THE DIFFERENCE THE DIGITAL MAKES: THE AFFECTIVE SYNTHESIS OF REALITY BY DIGITAL SCREEN MEDIA

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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 nor material which has been accepted for the award of any other degree or diploma of the university or other institute of higher learning, except where due acknowledgment has been made in the text.

ABSTRACT

Do digital screen media alter our sense of being in the world?

Contained within this question are some fairly fundamental existential and metaphysical notions about what it is to *be* in the world, and what is it to have this sense altered? There is the complex notion of consciousness: what is it to be conscious of the world? What, indeed, is 'the world' – simply our phenomenal sensory awareness of reality, or some external transcendent actuality? To understand the effect of the digital on consciousness, one must consider investigating the dynamics of synaptic signals in the brain, to affection and cognition, to larger social, global and even metaphysical systems – whilst also maintaining an eye for the subtle metaphoric connections between them.

In the work of new-media theorists such as Massumi, Shaviro, Pisters, Rodowick, Parisi, and Hansen, we see some of the above questions tackled through a triangulation of aesthetic theory, affect theory and philosophy of consciousness. It is amongst these theoretical perspectives that I position my research. I describe digital visual media as an extension and fruition of aesthetic impulses towards indeterminism and flux largely described by Deleuze in the *Time-Image* as 'the indiscernibility of the real and the imaginary, or of the present and the past, of the actual and the virtual', but further, through Bernard Stiegler, as a new mnemo-technical 'grammatisation' of vital metaphysical forces, or of existence *as such*. I then show by example how digitally created and inflected images, through their own vital automatism, give us new mimetic and metaphorical tools through which to affectively and conceptually think the real. I argue that the digital-image establishes itself in ways that Deleuze foreshadowed but could not quite foresee, becoming: 'an as yet unknown aspect of the time-image'.

TABLE OF CONTENTS

INTRODUCTION

This project starts with a feeling: initially a corporeal stimulation, exhilaration or agitation and a sense of enjoyment and fulfilment. Secondarily, this feeling transforms into an intuition – an embodied intuition that the world is enlivened, less consistent, more likely to surprise us. Thirdly there is an intrusive thought – a conception that this feeling, as it fades, should be disowned, as it is not authentic. It is a hollow experience. I have been awed and shaken, but ultimately duped and taken for a ride. I should turn my attention to more meaningful activities.

This is the conflicted feeling that I, and I would imagine many others, have had after watching some of the images that I analyse in this project – the spectacular objects of a contemporary digital screen culture.[1] They are objects of a commercial entertainment culture, and as such, for reasons including the mode of attention, the space of their consumption, the industrial mode of production or the spectacular affections they afford us, they seem to have little value as objects of art. They are perceived as junk food, regularly consumed and enjoyed though we know they are bad for us. I am drawn, however, to look at them again through different eyes, as individual images, and as together forming a matrix which seems to express a distinctive shift in a 'structure of feeling'[2] or a 'regime of the sensible'[3] – more simply put, a change in ways of thinking, seeing and feeling. I aim to explore how these images might qualify as a form of artistic expression, in the process

[1] This is the sentiment expressed in Sean Cubitt's reading of contemporary digital cinema in *The Cinema Effect.* Cubitt, Sean. 2005 *The Cinema Effect*. MIT Press: Cambridge MA.

[2] This phrase is used in Steven Shaviro's sense, of which he states: 'I am therefore concerned, in what follows, with effects more than causes, and with evocations rather than explanations. That is to say, I am not looking at Foucauldian genealogies so much as at something like what Raymond Williams called "structures of feeling" (though I am not using this term quite in the manner that Williams intended). I am interested in the ways that recent film and video works are expressive: that is to say, in the ways that they give voice (or better, give sounds and images) to a kind of ambient, free-floating sensibility that permeates our society today, although it cannot be attributed to any subject in particular.' Shaviro, Steven. 2010 'Post-Cinematic Affect: On Grace Jones, Boarding Gate and Southland Tales' in *Film Philosophy* 14:1. Liverpool: Open Humanities Press.

[3] This is Jacques Rancière's term. *The Politics of Aesthetics.* 2006. London: Continuum.

interrogating what social, cultural and cognitive activity 'art' really pertains to (in the field of aesthetics), and how and why it does this – in the fields of technology, media philosophy, neurology and cognitive theory.

My research question thus simply is: do digital screen media alter our sense of being in the world? However, at stake in the asking of this question are some fairly fundamental existential and metaphysical notions about what it is to 'be' in the world, and what it is to have this sense altered. There is the complex notion of consciousness: what is it to be conscious of the world? What processes do our minds go through to learn about the world? What, indeed, is 'the world' – simply our sensory awareness of it, or some external transcendent actuality? In asking whether a *specific* technological shift in modes of expression and communication impacts in some way on our mode of existing in the world, we have to ask how all technologies have, in different times in history, impacted upon a dynamic human relation with nature. Having tried to understand this, I then ask what is different this time, with this change, and in this historical era? My research question, though simple, nonetheless becomes profound. In investigating ontological issues of existence and consciousness within the digital age of communication, one must seemingly go from understanding the dynamics of the most basic synaptic signals in the brain, to affection and cognition, to social, industrial and global systems of communication –while at the same time maintaining an eye for the subtle metaphoric connections between them.

What I aim to ascertain is the fundamental ontological difference that the digital shift in visual technologies instigates, an area insufficiently developed in many analyses of digital interfaces and interactions. In the recent work on digital media, cultural theorists Patricia Pisters, Mark Hansen and David Rodowick stand out in noting an ontological shift, a new state of, and understanding of being and acting within a digitally mediated world.[4] They describe a departure from the indexical relation of the image to reality instilled by

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4 Pisters, Patricia. 2012: 32-33. *The Neuro Image: A Deleuzian Film Philosophy of Digital Screen Culture*. Stanford University Press;
Rodowick, David. N. 2007. *The Virtual Life of Film*. Cambridge MA. Harvard University Press;
Hansen, Mark. 2006. *New Philosophy for New Media*. Cambridge MA: MIT Press.

photographic processes, and elaborate an emergent aesthetic sensibility cultivated by the new digital arrangement of images and image components. I aim in this work to develop and extend these theories of digital visual culture through a formal, structural and thematic analysis of the images themselves as well as the dynamic processes of engagement with them. The project thus works towards yielding a fuller understanding of the subtle alterations that are currently occurring within our collective consciousness of reality due to the influence of the digital image.

I position myself within the contemporary moment of technological transformation, with a critical conception of the role of digital media in sculpting thought.[5] If cinema, for Deleuze, instituted an emergent 'cine-thinking' entailing a particular kind of thought about time and space, then what can we ascertain as a separate and distinct 'digi-thinking'?[6] The material qualities of film seem to lend themself to the manipulation of time – movement here is after all an *illusion* given by a sequence of still images shown in quick succession. Subsequently we ask what the relative *immaterial* materiality of digital data lends itself to the manipulation of when both form and force can be folded and morphed. If material filmic processes of cutting and splicing together photographic frames exposed our habits of linear temporal perception or memory's relative elasticity, digital material/immaterial processes render all metaphysical notions, including time, as intensely plastic in a way that draws all forms of linearity into doubt. While film is perceived as primarily a temporal medium, then the digital seems to be this *and more*.

The digital exists as a spectre within conventional film theory, creating a problematic relation of image to reality and the representation thereof. Inevitably some theorists and critics brush it to one side and see it as a continuation of the cinematic as that is simply how it *looks* – it exhibits a habitual continuity with the indexical processes of film such as focal

[5] Specifically, the last 5 years – the period of writing this work and also around the time that Digital 3D first came into the cinematic mainstream.

[6] Elaborated from Deleuze's concept of a 'camera-consciousness' and described and examined in Éric Alliez's chapter 'Midday, Midnight: The Emergence of Cine-Thinking' in *The Brain is the Screen.*

depth, framing and composition.[7] Many others however mark a distinction in the images themselves and in the ways we encounter them. It seems plausible that a world represented in digitalised form, with all that this entails – the plasticisation and fluidification of physical forms and forces – will be experienced as different from a world represented largely as predictably continuous. We see the world differently through the digital lens, and this leads me to question how deep do these effects penetrate into 'everyday' experience; asking if and how we successfully maintain a division between experience of the 'actual' and of a digitally mediated world? I ask how these images resonate in an ontological sense with our physical knowledge of the universe, looking at the synergy between our cultural imaginary and theoretical physics in the genesis of new ontological horizons. Crucially, I elaborate how this dynamic works through the nexus of our affective corporeality, through deeply ingrained and inhabited sensations of metaphysical qualities.

The changes to consciousness and experience instigated by a digital shift can often seem to be the effect of powerful human machiavellian forces working through media channels. This view leads to a pessimistic attitude towards affections specific to the digital, denigrating them as at best shallow and apolitical, at worst a form of insidious brainwashing. By instead seeing the new forms of visual mediation as an emergent automatism driven by the vital material (or immaterial) qualities of the technology itself, we start to appreciate that alongside processes of control there are also unpredictable outcomes for consciousness. By following this direction of thought, we might achieve a view of a non-human activity *as if* the technology itself was imposing its (singular) will upon us (a technological determinism), but this is not an accurate reflection of a field in which there is no clear intentionality. The technological forms of mediation function automatically and ambivalently to generate parameters for thought, and the affective matrix of images within digital visual culture creates a framework for creative visualisation and action. Technology acts merely as a filter or refractor for potential or virtual thought. It is still us, the human entity, that thinks, feels and imagines, but now more than ever before through the prism of digital images, casting new images of thought and creating new loops of affective resonance.

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[7] Those who stress this continuity include Manovich, *The Language of New Media,* 2002. Bolter and Grusin. Bolter, Jay and Richard Grusin. 2000. *Remediation: Understanding New Media.* Cambridge MA: MIT Press. See the following chapter for an examination of these perspectives, as well as the opposing attitudes.

In raising the mass-cultural and popular digital image to a level of ethico-aesthetic analysis I aim to establish an understanding of digital technology which goes from the actual technologies themselves to a form of digital logic – a digi-thinking that resonates with contemporary scientific knowledge as well as social and cultural change. Within contemporary routines of representation I trace a regime of sensibility beyond rationality, that creates a space for original perception and action, and which ultimately constitutes a new digital ontology. This understanding of an affective ontology is of a communal, inhabited and non-conscious apperception of the world and its physical and metaphysical forces.[8] Consequently I see that through the digital we have a new shared sense of the world, a distinctive landscape of the things that exist and relations between them that diverges from the modern age assurance of stable and causal relations towards a plastic view of reality.

THE FIELD

Historically the study of contemporary mass media forms and their social, cultural, cognitive and corporeal effects has been dominated by structuralist and poststructuralist theory, with constant recourse to social change and discourse as primary driving forces.[9] Within this dynamic, the object of study and its more direct effects can often become secondary, called upon merely for the purpose of illustrating a theoretical position. Postmodern cultural theory of the late 20th century stayed very much within this rubric, and as such the analysis of new digital media forms and cultures which emerged in the 1980s during a stated 'postmodernist' age fell easily into the same dynamics, with the digital processes of bricolage and simulation and the breakdown of linear media forms fitting neatly into post-structural discourses about the crisis of faith in meta-narratives. If cinema was the modernist medium of crafting meaningful (albeit ideological) narratives about time and existence, then digital media corresponded directly with existential crises and the total breakdown of meaningful connection. Intoxicating and violent, superficial, ubiquitous and spiritually bankrupt, the images of the MTV generation were popularly and theoretically seen to be socially corrosive

[8] Metaphysics as understood here no longer is the realm of gods and creation myths, but rather of physical forces, quantum particles, dimensions, intentionality and causality.

[9] Heavily influenced by the style of theory initiated by the Frankfurt school of media critique, specifically of mass media as ideologically repressive and interpellative, servile to the interests of the ruling class.

and existentially vacuous.[10] This positioning proves persistent, as many theorists still indict the products of a mass commercial culture based roughly on this postmodern critique.[11]

However, as MTV producers became movie directors, and as 'avant-garde' artists became known for digital work, some cultural critics started to develop an eye for a specifically digital potential for expressivity beyond the clichéd postmodern – a digital aesthetic.[12] In film theory, there was a developing backlash against Althusserian, semiotic and psychoanalytic post-structural analysis, and a drift towards ideas of the body and haptic film theory through the works of Brian Massumi, Vivian Sobchack, Laura Marks and Steven Shaviro. There was also a return to early cinema and early 20th century film theory in the work of Tom Gunning, Miriam Hansen, Yuri Tsivian and Scott Bukatman. Moreover there was a new attention paid to Gilles Deleuze's metaphysical and philosophical film theory as laid out in his *Cinema* books.[13] These new theoretical perspectives became interested in formal and structural elements of sensation and spectacle, with the emphasis shifted away from the governing concepts of representation and identification towards more aesthetic modes of analysis.

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[10] This view of the theorists of postmodernity filtered down into popular culture through iconic images provided by literature and films along the line of the character and milieu of Patrick Bateman in *American Psycho* by Bret Easton Ellis (1991, Vintage: New York).

[11] This critique is most aptly epitomised by that of Fredric Jameson in 'Postmodernism, or, The Cultural Logic of Late Capitalism' published in *New Left Review* in 1984, in which it was described how under the conditions of postmodernity all discourse has been merged into an undifferentiated whole, and difference itself has been commodified.

[12] In 1985 Andy Warhol somewhat surprisingly launched the Commodore Amiga's *Propaint* program by live digitising a video camera image of Debbie Harry, and using the fill paint tool to create one of his iconic images. ('The history of the Amiga part 4' on *arstechnica.com*. accessed 05.08.12) Respected video artists from the 1980s such as Bill Viola, Tony Oursler and Pippilotti Rist quickly moved into digital media. Digital fine art has been relatively slow to take off, though some artists such as London's Gilbert and George have now moved into a completely digital form ('Living Sculptures Make Digital Paintings: Simon Bayliss on Gilbert & George: The London Pictures' (thepaintingimperative.com/issue-4/living-sculptures-make-digital-paintings accessed 14.09.12)

[13] *Cinema 1: The Movement Image* was translated in 1986; *Cinema 2: The Time Image* followed in 1989. Amongst authors reflecting on these books were David Rodowick (*Gilles Deleuze's Time Machine,* 1997, Duke University Press.) and Greg Flaxman et al. (*Brain Is The Screen: Deleuze and the Philosophy of Cinema*, 2000, University of Minnesota Press)

These theoretical shifts of the mid to late 1990s came at the same time as a rush of spectacularly digital-effect-laden films that had an emphatic focus on novel sensation and awe-inducing effects. Spectacular and effect-laden films were certainly not new, with spates of biblical and mythological epics, and short-lived and titillating diversions in the 3D horror and sex genres of the 1950s and 1980s.[14] However, in the 90s there seemed to be a new emphasis on epic scale and visceral drama in the multiplex cinema, in part fuelled by the continuing challenge posed to big-screen cinema by home-video and home-cinema formats.[15] The more spectacular of these films had sentimental themes, mythological narratives and grandstanding effects, seemingly a form of disposable culture for the lowest common denominator while auteur directors continued making the 'thinking-man's' films. But when game-changing films such as *Titanic* (1997) and *The Matrix* (1999) came about, theorists really started to take notice. The reason their interest was raised was not first and foremost due to the representational aspects of narrative and mise-en-scene, but rather because of the new breed of films' novel, complex and nuanced *affective* force.

To link this shift in the content and style of cinematic media to the developing critique of representational analysis, the relationship between representation and affection merits further explanation. Representation here can be understood as the semiotic mapping of the already expressible, placing people and objects in figurative, meaningful relation to each other to express a real and recognisable dynamic. Representation deals in forming symbolic models of existence and the human dynamics within it, and follows grammatical rules of expression. Thus we theorise about 'regimes' of representation as being culturally specific and yet often dominating and ideological – Marxist and psychoanalytic theory's 'symbolic order' which is both patriarchal and serving of the interests of the economic system. Hegemonic regimes of

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[14] In the films of Harryhausen and Cecil B. Demille, and later in 3D films of the 50s and 60s such as *Creature from the Black Lagoon* and *The Stewardesses,* and then again in the 80s with *Jaws 3D* and others. Epic special effects 'event' films of the 90s included disaster movies *Deep Impact, Armageddon, Independence Day,* historical epics such as *Saving Private Ryan, Titanic* and *Braveheart,* and sci-fi fantasy including *Jurassic Park*, *Terminator 2: Judgment Day* and the reboot of the *Star Wars* series.

[15] On the effects of home video on cinema, see for instance Barry R. Litman & Linda S. Kohl 1989. 'Predicting financial success of motion pictures: The '80s experience' *in Journal of Media Economics* Volume 2, Issue 2, 35-50.

the expressible work through different registers: emotional, rational (logical) and affective, through which meaning is given and minds and bodies are conditioned. However, within any representation or regime of representation is also a border zone of non-meaning and non-symbolisation that cannot be easily contained and which exists only within an affective register, as it were on the very edges of recognition. This ambiguous virtuality within the image has been represented theoretically in psychoanalytic discourse as the Real, or as the primal Id – subconscious and threatening since the mind is geared necessarily toward the safe and rational relation of objects in functional models of reality. To overly dwell on these 'irrationalities' has been at various times positioned as a derangement, the pursuit of the madman.[16] And yet from these border zones of meaning, sensations can emerge which disrupt hegemonic routines of thought. Through an affective process, meaningful representation is disrupted, cognitively renegotiated, and rather than threatening to a healthy stability, affect systems takes on an *anti-ideological* nuance. While these realms of non-representation within the image threaten to disrupt ordered reality, potentially causing stress and anxiety, this is also understood as the explicit aesthetic work of the artist, to create a field of affection which in some way suspends, disarms or confronts any 'regime' of the sensible, be it 'grammatical' or discursive.

The emergence of an 'Affect Theory' conceiving of affection as anti-representational and potentially anti-ideological and emancipatory, also signalled a return, at the beginning of the 21st century, to a philosophy of consciousness which had been popular at the beginning of the 20th century. For many theorists, the radical changes of industrial capitalism and urbanisation which shaped the 20th century had caused a psychosocial trauma, and thus the discourses of Marxism and psychoanalysis which dealt with this trauma dominated critique.[17] Now, in a post-industrial society, and out of the new disciplines of cognitive psychology and a technologically-advanced neurology, came a new *humanities* concept of affection, providing a return to the phenomenological thought of Husserl and the work on the philosophy of consciousness of Bergson and Spinoza. The crux of these philosophies are not

[16] In the work of philosophers of mind such as Hegel, Pierce and Freud, a delicate equilibrium is maintained which is threatened by intense affects emerging from either sensory experience or from the unconscious primitive mind in the form of uncontrollable desires.

[17] This Marxist/Freudian work was developed from the early 20th Century work of Wilhelm Reich, Herbert Marcuse and Erich Fromm, through to Louis Althusser.

founded in antagonism, loss and lack, like those that had gone before, but rather offer a more holistic (monist), processual and phenomenological view of the world.

Affect theory now also leads to a return to *aesthetic* theory within the field of media studies. The affective 'suspension' of representative order was now seen as deeply integrated into creative practice where space is deliberately left for the affective, non-expressible qualities and grey areas of meaning to develop in the mind of the viewer. It was now seen in a new light how deliberate measures of abstraction and expressionism are taken to hamper facile recognition, allowing figural, non-rational associations to develop.[18] Equally, even in the most regimented and generic representative work, an unforeseen 'transgressive' affect can emerge for the mind, disrupting meaningful interpretation in ways which can be just as amusing, gratifying, horrifying or distracting as in the artwork which explicitly sets out to cause these effects. For some aesthetic theorists this disruptive force of intensity had been seen as a special, almost mystical kind of experience. Lyotard calls it the Sublime, relating it to the Kantian notion which is initially related to the wonder and awe when confronted with an immeasurable force of nature, but also which is attached to an idea of a wilful divine force or other intentional power of revelation. For affect theorists it is more grounded, as a revelation indeed, but one of an immanent complexity or force which is within the work but often unseen or unappreciated.

Affect Theory, however, is prone to certain excesses. It occasionally turns its back on ideological critique and neglects to adequately reflect on issues surrounding our contemporary commercial culture, neoliberalism, individualisation and ethical futures, focussing instead on creativities and freedoms which are at best ambiguous.[19] Because of these excesses I find it important to maintain a political discourse around a notion of a new digital aesthetic regime, and furthermore not to undervalue representation as a mode of thematically reflecting on the political and ontological implications of the new rhythms of image creation. Within an optimistic discourse of new creative freedoms in image production

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[18] See for instance Deleuze's *Francis Bacon: The Logic of Sensation* for a conceptual development of this aesthetic effect. Deleuze, Gilles. 2003 (1981) *Francis Bacon: The Logic of Sensation.* University of Minnesota Press: Minneapolis.

[19] In the following chapter I develop at length the critiques of affect theory which have emerged in the last few years.

and reception within a digital era, it seems important to exert moderation, and to duly reflect also on discourses of influence and control – with digital technology considered at all times as a *pharmakon*, capable of both healing and poisoning.[20]

In the work of new-media theorists such as Massumi, Shaviro, Pisters, Rodowick, Parisi, Manovich and Hansen, we thus see a triangulation of the above described aesthetic theory, affect theory (entailing both scientific – neurological and psychological – and humanities concepts) and philosophy of consciousness. It is amongst these theorists and theoretical perspectives that I position my research question, asking what difference the digital makes. In doing this, I do not stake the digital as an entirely new and original aesthetic paradigm, but rather as the extension and fruition of aesthetic impulses towards indeterminism and flux largely described by Deleuze in the *Time-Image* as 'the indiscernibility of the real and the imaginary, or of the present and the past, of the actual and the virtual'.[21] However, I then go on to suggest that the digital establishes itself in ways that Deleuze foreshadowed but could not quite foresee, becoming *more than* 'an as yet unknown aspect of the time-image' and fulfilling his call for the 'relaunch' of the time-image.[22] I develop an argument that the time-image can be understood as a single aspect of a broader image-type which draws not only linear *time* into question, but linearity in *all* metaphysical senses.[23] In discerning between difference in degree and difference in kind, what I ultimately come to claim is that the digital image offers the technical condition for a new ontology, one which tends by its own automatism towards an interrogation of all stable metaphysical concepts.

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[20] The term 'pharmakon' in this context develops from Derrida's work on Plato and is subsequently used by Bernard Steigler. Derrida, Jacques. 1981, *Dissemination*, trans. Barbara Johnson, Chicago: University of Chicago Press.

