 'postmodern' breakdown of knowledge and a hard-wired data set of coherent memories have purportedly promoted even greater fears in our re-polarized world order, following the shock of 9/11. Coincidentally such new digital modalities have also in turn helped promote a new digital logic, while at the same time becoming one of its main attractions and selling points.

Talk of a form of ‘digital anxiety’ created by contemporary culture’s ‘crisis of indexicality’, brought about by not being able to trust what one sees, has become a common preoccupation within the academic literature. This preoccupation was frequently evident in discussions around art cinema throughout the last century, like Antonioni’s *Blowup* (1966) which foregrounded the aura of reality ‘captured’ on film, thus implying as Manovich suggests, that cinema was about ‘photographing what already existed before the camera rather than creating the “never was” of special effects.’ (Manovich, 2001: 299). With the shift to computer media, such preoccupations now reside firmly within mainstream smart cinema, aided in particular by technical developments in special effects and more general film aesthetics. Manovich incidentally also ‘identifies how users of computer media oscillate between viewing and using as they interface with the obtrusive hypertext machine while accessing linear content’ (in Bennett et al. 2008: 35). Not trusting what one sees has become even more pronounced if not overshadowed - post 9/11 - with the growing demand for greater epistemic clarity around cultural meanings.

While it might appear at first that enormous mass production strategies ought to mitigate against creating new logics of engagement, nevertheless in his later science fiction fantasies, Spielberg pushes the envelope even further,² helping to foreground a new form of database logic around narrative engagement, feeding off the eclectic originality of much younger and so-called smart film makers.

Theorising new digital media and database logic

Much of the literature in this area comes from a broad cross disciplinary field and draws specifically on how the computer has revolutionized both the creative and consumption modalities of new media. New generational use of the computer and in particular the graphic user interface (GUI) with its intuitive use of drop down menus, alongside other features including cutting and pasting while using a mouse to interface with the machine, remains by all accounts revolutionary. Use of new interactive protocols has become a major transformation from having to digest a complex computer language before being able to use the technology. Furthermore, alongside William Gibson’s legendary *Neuromancer* (1984) and the development of ‘cyberspace’ and ‘cyberpunk’ to reflect a computer world that could be experienced within a literary form, both SF literature and most especially SF film, as Landon confidently predicted, have come into its own.

Examining the new technological media world we live in, Marie-Laurie Ryan suggests five key properties of digital media, which can be used in many different contexts and combinations:

‘Reactive and interactive nature
Multiple sensory and semiotic channels
Networking capabilities that bring machines and people together
Volatile signs where digital texts can be refreshed and rewritten
Modularity is encouraged because the computer makes it so easy to reproduce data;
digital works tend to be composed of many autonomous objects.’ (2004: 338)

Such broad attributes reflect the ongoing discussion around the utopic possibilities and potentialities of digital over analogue media, which has now become the norm in some of

the literature. These attributes are cogently visualised by Spielberg in his two science fiction fantasies to be discussed later. Meanwhile, Espen Aarseth a games specialist, describes a digital database in particular as a ‘game of narration’, a scrambled picture that readers try to put back together and that a hypertext narrative takes advantage of the intrinsic interactive properties of the medium. Somewhat counter-intuitively for some, he goes on to suggest that readers regard the game text more as a database to be searched, like a semiotic machine, than as a more self contained and sophisticated immersive world.

New media theorists like those cited above frequently try to map the relationship between conventional film narration and video games in particular, to help understand the new logic of game play instigated by so-called new generational pleasures. At a prosaic level it can be argued that allowing the user to view material non-linearly, DVDs have also contributed to this prescribed ‘new logic’ and become one of its main attractions and selling points, drawing on new and converging modalities of use between DVDs and video games (Brereton, 2007). Reviewing such complexities on the DVD database as displayed within Spielberg’s oeuvre, encourages audiences to tease out often convoluted and complex narrative matrices.³

Unlike Ryan and Aarseth, Lev Manovich comes from an even more practical and experiential perspective within new media production and has become a much-cited theoretical writer on the phenomenon. He sites five principles of new media or multimedia as encapsulating:

‘numerical representation – all new media objects are composed of digital code
modularity – all new media objects are collections of samples, be they pixels, polygons, scripts
automation – can serve to limit human intentionality
variability – media objects can exist in many different versions
transcoding – the computer layer and the cultural layer of new media objects influence each other.’