[21] Deleuze. *The Time-Image.* 1989: 69

[22] ibid: 266-267

[23] Where 'linear' signifies not only a straight line but also a single dimension. This broader image type I go on to speculatively name in the following chapter as a *flux-image* or *plastic-image.*

THE TECHNICAL SYNTHESIS OF REALITY

I am interested in how reality is produced or *synthesised* within the context of digital screen media. This question becomes one of how we as spectators are affected by contemporary media in our cognitive and imaginative capacities, and of how these media in their structure and content critically reflect upon mind, reality and on their own processes. These issues are not separate, but rather meet within a conception of existence as effectively synthesised by processes of consciousness, by which we are all *producers* of images, both mentally and culturally, individually and socially; we are all primarily engaged in processes of understanding and reproducing reality (in aesthetic forms) and there is no clear distinction between media-image and brain-image. In the words of Deleuze: 'the brain is the screen'. This does not necessarily deny an objective reality, but posits that we are essentially image receivers, an actualised image amongst others, but a 'special kind of image' capable of making innovative 'virtual' connections between images.[24] Though we may not mentally *create* reality per se (as is the view of a pure phenomenology), we do craft 'aesthetic' images out of it. The process of how we do this is, as I will explain, technological.

To ground the project I must start with expanding my understanding of some basic concepts of reality and our consciousness of it, through the prism of a philosophical notion of technology, more broadly of *technics* (a perspective on the 'essence' of technology). I do take the position that we all, necessarily, assume a naïve view of reality – the view that it actually exists objectively beyond our perception of it, and outside of our attempts to understand it.[25] Without this view we could not function in the world. However, it is a given that our perceptions and conception of reality are highly partial and framed within culturally and individually specific parameters. This knowledge has been ascertained through

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[24] Greg Flaxman in the introduction to his edited volume the *Brain is the Screen* succinctly states: 'In the *Movement-Image,* Deleuze says that the brain is a very special kind of image, one that opens up an interval in the modulations and variations of the universe. This interval propels what we call thinking'. Flaxman, Greg. 2000: 35. *The Brain Is The Screen: Deleuze and the Philosophy of Cinema*. Minneapolis: University of Minnesota Press. See chapter six for my extended discussion of this issue.

[25] This concept of a 'naïve view' of reality is developed in *What We Can Never Know: Blindspots in Philosophy and Science* by David Gamez, 2007: 33-35. London: Continuum.

phenomenological, psychological and, more recently, neurological discourse.[26] One does not need to have a philosophically sceptical or phenomenological standpoint to understand that reality is not always as we perceive it and that processes of culture and the human mind can twist material reality quite out of shape under certain conditions. Given this, I look at the forces which shape this naïve version of reality.

I ascribe to the position that all the forces which shape the world in our ability to conceive of it are, in the broadest sense of the word, *technological*. In that we interact with the world at the basest level of survival of our organism – i.e. the acquisition of food or shelter – any mode of drawing things forth from the world can be considered technological or as 'techné'. For Heidegger, this concept covers both tooled handcraft and *poesis* as modes of shaping the world through manual creation of objects, or through expression (as both functional modes of communication and artistic expression).[27] These techné give order and shape to the world, and occupy almost all of our mental and physical energy. For Bernard Stiegler, in extending Heidegger, even the biological becomes part of a technical process, as structures of control are endowed upon physical gestures so they form meaningful systems. The body is understood as technologically cyborg since the first tools, and it adapts and evolves according to the technological systems it engages with. For Stiegler, to be human in the first place is to be technical.[28]

Accepting this, I follow Heidegger and Stiegler's movement in positing reality as generated through technological means, both in our ability to interact with the world, and in our ability to understand and communicate about it. But as the technologies that we invent give shape to the world, they also give shape to us. Again naïvely, we have thought that the technologies that we employ are there to help us gain control of our environment, seldom realising that these same technologies create the environment for us, making demands of us, and limiting

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[26] Neuroscience now has become one of the most influential recent developments in social and philosophical theory, the findings of which are investigated through many scientific, social science and humanities texts. See for instance; Meloni, Maurizio. 'Philosophical implications of neuroscience: The space for a critique' *Subjectivity* (2011) **4,** 298–322. Palgrave Macmillan.

[27] Heidegger, Martin. *The Question Concerning Technology.* Trans. William Lovitt. Harper Perennial; Later printing edition (Dec 1977).

[28] Stiegler, Bernard. 1998. *Technics and Time 1: The Fault of Epimetheus.* (Meridian: Crossing Aesthetics) Trans. Richard Beardsworth. Palo Alto, CA: Stanford University Press

us as much as they are assistive prostheses of our own bodies and minds. We adapt to technology in many small ways, and yet through time this draws us into ever-greater distance from the way we were before. However, as Stiegler points out (in a revision of Heidegger), this is not some process of us growing farther and farther away from some originary and ideal nature (physis), as each technology, despite being in one way limiting, also opens up new conditions for action, thought and expression, that is: actualisation. Nature is thought of not as the beginning of a linear progression, but instead as an underlying immanent and virtual flux, a field of potentiality, from which actual modes of being are drawn from, framed within certain technological parameters. Each technology, as pharmakon, is thus an enabling framework as much as it is also a limiting structure.

Within this view, digital processes are the latest technological condition of humanity which frame our world view, from our individual imagination to tangible scientific discovery. Religion, science and art can thus be seen as all co-defining; aesthetic imaginings going hand-in-hand with scientific discovery, both consequences of a technological condition or regime. Seeing things this way, it ceases to be any mystery why digital screen media experimentally create images which twist time, space, force and materiality at the same time as physicists were trying to discover the Higgs Boson 'god' particle that gives mass to the 'immanent flux' or 'pea soup' of the other elemental atomic particles.[29] Both processes fundamentally dwell on the same ontological problematic put forth by a certain technical condition. The dynamics of influence between artistic imagination and scientific discovery can be described in different ways – as anticipating or inspiring each other – but by tracing both back to the same technological, ontological condition the philosophical division between them is collapsed.[30]

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[29] In July 2012 at the Large Hadron Collider at CERN, Switzerland, the discovery of the Higgs Boson was announced. In much of the press around the announcement, the particle was referred to in the context of the Higgs Field – an invisible force that explains how the universe moved from a nascent 'intergalactic atomic pea-soup' state to one composed of stars, life and planets. This provides an interesting analogy for the philosophical concept of immanence, and conceptually tethers to my analysis in chapter 6 of the film *Source Code*.

[30] There is an idea that much scientific discovery is anticipated in works of science fiction. See for instance 'The Science Fiction Effect' Laura H. Kahn, 6 February 2012 at *Bulletin of the Atomic Scientists* http://www.thebulletin.org/. Accessed 01.07.2012.

However, since media rather than physics is my focus, I am drawn to interrogate the processes by which media, as the process of imagination and communication of reality within a digital technological condition, synthesise a distinct mode of being in the world – that is a mode of thinking, seeing and feeling. My proposition is that digital screen media – the objects of a contemporary digital visual culture, created, presented or inflected by digital processes – synthesise a specific metaphysical sense through a distinct aesthetic approach. This sense is an affection of metaphysical notions which is imbued in these objects not wholly intentionally, but as a product of a *thematic preoccupation with metaphysical concepts* combined with a *technical condition of expression* which harnesses certain capabilities and has certain emergent properties. Just as film was a technical condition of expression which (primarily) harnessed movement, leading to reflection on the consciousness of time and space, digital media, due to its inherent qualities, reflects also on materiality, energy and intentionality as well as time and space.

Three concepts prove centrally useful in understanding how our consciousness of metaphysical qualities develops and is maintained, and the technological condition for their affective synthesis: these are 'grammatisation', 'passive synthesis', and the 'spiritual automaton'. Grammatisation is a concept from the work of Bernard Stiegler which describes the technical reduction of fluxes to discrete elements. I will elaborate this concept in the following chapter, but here briefly outline the term. As speech is a grammatisation of the possible sounds emitting from our mouths, and as written language is a grammatisation in its systematisation of speech elements into graphic elements, film is understood as grammatisation of time since it proves a technical means for the expression of time. It contains time through processes of sequencing still images, editing and narrativising, and

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In the concept of *fabulation* (deployed philosophically by Bergson, extended by Deleuze and, more recently, John Mullarkey) unexplainable facts (of the senses) are made sense of through the imagination. This concept is held to explain early forms of theism in the invention of an intentional force behind natural processes, but also explains artistic creativity. Furthermore, holding to a Bergsonian concept of intuition as inspiration following the *inhabiting* of facts –rather that the intellectual and rational *examining* of facts – fabulation could be seen to be the true process of scientific discovery as creative problem solving. Bergson, Henri. *The Two Sources Of Morality And Religion.* 1977 [1935] trans. R. Ashley Audra and Cloudsley Brereton, Notre Dame, IN: University of Notre Dame Press.

through these processes it makes us aware of elements of our cognition and consciousness of time as duration.[31] Digital media then become about the grammatisation of existence in its entirety, as objects, living systems, biological forms and even intentionality and intelligence are digitised and codified in algorithms and simulations. Digital *images* thereby become more than representations of reality; they synthesise and simulate their own 'virtual' reality, in three spatial dimensions and in time.

Passive synthesis, a concept coming from Hume and Husserl via Deleuze, anticipates the current discourses of affection. Media, as a technological, grammatical system, gives us the rule by which we synthesise reality, but this process occurs *passively* and *automatically*. We inhabit the moving image in a distracted way, and as such we non-consciously absorb knowledge about the world in the form of intuitive skills and aptitudes in perception.[32] If the active mind is intellectual, logical and analytical, the process of passive synthesis is automatic and *embodied*. The process of the passive synthesis of time, or of reality in general, is in the embodied phenomenal experience of duration as completely natural and perfectly obvious as regards the active mind, even though our awareness of it has been in a sense artificially generated. They are *synthetic* constructs, in some way given to us given to us *a priori* (as Kant would have it), phylogenetically inscribed in our primitive reptilian brain, but also ontogenetically acquired and held kinaesthetically and within the affective body. Neither a common sense and natural order of the world, nor a logical deduction through observation, many modes of inhabiting the world are developed passively, internally and non-rationally. The way that media *affect* us can thus be thought of, distinct from processes of representation and identification, as a non-conscious processing of sense data through associative and metaphoric links, through motor, muscle and procedural memory, and through the laying of neural pathways. I will delve further into these passive processes in chapters four and six through the work of philosopher Maxine Sheets-Johnstone and through

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[31] Though Bergson rejected cinema as the systematisation and imprisonment of time (in *Creative Evolution,* 1907), would he have written *Matter and Memory* in 1896*,* reflecting on the consciousness of time, if cinema was not in the process of being invented? Bergson, Henri. 1988 (1896). *Matter and Memory.* New York: Zone.

[32] This point about the non-conscious 'distracted' absorption of skills is also developed in Benjamin's 'The Work of Art in the Age of Mechanical Reproduction'. In *Illuminations* 1999 (1969). Hannah Arendt (ed). Trans Harry Zohn. London: Pimlico (Vintage).

reference to the metaphor theories of cognition of psychologists Lakoff and Johnson and psychoanalyst Arnold Modell.

Digital visual technologies here become perceived as 'spiritual automaton' in that they generate an un-thought, un-intentional automatic movement which forces new thinking through a direct interface with the nervous and cerebral system. This is when the image acts upon us with a sublime effect; 'the image must have a shock effect on thought, and force thought to think itself as much as thinking the whole'[33], but does so through an automatism that confronts us and our formal thought processes. Deleuze states: 'It is the material automatism of images which produces from the outside a thought which it imposes, as the unthinkable in our intellectual automatism'.[34] Film as material, process and technology has its own automatism in its grains of silver which capture light, and in the conjuring of movement by the linear laying of images other on the film strip, just as, for instance, oil painting has its own automatic qualities in the brushstrokes and textures of the paint. They are both more than the sum of the instrumental representational uses put to them. The digital image thus also has a vital and automatic quality which '*has its own logic* and *constructs its own objects*.'[35]

In Deleuze's perspective on film as language, the signifying units and operations of the representational system take on a power of their own beyond the forms and substance of the image itself.[36] This is where Deleuze's concept of the spiritual automaton clearly lends itself to Stiegler's notion of grammatisation in the way that language as technology no longer just *expresses* thought, but actually creates the condition for thought. Language and thought are involved in a reciprocal loop. So too the technological system of image creation then develops a formal grammar of its own, which sets certain parameters for the mutation of thought into new forms. This is not simply a troubling determinism of the technical system itself, though it can easily be posited as such – Deleuze expresses such concerns through his analysis of the apparently natural link between that aspect of the spiritual automatism of cinema, the

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[33] *Time-Image*: 158

[34] ibid: 179

[35] ibid: 262

[36] ibid: 262

movement-image, and Nazi propaganda.[37] Rather the automatism of the technical system can alert us to the limits of our thought, and as such time is revealed to us in the time-image in a way that we could not have anticipated before. This is not a determination in the formal, material sense, but as Deleuze states, in a *genetic* and *differential* mode (a phrase which I repeat throughout this project).[38] That is, in a mode of determination that exhibits a spiritual automatism – it incites us to generate new thought.

The synthesis of reality through media becomes an aesthetic and ethical issue in that creative experimentation within a technological regime of expression pushes at the boundaries of the expressible through the creation of new affections of the physical world. This experimentation is creative expression which acknowledges, sometimes actively, sometimes passively, that the world is not the same for all of us. By crafting images of the world with the tools at hand, certain affections are released which inevitably alter and shift our coordinates of intelligibility. As we move towards a new physical ontology of the universe through quantum mechanics and cosmology, the aesthetic simulations and experiments in which we culturally engage seem to take on a new imperative charge of translation. However, in their own automatism, these translations as bundles of vital affects can reciprocally and symbiotically shift the ontology.

THE ETHICAL EFFECT OF DIGITAL AESTHETICS

As I tried to show in the first paragraph of this introduction, despite certain academic shifts away from forms of cultural elitism, there persists a popular perception that a divide exists between the objects of popular culture and serious artistic practice in terms of their 'contribution' to society.[39] This idealised social contribution is what I classify as an *ethical*

[37] ibid: 166

[38] Movement-Image: 85

[39] In the context of the relatively slow up-take of digital methods within fine art practice (see footnote note 6) it is fairly acknowledged that most digital innovation happens within an industrial entertainment (and also industrial military) context due to the cost of development. Thus, digital visual effects are often perceived as the product of a cynical economic motive rather than an aesthetic, quality or spectator-oriented one, and as such are closely aligned with promotional culture. For analysis of this view see 'Digital Cinema: A False Revolution.' John Belton *October* Vol.100 'Obsolescence,' Spring

role, in that it might serve the betterment of society as a whole, and that it might attend to the 'spiritual' growth of the individuals within it (in a secular sense). Throughout this project, in analyses of ontological problematics and new spatio-temporal and other metaphysical dynamics as developed through new popular digital screen media, there is an undercurrent which suggests that these things do make a lasting and profound difference, no matter what taste cultures surround them. In this way I ask people to look again at the familiar 'low' culture and popular genre works within a digital culture – with their clichéd narratives, predictable crescendos and over-neat closures – to see what else emerges 'passively' from these images. We have as a culture become so accustomed to reading and critiquing popular media in a conventional, narrative way, that we often brush aside the affective tonalities of the action set-pieces, the nuanced performances of the actors, shot composition and fusions of sounds and movement as mere trinkets. The true 'meaning' of a film often seems obviously based within the narrative, and the film ceases to be seen as a fusion of many logical and affective elements as different levels of meaning (rather like saying the meaning of a song is in the lyrics rather than in the musical composition). Digital effects as 'superficial' elements feel like affective lures, magic tricks and the art of illusion through distraction, which deludes weak minds into thinking that they've had a worthwhile experience. I would rather see these distractions or 'free-floating intensities' not as tricks, but as nodes within a rhizomatic structure of affects and effects which together, at a level of culture, form a new grammatisation of space, time, matter, force and intent as a new regime of the perceptible.[40]

The resistance to the idea of digital effects being socially and culturally meaningful comes from those who would still believe that art has to be an autonomous 'special' field of practice – a pure space of disciplined activity which exists outside of economic and political fields. This conception of a dialectical aesthetics described by Adorno, and more recently by Lyotard, holds that the artwork should be a force of pure negation. For Adorno this quality of

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2002, MIT Press; and Leon Gurevitch. 2010 'The Cinemas of Transactions: The Exchangeable Currency of the Digital Attraction'. *Television New Media.* Vol.11: 367. London: Sage Publications.

[40] Here I reclaim Jameson's apparently damning description of the meaningless affections of postmodern culture as 'free-floating intensities', and deploy it as a positive description of original and novel moments untethered to recognizable structures of thought. This affirmative analysis of the superficial and banal is extended in chapter seven through the work of Gianni Vattimo.

negation was called 'antinomy', for Lyotard it is the sublime, but both seem to make the artwork something transcendent, insoluble, even spiritual (in a non-secular sense). Even Deleuze, in his opposition of the movement image to the time-image, re-deploys ideas of a dialectical opposition between mainstream and avant-garde which has come to seem over-neat, and over-temporalised.[41] Indeed, the concept of the autonomous artwork seems to be more and more anachronistic in a late-capitalist creative economy where even the most avant-garde art object is supremely commodified. Philosophers Jacques Rancière and Gianni Vattimo arrive to tell us that no dialectical opposition is needed. They describe how the sublime objects of art are around us every day within a design culture as much as in entertainment culture. It does not need to be partitioned off in the art-house or gallery, cultivating a special mode of attention. Instead we must develop an eye for the aesthetics of everyday life.

A further 'ethical' critique of digital culture comes from Bernard Stiegler, who gives us the concept of a digital grammatisation, but then states that that whatever progressive socio-cultural potential the technology may have harboured has already been largely commandeered by commercial interests. Longer, inter-generational systems of knowledge sharing are lost to short spans of attention, and slow-developing and lasting forms of desire are short-circuited to demand instant gratification. He projects an idea of a gluttonous and amnesiac digital capitalist culture, encouraged to consume and dispose in ever-faster cycles. While this critique holds merit, and it is hard to deny the negative aspects of a digital commercial culture, it fails to give credit to the ethical potential of an accelerated culture in which 'virtual' diversity proliferates beyond any forces of control. Through the prism of a Deleuzian concept of difference and repetition, and by focussing on a nihilist conception of eternal return (which I will explain in the next chapter to be the principle of Deleuze's 3rd passive synthesis of time), I emphasise how the digital repeats and changes in plastic modes of modulation and mutation. Thus the accelerated digital culture is re-inscribed as being focussed towards future possibility and unbounded creativity, with positive ethical attributes.

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[41] See for instance the recent David Martin-Jones, 2011. *Deleuze and World Cinemas*, Continuum: London, which identifies various 'non-continuous' image types put forth in early cinema, including time-images and 'attraction-images', and further criticises the narrow European focus of Deleuze's study to focus on a more global context of multiple political crises and upheavals which affected other national cinemas.

In chapter four I show how digital processes of repetition and distortion are put to work aesthetically in a very Deleuzian manner in Gaspar Noé's *Enter the Void*, and in chapter seven, through the work of Gianni Vattimo, I elaborate the ethical side of this 'digital nihilism' by stating that despite efforts to control and brand virtual diversity, it still proliferates *out* of control in original and transgressive ways.

Throughout this project I attempt to develop an eye for objects of a digital screen culture which deal in moving-images that are not partitioned off from the popular realm of consumption, and which proliferate and multiply in heterogeneous spaces. These images are not only in multiplex cinemas, but also enter our homes on multiple screens in our living rooms, bedroom and kitchens, and further appear on buildings throughout our cities in the form of public projections and advertising screens. These images fold themselves around material objects and are inset into corners, walls and floors, perceptually distorting the contours and edges of our familiar spaces. Together they form a constantly present other dimension, just next to us, looming above us, or around the corner, where consistency and predictability break down, like another world pressing against our own, trying to lure us in. Is this an invasion, as many see it to be, or is it really the projection of our own imaginations in ever closer proximity to reality, both nightmarish and heavenly, which threatens, or perhaps promises to rupture the boundaries between worlds?

Film theorist Patricia Pisters, in her 2012 book *The Neuro-Image*, identifies the eponymous neuro-image as a new image type which blossoms within digital culture and which increasingly models the world as a brain. On the neuro-screens of digital visual culture, narratives of psychosis and schizophrenia play out, and events do not attempt to represent the real world, but only our cognitively fragmented, faulted and misfired attempts to represent it. The breaks, discontinuities and folds of the neuro-image therefore synthesise a profound metaphysical openness which she notes can become political. She described in the closing statement to her introduction:

> 'Perhaps, against the odds, the multiple and heterogeneous screens that surround us with schizoid franticness, instead of removing us further from reality, may come to our salvation. […] This book endeavours to see how art, science and philosophy can come

> together to turn our contemporary madness into metaphysics and into micro-political forms of resistance that are the basis of any change.'[42]

My project, while in a similar ethico-political vein, is of a more technological and ontological – rather than neural-psychological – bent. Pisters' work places the brain as the central condition for the new image regime. By contrast I place the technical aspects of image creation and distribution at the helm of recent changes. While the structure and processes of the brain are crucially involved, they serve as metaphor and model for a broader ontological view which sees brain, screen and material world in Spinozan style as single substance.[43] This entails not a *blurring* of the false and real, the virtual and the actual, but the fundamental decomposition of the ontological divide between them. This is not just the development, modulation, breakdown and regeneration of neural processes, but the ontological shift which sees the physical world itself in a virtual 'quantum' flux. Philosopher Catherine Malabou's use of the term *plasticity* becomes a key concept for my project, a term which expresses this new 'arrangement of being' not as a state of disorder, crisis and loss, but rather as 'a new unity of our time'. As Malabou states:

> 'Plasticity refers to the spontaneous organisation of fragments. The nervous system presents *the clearest, most striking example* of this organisation. As a concept plasticity is also endowed with a dythrambic gift for synthesis enabling me to perceive the form of fragmentation and find my spot within it.'[44]

While Pisters provides a clear and purposeful move away from psychoanalytic and Marxist film theory into the murky, fragmented waters of affect, she selects the brain as 'the most striking example' of a new plastic arrangement of the real and uses it as her model. I suggest that this is just the beginning of a journey which can take us 'through the looking glass' of a fully ontological plasticity.

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[42] Pisters, Patricia. 2012: 32-33.

[43] Indeed in chapter six I describe how metaphor is not one thing standing in for another thing in which the metaphor is *other* to the thing which it describes, rather, in our ability to cognise things, the metaphor is in and of the thing itself. There is no division.

[44] Malabou, Catherine 2010: 7 (my emphasis). *Plasticity At The Dusk Of Writing: Dialectic, Destruction, Deconstruction*. New York: Columbia University Press.

My contribution to the field is thus the understanding of passive affective processes as being at the heart of a process of digital grammatisation by which certain automatic, vital and emergent qualities of the medium create modification and mutations to our ontological awareness and intuition of the world. I even go so far as to say that the world changes *in real terms* through our ability to imagine and represent it. Thought, matter and force shape each other through technological processes of mediation. That which is specific to the digital is the world represented not as unthinkable, as this mode of mediation is not longer a simple crack or rupture in thought (as Deleuze thought of the cinematic time image), but rather it is a new dynamic and plastic ontology which is new order, genesis and synthesis.

THE PROJECT

In the subsequent chapters I address the issues outlined above, through reference to specific films and practices within a contemporary digital screen media culture. I stress that my objects are not cherry-picked for purpose, nor are they random, but rather they have emerged in the last five years – mostly during the writing of this text – as conspicuous tangents within a digital screen culture (with the exception of the 1982 film *Tron*, though this is explicitly related to its 2010 update in *Tron Legacy*). Out of these images I have drawn links between content, affect and technological circumstance to make observations about what I can describe as the digital, affective syntheses of reality in contemporary visual culture. In trying to establish the difference the digital makes, my critical-eye has been directed to the emergent dynamics within the popular circulation of images. These fall into three areas which I address in three separate chapters: the dynamics of digital virtuality; structural dynamics of digital images; and the dynamics of consciousness. Respectively, chapter four looks at how the digital virtual is addressed in two distinct ways where the digital is seen as a contemporary ontological problematic. Chapter five then specifically addresses how our metaphysical coordinates are shifted in digital representation, as new affections of 'virtual' space, time, materiality, intentionality and energy are afforded us. Chapter six asks how and why we engage and adapt to these new coordinates, and what differences to consciousness they might make. I now expand a bit more on these chapters, as well as my methodology and 'meta'-political stance, to elucidate the contours of this project.

In chapter two, my literature review, I expand on the issues and theorists laid out above, which fall into four broad areas: the philosophy of technology; processes of affection and cognition; approaches to the digital image; and ethics and aesthetics. These areas are then picked up in following chapters. Through this chapter I aim to further qualify my philosophical position, and expand on the theory mentioned here in the introduction which has presented itself as catalyst in my own theoretical approach to digital modes of expression.

In chapter three, *Nomadism and Monadism*, my discussion of methodological issues, I address broad philosophical problems about disciplinary knowledge, the ambiguity of the processes of which I speak, and my own subjective positioning within these issues. I suggest approaching the field of digital visual culture, and the individual media objects within it, as monads, entered into with a radically open and intuitive state of mind, and not to be systematised, broken down into parts and used to demonstrate or illustrate a pre-existing theory. I also propose a theoretical nomadism, as a Deleuzian schizoanalysis, which pays little heed to strict and rigid disciplinary knowledges as it cuts a path through a chaos of affects and effects.

In chapter four, *The Digital Frontier*, I begin my analysis of objects by looking at the films *Tron*, *Tron Legacy* and *Enter the Void*. I first identify the challenge to metaphysical consciousness posed by the digital, and then look to how content and structure are symbiotically linked within these images while trying to engage aesthetically with digital systems and processes. In this process I identify two approaches to the problem of digital virtuality roughly represented by the films I analyse: one in which an idea of the emotional body is restored to the impersonal domain of the digital, and another where the body is discarded and abjected as consciousness enters an immaterial dimension. What emerges as similar, however, is the affective tone of the represented middle space between worlds, the boundary or frontier space in which metaphysics are suspended in an immanent flux. I ask what these digital images, reflecting on the conditions of their own creation, express about the way we can position ourselves within a digitally connected world.

Chapter five, *Dynamic Spaces, Bodies & Forces*, focuses on this affective tonality within recent digital systems of image capture and presentation. I look to the examples of the dance and the battle-scene, raised within digital images to the status of the spacio-temporal-energic

image tour-de-force, in which structural relations of kinesis are heightened and stretched. This analysis is grounded within a genealogy of technical advances (from the first 'moving' images, through to spatial simulations and to digital 3D and digital slow-motion) and within theory of how fundamental our proprioceptive sense of the world is to our sense of grounded dynamic presence. What emerges is a digital experimental aesthetic and a new spacio-temporal image regime (seen in the neo-baroque folding of objects and spaces), expressed through structural and formal relations within the image, which could be fundamentally transformative to our metaphysical awareness. In my analysis this is an aesthetic which collapses the distinction between the scientific truth of detail, and the artistic truth of expression, into a new 'digital naturalism'.

In chapter six, *Sutured Realities, Simulation and Digital Realism*, I extend the issues raised in the previous two chapters surrounding our cognitive engagement with images in our conscious shaping of the world around us. I look at the concept of suture as how we aesthetically and affectively interface with images, asking how and if we successfully police the boundary between actual and virtual in our experience of the world. Though dealing with the discovery of mirror neurons, with a simulation theory of mind, the metaphoric structure of memory, and the mimetic capacity, I aim to establish that we are, in a non-pejorative sense, influenced and conditioned by the images we consume to intuitively and corporeally inhabit certain fields of immanent possibility. Within digital images this field of possibility is rendered plastic, subject to reformation, modulation and re-generation, and I argue that this foments a more plastic mind in which actuality and virtuality fuse. By then looking at the films *Avatar* and *Source Code*, I illustrate how the real is exploded and reformed, with the virtual, quantum flux supplanting notions of stable reality not just within the image, or just within our phenomenal experience of the world, but potential in the every metaphysical sense of the real world that we have.

Finally, in chapter seven, on *Ethics and Aesthetics* I turn to the more pragmatic political concerns of the project, asking whether there could be a positive ethical outcome from this digital shift. I address the concerns of Deleuze and Stiegler about the logic of late capitalism as concerns about the potential for insidious 'brainwashing' or the affective conditioning of desires, alongside the stated need for creative thought, political engagement and new industrial practices within a condition of neo-liberal 'cultural'

capitalism. I suggest that the digital breeds a cognitively active consumer who negotiates affective lures, and creatively and playfully (though not necessarily intentionally) synthesises new metaphysical awarenesses as ontological truths. For Rancière this issue is meta-political, for Pisters is it a form of micro-politics, both seeing an indirect form of activism through resistance and transgression. This idea comes together through my use of Vattimo's mellow nihilism, which dispels rigid metaphysical notions for a new 'weak' ontology which is open and plastic, strategic rather than complacent. Having established this clear notion of an anti-ideological, ontological plasticity within a contemporary digital era my project draws to a close.

LITERATURE REVIEW

This project sets out to examine how we are affected by digital visual technologies. In doing this I look at the different sensations we are afforded by the images which circulate in digital visual culture, and I draw conclusions about how processes of cognition and awareness are affected by engagement with these images. This is not however a 'cognitivist' project, though I am interested in cognition, since the conclusions that I draw are not primarily about the conventional psychological patterns of image recognition and reproduction within representation, like those of genre or narrative formulae – I take these as a given, as a form of phatic communication through images. I look instead to the boundaries of representation, where cognition and perception are challenged and shifted. In other words, this is not about how a stable reality is represented by conventions of coherent form, but rather about how our existential sense of the world is impacted by changing dynamic processes of image creation and exhibition.

Reality here is perceived phenomenologically and ontologically as being continually generated by technological practices of mediation which are not stable, but rather are in continual flux. Within these flux zones of indetermination I see something changing and emerging, a mutable sensibility that is not so easy to model as a series of definitive causes and effects. Within digital screen media and the decisive shift away from any direct indexical relation of world to image (as there is in photographic media), we are given a new ontological problematic which, according to my analysis, multiplies the apparent zones of ambiguity. In then asking how we are 'affected' by these problematic images, I aim towards a definition of affection as a passive un-thought influence on the mind and body through which our experiences of reality are expanded and virtualised.

As such, in this chapter, and to create a foundation from which to work, I survey existing theoretical perspectives on how engage with images. This necessarily takes in psychoanalytic, Marxist and cognitivist theories about media affects and effects, since they have been very prominent in the last century of media, specifically cinematic, theory. However, since my focus is on digital technologies, these theories stand as background and context to what I search for as emergent effects of a new technological

circumstance. This new circumstance emerges, perhaps not coincidentally, at a time when certain fundamental, structuring and overarching beliefs about how the world is ordered are being drawn into question. I thus relate the technological condition to certain other changes in epistemological and ontological systems of philosophical, scientific and aesthetic analysis and *belief* which fall under the banner of late-modernism or postmodernism. In this atmosphere of scepticism towards certain metaphysical fundamentals there is a notable return to the body, in many ways foreshadowed by Nietzsche's *Übermensch* or 'superman', the person who sees only this body and this world and dispels notions of 'other-worldliness' as explanatory or structuring belief.[1] Affect theory, drawing largely from cognitive psychology and neurology, has now heavily influenced the humanities and especially media theory, drawing emphasis away from the social and psychological models which dominated during the 20th century back to this same focus on the body. This is, however, distinct from any concept of biological determinism, as affect theory re-inscribes consciousness as a complex process dispersed throughout the body, brain and culture, thereby moderating purely mental, purely social and purely biological models of being in the world.

This affective turn has intertwined with digital 'new' media theory and with new neurological research to form a complex field of theoretical influence. It has also heralded a return to older metaphysical 'process' philosophies and philosophies of consciousness such as those of Alfred N. Whitehead, Henri Bergson, Baruch Spinoza and Charles S. Pierce, mostly via the influential work of Gilles Deleuze, and also to early aesthetic cinema theories of Epstein and Eisenstein amongst others, through the work of theorist such as Tom Gunning, Miriam Hansen and Rachel Moore. What is achieved is a synthesis of early 20th century philosophical perspectives, which surrounded the birth of cinema, with very current discourses of technology and post-humanity in a digital age. This emerging field of theoretical synergy directly addresses questions of how we are affected by the media images we consume in terms of the reception and creation of our world. It asks how the mind/body learns about and perceives reality through processes of the sense reception of data signals from the world, and attempts to balance this with shared social, cultural and philosophical

[1] Nietzsche, Friedrich. 1974. *Thus Spoke Zarathustra*. Penguin Books Limited: London

understandings creating a mind/body/culture/technology gestalt. It further sees affection emerging, through relational processes, to be interpersonal, cultural and inter-generational, and thus moves towards breaching certain divides between psychological and behavioural cognitivism and cultural and philosophical theory.[2]

Throughout this discussion of recent changes in the 21st century, and in reflections on 20th century perspectives, it is hard to avoid the thorny question of 'progress' which asks: are we in a decisively different condition of existence (better or worse) under a digitally mediatised regime rather than an analogue one? Is there a teleology of mediation which enhances or harms society and the individual lives of those who constitute it? These are ultimately questions of ethics and aesthetics, questions which interrogate what social role media (including art practice) does and should take for the betterment of humanity. However, in the light of the postmodern fading of grand narratives of existence, we also must interrogate what shape any better society might potentially have – the emergence of new and strong fundamental paradigms of belief, or simply the abandonment of any strong leading ideology or metaphysical belief for a more loose and plural form of society? Aesthetics here becomes a question of the cultural field of negotiation of representation and perception, raising issues of what role art and politics have in together constituting a better future. This question, within the context of the late-capitalist era in which digital media have risen to prominence, is often tackled by describing the mutual antagonism of the socially progressive and the commercially inclined, and as such in this chapter I look at how traditional aesthetic theory describes this dialectic, to see if we can now move beyond it.[3]

What underlies my theoretical background as explored in this chapter is a wish to raise contemporary digital screen media from being judged by its socio-cultural positioning as a popular and commercial form of expression, and to examine its affects and aesthetics as it crosses over into forms of art practice (or rather as the boundaries

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[2] This fundamental philosophical division is examined in detail by John Mullarkey in *Refractions of Reality: Philosophy and the Moving Image*. Palgrave MacMillan: Basingstoke. 2009.

[3] This serves also to foreshadow my later discussion in chapter 7 of the possibility of a progressive ethics of digital media.

between the two fields break down). I ask how this constitutes a new regime of sensibility as affecting the perception and cognition of vital forces, ultimately generating a new 'weak' metaphysics which is indirectly related to new scientific understandings of physical and metaphysical reality. The common root of this synergetic relation between art and science, as I aim to establish, is our new technical condition of digitalisation. In the next section I thus wish to outline broad philosophical perspectives on technology and technics as the foundation of understanding of our new ontological regime, before moving on to more specific theories of media affects and effects and to new digital perspectives.

TECHNOLOGY AND TECHNICS: HEIDEGGER

Heidegger's primary concern in *The Question Concerning Technology* is to show that technology is not simply what we normally think of it to be in a modern industrial age – as an instrument, or means to an end. Rather, he positions it as one mode of *revealing*, *unconcealing*, or *bringing-forth* of the world. In this movement he asks us to question what it is about this modern technological mode that diverges from the original mode of revealing – *poiesis*. Art and crafts are here both considered originary modes of *techné*, by which we actively make our world either through 'the activities and skills of the craftsman, but also [through] the arts of the mind and the fine arts'.[4] However, where art *opens-up* the world and reveals what could be considered immanent aspects of the world, modern machine technology (as it has evolved and diverged from handicraft skills) has mutated into a 'setting-upon' and 'challenging-forth' of this same immanence. This is a regulating, ordering and rationalising process which ceases to reflect upon the immanence of nature or any process of discovery, and sees the world already ordered as a 'standing-reserve' or resource. While this perspective holds a certain appeal to a contemporary environmentalist notion of ecological balance, this was not the nuance that Heidegger focussed on; his concern was for what this process does to us as humans. He states:

[4] Heidegger notes that we must observe these two original meanings of the word 'Techné'. *The Question Concerning Technology* 1977:13.

> 'Thus when man, investigating, observing, ensnares nature as an area of his own conceiving, he has already been claimed by a way of revealing that challenges him to approach nature as an object of research, until even the object disappears into the objectlessness of standing-reserve.'[5]

Heidegger describes here how by engaging in this mode of thought – of the world as rationalised and understood – we fail to understand that we too become objectified, we too have already been claimed by the same way of approaching the world. The essence of modern technology sets us in a frame of mind to see the *real* as standing-reserve, and that includes ourselves and our fellow humans. This effect of technology on us as humans he calls *En-framing*, by which we are drawn into a calculating mode of making coherent and making certain. For Heidegger at the time of writing, this extends to the physical sciences and their representation of the world as systems of information. Within this habit of representing the world lies the ultimate danger or 'precipitous fall' that we too become standing-reserve, and that we irredeemably detached from the 'truth' or the real.[6]

The only possible saving power within Heidegger's view is that we come to see this process of en-framing at work. This requires the salvaging of the other mode of revealing which does not make the world a rational system, and through which we can reveal and confront this true essence of technology: the arts. We can see here that the arts assume a force of negation within this model. The arts, not just fine arts but also the arts of the mind i.e. philosophy, are trusted with the redemption of humanity. However, Heidegger also offers another undeveloped, but tantalising, possibility which seems

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[5] ibid: 19

[6] This also forms the basis of Bergson's attack on 'intellectualism' as the scientific mode of rationalising the world as logical and predictable. This he insists is a 'misuse of mind'. Of interest is the 1922 text: *The Misuse of Mind: A Study of Bergson's Attack on Intellectualism* by Karin Stephen. 2000 (1922). London: Routledge, in which it is stated: 'The business of philosophy is not to explain reality but to know it. For this a different kind of mental effort is required. Analysis and classification, instead of increasing our direct knowledge, tend rather to diminish it… The better we explain, the less, in the end, we know.' This seems well in line with Heidegger's incitement to examine the 'essence' of technology.

more apt for our contemporary society, and which also seems less dialectical in its opposition of rationalism to art. He states:

> 'Whether art can be granted this highest possibility of its essence in the midst of extreme danger, no one can tell. Yet we can be astounded. Before what? Before this other possibility: that the frenziedness of technology may entrench itself everywhere to such an extent that someday, throughout everything technological, the essence of technology may come to presence in the coming to pass of truth.' [7]

Here he seems to suggest that that art as dialectical force may not be the only hope for humanity, but rather that technology could become so ubiquitous that it would spontaneously contribute to the revealing of its own essence. This is a possibility which I hold in my mind as I proceed in this project's analysis of contemporary digital images; that the level of technological mediation has indeed become so 'frenzied' and ubiquitous that it truly reflects and questions its own ontological essence.

Heidegger gives us a way of thinking about technologies as not just physical entities, but rather as modes of relating to the world, drawing us into a particular habit of perception and representation. Industrial technologies draw us in subtle ways into a state of being which spreads beyond the direct relation to the technologies themselves and into our general mode of relating to the world, others and to ourselves. It can obscure the world from us, and even silences or obscures other modes of understanding and awareness. Only by being observant to this process can we come to think differently.

In my following discussion of Bernard Stiegler, who positively extends and develops certain aspect of Heidegger's perspective, we see that he in many ways advances Heidegger's worst-case scenario as he comes to believe that the current technological regime provides almost crippling odds against the redemption of humanity. He sees that within the digital era we have practically no valid alternatives to corporate technological mind-control, and that we face severe obstacles to modes of oppositional revealing. It is worth bearing in mind during this analysis the *other* possibility that Heidegger offers us, as we move to consider that the 'saving power' may lie within the technology itself. I

[7] ibid: 35

move to ask, through Stiegler, if the condition of technology is now so substantially different from that of the industrial machines of Heidegger's time within a digital age that the technologies now represent themselves, interrogating and reflecting on their own essence.

GRAMMATISATION AND MEDIA TECHNOLOGIES: FROM STIEGLER TO DELEUZE

Bernard Stiegler offers us a theory which develops Heidegger's conception of technology, but allows us to talk more explicitly about the *modes of representation and expression* which are given to us within each different technical circumstance. Heidegger does, however, briefly discuss 'representational thinking' as of the mode of 'framing' into which we are drawn as an '*en*-framing' by modern industrial technology in stating:

> 'Where everything that presences exhibits itself in the light of a cause-effect coherence, even God, for representational thinking, can lose all that is exalted and holy, the mysteriousness of his distance.'[8]

For Heidegger, representational thinking is the sensibility cultivated by modern technology and a mode of metaphysical coherence which distances us from any mysterious (or holy) ambiguity. Stiegler, fusing this idea with Derrida's conception of grammatology, develops a theory which more directly tackles communication as it has changed and evolved alongside technological evolution. This theory, developed in his five volume *Technics and Time* series, allows us to position cinema and digital media alongside speech and writing as technical conditions which en-frame our capacity to think and feel.[9] In his Derridean (also perhaps Foucauldian) aspects he diverges from somewhat from Heidegger in stating that there is no original or transcendent 'real' state away from which technology draws us. Rather, in a phenomenological turn, all ways of thinking, feeling and representing (communicating) are originally technical. Where

[8] ibid: 33

[9] Stiegler, Bernard. *Technics and Time 1-5* (Meridian: Crossing Aesthetics) Stanford University Press: Palo Alto.

Heidegger posits that the ultimate danger is that everything we think and feel would be completely en-framed by our technological circumstance, Stiegler takes this as a fundamental given. As such Stiegler is instantly more ambivalent about the nature of thought within any given technological state.[10]

Digital technologies offer up what Stiegler refers to as the most recent process of 'grammatisation' – the term succinctly described by his translator and documentor Daniel Ross as the 'process by which fluxes are reduced to discrete, formal, symbolic and reproducible elements'.[11] As speech is a grammatisation of movements of the jaw, tongue and larynx, writing is a grammatisation of speech. Each grammatisation then is a passive process of systematisation of a flux of vital and dynamic affections of movement, sound and light into a new matrix of meaningful gestures. These gestures, structured like a language and eventually becoming language, can be thought of as generative of reality as such, in that they mould the way we actively and passively think, or are able to express thought about our existence. For Stiegler, a grammatisation is the 'technical' context for the production and transformation of human nature. There is no 'human nature' before technics, as we are technical beings, conceived, perceived, affected and affecting through technological, grammatical systems. Grammatisation thus synthesises reality as we are able to grasp it, and individual consciousness is formed of and through it, though each individual brain is 'but one apparatus within a circuit of apparatuses through which the psychic connects with the social'.[12] As such they are, to Stiegler, technologies of expression which together completely and utterly

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[10] On this distinction between Heidegger and Stiegler, philosopher Stephen Barker succinctly states: 'Stiegler asserts that the human is the product, not the "cause," of technical evolution, an evolution whose grounding concept is "technics."… For Stiegler, the world is not "to hand," as it is in Heidegger; rather, "the hand learns from the tool". This idea of technics is diametrically opposed to Plato's anti-technical worldview and to Heidegger's phenomenological one, acting as both a deconstruction and a critique of both.' In: 'Transformation as an Ontological Imperative: The [Human] Future According to Bernard Stiegler' in *Transformations*: *Bernard Stiegler and the Question of Technics*. Issue 17 (2009).

[11] Daniel Ross. *Politics and Aesthetics, or, Transformations of Aristotle in Bernard Stiegler.* Posthuman Destinies www.sciy.org (2010). Daniel Ross is co-director/producer of the film *The Ister* which reflects on Heidegger's theory of technics and which features Bernard Stiegler.

[12] This quote from Stiegler's *Taking Care*, quoted in Stephen Barker 2009.

encompass what is perceived and understood. This proves to be a productive way to approach how digital technologies, which in their distinctiveness from prior media forms, might generate an original set of dynamic relations which structure understanding and awareness of what is considered to be 'everyday' reality.

Aspects of our individual consciousness are shared culturally as a form of collective memory which Stiegler calls 'tertiary retention' (over and above the primary and secondary retentions of, respectively, core-consciousness memory – which we employ when we read a book and manage to remember the beginning of the sentence by the end; and individual memory – the stored personal experience that we conventionally think of as memory). This collective memory and knowledge, shared technically through 'hypomnemata' (forms of mediation), ultimately produces us as subjects.[13] 'Experience' for Stiegler is already, as it is occurring, a matter of technics, since even the most personal memories we hold are structured grammatically, shaped by their associative links with the social. This makes intuitive sense if we think about how much of our innermost experience; personal and private memories, dreams and fantasies and inhabited notions of body, time and space are, to a great extent (and despite what we may hope for) arranged generically, shaped by shared cultural narratives and by the media we consume. As such, sane and socially engaged citizens share archetypal dreams and fantasies and share common perceptions which will always nonetheless feel deeply personal. This is not only about language and how we put words to our own experience, but rather about all subjective and automatic mental processes of image creation and sharing, conditioned by the social, technological means by which memory is recorded exterior to the body. This recording process is an *exterior* process of grammatisation by which personal, social and cultural memory is technically inscribed in the forms available. This is not just about 'the media', but extends to all available forms of communication, mediation and relationality which ultimately mould what it is to be and feel human, from oral and written transmission of experience through language, to image constructions in photography, TV and cinema.

[13] This is the primary subject of Stiegler's third[t] volume of *Technics and Time* which focusses on the mnemo-technical conditions by which knowledge and ways of life are passed down from generation to generation. Steigler, Bernard. 2010. *Technics and Time, 3: Cinematic Time and the Question of Malaise.* Trans. Stephen Barker. Stanford University Press: Palo Alto.