Most notably Manovich strongly disagrees with the ubiquitous and broadly utopic notion of ‘interactivity’ as the defining feature of new media, following on from his attempt to construct a ‘universal grammar’ using the database to help explain the uniqueness of new media. The corpus of new media comprises a wide range of ‘web sites, virtual worlds, virtual reality (VR), multimedia, computer games, interactive installations, computer animation, digital video, cinema and human computer interfaces’ (Manovich: 8-9). It is perhaps Manovich’s passion for cinema that causes him to privilege representational communication technologies over other types like the Internet, as a dominant metaphor and technological influence.

Yet whichever type of screen is considered, we still remain immobilised by it, according to Manovich, since immobilisation of the viewer, figures as a prerequisite for the mobilisation of the image. Though insightful, it is telling of course that the screen figure metonymically stands in for the whole Human Computer Interface (HCI) paradigm shift within new media engagement and interface design, which in turn has been pushed to its

limit with the co-option of interactive avatars that allow the player to directly interact with the diegesis of game play for example. One wonders if the conventional, more linear, film apparatus has also made this paradigm shift, through the adaptation of a new smart/database logic or simply accommodated a possible future convergence of such modalities. This new aesthetic is explicitly foregrounded by the screen-viewing device used to investigate future crime within *Minority Report*.

Manovich and others point to the ubiquity of the computer and its corresponding database logic, initiated by the development of the Graphic User Interface (GUI) and its use of multiple windows to manipulate and work with bytes of information on the screen. As Manovich succinctly affirms, 'live action footage is now only raw material to be manipulated by hand animation' for example, and is frequently 'combined with 3D computer generated scenes and painted over'. In other words digital cinema uses live-action footage as only 'one of its many elements' (Manovich, 2001: 303). It is logical to expect that cultural forms based on moving images will eventually adopt similar conventions. Much of this has actually happened of course on an industrial level with the radical change in work practices in the film editing process in particular and the creation of digital special effects using computer software. Many new generations of filmmakers, alongside new cineastes, have apparently lost an appreciation of the tactile craft of physically 'cutting film', thereby forgetting the artesian practices of a pre-computer based system of production and special effects.

Manovich certainly signals the current obsession with the *database* in information culture. He attributes this shift from a culture of narrativity (as in novels and cinema) to one that represents the world as a list of unordered items (the database, the archive). Consequently he suggests that the 'database' and 'narrative' are apparently natural enemies (p.225).⁴ While I certainly agree that the notion of the master narrative structure is being challenged by the so-called computer age, I would contest this structuralizing view that a mechanical database and a narrative trajectory are, as Manovich asserts, 'two competing imaginations, two basic creative impulses, two essential responses to the world' (p.223).

The computer certainly helps fulfill the promise of cinema as a 'visual Esperanto', as Manovich puts it – a goal that preoccupied many film artists and critics, from Griffith to Vertov and which has been facilitated and more fully realized through the complex convergence of smart database film logic, evidenced in much contemporary cinema. However, it is apparently easier to accept art filmmakers' innovations in this way, through the work of Bûnuel, Greenaway and others (Kinder 2002), but more difficult apparently to conclude that more commercial filmmakers might also be innovative in this way. I would agree with Manovich however when he declares; one general effect of the digital revolution is that *avant-garde* aesthetic strategies came to be embedded in the commands and interface metaphors of computer software. In short the *avant-garde* became materialized in a computer (306/7). The convergence of special effects innovation together with 'smart' *avant-garde* aesthetics has coalesced in several recent science fiction narratives.

Furthermore, the apparently new 'cultural logic' of postmodernity is most clearly expressed in the proliferation of contemporary science fiction texts in Hollywood and Manovich's ideas are certainly well illustrated by the two films discussed in this paper. At one level as suggested in *Hollywood Utopia* (2005), this genre affirms that we are only truly human when we are in contact with what is not human and dovetails with the long tradition of innovatory 'what-if' science fiction literature. Science fiction and special effects foreground these already discussed new digital logics most explicitly and such synergies are encapsulated by the following loose summary list:

-Rather than filming physical reality, it is now possible to generate film like scenes directly on a computer with the help of 3-D computer animation. As a result live action footage is displaced from its role as the only possible material from which a film can be constructed.