The 'cinematic' technologies (in their most broad sense, and including television) have proven to be the dominant form of grammatisation of the 20th Century, and indeed they still dominate (even if just as a metaphor for digital and new media technological processes).[14] The conventional cinematic inscription of movement, gesture and affect which amounts to much of Western culture and cultural memory has synthesised an experience of humanity and what it feels like to be a subject constituted in time and space. Distinct from the expressive form of literature before it, cinema is a particularly adaptive expression of human attention and awareness in that it mimics, or seems well synchronised with, our own processes of consciousness as the capacity to edit, organise and cognise visual and auditory sensory data.[15] The naturalised mimesis of cognitive processes and the increasing ubiquity of the conventional movement-image in popular media means that this mode of expression penetrates every level of our psyche, including our collective cultural consciousness, so that we now think, dream and interact 'cinematically'. Stiegler states:

> '"Consciousness" would then be this post-production center, this control room assembling the montage, the staging, the realization, and the direction, of the flow in primary, secondary, and tertiary retentions, of which the unconscious, full of protentional possibilities (including the speculative), would be the producer.'[16]

The cinematic as industry and institution has also integrated itself into the pace and ordering of our lives, offering itself as work and leisure, and shaping us as subjects of consumer capitalist society. For Daniel Ross, as cultural collective memory and method of 'psychic individuation', which may extend to the 'hyper-synchronisation of consciousness', cinema has offered us a 'specific form of thought, a specific form of aesthetic, and thus a specific form of politics'.[17]

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[14] The view that cinematic technique persist still in digital media despite necessity is expressed by D. N. Rodowick in *The Virtual Life of Film*. (2007). Harvard University Press. Cambridge: Massachusetts.

[15] Stiegler, *Technics and Time 3*. 2010: 28.

[16] ibid.

[17] Daniel Ross. 'The Cinematic Condition of the Politico-Philosophical Future'. *SCAN: Journal of Media Arts Culture*. Sydney: Macquarie University.

For Stiegler, the industrialisation of consciousness, which reaches its zenith in a digital grammatisation, amounts to a didacticism regarding modes of cognition for profit gain. The digital 'psychotechnologies' of a late-capitalist culture are dedicated to the almost perfect conditioning of perception and desire. We are now moulded as consumers according to the needs of the programming industries who control the 'mnemotechnical' systems of media. But even despite this bleak analysis, Steigler now *chooses* to believe that a seed of renewal exists within this contemporary malaise. In his more recent work he aspires to a transformation of contemporary capitalism and a 'psychopolitical' awakening, which we must at all cost assume is possible.[18]

For Deleuze, in his analysis of cinema, (and as with Heidegger's 'other' possibility explained above) the seed of transgression and renewal is in the technical medium itself. The time-image arrived to disrupt the didacticism of the movement-image regarding cognitive habits, creating a tear in the naturalistic suture of conventional and smooth Euclidean constructions of space and narrative, and thus of transcendent and linear time. Using the technology of the cinematic, a fracture is created in the perfect continuity of reality presented by the narrative film. Instantly, habitual perception is questioned and sensations of time and space become unpredictable or transformed. The schism created becomes political in Deleuzian thought, as it forces a negotiated, aesthetic reaction, becoming a 'sign of art' in fomenting new ways of thinking.

While the time-image establishes an evolution in the grammatisation of the cinematic technologies, it exists for Deleuze as the exception to the rule of convention, or as a flaw in the total dominance of the classical, normative movement-image. Yet with the arrival of digital technology it feels that this crack in the smooth complexion of linear cinematic reality has now become a gaping chasm. While it has always been problematic to temporalise the emergence of the time-image, since the 1980s we have seen a clear and distinct revolution in audio-visual technology which has transformed

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http://scan.net.au/scan/journal/display.php?journal_id=99 accessed 12.04.11.

[18] In *Réenchanter Le Monde* (2006: 165). This recent work is referred to by Stephen Barker 2009. An English translation is to be released in 2013 by Continuum as: *The Re-Enchantment of the World: The Value of the Human Spirit vs. Industrial Populism.*

the cinematic aesthetic. The digital now seems to have made the time-image its own, and the fracture and breakdown of the linearity of the movement-image has become its generic trademark.

To a certain extent the digital aesthetic is exactly the folded and de-spatialised images described by Deleuze as aspects of the 'electronic image',[19] or of the database aesthetic described by Manovich,[20] but out of these aesthetic dynamics must emerge a new transformation of image culture which foments new critical engagement. New forms of engagement are achieved in digital media, I suggest, not simply through new lines of communication and new virtual communities,[21] but on a higher level through the re-contextualisation and new digital production of images, and through the greater technical ability to represent fragmented and de-realised worlds like that of dreams and hallucinations as an affective counterpoint to our habitual perception and cognition activity, generating new affective fluxes of dynamic forms. While no less 'fictional' than the cinematic constructions, I would say that these new affective relations generate original collective embodied understandings of organic and inorganic vitalities.[22] In processes of what Stiegler calls 'the grammatisation of the visible', the digitisation of visual media results in the images becoming broken down into discrete elements within a database. Instead of being the passive consumers of linear cinematic sequences, we increasingly search through, re-organise and compare, in activity which not only increases our agency and abilities of analysis, but which also exposes the inherent falsity in the smooth continuity of the cinematic movement-image.[23] As such, in the transition from the cinematic to the digital we can talk of an evolving grammatisation

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[19] Deleuze in his concluding statements to *Cinema 2: The Time-Image* refers to the electronic-image. This has also be translated as the digital-image.

[20] Manovich, Lev. *The Language of New Media.* (2002: 47) MIT press.

[21] These perhaps more familiar analyses of an ethics of new forms of political engagement through digital communications are assessed in the work such as that of Howard Rheingold's *The Virtual Community: Homesteading on the Electronic Frontier* (HarperPerennial, 1993), and also Lipnack & Stamps (1997) and Mowshowitz (1997).

[22] In chapter five I further discuss these dynamics as 'spacio-temporal-energic' forces, taking this term from Erin Manning's 2009 book *Relationscapes*: *Movement, Art and Philosophy*, Cambridge MA: MIT Press.

[23] Daniel Ross in 'The Cinematic Condition of the Politico-Philosophical Future'.

offering a new form of thought which strikes us as distinct from the cinematic. The time-image, rather than being the second phase of the cinematic as Deleuze positions it, comes to seem more like the original break with the cinematic organisation of time and space, and the first trepidatious step toward a true image of virtual flux that achieves its full realisation with the digital.

Within this context of an understanding of technological grammatisation as the fundamental condition for thought, perception and image production, and before moving properly onto a discussion of Deleuze's philosophy as it relates to his cinema theory, it is worth surveying the field of film and media theory as it stood before the Deleuzian 'affective turn'.[24]

MID TO LATE 20TH CENTURY MEDIA THEORY

British film theory after the Second World War emerged in within an environment of the class critique, social struggles and movements in which the discipline of British Cultural Studies was founded. This post-war era entailed intense Americanisation or 'massification' of British culture within the conditions of a new commercial pop culture, the spread of media, and a new consumer revolution of the 1950s and 60s.[25] The schools of media critique that emerged were heavily influenced by pre-war theory from the Frankfurt School or Adorno and Horkheimer, which gave a strongly ideological reading of mass culture as instrumental in maintaining a hegemonic order by which the masses consented to domination. In the Birmingham School of Contemporary Cultural Studies, Richard Hoggart and Stuart Hall developed tools of critical analysis for cultural texts through representations of class, race, gender and ethnicity. These analyses were critically influenced by neo-Marxist Althusserian and Gramscian theory and maintained that the media has a critical role in integrating the working classes into capitalist society.[26]

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[24] The term *the affective turn* is as coined in the book of the same name by Patricia Clough and Jean Halley (Eds) Duke University Press, 2007.

[25] This moment was first described by Richard Hoggart in *The Uses of Literacy: Aspects of Working Class Life.* London: Penguin. (1958)

[26] Douglas Kellner. *The Frankfurt School and British Cultural Studies: The Missed Articulation*.

Screen journal emerged in the 1970s within this political milieu to become globally prominent with a focus primarily on film and representation. It drew influences from Adorno's valorisation of avant-gardism as dialectically opposed to the popular mass-media, and also from Lacanian theories of the unconscious. In her germinal essay *Visual Pleasure and Narrative Cinema* theorist and avant-garde film-maker Laura Mulvey gave a psychoanalytic political reading of popular screen media as conforming to and reproducing unconscious patriarchal codes which objectified and stripped women of power. Along with theorist Christian Metz and the French Journal *Cahiers du Cinema*, *Screen* journal dominated film theory with semiotic analysis of the 'cinematic apparatus' which was closely linked to unconscious strategies of ideological dominance.[27]

What these theorists correctly diagnosed was that cinema worked at a subliminal level, and within an era of class struggle, civil rights campaigns and the struggle for gender equality, as well as the increasing influence of America on British culture, this subliminal effect was deemed to be tantamount to an insidious brainwashing, or 'ideological interpolation'. This was a very timely critique with enormous influence, if only in stimulating academic debate for the first time about how social inequality was reproduced through media without direct 'disciplinary' control and domination.

One of *Screen* theory's greatest contributions was to show how the spectator invested in images at a subconscious level. This was attributed to a psychological process by which the screen image was seen as an idealised image of ourselves. The Lacanian 'mirror-stage' was crucial within the development of this theory as the moment when a child recognises herself in the mirror and instantly develops an *ego* as an imaginary image of herself as a coherent entity. The screen became seen as the conceptual mirror within the theory, and our ego imaginary was shaped through processes of subjectivisation through identification with the characters and narratives represented on screen. Through these processes of subconscious identification, ideology was reproduced at a subjective,

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www.iresist.org/pdf-files/frankfurtschoolbritishculturalstudies.pdf. Accessed 10.08.12

[27] *The Blackwell Companion to Film Theory.* 1999. Toby Miller, Robert Stam (eds) Oxford: Wiley-Blackwell.

unconscious level. For this process to work the images had to have a slick consistency and coherency to them. 'Suture' was the name within this theory by which anything that intruded upon this idealised representation was contained and dispensed with. The illusion of reality necessary for the process to work had to be maintained by the making invisible of the processes of representation at work (including camera work, montage etc.), so the spectator could be 'sutured' into the screen reality. For later Lacanian theorists such as Slavoj Žižek, the amorphous 'Real' that always encroached upon the imaginary cinematic reality was used as the dynamic source of tension and horror within the image. However, the conventional cathartic narrative resolution provided an assurance of the restoration of the smooth imaginary order, and thus the restoration of stable subjectivity within a stable symbolic order.[28]

Criticism of this theory abounded, since it denied many of the aspects of visual pleasure, especially to women, and further dissected and stripped complex texts down to decontextualised mechanisms to qualify and justify social, cultural and historical critique. It was felt by the end of the 1980s that this strategy of film analysis was in many ways exhausted, and people cast around for new forms of analysis. One source of criticism came from a budding *Cognitivist* school, whose main exponents David Bordwell and Noel Carroll dubbed *Screen* theory and the discourse surrounding it as *SLAB* theory (referring to Saussure, Lacan, Althusser, Barthes), and indicted it for making films and their effects merely objects within a political superstructure. Bordwell states:

> 'Its proponents [of the dominant approaches of neo-Marxism, psychoanalysis, cultural studies, and the study of modernity and postmodernity] weren't asking about how films are understood. These writers focused on questions of how social, cultural, and psychodynamic processes were represented in films. Typically those questions were answered by interpreting individual films, reading them for traces of the larger processes made salient by the given theory. My concern was explaining, not explicating; I wanted functional and causal-historical

[28] Žižek, Slavoj. 2001. The Fright of Real Tears**:** Krzystof Kieslowski between Theory and Post-theory. London: British Film Institute.

> accounts of why films in various traditions displayed certain regularities in their narrational strategies.'[29]

Instead, the Cognitivist school proposed a textual analysis of representation through cognitive and perceptual effects, which could be measured in clinical experimentation, to systematically study the cause and effect of film's formal composition as a series of cues and stimuli which revealed the cognitive mechanics of film processes. This approach, however, does not offer a theory of film receptivity, but rather a focus on only the tangible effects of screen media. It results, by Bordwell's own confession, in Cognitivism being a 'piecemeal' theory, indeed, not really a 'theory' at all in that it offers no thesis.[30] As such, it seems to offer up little in the way of useful insight or explanation.

Cognitivism seriously errs by simply denying *any* cultural or social processes at work in film representation, and positing that these cognitive effects are psychologically true for all subjects regardless of factors such as gender or ethnicity. Film spectatorship ceases to be a negotiative or interpretative process, and film becomes simply a data stream of cognitive triggers. Avant-garde films, rather than being seen as actively challenging conventional systems of perception/cognition through disruptive and transgressive strategies, simply become another generic subset of formally arranged codes. Cognitivism thus reveals itself to be purely reactive against the previous tendency in film studies to exude a sweeping confidence that they were on the verge of a theory of everything. However, Bordwell himself seems to accept this, stating at the end of his essay 'A Case for Cognitivism' that: 'All this could turn out to be wrongheaded and useless', and that he can only hope that it might have been 'a little bit right and

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[29] Bordwell, David. May 2011 *Common Sense + Film Theory = Common-Sense Film Theory?* www.davidbordwell.net/essays/commonsense.php. accessed 11.08.12. (my insertion – from the original text)

[30] Bordwell stated that Cognitivism should be considered nothing more than a piecemeal approach 'with a commitment to clarity of discourse, vigorous debate, and a loose family of assumptions about workable means to study film and film spectatorship'… and with 'an emphasis on middle-level research that chooses small, manageable questions for investigation'. Plantinga, Carl. 2002. 'Cognitive Film Theory: An Insider's Appraisal' *Cinemas: Journal of Film Studies*, vol. 12, No 2, 2002, p.15-37. At www.erudit.org. Accessed 12.03.10.

somewhat useful here and there'.[31] It seems then that even he accepts that the theory is lacking in broader implications, humbly waiting for a more sophisticated psychological theory of cognitive film engagement to emerge.[32] Whether Affect theory proves to be this superseding theory does, somewhat, remain to be seen.

CONTEMPORARY AFFECT THEORY

In the period following the 1970s and 80s moment of psychoanalytical, semiotic and Marxist critique of mass media, and a little later than the development of Cognitivism's indictment of this (Bordwell's *Narration in the Feature Film* was published in 1985), there emerged, in the early 1990s, a new strand of theory which reflected another distinctive turn away from cultural constructivism and the constitution of the subject through discourse. This theory reflected a turn to the body and to the concept of sensuous, haptic engagement with media by focussing on corporeal experience. It discussed the ambiguous and complex *feelings* and pleasures stirred by engagement with images that cannot be simply explained through semiotics. The early works of Steven Shaviro, Brian Massumi, Vivian Sobchack and Laura Marks provided a decisive and bold shift in media theory in their change of focus to the sensual body as the locus of experience within media spectatorship, often with an explicit challenging of earlier psychoanalytical and semiotic theories as deterministic and ideological.[33]

These theorists offered the germinal seeds of an affective media theory that understands how images are received at a level by which we perceive them to be effectively real, triggering primitive forms of reactivity like bodily tensing, sweating, adrenalin release or laughter. These affective systems are seen as running parallel and simultaneous to systems of understanding and analysis – the higher-level cognitive functions through which we clearly know that we are engaging with an image-fiction. However, the

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[31] Bordwell, David. 1989; 33. "A Case for Cognitivism," *Iris,* no. 9: 11- 40.

[32] Platinga 2002.

[33] Shaviro, Steven. 1993. *The Cinematic Body*. Minneapolis: University of Minnesota Press.
Marks, Laura U. (1999) *The Skin of the Film: Intercultural Cinema, Embodiment, and the Senses*. Durham: Duke University Press
Massumi, Brian. "The Autonomy of Affect," *Cultural Critique* no. 31. (1995: 83-110)

underlying systems were often understood as being more powerful in their primitive force that the higher mental functions of intellect, primary and autonomous as regards our conscious mind. Affect, then, as a conceptual device, deals with a form of knowledge or awareness that is subconscious or non-conscious, and which generates a kind of automatic corporeal reactivity – it is knowledge of the world as a 'gut' sense. It also speaks to a type of corporeal cognition that is *synaesthetic* in that it responds to unprocessed and undivided sense data that has not yet been separated into distinct sensory modalities. In his book of the same name, Psychotherapist Daniel Stern views these synaesthetic expressions as 'forms of vitality', experiences which are full of intense and excessive affect without yet *meaning* anything. In his view these vitality forms are a fundamental dynamic Gestalt which are processed through affect systems as a form of corporeal awareness without conscious analysis. [34]

Affect theory re-inscribes consciousness as a complex process dispersed throughout the body, brain and even culture (as a form of collective shared memory), and in this aspect it moderates purely mental, purely social and purely biological models of being in the world.[35] It is a *psycho-biological* concept, but without any aspect of fixed biological determinism. It instead portrays the body as a centre of indetermination, and as the locus of potential becomings. Affect thereby takes on an implicit ethical role – through the fracturing of rigid and habitual structures of thought through intense affects, conventional knowledge structures are disrupted to reveal something new. It is often associated with pure creativity: the novel, the new and the emergent, and thus has a broad appeal as a profoundly transdisciplinary concept, appealing to new technologies, social-scientific discourses and neuro-cognitive understandings, phenomenological and psychoanalytical discourses as well and social and cultural critiques like that of individualism and neo-liberalism. Affect as notion has now been inserted into almost all the humanities disciplines as a complexifying and yet liberating theoretical force which

[34] Stern, Daniel N. 2010: 4-5 *Forms of Vitality: Exploring Dynamic Experience in Psychology, the Arts, Psychotherapy, and Development*. Oxford: Oxford University Press.

[35] As Daniel Stern refers to a dynamic, affective and holistic experience as a Gestalt, body theorist Lisa Blackman in her new book *Immaterial Bodies: Affect, Embodiment, Mediation* refers instead to 'brain-body-world entanglements'. 2012: 1. London: Sage Publications.

yields new research methodologies and original insights into subjectivity, culture and society.

Beyond (but not unconnected to) the affective modalities of social reproduction and subjectivity, it is principally within the field of film and media studies that I use the notion of affection in this project. It is mainly through the work of Deleuze in his *Cinema* books that a philosophically informed notion of affection arrived to the examination of film images, stemming from the work of Spinoza, Bergson and Peirce.[36] His film theory developed as a natural extension of a larger philosophical project to account for the history of Western thought and consciousness – how it is expressed and reproduced in affective modes. He also introduced the idea of the communal expression of metaphysics as being a *technical* process, interrogating the unique relationship cinematic technology has with processes of consciousness. What emerged from these works was an understanding of the automatic, passive reproduction of modes of 'mechanical' thinking through media forms that have deeply inflected contemporary film theory as much as Affect theory in general.

However, in the view of new media theorist Mark Hansen, Deleuze made a fundamental error while dealing with the concept of affection in his *Cinema* books. Hansen states:

> 'Deleuze finds himself compelled to bracket Bergson's embodied conception of affection – affection as a constitutive *impurity* of *this* bodies perception – and to offer in its place a formal understanding of affection as a specific permutation of the movement-image. Affection as a phenomenological modality of bodily life gives way to affection as a concrete type of image – the affection-image.[37]

Hansen critiques the way he perceives that Deleuze tries to *fix* affection and make it concrete, what he sees as a *formal* understanding. He feels that this does in injustice to the philosophical concept of affection as given to us by Bergson – that of affection as disruptive corporeal process within habitual recognition. Hansen's issue with Deleuze actually highlights a problem that runs through much Affect theory, in as far as he sees

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[36] *The Time-Image* 1989 and *The Movement-Image* 1986.

[37] Mark Hansen 2006:6 *New Philosophy for New Media*. MIT Press. (Hansen's emphasis)

that affect is here being 'bracketed' as a tangible object of study. This mission seems destined to fail as affection cannot be seen not as a discrete thing in its own right, rather it is a constitutive component of a dynamic process of cognition.

However, despite Hansen's critique of Deleuze's positioning of affection as a facet of a limiting visual regime, it seems to me that Deleuzian film theory – perhaps Deleuzian theory in general - is really *all* about affection. His film theory gives us a taxonomy of cinematic constructions and devices that each synthesise an non-conscious affection of certain metaphysical qualities – of time and space principally, but also of more ambiguous qualities of the repetition of difference, virtuality and immanence. He shows us how through film we have the reproduction of a specific forms of thought through a visual expression of formal and material relations– either linear, causal and coherent (in the movement-image), or discontinuous, ambiguous and complexified (in the time-image) – though *both* work primarily in an affective mode of passive synthesis, by which the mind does not *actively* think about these things, it absorbs them.

The argument highlighted by Hansen's critique of Deleuze runs deeper than these two theorists. As John Mullarkey succinctly describes in his book *Refractions of Reality* there are two broadly conflicting schools of philosophical approach to film.[38] An analytical philosophical tradition wishes to be empirical, aiming for clarity of definition and for scientific rigour (giving functional/causal account of how film works on our cognition– and this has become the realm of the Cognitivist school of film theory). This school of thought tries to fix a formal definition of affection and its role in engagement with images – in much the same the way as Mark Hansen believes Deleuze does. This is opposed, in Mullarkey's analysis, to a Continental philosophical tradition (into which Deleuze's Bergsonian film theory *really* falls), in which affect is positioned not necessarily as a thing in its own right, but rather as part of a process of perception and comprehension. The dynamic between these two philosophical positions is, as I see it at the root of most criticism of Affect theory.

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[38] Mullarkey, John. 2009: 8-10. *Refractions of Reality*: *Philosophy and the Moving Image*. Basingstoke: Palgrave MacMillan.

Affect theory does seem to suggest itself as a potential *middle road* between the analytical, functional and causal accounts of how film works on us, and the discourses of film as positioned within cultural, social and psychological forces. It describes details of empirical analyses of perception/cognition, and also resonates with the subconscious and ambiguous transmission of knowledge, power, anxiety and trauma between bodies and throughout history. However, this middle road often doesn't work – and this is because of certain insolubilities between disciplinary knowledges. The first example of this insolubility is expressed in critiques of Affect theory's explicit challenging and confronting of the earlier media theories as being deterministic and ideological. By their own confession, the early assertions of a theory of affect were 'clumsy' in being aggressively polemical, directly attacking the psychoanalytical and Marxist domination of the field. For instance, in his book *The Cinematic Body*, Steven Shaviro portrayed Lacanian film theory as having all the attributes of a cult. This, he later admits in his article '*The Cinematic Body Redux*' may have been a little bit excessive, even though it expressed the strength of animosity towards the dogmatic nature of the field at the time. .[39]

In her article *Invoking Affect,* feminist theorist Clare Hemmings attacks what she perceives to be Affect theory's excesses in celebrating itself as the 'critical new for the noughts'.[40] She describes how theorists of Affect have become invested in homogenising and objectifying the humanities disciplines as it existed before them as 'unreflexive, childish, stubborn, arrogant', and entailing 'a juvenile attachment to the theoretical status quo' while Affect theory offers itself up as both 'panancea' and as a 'way out' from the 'straightjacket' of critical theory. This strategy, she feels, does an injustice to the range and complexity of post-structural, feminist and Marxist work on emotion and on the body. In many circumstance, Affect theory denies that affect is entangled in any way with social and cultural processes, as if in its 'autonomy' it was infinitely liberating and creative. Hemmings, in my opinion fairly, argues for a re-siting of affect back into social and cultural theory, positioning it not as *revelation* or

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[39] Shaviro, Steven. 2008. http://www.shaviro.com/Othertexts/Cinematic.pdf Accessed 30.4.2012

[40] Hemmings, Clare. 2005: 556 'Invoking Affect: Cultural theory and the ontological turn' in *Cultural Studies*. Vol. 19 pp. 548-567. Taylor and Francis.

successor, but rather as a useful nuance within theoretical engagement with social and political reality.

Hemmings' article, as with the other prominent recent critiques of Affect theory, look to its modern incarnation (as distinct from its philosophical heritage) as coming from two foundational articles – key texts which seem acknowledged as Affect theory's 'watershed moment'. These are Brian Massumi's '*Autonomy of Affect'* from 1996, and queer theorist Eve Sedgwick and Adam Frank's '*Shame in the Cybernetic Fold'* from 1995.[41] Cultural historian Ruth Leys in particular sees that these two articles gave us two primary vectors in the so-called 'affective turn'.[42] The first is *psychobiological* – developing through Eve Sedgewick and stemming from work of psychologist Silvan Tomkins (who categorised 9 different 'affect programs' in a taxonomy of affects); the other is a *philosophical* approach through Massumi and stemming largely from Deleuze. The former vector of inquiry leads to a pragmatic notion of affect as distinct physiological states and behaviours (if not totally observable and measurable, at least real and tangible), the latter is seen as being a more notional and speculative theory of affect as a realm of indetermination, nested in the body but essentially indiscernible. However, Leys collapses the distinction between these two positions by stating that both strands of Affect theory, Deleuzian and psychobiological, return to one same essential condition – that emotion and affect are discrete and separate systems; with affect being autonomous, pre-emotional and non-intentional; and emotion being of a higher-level cognitive analysis. She thereby tackles the empirical evidence used by theorists (mainly though looking at the work of Massumi) to show how they strive to positively prove the separation of emotion and affect by offering very partial and selective readings of the research to which they refer – even suggesting that they give a

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[41] Sedgwick, Eve and Adam Frank (1995) 'Shame in the Cybernetic Fold: Reading Silvan Tomkins' in their *Shame and Its Sisters: A Silvan Tomkins Reader*, Duke University Press. Durham. 1-28. This is developed through Sedgewick's later (2003) *Touching Feeling: Affect, Pedagogy, Performativity.* Duke University Press. Durham. Massumi's work on affect was instigated with 'The Autonomy of Affect' (above) and his later 2002 *Parables for the Virtual: Movement, Affect, Sensation*. Duke University Press. Durham

[42] Leys, Ruth. 'The Turn to Affect: A Critique'. *Critical Inquiry*, Vol. 37, No. 3 (Spring 2011), pp. 434-472 The University of Chicago Press.

'willful or otherwise misreading' of the data.[43] What Leys principally seems to takes issue with is Brian Massumi's methodology in *The Autonomy of Affect,* by which he uses empirical studies to prove the existence of a 'temporal sinkhole' between affect and emotion, which for his analysis proves their relative autonomy. She sees this a misreading of the research, and instead suggests that affect and cognition, or affect and emotion are not wholly dissociable (and this is a position I would broadly agree with)

However, to counter Leys indictment of Affect theory along these lines, I would say two things. First, that while Massumi is certainly prominent in the field in being one of the first theorists to tackle affect, he is also very contested. Massumi's method in his *autonomy of affect* article is to qualify his philosophical insights by reference to scientific evidence, which Ley's correctly finds problematic. Secondly, her reduction of Deleuzian theory to the position that all affects are innate and pre-emotional is, I would say, a misreading. Deleuze in the *Movement-Image* clearly states that affects can be 'grasped' in two ways: either 'as expressed by a face, a face equivalent, or a proposition'; or as 'actualised in a state of things' – the former as a function of Firstness, the latter of Secondness (in Charles Peirce's terminology).[44] Deleuze here discerns between pure intense affects, and affects which are of a level of the triggering of memory and meanings. While this may not yet be *emotional* in the sense of which Massumi speaks, there *is* a level of comprehension going on. Affection for Deleuze is inherently a ambiguous process – at one level we have pure primitive affects, and at the other extreme we have Massumi's definition of 'emotions' as 'qualified intensity', and as 'the conventional, consensual point of insertion of intensity into semantically and semiotically formed progressions, into narrativizable action-reaction circuits, into function and meaning'.[45] This is emotion as a self-reflecting, self-knowing state. I would then state that in between these two registers we actually have various strata of emotional triggers with different levels of meaning and non-meaning.[46] It is simply too programmatic to maintain these two extremes are completely separable systems.

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[43] ibid.

[44] *Movement-Image* 1983: 99.

[45] Massumi 1995: 88.

[46] I explain this position more fully in Chapter 6.

I believe Ruth Leys' analysis does an injustice to the complexity of Deleuze's theory, and certainly to all Affect theory across the humanities and social science, by reducing it to this one single condition of establishing affect and emotion as two empirically clear and separate categories. In my opinion she correctly identifies this as problematic. However I think she misses the nuance of Deleuze's *process* philosophy, of which affect is a dynamic component within the triad of affection, perception and conception. It cannot and should not be considered in isolation. She herself, in a final note, describes the difficulty in engaging with questions of intentionality stating it is a question best left to the philosophers.[47] Her critique appears only to be a critique of the cognitive and psychobiological conception of affect as expressed in the taxonomy of affects by Silvan Tomkins, and thus also to the methodology of Brian Massumi very early in the development of Affect theory. This also does a disservice to the complex philosophical tradition of affect which Deleuze, through Peirce, Spinoza and Bergson, draws upon.[48] The larger point here is that when cultural and media theorists and philosophers try and isolate affect as an object of study, they tend to draw from social science concepts and categorisations. This is a flawed approach, as not only does it raise the shackles of researchers who fail to see the transdisciplinary uses of their research, causing some rather hostile responses, but also it does an injustice to a Bergsonian concept of affection – as Hansen correctly identifies it as a 'constitutive impurity of a body's perception'.

Social scientists Felicity Callard and Constantina Papoulias offer a further critique of Affect theory from along these disciplinary boundaries, in a strong indictment of the way humanities theorists use and misread clinical and biological research from the 'scientific canon' to fit certain 'motifs and tropes that emerge in the staging of the affective turn'.[49] These tropes involve a non-essentialist biological fluidity and dynamicism, where the body is described as a centre of indetermination, instituting a

[47] Leys 2011: 472

[48] Blackman in *Immaterial Bodies* also states that while attention should be paid to the 'watershed moment' of Massumi, Sedgewick and Frank's contribution to the emergence of affect into the humanities, we must also engage in a genealogical enquiry that recognises 'affect's long history that pre-exists'. (2012: 25)

[49] Callard, Felicity and Constantina Papoulias. 2010:29 'Biology's Gift: Interrogating the turn to affect' in *Body and Society*, Volume 16. No. 1. Sage Publications.

progressive politics of the body. They instead offer a 'call to order', by which they re-stake issues of psychosocial conditioning and neurological hardwiring to point out that the adult body-brain does not have such emancipatory potential as is speculatively posited by Affect theorists. They elaborate how they see that the work of neuro-biologists Joseph Ledoux and Antonio Damasio, and that of developmental psychologist Daniel Stern (amongst others), has been selectively used and misused to deny certain ontogenetic and phylogenetic hard facts about our biologically inflexible systems. Furthermore, they imply that while these theorists research clearly 'operates in the service of *hexis*', Affect theory's partial use of it inversely incites an 'undoing' of hexis which would result in 'devastating consequences'.[50]

While Clare Hemming's critique (outlined above) seems a valid appraisal of certain oppositional excesses within Affect theory, and offers a third way of incorporation and moderation of Affect theory into new analytic practices, Callard and Pepoulias seem wilfully stuck within their disciplinary core beliefs, lacking the ability to read the grey-areas of clinical research (which is exactly what the transdisciplinary theorists' skills are honed to). Their 'call to order' establishes a biological rigidity which, like Hemmings, defends against certain excesses of Affect theory's tendency to ambiguity and flexibility, but which also demonstrates a limited and partial reading of the research to which they refer. They cite as a major example Mark Hansen's use of Daniel Stern's research on affective attunement between mother and child as the developmental process of formation of a stable and unchanging sense of self in adulthood, and they reject the idea given by Hansen that affective attunement could occur between adults, or in processes of media spectatorship. However, Daniel Stern himself has, in later work, explicitly recognised the value of the transdisciplinary readings of his concepts, even adding an encouragement for developments in the field relating to music, dance, cinema and theatre.[51] Stern clearly does not share this need to cling to disciplinary boundaries, and instead sees the potential transformative understandings and that his clinical work

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[50] ibid: 46. 'Hexis' is use in this context as expressing a healthy and balanced constitution in stable state. While in its original Aristotelian usage it does not imply a truly fixed state, it does refer to one that is habitual, stable and permanent.

[51] Stern, Daniel N. 2010:3, 75-97. *Forms of Vitality: Exploring Dynamic Experience in Psychology, the Arts, Psychotherapy, and Development*. Oxford University Press.

could yield. Callard and Pepoulias, however, do not attempt to moderate their partiality in stating that 'it is enormously difficult to transform behaviours and affective modalities beyond childhood', as they are strongly invested in a deterministic, stable and structural model of psyche.[52]

I aim to develop through this work a counter argument against this call for 'a return to secure disciplinary bases' by developing on the work of Deleuze,[53] and later through recent perspectives on neurological plasticity through the transdisciplinary work of Catherine Malabou, to show that indeed, from both a neuro-biological and philosophical/metaphysical perspective, there is dramatic scope for transformational neural and corporeal becomings. This posits a process philosophy of mind in which technological media and communication practices and discourses of the affective body are deeply enmeshed, and in which the undoing of hexis that for Callard and Pepoulias is the potentially dangerous 'sudden triggering of intense affect, associated with the radical undoing of the person's very sense of reality'– is exactly the desirable and potentially politically strategic outcome.[54]

To summarise, the divide between taking affection as an object of empirical study – fixing it as a completely autonomous system to emotion, cognition and meaningful understanding – or otherwise seeing affection more as a conceptual tool to think about processes of cognition/perception, learning and intuition, is for me like the difference between the soft and the hard problem of consciousness. The soft problem is identifying what happens, where and when, a process of categorising and mapping processes of affection. The hard problem is not the neuro-chemical processes that occur, but rather asking what does it really feel like, and the *why* of it all. The hard problem thus is the achieving of an explanatory structure. In my reading, Massumi made the early mistake of trying to tackle both, and this undermined his greater purpose.

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[52] Callard and Pepoulias: 46

[53] ibid: 48

[54] ibid: 46

John Mullarkey points out that simple biology does not account for affect, but rather a complex psychobiology which still remains, to a large extent, a mystery.[55] The recent discovery of mirror neurons and further scientific analysis of synaesthesia and simulation in perception do now point to the possibility of merging philosophical, and empirical –that is neurological and biological -approaches to affection.[56] Despite this future possibility, affection does not emerge, for me, as a useful object of study in its own right, but only as part of a wider dynamic system of influence.[57] This is the position roughly taken up by Clare Hemmings, and also by Daniel Stern when he states that it is not at all strange that the *arts* that have been the pioneers in exploring the dynamic dimensions of human experience, since 'vitality forms are not readily describable in words or mathematics. Moreover when they are so described, and they can be, they lose most of their ability to evoke'.[58] I therefore maintain that in affective analysis of media engagement and experience it is always preferable to strike the right balance between interdisciplinary scientific *speculation* and *aesthetic evocation,* as this permits a creative dynamic contemplation of complex and ambiguous processes. This, I reiterate - is in fact Ruth Leys' final point in her critique– that affection, and the relative automatism and intentionality regarding affect, is an issue (a hard problem) perhaps best left to the philosophers.

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[55] Mullarkey Mullarkey, John. 2007. In 'Life, Movement and the Fabulation of the Event' in *Theory, Culture and Society*. Vol. 24: 62. London: Sage.

[56] Mirror neurons, first discovered in 1992, are nerve cells that fire in the brain when observing the actions of another, in exactly the same way as if you were performing the action yourself. They have now been discovered in other parts of the brain outside of simple motor functions. The implications of this mirroring' function for learning processes, vision, memory and emotion is still being investigated. University of California - Los Angeles. Apr. 13, 2010. 'First Direct Recording Made of Mirror Neurons in Human Brain' *Science Daily*. www.sciencedaily.com-/releases/2010/04/100412162112.htm Accessed October 2, 2012.

[57] Lisa Blackman also takes up this position, stating: ' Affect is not a thing but rather refers to processes of life and vitality which circulate and pass between bodies which are difficult to capture or study in any conventional methodological sense'. 2012: 4.

[58] Stern 2010: 98

DELEUZE, PASSIVE SYNTHESIS AND THE SPIRITUAL AUTOMATON.

With his *Cinema* books, translated into English in 1986 and 1989, French philosopher Gilles Deleuze surprised many by offering his own idiosyncratic film theory and analytic strategy.[59] In these two texts he did not attack or refute political film theory, but instead crafted a much more philosophically grounded and metaphysical formal analysis and typology of film images. Deleuze's drawing together of Bergson, Spinoza and Peirce's writings in *A Thousand Plateaus* (with Felix Guattari) continued into the *Cinema* books, with a broad reach extending from perception and consciousness to metaphysical concepts.[60] However, in the *Movement-Image* and the *Time-Image* these ideas were attached specifically to media, and to cinema's unique relationship with processes of consciousness. Deleuze's concepts of passive synthesis and the spiritual automaton, developed in this context, prove invaluable for my understanding of the ontological shift to digital media, and it is worth spending some time elaborating on them.

In thinking about how media technologies generate a distinct regime of what is visible, of what is understandable and what is expressible, we must understand that this process functions below the level of conscious awareness at an *affective* level. This is to say that it is so peripheral to our core-consciousness that it is ingrained and habitual, permeating the relationships between objects in the world and our own bodily senses, both inwardly and outwardly directed. These processes are so encompassing in our day-to-day interactions with the world that they move from the social/cultural milieux in which they are sustained into our very personal procedural and semantic memory, and as the neurological foundation to all activity and subsequent reflection on our actions. Crucially this is subconscious and automatic, positioned in the brain somewhere between the primal motor-automation of the ancient 'reptilian' brain and the higher cognitive function of the cerebral cortex. The concept of 'passive synthesis' becomes useful for this project in thinking phenomenologically about how technologies of

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[59] Rodowick, David N. 1997: x (preface). *Gilles Deleuze's Time Machine.* Durham MC: Duke University Press.

[60] Deleuze and Guattari. 2004b (1988) *A Thousand Plateaus: Capitalism and Schizophrenia*. London: Continuum.

expression synthesise a subconscious model of reality – an affective dimension of automatic responsivity which sculpts perception and cognition at every level.

The modern concept of passive synthesis emerges from Husserl's use of it in his *Analyses Concerning Passive and Logical Synthesis: Lectures on Transcendental Logic*.[61] As the translator Anthony Steinbock describes in his introductory notes, Husserl 'overburdens the term with a significance that is at best multivalent, and quite often cryptic and vague', and yet it emerges as crucial to an understanding of sense experience, affection and the process of associative memory.[62] Steinbock describes passivity in Husserl as being the route to a genetic account of how cognitive activity is unconsciously motivated, the dimension of experience by which: 'a present perception passes over into a retentionally lingering perception and fades back as a fundamental form of the past, linking up with previous retentions, motivating pretensions or futurally directed intentions'.[63] This describes a 'primordial' process by which memory as retention of previous sense experience becomes our unconscious perception of things as *things,* that is, as intelligible, meaningful wholes. Objects acquire a consistency and regularity in our perception through *passive,* unconscious association, connection and harmonisation with previous experience, creating synthetic unities. He further states that this is an ego-less process, occurring beneath the level of cognition. Passive synthesis therefore describes the ambiguous and un-thought process of corporeal affection, and connects well the concept of grammatisation as a way objects and processes are given to us pre-consciously.

> '…[S]omething is pre-given insofar as it exercises an affective allure on me without being grasped by me as such, responsively or egoistically. Here, this "something" received the appellation "objectlike formation", that is something

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[61] Husserl. 2001. *Analyses Concerning Passive and Logical Synthesis: Lectures on Transcendental Logic*. Trans. Anthony J. Steinbock. London: Kluwer Academic Publishers. It is noted that he develops his phenomenological notion from Hume's earlier psychological use. See *Philosophy and the Adventure of the Virtual* by Keith Ansell Pearson. 2002: 227. London: Routledge.

[62] ibid: xxxviii

[63] ibid.

> that exhibits the basic structure of an object, but is more elementary than an object in the full-fledged sense or has not yet exhibited objectivity.'[64]

This is the passive experience of the object before it has been constituted by an active mind. Thus passive synthesis as concept explores the affective mode in which the mind absorbs sense experience without analysis, before this data is concretised through association and experienced at a higher level of attentiveness.[65]

For Deleuze, passive synthesis becomes the primary affective mode of being in the world and the concept extends and develops through his work, at first being an aesthetic mode of semiosis (in *Proust and Signs),* then becoming the generation of sensations of temporality and identity (in *Difference and Repetition*), before later becoming about the constitution of reality itself as the as the connective, disjunctive and conjunctive syntheses (*Anti-Oedipus*).[66] His use of the concept is triadic, with three primal passive syntheses as affective processes giving shape to all experience of the world. This dynamic triadic concept of passive synthesis becomes useful in thinking about how the images generated in different technological regimes are either well-harmonised with our common sense and routine perception of relations of time and space which give the recognisable contours of everyday reality, or if they pose a problem for perception which we have to negotiate aesthetically and creatively. When we are confronted with these problematic images, they first passively exert an 'affective allure' which creates a bodily experienced unease, forcing further attention, negotiation and analysis of the sensation and its relation to the image. Thus what starts as a passive affect forces a creative perceptual and conceptual transformation, and this is the crux of aesthetic experience in general.

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[64] ibid: xlii

[65] In relating this to Heidegger's conception of technics, we can see that technological forms as we think about them actively and egoistically are seen as objects to utilise, as standing reserve, yet at a level of passive synthesis they are as an affective allure, *enframing* us. Crucially, this is an unthought process, a *passive* synthesis.

[66] Faulkner, Keith Wylie. *Deleuze and the Three Syntheses of Time,* 2004, PhD Thesis, University of Warwick.

Keith Faulkner, in his 2004 PhD thesis, usefully aligns the three 'signs' of Proust elaborated by Deleuze in *Proust and Signs* with the three passive syntheses of time described in his later *Difference and Repetition,* and in doing so elucidates the dynamic triadic function of the concept.[67] These signs/syntheses are: 'worldly' signs of recognition and habit (aligned with the first synthesis); 'signs of love' as virtual objects of desire and the imaginary dimension of the past (second synthesis); and 'signs of art' which 'do a violence to' these first two habitual or imaginary ways of perceiving the world (third Synthesis). Faulkner charts the genesis of Deleuze's thinking from the tangible literary example of an affective semiotics to the more abstract concept within a much further-reaching model generating a metaphysical intuition of time. Each of these 'signs' then, to Deleuze, affect a certain relation of our minds to the passing of time in the way that they cause us to relate to certain events in the present, whether that be in a habitual, dismissive mode, in a retrospective, nostalgic mode, or in an aesthetically engaged mode of attention. Most significantly these modes of mental engagement occur ordinarily at a subliminal level and give us a pre-conscious affection of duration as a process of time-passing. These images are passive syntheses that are phenomenally imperceptible, as 'an internal impression which develops solely in visions and rudimentary actions'.[68] We thus see through Faulkner's analysis that by 'signs' Deleuze is not referring to anything like signs of language (representation), but to an affective register of images which pervade our preconscious and unconscious minds. Faulkner, using Freud, goes on to even suggest that this synthesis occurs not only at a phenomenal, mental level, but also in actual physical changes in the neural substrate of the brain, taking seriously the proposition that these metaphysical entities become physically embodied in us.[69]

One can then start to see why cinema became of particular interest to Deleuze, and why he surprised many people by releasing his two-volume *Cinema* books as a philosophical study. To Deleuze cinema emerged as a privileged medium for our consciousness in

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[67] ibid.

[68] *Time-Image*. 1989: 263.

[69] Faulkner, 2004: 107. This idea of neurology as it relates to metaphysics will be extended into a very contemporary notion of neural plasticity through the work of Catherine Malabou in chapter six.

that due to its temporal form and illusory expression of movement it can very tangibly be seen to synthesise time; this proved to be a model by which Deleuze could tangibly show how the mind passively experiences sensations of temporality. This relation becomes the crux of the regime of the cinematic movement-image which spatially rationalised durational time through the image-relation of movement through space. The time-image then arrives in Deleuze's analysis to undermine this regime and unhinges time from relations of space, giving a 'direct image of time' and thus becoming a 'will to art' in causing a rupture to habitual modes of perception. Though Deleuze specifically relegated the 'affection image' to a mere component of the movement image, more broadly speaking, and in line with his earlier writing, it can be seen that both the time and movement images fundamentally function in an affective and therefore passive mode as opposed to a narrative or representational mode (which would function primarily at a higher cognitive mode of 'active' attentiveness). [70]

However, by mimicking our passive and 'natural' editing and framing cognitive functionality, cinema ironically has the potential to expose the process by which this passive synthesis functions. Palpably rendered in the movement-based cinematic form as relations of movement through space, these *passive* affects can more easily pass into cognition and the possibility of being *actively* expressed in language. Consequently the moving-image proves to be a well-adapted tool for active experimentation with our consciousness of reality. In the transition to the regime of the time-image, Deleuze saw an emerging critique of 'natural' perception of reality as the movement-image relation was actively disrupted by cinema directors who wished to interrogate memory and consciousness through the medium.

This interrogation or experimentation, I argue, within digital screen media, has become the dominant or default mode of aesthetic expression, not just out of a fashionable postmodern playfulness and ironic detachment, but because of a contemporary ontological condition (though not, as some would argue, a crisis). This condition is instigated by rapid digitalisation alongside a broad and secular popular awareness of the limits of knowledge of the physical world that entails wild speculation in theoretical physics as to the structure of the universe. The images created in digital media, as

[70] In Mark Hansen's analysis, mentioned above.

computer-generated worlds or as 3D construction of space, thus prove to be a next-stage in the evolution of images. They regularly provide not just a moment of rupture in the sensory-motor schema which forces a momentary breakdown in otherwise predictable spacio-temporal continuity, but instead a fully coherent other world with different metaphysical rules, which, as in Christopher Nolan's film *Inception* from 2010, potentially opens up to new levels, new ruptures, new cracks, new sensations, going deeper and further from recognisable reality, and where we feel the genuine peril of losing all connection to what we know. The 'dream-sequence' no longer functions as a break in the sequential narrative of the film, but expands to *be* the film.[71]

Furthermore, though the cinema creator deliberately and actively sculpts syntheses of time and action though representational images (as intentional, imagistic 'utterances'),[72] these images assume a vitality of their own as affective automata, connecting subconsciously and at a level of collective cultural consciousness with other affections, and thus potentially synthesising a new way of feeling which is independent of the creators' intention. This vitality of the image becomes for Deleuze a 'spiritual automatism' or 'psycho-mechanics'. The enslavement of time to space within the movement image is for Deleuze an *autonomous* effect of the cinematic form that synthesises something which may have been anticipated in other media forms but was never fully expected.