-Once live action footage is digitized (or directly recorded in a digital format) it loses its privileged indexical relationship to prefilmic reality. The computer does not distinguish between an image obtained through a photographic lens, an image created in a paint program, or an image synthesized in a 3-D graphics package, since they are all made from the same material - pixels.

-Digital filmmaking works with 'elastic reality'. [For example much of *Minority Report* and *AI* foreground a range of special effects to help promote the visceral pleasure of their future world trajectories.]⁵

-In traditional filmmaking, editing and special effects were strictly separate activities. An editor worked on ordering sequences of images and any intervention within an image was handled by special-effects specialists. The computer on the other hand helps to collapse this artisanal, conveyor belt and hierarchical production distinction. (Manovich: 301) [Most recently D. N. Rodowick's *The Virtual Life of Film* (2007) speaks of a clear division between analogue and digital film. The indexical as past reality presented in front of a camera as 'chemistry', cannot be equated with the more 'mechanical' digital format, which in turn cannot affirm the ontological uniqueness of the analogue image. Steven Shaviro in a keynote address to a recent conference I attended at Kings College London on March 21st 2009, *Emergent Encounters in Film Theory*, agreed with Rodowick in asserting there was no real sense of space/time in digital media any more and that digital composition has taken the place of montage. Nonetheless, I find such binary oppositions both aesthetically and ontologically crude. There are I suggest more 'shades of gray' between analogue and digital than the technical transformation of celluloid appears to allow and Manovich's database metaphor helps to articulate.]

Spielberg has adapted these new digital aesthetics and protocols using the latest special effects. While always being on the cutting edge technically, he has I suggest moved a long way narratively, in creating a 'aesthetic of ambivalence' (Landon) by creating a new database logic in his films which go beyond SFX as simply vacuous 'money shots'.

Minority Report

Minority Report is so layered and nuanced that it certainly encourages re-viewing on DVD – like a video game or many [HBO] quality TV series, where a DVD compendium directly adds to the 'cinematic' experience in series like *The Sopranos* or *24* etc. For

teaching purposes, I use the opening scenes to illustrate how new digital media or database logics and modes of perception are manifested when using advanced haptic technologies, with the Tom Cruise character trying to discover where a murder is about to take place. This expositional sequence can be contrasted with the short hand ‘analogue’ and ostensibly more conventional photographic driven index of representation in Hitchcock’s *Rear Window* (1954) as compared with a more *avant-garde* perspective of the same concept, in the late Antonioni’s seminal *Blowup* (1966) for instance.

The DVD opening menu of scenes with text framed beside a broken white line reads and feels like a smart database – as to a certain extent do most DVD menus - with several game-play like features also added. Memory grabs of scenes are played at random beside a very clear and clinical number sequence of scenes, which can be accessed by a click of the mouse, calling to mind Manovich’s notion of a database, alongside other new media theorists cited above. No identifying names are given to these scenes, instead one chooses between images to begin a sequence or scene from the film. Stephen Mamber’s already mentioned notion of ‘narrative mapping’, speaks of ‘a set of visual thumbnails representing scenes in a film on a DVD. When the thumbnails are laid out so that they can then be clicked by a user, one need never return to the original. Instead of watching a film in a linear manner from start to finish, the mapping template foregrounds an alternative method with which to both conceptualize and access the work. (in Everett et al.: 146) Furthermore, according to Mamber, in such a digital environment, the interface is itself ‘a form of mapping, in that it can serve as a navigation guide to a set of underlying materials and experiences’. (ibid.: 148) 6

Choosing to view from the start of the film, the overtly big business branding of 20th Century Fox is contrasted with Spielberg’s DreamWorks studio logo, which co-funded the movie, with its more gentle and romantic signification. (Buckland, 2006: 25) The premise of the futuristic story is explained in a neatly insinuated advertisement – a strategy also used in *AI* and in his earlier *Jurassic Park*; ‘[I]magine a world without murder. Only a miracle could stop the bloodshed in our cities’. Further paraphrasing the dialogue, the voice-over continues: ‘we got three of them, called pre-cogs’. Within a year ‘the pre-crime experimental program stopped all murder in our city. It keeps us safe and free – It works!’ The prologue ends with a long teasing question: ‘[S]o how much freedom are we willing to sacrifice in order to feel secure at home?’ As expressed through the Bush American administration’s ‘right of anticipatory self-defense’, we might well view *Minority Report* as Bush’s parallel to Clinton’s *Wag the Dog* (1997). (Rountree, 2004: 83)