The complexity of the cinematic spiritual automaton is elaborated by Deleuze in the *Time-Image* through the words of Artaud in direct comparison to a 'dream-cinema' defined as 'a censure or repression brought together with an unconscious made of impulses'. In contrast, the spiritual automaton is, for Deleuze, more like automatic writing: '…not an absence of composition, but a *higher control* which brings together critical and conscious thought and the unconscious in thought'. Deleuze also uses the metaphor of the day-dreaming vigilambulist vs. the sleeping somnambulist to further explain this distinction – it involves not the total absence of, or relinquishing of control, but rather an automatic motor-control that works beyond our conscious awareness. The

[71] In chapter four I develop these themes of how the boundary is policed between real and virtual in contemporary screen media.

[72] *Time-Image* 1989: 262

spiritual automaton shows us that we do not know fully what we create with our own hands, and our own creation confronts us with a power that we never figured for it. Thus cinematic images confront us and reveal our powerlessness to think:

> 'What cinema advances is not the power of thought but its impower, and thought has never had any other problem. It is precisely this which is much more important than the dream: this difficulty of being, this powerlessness at the heart of thought. What the enemies of cinema criticized it for (like George Duhamel, "I can no longer think what I want, the moving images are substituted for my own thoughts") is just exactly what Artaud makes into the dark glory and profundity of cinema'.[73]

It is this 'profound' substitution of our thought by the cinematic image that makes Deleuze identifies a 'camera-consciousness' which 'raises itself to a determination which is no longer formal or material, but *genetic* and *differential*'.[74] This is to say that the technology of cinema at first reflects or mimics certain formal aspects of perception, but then, in its autonomous vitality, passively yet decisively enters into and *alters* our consciousness. It proves itself as problematic as far as we have the capacity to think and understand the world, and in this is has a sublime power.

This genetic and differential role of media also clearly speaks to the complex non-intentional determinism of grammatisation of which Stiegler speaks when he refers to the technical nature of humanity. Media as 'technical hypomnemata' – the devices of tertiary retention and the exterior mediated forms of human memory – *determine* us in as much as we have access to shared knowledge through them.[75] But this determinism comes not as in a simple mode of power and domination by which one entity intentionally controls, rather by a mode of complex entanglement and automaticity.

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[73] *Time-Image* 1989: 166

[74] *Movement-Image* 1986: 85 – my emphasis

[75] Stiegler, Bernard. 2006 'Nanomutations, Hypomnemata and Grammatisation'. http://arsindustrialis.org/node/2937 accessed 21.03.2012.

A NEW 'DIGITAL' CINEMATIC IMAGE TYPE?

In identifying a digital process which is a decisive evolution in technological grammatisation, it is tempting to name a new image type as a original and distinct passive synthesis, which may even succeed and overtake Deleuze's time-image in contemporary importance.[76] I have to wonder whether this is entirely necessary, or is all that is needed an updating or 're-launch' of the aesthetic impulse of the time-image into the 21st century?[77] To determine this I want to examine exactly what this impulse is, as the third synthesis of time and as a will to art, but also as a transgression of the normative movement-image.

In Deleuze's third synthesis of time there is always a fault or complication in the repetition of difference which constitutes what we think of as 'identity'. This fault is usually an unconscious error in repetition which accidentally generates something new in exposing a falsehood or flaw in stable identity, and which subsequently forces a change in our ways of perceiving and conceptualising the world. The third synthesis is about the repetition of difference which becomes passively modified or 'disguised', through 'clothed' repetition and thus mutates into something undefined, new and future oriented. To Deleuze, the time-image, in its rupturing of spatio-temporal continuity is understood to undermine the mindless 'bare repetition' of difference of the movement-image, disrupting any easy process of recognition, thereby requiring a perceptual creativity. This, for Deleuze, is the objective of art: 'to put it simply, the work of art does something that dreams do: it creates new combinations by combining disparate images and thereby expands perception'.[78] The time-image is thus a 'sign of art' associated with the third synthesis of time, in that it deals with and exposes the flaws in recognition inherent in both the first and second syntheses of time.[79] It undermines and

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[76] See Patricia Pisters *The Neuro-Image: A Deleuzian Film Philosophy for Digital Screen Culture,* 2012, Duke University Press.

[77] This 're-launch' is called for by Deleuze in his conclusion to the *Time-Image* as a possible ethical outcome of the intrusion of the 'electronic'. This is the subject of chapter seven which looks into the conventional opposition between art and commerce, and the possibility of an ethical utopian future for the digital aesthetic within the conditions of advanced capitalism.

[78] Faulkner 2004: 51

[79] ibid.

disarms the habitual sensory-motor schema of the movement image, and in this disruptive effect causes a mode of critical attention.

In my analysis of digital visual media I would say that the intense malleability of spacetime creates disruptive affective states which initially shock, but then stimulate an aesthetic, creative response as new potential states of becoming. Because of this I argue that these types of images are already firmly placed within Deleuze's third synthesis as the condition for the new or of a future-oriented sensation of duration. If the time-image then initiated the third synthesis, this aesthetic impulse is continued and expanded in digital media in a way that does not necessarily dramatically transform the aesthetic impulse of the time-image. However, the digital image can indeed be seen as an emergent image type which surpasses the time-image, in that it is a shift away from *duration* as the principal metaphysical sensation of reality, towards a more plural metaphysical notion of space, time and force (where it is not only the dualism of space and time which drives ontological thinking). Therefore, instead of identifying a new type of image, we can even talk about the category of the time-image being expanded or broadened to describe more of a plural metaphysical affective flux. We could refer to this as a *flux-image* (or perhaps, reflecting Catherine Malabou's discourse on plasticity which I later describe in more detail, a *plastic-image*), where not only space and temporality, but also materiality, force, intentionality, cause and effect are drawn into question. This image, which expands possibility into a zone of immanent quantum indetermination, is what might constitute the re-launch of the time-image.

Though I don't necessarily ascribe to a specific need to describe a successor to the time-image, it seems important to note that what does differ from Deleuze's moment is that its aesthetic impulse has evolved to now become culturally dominant and pervasive in contemporary popular culture.[80] This means that in becoming the new default image regime it ceases to be perceived as revolutionary or associated with elite art practice and the avant-garde, and therefore on the margins of mainstream culture (as it still seemed to be for Deleuze), and is instead the regular fodder of mainstream digital media. This disturbs any easy duality between a normative mainstream and a transgressive will-to-

[80] I analyse the ubiquity of the new image type as a new default image regime more extensively in chapter six.

art, as it could be said that in digital media the regime of the time-image is just as normative as the classic narrative film. This shift requires quite a radical readdressing of any high-culture/low-culture divide that permeates most assessments of the cultural value of media objects. The profound reflexivity over metaphysical dynamics that is now common in contemporary digital media, and the subversion of conventional linearity of the movement-image are often critically dismissed as a fairly mindless ironic stylistic device or as pure spectacle. However, I propose these 'subversions' which increasing become the standard are *emergent* properties of the digital technology, as creative workers and technicians in digital media experiment to see what is technologically possible, constantly seeking the truly novel. This is the fast evolving digital grammatisation which serves to affectively refract and distort thought, constantly yielding new and interesting dynamic forms through which we can rethink the real.

PERSPECTIVES ON DIGITAL 'NEW' VISUAL MEDIA

In my approach to digital screen media, I roughly follow Deleuze's path, which as I see it is to discern ontological, metaphysical matters from the content and structure of screen media. As we have seen through my look at 20th century media theory above, this is not always of interest to theorists, with some explicitly denying the importance of cultural, historical, technological, political, aesthetic or philosophical perspectives on media to focus their specific niche interest. As such, in the proliferating plural perspectives on the contemporary forms of digital screen media, such divisions still persist, and indeed due to their relative newness, there is still very much a need to cultivate this diversity of theoretical interest. Deleuze's philosophy, however, has a clear appeal to theorists of digital media forms due to the inherent strength of the digital image to render virtuality. The digital spacio-temporal flux-image described above was foreshadowed in analogue media through techniques such as graphic animation, chemical processes on the film and pro-filmic refractions within the shot – for instance using mirrors (giving Deleuze his analogy for the crystal-image as a hall of mirrors). But in digital media this potential for refraction or 'fluxification' increases exponentially.

Due to Deleuze's obvious appeal, in the following section I look to work by Deleuzian philosophers and new-media theorists Mark Hansen, David Rodowick, Patricia Pisters

and Timothy Murray. Through mention of Sean Cubitt and Vivian Sobchack, I then also give an account of new digital media which could be described as anti-Deleuzian. However, one cannot simply divide the field up in these broad theoretical strokes. Where Deleuze moves from aesthetics and form to metaphysical concerns of time and space, there are other theorists who do not entertain this meta-level of analysis, and instead focus on the more pragmatic issues of attention, agency and interface in new digital visual forms. Through the work of Lev Manovich, Aylish Wood, Jay Bolter and Richard Grusin, we are given a structural and experiential account of 'encounters' with digital images which appeals to aesthetic theory and to theories of perception, but without explicit attempt to forecast (a future of the image) or to give an ethics of digital media (a future of humanity). While I cannot look at the every author in the field, I hope to give an accurate picture of its breadth in contemporary theory through analysis of these authors' primary concerns, moving from the ontological to the pragmatic.

In *The Virtual Life of Film*, David Rodowick describes the shift from analogue to digital in terms of a loss of analogy and indexicality, and then gives us a new concept of digital materiality, which synthesises a new 'difficult' ontology of film. He states:

> 'Here we confront a new kind of ontological perplexity – how to place or situate ourselves, in space and time, in relation to an image that does not appear to be "one". On electronic screens, we are uncertain that what appears before us is *an* "image", and in its powers of mutability and velocity of transmission, we are equally uncertain that this perception has singular or stable existence in the present or in relation to the past.' [81]

However, despite, or perhaps because of, this insecure ontological status, Rodowick shows how cinematographic and analogue techniques and syntactical codes persist in digital images, where digital processes mimic our 'deeply recalcitrant cultural norms of depiction' despite the lack of need.[82] These norms are technical imperatives within film's material medium, but are now used only to maintain our culturally ingrained expectations of photographic realism. 'Realism' becomes understood by Rodowick as a

[81] Rodowick. D.N. 2007 (p94) . *The Virtual Life of Film*. Harvard University Press: London

[82] ibid

set of aesthetic standards conditioned by the automatism of a distinct technological medium.

Nonetheless, for Rodowick, there is also a 'automatic' digital drift away from these codes of realism lodged within an indexical logic, and toward the fantastic, as 'the key point of reference now will be to mental events – not physical reality moulded to the imaginary, but the free reign of the imaginary in the creation of images *ex nihilo* that can simulate effects of the physical world (gravity, friction, causation) while also overcoming them'.[83] Digital images, despite their persistence on *certain* codes of realism, 'naturally' (by their own automatism) tend towards being more imaginary and more expressive of inner environments.

This is also very much the idea behind Patricia Pisters' new book, *The Neuro-Image,* in which she defines a new image regime which is preoccupied with 'literally showing us the illusory and affective realities of the brain'.[84] She analyses a digital screen culture which is fixated on creating 'brain-screens' on which narratives of mental breakdown, trauma and psychosis are played out on in ways that contemplate and complexify habits of perception and awareness. These are rhizomatic, fractal constructions of images (within the frame, between frames and between screens) which flout conventional rules of spacetime to 'restore the infinite' within finite images. She tethers this contemporary development to philosophical concepts from Deleuze and Guattari, Hume and Bergson amongst others, and elaborates this screen culture to be a form of future-directed schizoanalysis with a 'micro-political' agenda.

However, she does not read this as a direct consequence of digitalisation even though this is where it is 'situated', stating:

> 'Film as film is indeed profoundly marked by digital culture, but the internal changes in film aesthetics (from database logic, to changed relations of time, to

[83] ibid: 104

[84] Pisters, Patricia. 2012: 26, *The Neuro Image: A Deleuzian Film Philosophy of Digital Screen Culture.* Palo Alto CA: Stanford University Press.

> the cinema's more illusionary and affective powers) were already present before the digital age and thus are not dependent on digital technology per se.'[85]

Indeed, Deleuze states the same: 'The fact is that the new spiritual automatism and the new psychological automata depend on an aesthetic before depending on technology'– a statement that could apply to all technologies of representation of which cinema is only one. Pisters thereby sees evidence of database logics, networks and remixability in films such as those of Alain Resnais, anticipating digital image arrangements in analogue forms, and takes this as evidence that the technology itself is not the primary condition of the shift to the neuro-image.

However, Deleuze proposes a rather clear temporalisation and causation whereby the time-image roughly corresponds with a post-war crisis in belief: 'The modern fact is that we no longer believe in this world. We do not even believe in the events which happen to us, love, death, as if they only half concerned us. It is not we who make cinema; it is the world which looks to us like a bad film,' adding; 'The cinema must film, not the world, but belief in this world, our only link'.[86] Given his perceived causal condition of the time image, it is not entirely clear in Pisters book what a 1990s shift to the neuro-image *is* dependent on if not digitalisation – the 'why' of her analysis of contemporary screen culture.[87] She gives two exemplary events, the fall of the Berlin wall (1989), and the 9/11 World Trade Centre attack, not as direct causes, but as related to 'an assemblage of conditions that are connected to the transition': first, that a waning of empire and renegotiation of political divisions occurred within a process of rapid globalisation; second, that there was a collapse of distinction between actual and virtual in the hyper-mediatisation of the 9/11 attacks. However, it seems very hard to separate these events (or rather the processes to which they refer) from the technological condition of global digital communication in which they are both steeped.

In dialogue with Pisters (and Deleuze), and in stating that digitalisation is indeed the root cause of contemporary changes, I would posit that a technical condition, as the

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[85] ibid: 26

[86] *Time-Image*: 171

[87] Pisters. 2012. This temporal window is given in her conclusion p.300-301

'essence of technology' discussed above via Heidegger and Stiegler, does not depend on the actual technological form, but indeed anticipates it.[88] In Deleuze's analysis, (cinematic) technology cultivates a mode of consciousness which 'raises itself to a determination which is no longer formal and material, but genetic and differential'.[89] He gives us a temporalised narrative of the automatic and unanticipated emergence of certain qualities of specific media forms as they reveal themselves to us. What they start out to be, as imagined in advanced of their creation – 'avant la lettre' (usually in an instrumental mode of thinking – as a difference of *quantity* – in the case of media as part of a realist teleology) then mutates and evolves into something new and unanticipated in our consciousness of it (a difference of kind – a qualitative difference). In other words, we do not know what a technology does until it has already taken a turn in its evolution; only when it has already exerted its affective draw upon us can we reflect upon the change that was made. For Deleuze:

> 'It is here that Tarkovsky's wish comes true: that "the cinematographer succeeds in fixing time in its indices [in its signs] perceptible by the senses". And, in a sense, cinema had always done this; but, in another sense, it could only realize that it had in the course of its evolution, thanks to a crisis of the movement-image. To use a formula of Nietzsche's, it is never at the beginning that something new, a new art, is able to reveal its essence; what it was from the outset it can reveal only after a detour in its evolution.'[90]

In this way we anticipated the cinematic technologies' capture of movement as a more transparent reflection of reality (via the work of Jules Marey and Eadward Muybridge), yet only later were we able to acknowledge that it actually had altered our time

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[88] Heidegger insists upon the distinction between technology seen as the tools of modern industry, and the *essence* of technology which is the process of enframing. This enframing is the mode of revealing that we are drawn into by technology. Following this logic we can see that the mode of revealing as a way of engaging with the world, or as a technological consciousness, anticipates the formal or material aspects of the technology. This is nonetheless a complex issue of 'which came first?'

[89] *Movement-Image*: 67

[90] *Time-Image:* 43.

perception, creating its own reality as a 'spiritual automatism'.[91] Indeed all new expressive technologies from Technicolor, to Dolby sound, to Digital 3D are presented within a narrative of advancement towards a more seamless visual and aural realism, only later are we able to properly realise that they have in some way transformed perception and the very notion of the real.

To summarise, on the one hand one can read cultural and ontological conditions as causal factors in an aesthetic shift which is facilitated by the expressive technologies at hand. On the other hand we can see that whatever aesthetic *uses* the technologies serve, they automatically synthesise their own vital affectivity which is rhizomatically divergent. Indeed, Deleuze implicitly recognised this dual condition for the emergence of the time image.

TECHNICAL AND FORMAL DYNAMICS OF THE INTERFACE

While on one hand we have theorists who read digital media in terms of these 'meta' ontological shifts, we also have those who focus on what could be called the more superficial elements of digital expressive dynamics.[92] Lev Manovich is one of the more influential and prominent theorists on the new digital aesthetics, and takes a schematic, material and formal approach to 'mapping' the coordinates of the new digital aesthetics, focussing on design software and interfaces as the interactive and shifting *style* of image production.[93] I follow Rodowick's incisive summation of the value of Manovich's work, which gives due credit to how he offers researchers 'points of navigation for understanding digital automatisms' and to how he stresses the continuing usefulness of certain concepts of frame, image, screen and representation which are 'dear to film and art theory as baselines for comprehending changes'. However, Rodowick notes that in stressing these continuities, Manovich does maintain a fundamental miscomprehension:

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[91] This distinction is fully developed in chapter five.

[92] 'Superficial' is not meant here as a pejorative, but simply as a reflection of the fact that these theorists look to appearance and structural dynamics, rather that the implications of these for other dynamics (of thought and of reality).

[93] Manovich, Lev. *The Language of New Media,* 2002. In his introduction he refers to his method as 'digital materialism'.

'Manovich believes that the concept of representation is a stable one, whose function with respect to images is augmented with respect to computational processes.'[94] Rodowick insists that we have to instead interrogate the changed ontological status of images, moving beyond 'the cinematographic ideal' to ask about the new effects of the new images as immaterial data, and rethinking the core terms which relate to actual analogical procedures of image creation. This critique is founded within Rodowick's clear purpose, to look to a future ontology of the image, while Manovich explicitly disavows looking to the future within his 'digital materialist' position.[95] However, he correctly and usefully positions Manovich as a credible *point of reference* for theorists writing about digital media. As such, almost all the theorists I refer to do briefly deal with Manovich, but then move quickly on to focus on the new modes of engagement and negotiation with the image; as if Manovich was the cartographer, and they the geographer.

Between grand theories of new image ontologies and purely pragmatic and structural analyses of digital forms and aesthetics there are a multitude of stratified perspectives which posit new modes of engagement and new rhythms of thought as regards digital media. In their analyses, Mark Hansen, Aylish Wood and Timothy Murray all emphasise a new sense of agency, (inter)activity and mode of attention specific to digital screen objects. Each take digital aesthetic objects and look to their architecture and landscapes *in order to* ascertain the new mode of spectatorship, emphasising new capabilities and habits, and in the process drawing distinctions from what went before.

Closest to Manovich's style of mapping the aesthetics of interface is film theorist Aylish Wood. In her monograph *Digital Encounters*, she looks at popular media forms to identify what she calls the 'inscriptions of digital technologies' which shape not only content but enable a range of 'spatio-temporal embodiments'.[96] She analyses two styles of 'seamless' and 'visible' inscriptions of digital processes on interfaces, one in which the technological interventions disappears in a more conventional spacio-temporal

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[94] Rodowick 2007:130. This follows the aforementioned logic which sees new media technologies supplementing and extending previous forms as a difference in quantity.

[95] Manovich. 2002: Introduction

[96] Aylish Wood. 2007: 161. *Digital Encounters.* London: Routledge.

arrangement, and one that disturbs and draws attention to these arrangements. Wood focuses on this latter form to elaborate a theory of dispersed attention, using Mike Figgis' film *Timecode* as a key example of how more generally in digital images our attention shifts and is guided around the shot not by the dynamics of characters, but by effects and within-the-frame 'montrage' (in the case of *Timecode*, using split screens).[97] She describes how we begin to directly encounter the interface, and that we exert a new agency in orientating ourselves within the spacio-temporal architecture of elements. In her conclusion she moves towards an expanded point of how the new forms of presence in orientating ourselves to these interfaces shifts our embodied sense, giving us a new spatio-temporal familiarity with the world. However, her book sticks close to material and formal analysis of these interfaces and digital inscriptions.

Wood's distinction between seamless and visible inscription has clear links to that of Jay Bolter and Richard Grusin in *Remediation*, who ascertain the same difference as that between 'transparent immediacy' and 'hypermediacy', where hypermediacy draws attention to the processes of digitisation.[98] This distinction is placed within a context of the convergence and re-mediation of previous media forms, a process which 'new' media (not just digital, but throughout the ages) use to establish their validity and significance by referring to and re-fashioning recognisable and conventional forms. This analysis clearly speaks also to Rodowick's conception of analogue forms being deployed in digital media as phatic markers of photographic-style realisms, and recognises, as does Rodowick, that this is rarely a seamless process, with the digital technologies occasionally making themselves visible to revel in their own technical mastery. The spectator's attention consequently is guided and/or fluctuates automatically between total immersion within the screen image and momentary reflection on the processes of technical creation. Bolter and Grusin however, more like Manovich, and less like Rodowick and Wood, stress the continuity of aesthetic styles,

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[97] 'Montrage' is coined by Deleuze in *The Time-Image* to contrast with the montage continuity editing of the movement image, instead reflecting the in-frame fluctuations of long-takes and 'deep-staging'. (Deleuze 1989: 41) In digital media this can be re-read as digital edits and modulations within the frame.

[98] Bolter, Jay and Richard Grusin. 2000. *Remediation: Understanding New Media.* Cambridge MA: MIT Press.

representational codes, and ontological status, which disavows the truly novel and emergent aspects of the new media forms.

The dynamics of dispersed and fluctuating attention described by Wood, Bolter and Grusin stress a new form of agency and activity within competing elements on the screen, but it is often unclear to what extent this is really a free and open negotiation with the image, rather than a guided and intentional effect. Mark Hansen also enters onto this issue with his *New Philosophy for New Media*, but at a more fundamental level and in Deleuzian style, by breaking down the boundaries between the subject and image.[99] Thus, rather than conceiving of a contained user/subject actively interacting and intentionally choosing to control information flows, both image and subject become an intertwined process, an affective system by which meaning is constituted. Moving beyond a concept of a stable interface as a 'privileged technical form', engagement with images now becomes a corporeally invested but cyborg process by which the body filters information and synthesises images, 'giving body to digital data'.[100] Within this larger perspective, it seems questions of control of the process of spectatorship by the media producer as a 'determinism of the interface', or of the free agency of the spectator, are dissolved into an dynamic and ambiguous relationality.