But like all Spielberg’s films and drawing on Hollywood’s abiding need for personal heroism and identification, the back-story carefully explains the motivation and mindset of the main protagonists, so that we can more easily identify with him. This is in contrast to many contemporary ‘20 something’ filmmaker, whose narratives appear less preoccupied with linear trajectories or slavishly striving for identification with characters. Instead the narrative motor and inspiration might come from some more allusive music video or other popular cultural paraphernalia, rather than the more established nineteenth century novel structure, which has framed and driven much of Hollywood throughout its

history. Nonetheless Spielberg, the almost 60-year-old auteur, remains wedded to good old-fashioned Hollywood storytelling devices and tropes.

We are treated to a somewhat confusing array of digitized images of a forthcoming murder by Howard Marks, who happens upon his wife and her lover, as seen through the fraught mind's-eye of a pre-cog 'witness'. As in the postmodern evocations of architecture – which displays a mixture of the old and the new – in this mixing and matching of genres and special effects, there is a wide ranging exposition of the latter; from the somewhat risible 'bingo balls' within the more hi-tech, all seeing *mise-en-scene*, producing concrete visual evidence with said balls uniquely marked with the name of the future murderer and his/her victims.⁷

At the same time, the visualization of the sequences take on board revolutionary developments in Graphic User Interface – as discussed by Manovich earlier – and the tactile (haptic) manipulation of images uses very advanced touch screen sensor pads to help literally paint the three dimensional picture of a murder that is about to happen. The exciting rearrangement of bytes of images compares favorably with the now more labored - for at least new generational tastes - old-media [or analogue] manipulation of photography in *Blowup* for example, to uncover a murder. Peter Bradshaw in his review in *The Guardian* speaks of how Cruise manipulates and enlarges images using his 'grandiloquent cyberglove hand gestures' like a 'hi-tech Toscanini or a histrionic traffic cop', looking for clues as to 'where to send in the SWAT team'. (June 28th 2002) While Warren Buckland in a carefully argued textual analysis, talks of how when Anderton first enters the analytical chamber where the precogs' visions are manipulated; 'the camera with the wide-angle lens follows close behind him in one long take, consisting of swift movements and the shot functions by continually revealing new space and conveying Anderton's sense of urgency'. We could probably claim that Spielberg chose to film Tom Cruise's introduction in this way, to create sympathy for his character. All of which conforms with Edward Branigan's notion of an 'external focalization around the character'. (Buckland, 2006: 202)

Years ago Marshall McLuhan noted that the information media are essentially tactile systems. They demand not just the eyes and ears of the viewer, but the intensive involvement of the whole body. Reach out and squeeze someone, has also become the new logic of many games, including most recently the top selling, if oddly named, Nintendo 'Wii' computer console/format. This unique selling attribute of a tactile interface is becoming the wishful fantasy of future filmic experience also. Most specifically all haptic technologies respond to the notion of an active body and supply it with tactile feedback. Computer games remain particularly visceral experiences and many new smart films seek to emulate such sensory experience. The program for haptics, according to William Bogard is simple: simulate the body's feelings of manipulated objects in the real world, using data-gloves for example, that in turn react with vibratory stimuli to users' handling of simulated objects. This is a classic example of a haptic technology (Bogard: 2).⁸

Chief Anderton, the Tom Cruise character is seriously troubled having lost his son; an apparent kidnapping crime, which could have been avoided if the current program he commands, was in place at the time. Anderton is still grieving and unable to cope, while taking illegal drugs to relieve the pain and watching holographic home movies of his lost family. Such echoes of his past happy life are replayed in 3D as he sings karaoke-like, with his lost son Sean, all the while reliving his fatherly role. Like in *AI*, to be discussed later, adults seek various forms of futuristic simulacra to compensate for their lost family identity.⁹ Later re-playing images of his wife Lara (Kathryn Morris), from which he has subsequently separated, she tells him to ‘put the camera down or you’re not getting anything tonight’. The screen immediately goes blank, while the grieving parent and frustrated lover is left alone with his databank of frozen, digitized memories from the past.

As in *Back to the Future* (1985), this story also raises the fundamental paradox around how it is not the future, if you stop it. Nonetheless, predetermination in *Minority Report* is justified as a rationale to stop bad things happenings, since they would occur in any case. So the erstwhile wrong doers were culpable for their thoughts, just like with old-fashioned fundamentalist religious dogma, when even thinking of carrying out an evil deed is considered sinful in itself. This remains the ethical rationale applied by the anti-crime squad to justify their preventative strategies for enforcing law and order.

Successfully marrying this futuristic ‘what if’ scenario within a film noir trajectory, the film’s smart credentials are also encapsulated by the ‘Hall of Containment’ scene, where the inmates are kept in a type of ‘cryogenic suspended animation in a series of tubular cells that seem to go on forever and in which, like the nine levels of Dante’s *Inferno*, the prisoners re-live their crimes for the duration of their sentence’. (Rountree: 80) The jailor foretells the narrative trajectory of the story in responding to the enquiring Anderton, who is not following laid down protocol: ‘careful, you dig up the past – all you get is dirty’.

While *Minority Report* races along following a relatively conventional if smart thriller/noir trajectory, *AI: Artificial Intelligence* at first appears to present a more conventional reworking of Spielberg’s earlier engagements with the ‘lost boy’ phenomenon, but in many ways *AI* is the more difficult and philosophical of all his films with many critics confused regarding how to interpret its extended and sentimental denouement in particular. Furthermore, how to read the film as a composite database for a new form of digital expression and logic remains even more challenging.

AI: Artificial Intelligence

Like many Spielberg films, *AI* reworks a classic fairytale *Pinocchio* from the Disney studios. Within *AI*, the concerns with subjectivity are quite literal, even somewhat clinical and infused with a variety of figures and scenarios that can be seen to be friendly to post-structuralist theories of the subject. The film concerns the introduction of a domestic cyborg robot boy,¹⁰ David (Haley Joel Osment) and his rites of passage. The child/robot couple is a means by which ‘Hollywood cinema represents technology in general and more specifically, the technological character of cinema itself’ (Bennett, 2008: 169). As a ‘loving’ cyborg son, his real-ness is defined in terms of his psychological development,

which moves not towards 'real-ness', as in the story of Pinocchio, but towards the psychoanalytic 'Real' as described by Jacques Lacan. (Jess-Cooke: 347). As a boy David has two fathers, both of whom have ambiguous relations to women. Dr. Hobby (William Hurt), in choosing to make an artificial replacement-son, not only for himself, but for all mankind, is according to Karen Mann, a descendant of the deluded Victor Frankenstein, in her gendered reading of the film. (2005: 197)

David's condition and the world around him suggest the Real as a resistance against futurity, a regressive return that results not in the reconstruction of infantilism, but in mechanical reproduction, cryogeny and an apocalypse of reality. Frozen in time, David is the unconscious incarnate, a being entirely 'fuelled by desire', but never able to satisfy that desire. Such a psychoanalytical reading dovetails in this instance with cyborg theory in explaining him as a confusing mixture of databases and machine technology, as he is hardwired to fulfill specific and predetermined functions. David's narrative journey through the albeit digital logics of time and space, eventually leads him to a door inscribed with the refrain from W. B. Yeats' apocalyptic poem 'The Stolen Child'. This primal scene of discovery of his foundational cyber identity is reminiscent of a continuing preoccupation of a large number of science fiction fantasies, including the *Alien* and *Matrix* franchises. David discovers his identical simulacral twin and stares rigidly at his doppelganger. Freud's notion of the uncanny or 'double' self as a 'harbinger of death' seems to be played out here, for David's immediate response is aggressive fear that there exists a rival for his mommy's affections. While in the next room he discovers a conveyer-belt factory of postmodern clones, all packed in boxes with the caption; 'at Last a Love Of Your Own'. The apparently artificial and synthetic striving for a concrete form of human love and desire, paradoxically serves at the same time to highlight the perennial need for such ontological desires, even if embodied as wish fulfilling fantasies (or 'false consciousness'), activated by digital organisms, brought to 'consciousness' through computer coding made up of zeros and ones.