Hansen's analysis of engagement with contemporary digital art images provides theory which borders again a new ontology of the image, but through an emphasis on the technical 'enframing' of the subject as an affective lure into a specific mode of engagement, and a specific mode of being. He states: 'When the body acts to enframe digital information – or, as I put it, to forge the digital image – what it frames is in effect itself'.[101] Hansen identifies this as an aesthetic impulse within the digital image to give an excess of information, on 'oversaturation' of the now, that we cannot mentally compute, and thus that we cannot easily make a mental image out of. We must absorb and process the digital aesthetic image corporeally without fixing it and committing it to recorded memory, but instead understanding the real meaning of it as a *process* of non-conscious affection. Hansen sees this as an empowerment of the human through

[99] Hansen 2006.

[100] ibid: 13

[101] ibid: 13

technical means: 'to enlarge the scope of the human grasp over the world, to assist the human in framing information in order to create images.'[102] He thereby sees a profoundly ethical effect in the expanding of potential experience through the digital aesthetic.

Timothy Murray writes in much the same vein in his book *Digital Baroque: New Media Art and Cinematic Fold*, but with a more social-psychological twist. He sees how human history, experience and memory, trauma and fantasy, are 'folded' into database digital archives, baroque spaces of the present in which a new temporality of information is constituted. Through analysis of digital art practices, Murray shows how these objects re-constitute the past through the activity of the present and are thus future oriented: 'the paradox of the new retrofuture is that the after is now reinscribed as the archival, one awaiting the data of the future'.[103] Thus within the digital baroque temporal fold, new social narratives and subjective becomings proliferate as new actualisations from the virtualised database of history and experience.

To summarise the work on digital visual media analysed here, we can see that it exists within a spectrum which runs from purely material to purely ontological concerns, with the questions of experience and engagement existing between these poles. The theories mentioned above do indeed broadly complement each other, with one picking up where the other leaves off, and there is a continuity in a focus on the body and intensities through ideas of immediacy, affect and embodiment, which for many entails a broadly Deleuzian position. This translates for some also into a sense of empowerment, activity and agency in engagement with the image as we become more reflexive about processes of mediation and of experience in general. This does not however entail complete concordance, with some theorists describing a decisive break with past media forms, with others emphasising certain unchanging and timeless processes. There are also some differences to discern in the object of analysis; for many writing of new empowerments focus exclusively on art-objects (Hansen, Murray), while others focus on a broader range of media forms including popular media (Manovich, Wood, Pisters).

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[102] ibid: 268

[103] Murray, Timothy. 2008:260. *Digital Baroque: New Media Art and Cinematic Fold*. Minneapolis: University of Minnesota Press.

This raises certain aesthetic questions of the social value and divisions within fields of cultural production which will be dealt with in later chapters. However, despite these differences in opinion and object of study, there is a broad agreement amongst these theorists that these changes in the experience of temporality and the ontological perplexity which the digital yields is both interesting and productive.

However, there is also an abundance of theory which does not see the current changes in media in such a positive light. While I do later go into a more extended discussion of these critiques, it is worth doing justice to the breadth of field by mentioning the more bleak analyses of digital media forms before moving onto the related questions of aesthetics and ethics. To broadly summarise, in the work of Vivian Sobchack, Sean Cubitt, Paul Virilio and Jean Baudrillard amongst others, we are given a theory of loss and disconnection from the real which has become a familiar cultural discourse as regards digital media. In the loss of any indexical relation to the mediated 'real' object, these theorists see the image become cut adrift from time, space and meaning, and in a hyper-mediated world this is raised to an ontology of disembodied and floating subjects and meanings.

ETHICAL INDICTMENTS OF THE NEW MEDIA

For Sobchack, electronic media is discontinuous, fragmentary and without momentum. It breaks with the energetic temporal sense of the cinematic because it shatters human experience into pieces, rendering them meaningless when de-contextualised from the whole of the collective narrative consciousness. These pieces of experience are episodic micro-narratives, connected only as nodal points within a random network, rather than temporally. Where meaningful connection, causality and emotional resonance is lost, the space is filled with frenetic activity, with impersonal and spectacular intensity, and with flimsy intertextuality. This is media 'weakly temporalised' with a slim sense of past and future, more preoccupied by an eternal present of shifting sensations and effects, and which shows little interest in material reality, mortality or social awareness. It has a healthy disregard for the body and 'disorients us from embodied and grounded existence' with the effect that we may end up 'ghosts in the machine'.[104]

[104] Sobchack, Vivian. 'The Scene of the Screen: Envisioning Cinematic and Electronic

For Virilio, speed is of the essence. What he terms 'dromology' is the logic of speed or acceleration which is at the essence of modern technology. In the rapid expansion and extension of technological functions, we lose sight of real horizons of space and time. Furthermore, all technological advances are driven by a logic of war, by which imaginary enemies are created to justify the extension of military technologies – technologies which are for Virilio not only weaponry, but also information and communication technologies.[105] Cinema is here also perceived as a war machine, a technical substitution for real perception that reduces the visual field to the line of sight on a gun. It institutes a 'sightless vision': 'the reproduction of an intense blindness that will become the latest and last form of industrialisation: the industrialisation of the non-gaze'.[106] This is a contemporary logic of perception which Virilio sees as a following a military model, but one that always conceals its own processes and appeals to us as natural.

Like Virilio, but with more of a semiotic bent, Baudrillard focuses on the substitution of reality and real perception by technologically produced images as *simulacra*, which cease to have real connection to real things. In his classic postmodernist analysis this age of digital simulation brings about the end of history, as any linearity of history is fragmented by acceleration and infinite reproducibility. Hyper-reality, for Baudrillard, is the current ontological state where reality is constituted by systems of signs which refer only to each other, with no original referent.[107] Likewise, for Sean Cubitt, digital media become desperately self-referential. Digital effects films form monadic and closed worlds without connection to social and political reality but only to themselves and similar images, and the image-currency they use to thrill and entertain are abstracted and meaningless effects and sensations which are traded as forms of reified

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"Presence".' In *Film and Theory: An Anthology*. Robert Stam and Toby Miller (eds). Blackwell Publishers. (2000: 82). This discourse is dealt with in detail in chapter 4.

[105] Armitage, John. 'Beyond Postmodernism? Paul Virilio's Hypermodern Cultural Theory' 2000 www.ctheory.net/articles.aspx?id=133 accessed 22.07.12

[106] Virilio, P. *The Vision Machine*. Bloomington and London: Indiana University Press and British Film Institute. 1988: 73. Original emphasis.

[107] Baudrillard, Jean. 1981. Simulacra and Simulation. University of Michigan Press

cultural capital. From these perspectives, the digital puts forth an image of a meaningful totality, but instead has at its heart a total metaphysical vacuity.[108]

What lies at the heart of all these ultimately ethical critiques is a sense of mourning for a loss of connection to an originary reality or *physis*. This originary reality is conceived through meaningful histories and narratives, through energetic temporality or a true, direct sensory connection to nature. These critiques find within electronic and digital media's loss of index a sense of deep disconnection, disembodiment and de-temporalisation. Very much like Stiegler's concerns about digital grammatisation elaborated above, and revealingly those also expressed about affect theory through the critique of Callard and Peopoulias, this is a primal fear about the loss of meaningful order, and the de-constitution of *hexis*. There is a perceived *danger* for society and for the subject that de-stabilisation and the cutting adrift of more conventional forms of social making of meanings will lead to a derangement – either psychological in forms of schizophrenia and depression; social in forms of individualism and the loss of concern for others; or indeed, spiritual, in the loss of ethical purpose and meaningful activity.

Digital media, in its automatic qualities and inherent (im)materiality, can thus be perceived to both threaten stability or promise liberation. What seems decisive in the formation of a negative or affirmative reading of the new technological regime is whether one assumes the existence a 'first' nature, a true subjectivity and an authentic temporality. If one assumes (as I do, following Stiegler) that there is no transcendent or original version of any of these, merely processes of subjectification, temporalisation and metaphysical evolution which occur within a relatively stable but continually changing system, then there is no narrative of loss. Instead of dis-connection, we instead see new connections, rhythms and flows from the immanent flux of possible forms. Furthermore, this field of possibility under the digital technical regime seems more open and fluid, with greater capacity for truly novel and inspired connections to be made.

[108] Cubitt. 2005. *The Cinema Effect.*

AESTHETICS AND ETHICS

Aesthetics here refers to a political economy of the perceivable, the knowable, or the sensible – not just about art, but rather about experience in general.[109] Within digital visual media we refer to a new sensibility entailing a specific aesthetic, one that plays with ideas and images of immateriality and indetermination and which deals in sensory intensities. In the theory referred to in the previous section, these aesthetic effects are perceived as being in cultural circulation, entering into a public collective consciousness, and signifying new forms of engagement with not just images, but with reality itself (if a distinction between these two is to be drawn). As we have seen, charged within these analyses are both futuristic hopes about freedom and creativity, and fears about loss, sickness and derangement.

Utopian and dystopian visions have circulated around every new communication technology, polarising around certain cultural hopes and concerns arising from the conditions of the time. At the birth of cinema the social issues causing concern were the rapid reorganisation of population due to industry; video recording captured the need for access and visibility for minority and disenfranchised groups; and for the digital the conditions are those of secularisation and globalisation. What emerges within each of these times are dichotomous concepts of moral and ethical good, loss and gain, for both individuals and society at large, positions which are deduced not entirely rationally, but rather more intuitively. Both art and technology are often charged with the social task of reflecting on these issues, and thus they takes on an ethical purpose. However, traditionally and ideally, art fulfils this social task not by documenting and commenting in a targeted fashion (as this would be propaganda), but by stirring affect and emotion in a non-tangible, non-specific way (and these processes are intertwined with technological forms). Art practice, especially avant-garde art, thus has conventionally been positioned as a dialectical field of almost mystical negativity, a transcendent practice, and thus has always called upon new expressive technologies.

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[109] Where political economy refers to a kind of cultural hegemony of production, distribution and consumption (in this case of images). This is the view of aesthetics subscribed to by Rancière, which I expand upon in chapter seven. Rancière, Jacques. 2006. *The Politics of Aesthetics*. Trans. Gabriel Rockhill. London: Continuum.

Aesthetic theory has been tied in with notions of transcendence since Kant's idealised conception of a pure and disinterested aesthetics, essentially purposeless and non-instrumental. Aesthetics for Kant involves two dimensions of rationality and intuition, understood here as cognitive and non-cognitive, representative and affective respectively. While both these dimensions are present in normal perception, the aesthetic effect consists in a fluctuation and a dynamic tension between them. Presented with an image of the beautiful, our cognitive faculties are freed from the binds of normal function perception, and we experience a rush of thoughts and feelings. The beautiful forces us to vainly search for concepts to describe.

To balance with Kant's notion of the beautiful as a pleasurable sensation of harmony, through his notion of the 'sublime' we are also given an experience which is disharmonious and irresolvable yet with a similar cognitive effect. Rather than being simply pleasurable, the sublime gives us a visceral intensity which is difficult to fathom, but which is not necessarily un-pleasurable. The sublime can be defined by its excessive affective charge, that it causes unease, and the pleasure derives from the challenge of overcoming these complex and mixed sensations. Sublimity takes on an especially moral, metaphysical charge in challenging us to 'resist'. To Kant sublime objects: 'raise the soul's fortitude above its usual middle range and allow us to discover in ourselves an ability to resist which is of a quite different kind…'[110] By confronting us with powerful sensation which we cannot easily conceptualise or rationalise, and in the process of being confronted, our intellect and imagination is elevated. This freedom to imagine, for Kant, is the essence of human freedom and therefore has a moral-ethical charge.[111]

Aesthetic theory since Kant has taken on this transcendent, ethical and utopian charge. For both Adorno and Lyotard in their aesthetic theories, despite the notion being put to work against ideological institutional apparatus, there is a clear Kantian idea of an

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[110] Kant. *Critique of Judgment.* (sect.28) Trans. James Creed Meredith. 1988. Oxford: Clarendon.

[111] Burnham, Douglas. 2005 'Kant's Aesthetics.' *Internet Encyclopedia of Philosophy: A peer-reviewed academic resource.* www.iep.utm.edu. Accessed 23.07.12.

almost mystical process of indeterminacy and incomprehensibility. Adorno takes from Kant the term 'antinomy' to fuse aesthetic theory together with a Hegelian and Marxist idea of dialectics and the 'negativity' of art. Antimony is for him the potency of modern art, the fact that it raises unresolvable tensions through projecting an illusory 'objective ideal', which expose false realities. The 'truth' content of the artwork is for Adorno the source of its philosophical gravitas. Truth here is conceived not as a coherent or structured knowledge, it is an intentionless state, a state which is in dialectical opposition to the intentionality of rational instrumentalism, the fragmentation of illusory truths.[112] This occurs, paradoxically, through its own illusory character; art holds a mirror up to reality in its (deliberately) imperfect imitation of the observable real and presents us with a dialectic which needs to be resolved. As an imperfect likeness of reality, it creates a tension which can be a protest against the way things are, and which can also suggest possibility:

> 'Artworks contain clues for resolving the tensions between dialectic and utopia, between an antagonistic society and the possibility of perpetual peace, but they remain antinomous as long as the tensions are not actually resolved.'[113]

As long as society is itself unresolved and unequal, art will intrinsically capture this lack of resolution, and this is the 'truth' that it speaks. Art for Adorno, in its autonomy from institutions of power, disrupts ideological and rationalist knowledge by becoming a kind of 'non-discursive knowledge and impractical praxis'. It can thus provide 'a formal liberation from oppressive social structures', and has an indirect but transformative political impact in Adorno's estimation. [114]

In a similar vein, Lyotard takes Kant's notion of the sublime as the essence of the contemporary avant-garde. His essay *The Sublime and the Avant-Garde* describes a presencing event, an 'is it happening', which expands in the moment of the sublime

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[112] Zuidervaart, Lambert. *Adorno's Aesthetic Theory: The Redemption of Illusion*. Cambridge Mass.: MIT Press. 1991: 194

[113] ibid: 180

[114] ibid: xxii

experience.[115] This intense experience of 'now' comes prior to any consideration of what is happening, and what it might mean; it is the occurrence which precedes any such analytic activity. To Lyotard this passing moment is a liberating liminality in which structured meaning as ordained by 'all intellectual disciplines and institutions' is effectively suspended. This liminal moment is, however, also an anxious moment of the unknown, a nervous awaiting of the (re)establishment of some type of order, and is thus a moment of contradictory feelings: 'pleasure and pain, joy and anxiety, exaltation and depression'. The effects of the sublime are described by Lyotard as:

> 'a marvellousness that seizes, strikes, and inflicts sensations…[and] an intensification of conceptual and emotional capacity, an ambivalent joyousness…[but also] a frustration of expression…which like all absolutes can only be considered without reason; the imagination and the ability to present fail to provide appropriate representations'.[116]

He insists that the sublime upsets the imposed harmony of the regulatory (art) institutions of the studio, the school or the academy which have historically imposed a 'finiteness in art which had to do with illustrating the glory of a name, divine or human, and attaching to it the perfection of a cardinal value'.[117]

Both Lyotard and Adorno seize elements of Kant's aesthetic theory and maintain its transcendent ethical charge in describing a socially significant role in disrupting ideological systems of knowledge and power. However, despite both rejecting the idea of the authentic and 'auratic' artwork, they both maintain art as a special, almost mystical practice.[118] For Lyotard the *only* way attributed in his essay to express a

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[115] Lyotard, Jean Francois. 1991: 37 'The Sublime and the Avant-Garde' in the *Inhuman: Reflections on Time.* Cambridge: Polity Press.

[116] Lyotard, paraphrasing Boileau. 1991: 39-40

[117] Lyotard 1991: 39

[118] Critical theorist Neal Curtis in his essay 'The Body as Outlaw' tackles this potential similarity of Lyotard's approach with Benjamin's concepts of 'aura' elaborated in *The Work of Art in the Age of Mechanical Reproduction*. He argues that the singular presencing of Lyotard's 'now' in the sublime artwork cannot be auratic though it might appear so, since aura as Benjamin conceives of it is inextricably bound to the authority and authenticity instilled by

sublime quality (in art or language) is described as '"*je ne sais quoi"*, call it *genius* if you will, or something "incomprehensible and inexplicable", a "gift from God", a fundamentally "hidden" phenomenon that can be recognised only from its effects on an individual' [119]. So despite being seen as freed and freeing from institutionalised value systems (historically tethered to the church), Lyotard can account for the sublime only in terms which seem to stem from these very institutions, as if these effects emerge from some other supra-human space of inspiration, and with recourse to terms such as 'genius', which often carry ideological connotations.[120]

It can be also be suggested that Adorno does not reject the idea of an 'aura' of an artwork, but instead reengineers it as a inherently antinomous 'spirit' which transcends the artwork itself. He still endows the artwork with an aura of authenticity, though this authenticity does not emerge from generic rules, but from the transcendent spirit of the work. In doing so, he wrangles a complex contradictory transcendence in which the reified commodity value of the artwork and the liberated spirit of the artwork are opposed. However, both these transcendences, while ostensibly immanent within, are also increasingly distant from the materiality of the artwork and what could be termed

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generic rules. To Benjamin, historically an artist or artisan had to learn generic rules of signification to harness 'aura', and thus to Curtis the 'presence' of Lyotard's aesthetic, which refers instead to a receptive openness and the dismantling of coded form, cannot be of this order. However, in Lyotard's discussion of the sublime he seems to be referring to just such a process with his rigorous practice and 'interior discipline', which teeters dangerously on representing the artist as auteur, and endowing the work of art with a magical auratic power. While I don't believe that this is Lyotard's intention, since the end product of this discipline is intended to disrupt institutional authority, it proves the hazards of making the work of the artist a 'special practice', and of making the artwork transcendent.
Curtis, N. 'The Body as Outlaw: Lyotard, Kafka and the Visible Human Project'. *In:* Lambert, G., Taylor, V.E., eds. 2005. *Jean-Francois Lyotard: Critical Evaluations In Cultural Theory* Vol 1. London : Routledge.

[119] Lyotard, paraphrasing Boileau 1991: 38

[120] As analysed by Tia DeNora in *Beethoven and the Construction of Genius: Musical Politics in Vienna 1792-1803*. (University of California Press: London. 1995) in which she shows, through the example of Beethoven, that the idea of genius historically has been ideologically invested with the values of certain discourses of taste existing within powerful social groups.

its 'automatism'. The immanent or virtual affectivity of an artwork is not enough for Adorno; he needs something more, something 'spiritual' to explain its potency. He needs concepts of truth, autonomy and spirit to redeem art from the way it is illusory and part of a false consciousness within an unfree society, and must endow art with a transcendent spirit which achieves this redemption. This seems to be because Adorno is trying to balance Hegelian and Marxist ethico-teleological tendencies, through the artwork, but within a perceived *chronic* condition of false consciousness. He understands how the artwork might serve an unequal society, but intuitively feels that it is also progressive, and to deal with this contradictory nature of the artwork he must endow a quasi-spiritual and ambiguous 'truth' quality which transcends the artwork and the social conditions in which it was created.

Through the work of Rancière and Vattimo, we can attempt to move beyond these utopian and dialectic concepts of aesthetics which maintain that any ethical art must be inaccessible and avant-garde.[121] Instead we can to start to think art as a pragmatic field of negotiation. Contemporary artist and theorist Simon O'Sullivan in his article 'The Aesthetics of Affect' criticises Adorno's positioning of art as an autonomous and transcendent sphere by referring to it as a 'utopian blink'.[122] He states: 'It presents the possible through its difference to the existent. Indeed, art, for Adorno, is not really of this world at all – it pre-figures and promises a world yet to come'.[123] O'Sullivan posits that Adorno has abandoned the existent; art is doomed by the irreconcilable antinomous forces within society, will always be frustrated, and must thus be a melancholy practice. Instead, through a concept of the affective quality of art, O'Sullivan states that art can be an 'affirmative actualisation of the virtual…a genuinely *creative* act'.[124] Where art for Adorno was important due to its necessary autonomy from social, economic and political forces, through Deleuze and Guattari art can be repositioned as having specific pragmatic roles and functions within society:

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[121] In chapter seven I examine the possibility of a new digital aesthetic which avoids such dialectical dynamics.

[122] Simon O'Sullivan. 2001. 'The Aesthetics of Affect.' *Angelaki.* Journal of the Theoretical Humanities. Vol. 6, No.3. pp.125-125. London: Routledge.

[123] ibid: 129

[124] ibid: 129

> 'In relation to aesthetics and affects, this function might be summed up as the making visible of the invisible, of the making perceptible of the imperceptible, or as Deleuze and Guattari would say, as the harnessing of forces. Another way of saying this is that art is a deterritorialisation, a creative deterritorialisation into the realm of affects.'[125]

Art's inherent quality of creating conceptual resonances between virtual fields *through* bodily affects means that it can be deployed in very pragmatic and purposeful ways. Thus art can be rescued from any magical or spiritual forces, and its effects, while still imperatively enigmatic, do not need to be positioned as vague, utopian and fantastic hopes for society. Art is, in this view, a specific practice of abstract thought with a function that is not magical or mysterious, but grounded and purposeful.

> 'Philosophy is no longer understood as a utopian pursuit, but it is rather to do with pragmatics: active concept creation in order to solve problems (to get something done). Likewise with art. Art is not useless but performs very specific roles…Indeed conceptual art might have more in common with what Deleuze and Guattari call philosophy.' [126]

CONCLUSION

In this chapter I have attempted to survey the theories surrounding and influencing my project. I initially established the foundation of my work through a theory of technics and grammatisation, and then proceeded to summarise the history of the field of media and film studies as it stood by the end of the 20th Century. I then have drawn together the threads of current theories of affect and 'new' digital media, through the prism of Deleuzian philosophy, to establish the current field in which I find myself. In subsequent chapters I extend these investigations and analyses, drawing other disciplinary knowledges and theorists into the discussion to synthesis original perspectives and insights. What I reach for, building from the concept of an originary

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[125] ibid: 130

[126] ibid: 129

technicity of humanity, is an understanding that current insights in the sciences of physics and neurology as much as digital developments in the arts and culture, are traceable back to ontological condition of our time – a metaphysical sensibility that I later in this project come to term as a 'digital nihilism'.

Contributing in no small part to this metaphysical sensibility are the new scientific developments in fields of quantum physics, theoretical physics and cosmology, and of particular interest, the field of neurology, in which the recent discovery of mirror neurons, studies into synaesthesia, and the concept of neural plasticity, resonate intensely with philosophical perspectives which I have discussed above. Philosopher Catherine Malabou develops the term 'plasticity' through her work, from her PhD thesis on Hegel's dialectics through to more recent work on psychoanalysis, neurology and ontology. What she proposes through her work is a new materialism, from the neuron to the atom, by which both the phenomenal world and objective reality – 'the material organisation of thought and being'– are characterised by the quality of plasticity.[127] She states in conclusion to her book *Plasticity at the Dusk of Writing*:

> 'I believe that I have shown how, from a philosophical point of view, plasticity refers both to the process of temporization at work in the heart of subjectivity (Hegel) and absolute ontological exchangeability (Heidegger) and also how, from the scientific viewpoint, plasticity characterizes a regime of systematic self-organization that is based on the ability of an organism to integrate the modifications that it experiences and to modify them in return.'[128]

She proposes a kind of monist materialist theory, not dissimilar to Spinoza's single substance, but rather seeing all matter and thought defined by a *quality* of plasticity and a *process* of plastic formation and re-formation. The term also helps us to reflect on the forms, structure and new ontology presented to us through digital media, and to relate these to metaphysics concepts of time, space, energy, materiality, intentionality and

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[127] Malabou, Catherine. 2010: 61. *Plasticity at the Dusk of Writing*. Columbia University Press: New York.