The film's closing representation of New York as a shattered, post-traumatic space is retrospectively concomitant with current post-9/11 discourse and, in this context, with the modes of 'doubling' and sequelization that have occurred throughout the film. Audiences in Australia, Germany and the UK viewed the film 48 hours after the terrorist attacks (at its 13 September 2001 release). 'As I recall, the film seemed to capture the world's emotional landscape at that moment, charged with uncertainty' or as Jean Baudrillard later commented, its 'symbolic significance'. In the context of 9/11, David's destruction of his twin emulates the 'rhetoric of the mirror' and calls to mind Baudrillard's conviction that 'only the doubling of the sign truly puts an end to what it designates'. (cited in Jess-Cooke: 363) David has become the signifier of this lost original while remaining a perennial lack. This psychoanalytical reading has been aided and facilitated by the aesthetic preoccupation of this new database logic, embodying the hopes and wishes for the future of the human race.¹¹

Most critics have serious problems with the extended epilogue and drawn out closure of the film, frequently dismissing it as unnecessary at best and certainly overly sentimental. What is it that finally triggers Monica's love at the end of the film? Some readings see

her as a 'bad mother' who eventually becomes a good one if only in his dreams. The benevolent aliens build a super toy, [a *Matrix*-like database] a super-mother, a pre-programmed Monica, who can finally show and perform perfect love beyond any flawed sentient being, towards the love-hungry child cyborg. When he gets what he needs, namely loving recognition, David finally becomes 'human' [and thereby post-digital] at last and can sleep and dream.

Spielberg might in fact be critiqued for creating a cautionary tale around the consequences of the construction of a futuristic database logic in his nostalgic call for an old fashioned narrative experience. As James Naremore muses, am I weeping for the 'death of David's mother, for the death of humans, for the death of photography, or for the death of movies?' The last scene 'moves beyond irony to a plane where rationality is troubled, where empathy and intelligence reinforce one another and where the "oceanic" feeling Freud once inscribed to religious experience comes flooding back into force. It allows us to understand David's tragic condition on a level that both transcends and contains oppositions, so that we can share in his grief and victory in a humane fashion but in a much larger context than humanism normally allows. I weep for David as a boy and as a machine, even as I watch him living out a fantasy of modernity'. (Naremore, 2007: 251-265) New digital logic as embodied through such cyborg agency reaches its apotheosis in *AI*, yet at the same time Spielberg is demonstrating how such logics are essentially flawed, by framing his attempt to construct a more progressive ontologically sophisticated and smart aesthetic.

This form of closure can also be read, at least against the grain, as a critique of the psychological act of film viewing and the desire for mythical resolution. Like Anderton's home movies in *Minority Report*, the utopian human, albeit digital dream seeks to find another world where problems are resolved alongside a psychic [raw analogue] state where our unique human[e] identity is affirmed. So in spite of a 'smart' striving for an apparently new database logic, in the end what is desired is an old fashioned ontological security of identity, as evidenced in much science fiction literature, yet framed by the representation of an ephemeral existence encapsulated by this new style.

Nevertheless, Spielberg's recent smart science fiction fantasies foreground many new exciting possibilities, as inferred by Landon at the start of this essay, including new strategies for manifesting screen reality using special effects and using a wide range of human computer interfaces, which are necessary to connect with new generational pleasures. Yet, Spielberg's vision does not correspond to a 'data shower', like in *The Matrix* (1999), nor has it become a radical new 'code' or 'language', 'encoded in the interfaces and defaults of software programs and in the hardware itself' (Manovich, 2001, 333). In the end, Spielberg remains wedded to more conventional narrative modalities and human identification as expressed in the narrative and generic trajectories of these two films. Nonetheless, his oeuvre is certainly capable of reconstituting and refreshing an evolving palette of digital tricks that facilitate new media protocols and other new media narrative logics, which in turn enable his films to resonate with new generations of cineastes.

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Endnotes

- 1) The Spielberg phenomenon and corpus of work – including directing, writing and increasingly producing - remains one of the most successful embodiments of nature and ecology on film (Brereton 2005). Because of his enduring mass appeal and engagement with loosely defined ecological issues, he has helped to consolidate a uniquely Hollywood range of representations of nature, while not always promoting ecological praxis. Nonetheless, even if you don't agree, few would question that Spielberg and his friend George Lucas have succeeded in adapting the romantic articulation of the child as 'nature's priest' and that they have made careers out of extending the Disney project, producing the biggest science fiction blockbusters of all time.
 - 2) Spielberg continues to divide critics, often in spite of his enormous popularity and growing influence within the Hollywood apparatus. Probably such a lofty status increasingly leads to vitriolic criticism, like that suggested by Robert Kolker in *A Cinema of Loneliness* (2000ed), which claims the ideological structures of Spielberg's films 'hail the spectator into a world of the obvious that affirms that what the viewer has always believed or hoped is (obviously) right and accessible, and assures the viewer excitement and comfort in the process. Such films according to these critics offer nothing new beyond their (sfx) spectacle.
 - 3) For example in the case of *Memento* and others, the reader can explore the scripting strategies and even view the film 'straight' in linear terms, rather than through the matrix of narrative complexity displayed in the final film version. Playing with and examining the often-opaque temporal/spatial logic of such smart films – including the science fiction narratives discussed in this paper - helps to allay audience confusion and probably increase their pleasures.
 - 4) Computer games he claims for example are not based on database logic, but rather algorithmic logic, which in turn require a narrative shell. In order to get to a higher game level; the player must understand the algorithm (p.222-3). Even the most data based/software-fixated student I find constantly comes back to notions of narrative driven modes of story telling to help marshal the creative possibility of this rapidly expanding medium and at the same time help harness its vitality to connect with audiences.
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- 5) Mark Williams goes so far as to suggest the film can be read as a cross between a VCR and a computer hard-drive, producing their own inflections upon the real-time subjunctive. Their capacity for example to 'freeze' the 'live' image, and then provide 'real time' options by which to subsequently delay, fast-forward or simply jump to re-synchronize with the 'live', represents 'the newest wrinkle of temporal frenzy within mediated culture'. This premise of movie manipulation of time can be used to literally fast forward the future. (in Everett et al.; 176).
 - 6) The phenomenal success of 'Google Earth' on the World Wide Web for instance provides further evidence of the successful application of this form of spatial navigation and mapping. The open nature of the web as a medium, since web pages are computer files which can always be edited, suggest that the web site never has to suggest completeness, being always contingent and hence corresponds to Manovich's inference around the 'anti-narrative logic' of the web. Particularly impressive was the automatic program, which builds the set in 3D and tells the camera how to shoot the shot without making 'mistakes'. Certainly a long way away from the hand-drawn graphics of the Disney Empire. Spielberg was very impressed with the opening graphics from *Se7en* (1995) and called up the design team who worked on this called 'Imaginary Forces'. When co-opted this group did much of the animation/filming and making the pre-visions look organic. They also applied what cognitive psychologists told them regarding how victims/criminals re-tell their crime by remembering in 'bursts' of memories and applied this mimetic strategy for creative effect. [Incidentally, the pervasive use of the computer and databases have also permeated globally successful television series like *24*, with the main protagonists' 'data secretary' Chloe, acting as a barrier to the most pressing problem of the current information age - overload. As suggested by several observers, there is so much information available now on databases, but not enough filters to determine what is important or significant.] Also see a fascinating study (Bennett et al., 2008), which includes a chapter by Aylish Wood, entitled *Cinema as Technology: encounters with an interface*. Wood argues that with the introduction of digital effects there is an increasing tendency to create images in which effects and figures form competing elements. 'In the film *Minority Report*, during the sequences when John Anderton sifts through images on a transparent screen, two elements compete with each other. The movement of the mobile segments running horizontally across the transparent screen catch our attention, and have the potential to draw attention away from the figure of Anderton, and we may wonder which is more important. Digital games also contain elements that compete for a viewer's attention. The most obvious of these are information bars that usually sit on the margins of the screen' (2008: 132) What we end up in any network involving human and computer interfaces is 'the intersection between the user and the interface' which is at play in *Minority Report*. 'The detectives can only know what they think they know, because of the technological interface of the pre-cognitives. The complex system of humans (police and precogs), plus all the visualizing technologies, distributes the capacity for seeing across those different elements. This interaction is not taken to be a lessening of experience, but a reconfiguring of it through a technological interface' (Bennett et al, 2008:135).
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- 7) Note in Dick's short story they are simply paper cards with a copy also sent to police department for security reasons. Also very un-cinematically, the pre-cogs are written as hideous emaciated figures, totally unlike the perfectly formed female figures suspended in water tanks. Spielberg claims he took on board the expertise of Futurist experts on what the world would look like in 2054. One wonders however, where he came up with the idea of the bingo balls, carved out to reveal the names of the erstwhile criminals. This visualization is surprisingly not discussed in the add-ons. At a stretch I could even hypothesize – drawing on the US electoral dispute around the paper ballot papers in the previous Bush election success, that they serve as an allegorical endorsement of the need for more old-tech security, questioning literally how old-fashioned hard evidence might be perceived as creating a safer and secure system. As articulated in one of the add-on features 'Deconstructing *Minority Report*: a world of *Minority Report*: an Introduction', the director wanted to get at a foreseeable future, 52 years from now. Bringing the 'best minds' together for a 'technological think tank' with the aim of focusing on a future prognosis and what will be in vogue over half a century from now. After a three-day think-tank in Venice, most of the 'toys' in the film were broadly conceived. Spielberg pontificates that most of the prognosis from George Orwell's vision will come true in the 21st century. We will have technology able to see through walls along with a total identification of niche-targeted media with adverts able to connect with any individual specifically. In the film for example we witness a billboard for Guinness speaking directly to a passer by, who can be identified by name, dramatizing the potential new and totally interactive power of the mass media.
- 8) Deleuze and Guattari do not focus on haptics from the viewpoint of control, but as a capacity to resist control. They describe haptics as a kind of nomadic art. 'Haptic space is a smooth space', i.e. it is fluid and intensive. Such smooth space is 'deterritorialized and must be navigated by constant reference to the immediate concrete environment, not to abstractions like maps or compasses, but by perception that attends to the particularities of the materials that must be traversed, as when a person walks through sand or snow' (Bogard p.6).
- 9) Alternatively Cathleen Rountree in a convincing Jungian reading of the film explores how the Pre-Cogs are representative of the Oracle of Delphi, with their inner sanctum referred to as 'the temple'. 'Mend the city, make her safe' the Oracle tells Oedipus. And it is Anderton, the Pre-Crime savior who, 'like a postmodern Seiji Ozawa (while listening to refrains of Bach, Haydn, Schubert, and Tchaikovsky), orchestrates the safety of the city by virtually "conducting" the future through hologram-projectors built into his gloves that project images onto a blank video screen'. (80) This strategy is effectively visualized if not directly experienced in the opening sequences of *Minority Report* as analyzed in this paper.
- 10) Metaphorically, many critics especially Donna Haraway speaks of how the cyborg embraces the fractured identity of the postmodern world. Popular film, through the various breakdowns implicit in postmodernism, together with the ever-present modernist residue, continues to create potential universal as well as micro-narrative signifiers from the ashes of an apparent (non) referentiality.

Broderick is certainly correct when he exposes the 'breakdown' inside the pro-filmic event, as often serving to crack open crude divisions between modernist and postmodernist sensibilities. These breakdowns can also be appropriated to engender counter discourses, which draw from both paradigms. Consequently, we do not always have to accept a stark choice, since the 'radicalized modern' is often implicit in 'excessive' moments embedded in otherwise postmodern filmic texts, especially at the point of closure. But even more explicitly, conventional human agency has become effectively problematical and 'radicalized' especially by new technological innovations, which are illustrated by representations of cyborg and other 'non-human' life forms. While Bruce Bennett's thesis around the child/robot couple also remains convincing, as displayed in *AI*, 'when both fictional robots and children are thus equally under construction, and their common desire for agency or autonomy, their shared experiences, accounts for the intimacy of their relationship... becoming an adult involves loss – the symbolic death of the child through its fixing as an adult and the physical disintegration or departure of the robot with which these narratives often conclude. (Bennett, 2008: 171) Much critical debate has been raised around the construction of the cyborg boy David and the apparently unnecessarily long epilogue and closure of *AI*.

- 11) To use James Berger's excellent term, David functions at this point as 'a traumatic-apocalyptic inscription' upon the cinematic palimpsest of New York, and for audiences witnessing the films pre-9/11 release in New York, serves as the 'letter' Lacan describes as arriving 'in reverse form'. David is the memory of that trauma 'posted' from the future, returning to his destination in past-ness.
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