[128] ibid.

causality. We see that digital media reflect reality as plastic, with its own automatisms and vitalities tending toward the ever better rendering of the universe in this light.

Plasticity thus runs conceptually to the very heart of this project, which is to tie corporeal processes of affection/perception/cognition, technology and ontology together within a contemporary media landscape. Reality should be perceived as a mediated (grammatised) process which is subject to changes and becomings, not completely fluid or relativistic, but rather plastic and capable of 'taking or receiving form, moulding or giving form'. Malabou states: 'there is perhaps no reason to talk of the plasticity of Being—as if plasticity were some kind of quality—but of saying that Being is *nothing but* its plasticity'.[129] Plasticity is therefore the quality of immanence, the complexity of virtuality which comes to actualisation in grammatised but changeable forms. It is Being without the need of a transcendent dialectic other to refer to.

Finally, through this survey of media theory and the attempts to deal with the contemporary digital shift in communication and image production we reach an idea of the automatism of the new digital image regime which influences a new politico-aesthetic landscape. This, we have established is by an affective, passive synthesis of new metaphysical landscapes which foment a questioning and open attitude to a world with many fluid and shifting qualities. This is however still an ambiguous potential, and we learn from the genealogy of the field to neither celebrate grand new theories of redemption through media, nor to be over-reactive and reactionary to the perceived excesses of theoretical disciplines. What we instead see is a promising ethical effect of the new dynamics of consciousness as regards the novel aesthetic images of reality. In the following chapters I challenge these dynamics directly with reference to specific images and objects from our contemporary digital screen culture.

[129] ibid: 36

MONADISM and NOMADISM: METHODOLOGICAL CONSIDERATIONS

In this project it is my aim to develop an understanding of the peculiar affectivity of digital screen media within processes of consciousness, asking how the rapidly evolving affective dynamics of the digital image synthesises a new metaphysical awareness of reality – the impact of which extends from mundane everyday interaction with the world to abstract scientific and philosophical thought about existence. To do this there are some methodological issues, as philosophical questions, that I must work through. These are much the same major issues tackled by existing disciplines of media philosophy and philosophical film theory of the 20th century, though they now need re-examining within the contemporary digital context. These issues fall into three main areas: 1) How do we approach the digital media object to comprehend its affective materiality and virtuality (a question of preserving integrity and complexity)? 2) How do I propose to return with generalisable observations of this virtuality or visceral intensity (a question of the status of whatever research 'data' this might yield)? 3) And finally who are *we*? Who is my implicated subject when thinking about intensive affects, and what is the cultural and political relevance of the digital for that subject (dealing with both concepts of a universal human consciousness and the specific individual consciousness of a subject constituted within contemporary technological culture)?

These issues are important, especially in the context of the second question, because processes of affection are by definition pre-conscious, pre-cognitive and therefore somewhat slippery. We need to preserve the amorphousness of this object of study as both a bodily-felt and a cerebral phenomenon, and as part of a process that goes between these two cognitive faculties. In many ways it resists empirical analysis, and thus must be grasped, at least in part, intuitively, without being over-theorised or becoming simply a perceived *embodiment* of theory. While affect's ephemeral nature does necessitate a certain level of abstraction, we need to exert caution to not just make the object of study a convenient model of some theoretically abstract philosophical or political proposition; a sensed excess and visceral intensity must be evoked and

maintained to do justice to the virtual complexity of the affective event. To do this I aim to develop a philosophically informed methodological position through a marriage of Bergsonian 'intuition', Walter Benjamin's brand of monadology and Rosi Braidotti's style of subjective nomadism. By working through these theoretical positions, I intend to identify and qualify an imperative to enter into the affective materiality of images and to *feel* one's way through their unique architectures.

How do we theorise about films as 'entities' or automata which affect us? The broad remit of film theories since the 1970s has been focussed on the socio-cultural resonance of the representative image on the screen, and this approach endures in a culturally broad way, with both media and armchair-critics alike predominantly thinking about cinematic objects as texts to be used and read through traditions of character and narrative. However, since the publication of Deleuze's *Cinema* books in English in the late 1980s, followed by Steven Shaviro's *The Cinematic Body* in 1993, and with Brian Massumi's *Autonomy of Affect* in 1995, we have had a growing discourse based on a shift from seeing moving images as merely a reflection of social and individual realities towards a conception of them as primarily having a strong bodily or haptic address. Through these books and articles, cinema is charged with a special affectivity based on its conjuring of movement. It is now *better* understood to possess a dynamic vitality which allows it to transcend the optical distance in which politicised theories of the 'gaze' were based, and we can start to think of engagement with the screen image also in a synaesthetic and tactile mode. Within this context, 'Affect' emerged as a potent concept allowing a dynamic dialogue between various opposed and essentialist schools of thought on cinema and their respective methodologies: between the Anglo-American Cognitivist theoretical approach of David Bordwell and the European culturalism of Foucault and Deleuze; [1] between theories of a popular mainstream cinema as in opposition to an esoteric avant-garde more distinctly located within a fine-art discourse and methodology; and between a celebratory futurism revelling in the post-human

[1] Bordwell's firmly empirical approach seeks to measure cognitive responsivity to media texts to discern their psychological impact, and harbours a disdain for the larger social, cultural and metaphysical analyses that largely interest European theorists. Plantinga, Carl. 2002. 'Cognitive Film Theory: An Insider's Appraisal' *Cinemas: Journal of Film Studies*, vol. 12, No 2; 15-37. At www.erudit.org. Accessed 12.03.10.

possibilities of new technologies and the brand of bleak postmodernism which mourns the demise of meaningful structure. Affect effectively bridges the gap as both a psycho-biological and cultural phenomenon, as functioning in diverse ways across diverse genres and audiences, and crucially as a rapidly evolving modality in a digital age which sees a proliferation and heightening of media immersivity and intensity.

This shift in image discourse around affect engages with an intuited sensation that the projected images are not simply and firmly indexically tethered to real objects that *we already know*, but can offer a completely novel experience of reality. I draw from John Mullarkey's 2009 book *Refractions of Reality* as a text which tries to perceive the moving image as the object which truly does think itself, creating a nonverbal, visual vocabulary with which to generate original thought.[2] I also refer to Walter Benjamin's dialectical materialism, a methodological understanding of the privileging of the intensity and heterogeneity of the object over the partial disciplinary theoretical structures that would contain and dissect them. Through this approach I aim to preserve an evocative ambiguity of my object of study –the images of a digital screen culture – as images which act upon us in non-conscious ways, having their own 'spiritual automatism'.[3]

Addressing the question of dealing with subject position, I find myself identifying a universal feeling and thinking subject – the Everyman – such as that of the philosophy of Hegel and Spinoza. On the other hand, and in certain ways contradictorily, I must acknowledge that I also may be dealing with a specifically Western cultural subject who navigates cinema and a quotidian bombardment of media channels with relative ease. This latter subject is conditioned by a habitual familiarity with a particular contemporary visual culture and its antecedents in Western literature and art, as well as with a cultural awareness of the biological and physical sciences and their discourses of evolutionary theory and cosmology which are implicated in our ways of viewing the world in the deepest sense. However, between technologically developed and developing countries, and between Western and Eastern cultural heritages there are

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[2] Mullarkey, John. 2009. *Refractions of Reality*: *Philosophy and the Moving Image*. Palgrave MacMillan: Basingstoke.

[3] Deleuze, *Time-Image* 1989: 263.

profound metaphysical differences in belief which I cannot hope to do justice to within this work. Even in the domestic sphere there are generational differences defined by the speed of technological change which will see our children's generation with radically different literacies to our own. For this reason, and through the ideas of Deleuze and Braidotti, I must identify an inclusive, universal and contemporary *technological* subject, and elaborate a *nomadic* position within this context. Through this I aim to achieve an ethical methodological position of openness to material and conceptual transformations that, while positioned within a specific contemporary technological situation, also maintains a wider existential view of generalisable processes of cognition, consciousness and metaphysical awareness.

APPROACHING THE OBJECT

> 'Film doesn't reflect (illustrate, illuminate or represent) our philosophy – it refracts it, it distorts it with its own thinking. The resistance of film to singular philosophies is a kind of thinking, or metathinking, all its own, precisely because it does not allow us to begin with a definition of thought and philosophy; or rather, it forces us to change our theory of what theory (thinking, philosophy) is. Film refracts the very idea of what thinking and philosophy are'.[4]

In discussing the way in which philosophers approach their object of study, John Mullarkey in *Refractions of Reality* critiques the way that so many theorists *use* films merely to qualify their critical position, and wonders if this does an injustice to the multi-layered aspect of film and media experience. This tendency, he posits, manifests in the deliberate selection of cinematic examples to illustrate a philosophic principle because they so easily and clearly correspond to the principle in question.[5] This incorporates a sidelining and disparaging of 'other' theory; a rejection of alternative discourses by using examples to prove or explain a roughly 'partisan' position of a specific theoretical background (as we clearly saw in the last chapter's discussion of a history of reactive and reactionary film theory). By positing film as a refraction of thought, Mullarkey suggests that film works as a non-verbal, imagistic resonance which

[4] Mullarkey 2009: 12.

[5] ibid: 9-12.

modifies and changes thought in perhaps a more direct way to that of philosophic thought about thought and existence (which is inevitably verbalised).

Mullarkey describes that there are three relatively productive approaches to film-philosophy which are: '…philosophy through film, philosophy of film, and philosophy as film: "through" (where film illustrates philosophy as a pedagogical tool); "of" (where philosophy offers an ontology for film); and "as" (where film offers us its own philosophy)'.[6] The distinction lies in whether or not theory is projected *on top* of the projected film. In the first approach, film is *instrumental* in illustrating, making tangible and thus seen as providing evidence for or even proving that a philosophic postulate or principle about experience, reality or society might be true. The second follows an inductive reasoning that through examination of a type, rules can be made about how experience, reality or society are dealt with by that type. Mullarkey points out that this process can then either go back to the first approach, as being seen as proof of a pre-existing principle, or can become the third approach – the 'holy grail' of the truly philosophical film.[7] The definition of the philosophical film becomes then a text which does not just create affects which can later be conceptualised and theorised, but one in which affect and concept creation are symbiotically linked. This requires a dissolution of the dualism, exemplified by Adorno's aesthetic theory, by which it is art which *shows* truth, and philosophy that *thinks* truth, the two separate but interdependent.[8] Instead we have an art-philosophy, the work of art that is not representative of or even resonant with philosophical work, but which demands potentially a new vocabulary, or even a new form of cognition. What Mullarkey tells us is to resist the temptation for neatness, to say that *this* film clearly represents *this* impulse to thought and not this other one. Films are, or should be, permitted to create multiple resonances in the mind of the spectator depending on what their theoretical background, or simply their personal experience might be, and there is no singular truth in the meaning of a film. One should thus endeavour to avoid the blinkered view of art objects that a disciplinary view will often provide.

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[6] ibid: 13

[7] ibid: 13

[8] Although, according to Mullarkey, one always seems to be deemed more hierarchically important depending on which theoretical standpoint one assumes (2009: xi).

My position should thus be a philosophic dissolving of definitive theoretical positions, by which I assume an *inclusive* bias through a methodological position of conceptual nomadism. This entails a weakening of the theoretical ties and polarisations which are well-established in the field of film theory, and indeed of technology, metaphysics and aesthetics, to permit the forming of new syntheses and actualisations of thought. By emphasising the affective address of images, I hope to de-emphasise the intellectualisation and the subsequent concretisation of what objects are supposed to mean to individuals in culture, in processes of cognition, or indeed in themselves as metaphysical constructs (as even Deleuze did by categorising a dialectical relation between normative movement-image and transgressive time-image). This is not to say that films do not represent, or symbolise or *mean* in any given way, but simply to say that they work simultaneously with *at least* two different registers, and that something is not culturally or metaphysically valueless if it ostensibly 'meaningless' (from a representational or narrative point of view).[9] I consider this the cultivation of a better receptivity to novel experience and thus to new thoughts and feelings. As Mullarkey clearly states, there is no best categorisation or theoretical position which constitutes a truly objective position:

> 'Once we have accepted this, we can forego the myth of a pure cinema that would correspond with, capture or reflect a fixed reality. There are only impure realities that participate with each other in refractive processes.' [10]

I thus work towards a deterritorialised, nomadic style of thought which shifts between subjective observations and theoretical stances and seeks a heterogeneous truth as an

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[9] These initial two registers would be the affective and the representative, working in two different areas of the brain: the affective on the more primitive reactivity of the lower 'reptilian' brain, and the representative on the higher level of the generation of meanings in the cortex. However, there are many more than these two modules in the brain, and we can presume that many of them are working simultaneously, thereby complexifying the levels of receptivity to the image immensely. Solms, Mark and Oliver Turnbull. 2002. *The Brain and the Inner World*: *An Introduction to the Neuroscience of the Subjective Experience*. New York: Other Press.

[10] Mullarkey 2009: xvi

ephemeral *élan vital,* proceeding through an intuitive yet detached receptivity to the images myriad resonances.

MONADOLOGY

Following Walter Benjamin in the elucidation of his own methodological approach contained in his letters to Adorno, I aim to avoid an 'esoteric' explanation of my objects of analysis.[11] For Benjamin in his own work, he proceeded with a 'micrological' focus on his objects, attempting to do justice to the whole object of study without simply treating it as instrumental – to render them merely as symptoms of greater socio-political machinations, and thus avoiding: 'renouncing the concrete grasp of each single event and the present instance of praxis in favour of deferral to the final instance of the whole social process'.[12] As philosopher Giorgio Agamben demonstrates in his analysis of Benjamin's letters to Adorno, by centrally focussing on the mediation between the material base and the socio-political superstructure, that is, forming a social critique of material objects, there can easily be an abstract formalism which makes a complex object or event just a minor detail in the causal determinism of the social totality. This is arguably the kind of work that the semiotic and psychoanalytic *Screen* theorists such as Laura Mulvey and Christian Metz engaged in during the 1970s. They were centrally focussed on the ideological processes of cinema production as structuring the viewer experience, and thereby only seeing what was permitted by this theoretical construct at the cost of engaging in a greater complexity in their objects of study. By singling out the technical aspects such as the camera's movement as dissecting the female form for a male gaze, there was a suppression of acknowledgment of the pleasures of affective texture and potentially transgressive readings. While this was at the time an important discourse, it created a politicised foreground of theory which, whether intended or not, for several years conceptually obscured the possibility of actual female affective pleasure in cinematic spectatorship.

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[11] Reprinted in Giorgio Agamben's *Infancy and History: The Destruction of Experience* (London: Verso. 1993) and analysed by Agamben with an eye specifically for the methodological issues raised.

[12] ibid: 118

What Benjamin proposes in his letters to Adorno is approaching a text as a *monad*, as a unified and complete object which is not to be broken down and used for parts to provide support to a theory, however valid and pertinent that theory may be. He proceeds by describing his meticulous 'philological' method as: 'the examination of a text which proceeds by details and so magically fixates the reader on it', and explains that:

> 'The appearance of closed facticity which attaches itself to the philological investigation and places the investigator under its spell, fades to the extent that the object is construed in a historical perspective. The base lines of this construction converge in our own historical experience. Thus the object constitutes itself as a monad. In the monad everything that used to lie in mythical rigidity as a textual reference comes alive.'[13]

Proceeding by philological detail and focussing on the material content of a historical object the 'magical' (conceptually opposed to 'positivist' by Adorno), or illusory aspect of the object as it appeared within its own moment, is both 'preserved and surpassed'.[14] The illusion is surpassed through the detachment from the object by the critical distance afforded by the passing of time, while the object itself is rendered with due accuracy. He says this method 'presses for the exhibition of the material content in which the truth content can be historically revealed'.[15] Only by pursuing a non-interpretative, non-instrumental method of minute description, which evokes the *quality* of the object, can truth content be revealed; not by exposing the illusion through critique, but by recreating the illusion through the lens of temporal distance. While Benjamin speaks of 'magically fixating' the reader upon the text which proceeds by examining the details, by micrology, Adorno was antipathetic to this 'magical' quality, preferring instead the clinical dissection of the text as a type of 'exorcism'. However, to do justice to the event, one must first fully experience the affective moment, then later describe it to

[13] Benjamin, Dec 1938, in Agamben 1993: 114

[14] In Adorno's letter to Benjamin, Nov 1938, again in Agamben: 114

[15] Benjamin, in Agamben 1993: 114

evoke and thus preserve something of it in its magical affect. Only then 'can the work be touched, or perhaps even shaken, by interpretation'.[16]

In the context of my own work, I cannot start to describe in detail whole films from start to finish. However, I can aim to describe and examine moments and sequences, as well as overarching structural relations and resonances, intensities which evoke the life and vitality of the images themselves. It seems that if one is talking about a pre-linguistic conception of embodied affect, one must attempt to conjure something of that affect through poetic, rhetorical means if necessary.[17] Thought must run parallel to these evocations, as a backdrop, and without constantly interjecting and justifying itself at the cost of the affective continuity of the image. Foremost must be a receptivity to present-moments and vitalities, and latter interpretation and analysis should emerge intuitively from them, rather than be superimposed upon them. This is an attempt to indulge and hold close the intimate and subjective sensations in our direct engagement with an object, lest we get carried away on a trajectory of association and analysis which leaves the object itself in its wake. As Adorno describes: 'He (Benjamin) never wavered in his fundamental conviction that the smallest cell of observed reality offset the rest of the world'.[18]

SELECTING THE OBJECT OF STUDY

As Mullarkey points out, philosophers often exercise a 'theoretical preference for certain films over others' in a non-inclusive, reductive and prescriptive way.[19] This involves a general tendency to say that a specific film demonstrates a philosophic principle in action, and thus the film is portrayed in these terms alone. For example, Mullarkey shows how Deleuze's typology of two paradigms of the movement-image and the time-image are illustrated with examples that show an 'ontological preference' for certain films, the theoretical use of which '*forms* the filmic materials so as to

[16] Benjamin, in Agamben. 1993: 114

[17] Agamben. 1993: 117

[18] Adorno, in Agamben. 1993: 115

[19] Mullarkey. 2009: 5

legitimize the theory *ab initio'*.[20] The integrity of the ontological category is thus preserved in this case by marginalising the films which don't fit the timeline placed around the theoretical paradigm shift. This has been a consistent problem for Deleuze's theory, since it seems fairly easy to find examples of time-images much earlier than he permits. One must thus be aware of this tendency towards a simple instrumental use of film texts or sequences at the cost of a complexity of a whole film text, or of a whole cinematic culture. Mullarkey humorously poses a challenge to the film-philosopher in the idea that Richard Curtis' *Love Actually* may be philosophically marginalised since it is not obviously 'a great example of cinematic thinking', unlike Michael Haneke's *Caché*, which obviously is.[21] The real challenge is, for Mullarkey, to account for these films which don't fit into the theoretical paradigm so neatly or obviously, or to simply not ignore them out of convenience.

This suggests that one must at least attempt to democratically address a spectrum of film practice within a given moment in time as a well-defined 'sample', and indeed this seems to be the more 'empirical' methodology. In the context of this project I am elaborating a theoretical perspective that the proliferation of a particular type of image in a digital screen culture may have the potential to change and transform our metaphysical awareness. How do I do this without marginalising those contemporary films like *Love Actually* which don't seem to work in this way? I find I must focus on media images which circulate during the time of researching and writing this project, which are defined and inflected by the digital technology used to create or present them, and with an eye for emergent trends in production and consumption. I then must ask what it is that is original about these images that causes the current swell of popular interest in them, to do this looking at both thematic and structural aspects of the images to see what affects, resonances and intensities *emerge* from them as distinct from

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[20] ibid: 5

[21] Mullarkey 2009: 4, 15. Haneke's film is said to illustrate Emmanuel Levinas' concept of universal responsibility before the invisible Other. See Thom Donovan. 2006 'Michael Haneke's "Caché": in the Event of Witness' (Review). *Wild Horses of Fire* (Art Blog). whof.blogspot.fr/2006/04/michael-hanekes-cach-in-event-of.html. Accessed 20.09.12.

analogue media. This has to be done without prejudice for objects that would obviously seem to be worthy of this kind of academic analysis, which is to breach the conventional positioning of objects such as 3D films, art installations or club visuals as either crass and low-culture spectacles, or artistic and high-cultural works. Only by doing this can I achieve a balanced conception of contemporary visual culture.

Philosopher and feminist theorist Rosi Braidotti makes the observation that 'low culture genres' of fiction are 'mercifully free of grandiose pretensions – of the aesthetic or cognitive kind' and are thus a 'more accurate and honest depiction of contemporary culture than more self-consciously "representational" genres', which function according to a more realist aesthetic imperative.[22] She states that 'minor, which is not to say marginal' genres such as science fiction and cyberpunk celebrate hybridity and mutation, or at least do not make them abject in the same way, and thus are more likely to present us with illustrative dynamic images of the evolving and transforming relations in our post-human present. I too focus on cinematic images of the digital distortion and manipulation of time and space in fantasy and psychodrama genres since that is simply where they occur the most. However, I wish to resist the neat and polarised dualism in which there is an ideological mainstream norm, and a transgressive, marginal and 'free' brand of artistic practice that is in some way separate and better. This threatens to invert the aforementioned hierarchical preference for ostentatiously philosophical films into one for the ostentatiously transgressive and counter-cultural. As Mullarkey points out, both the cognitivist David Bordwell and the metaphysicist Gilles Deleuze fall into this same type of fixed essentialism in respectively making distinctions between a classic Hollywood cinema/movement-image as essentially normative, and an avant-garde art-cinema/time-image as essentially transgressive.[23] This dialectical tradition of media critique extends from its establishment by the Frankfurt School, and persists strongly today.[24] Mullarkey instead proposes that these categories are not fixed, but rather processual, overlapping shifting

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[22] Braidotti in 'Posthuman, All Too Human: Towards a New Process Ontology.' *Theory, Culure and Society.* Vol 23. 2006: 203. London: Sage.

[23] Though it should be stated that other media theorists do not ascribe to such fixed dualisms.

[24] In chapter seven I scrutinise this dialectical tradition of aesthetic critique and propose a need within a late-capitalist, postmodern digital culture to make a decisive political break with it.

and merging: 'This becoming of film – its processual complexity – is its only essence (which is to say that it has no essence)'.[25]

We can now see a shifting and evolving field of contemporary culture in which Braidotti's two opposed fields, of low-culture genres and the 'grandiose pretensions' of high-culture genres' realist aesthetics, are actually very mutable. Indeed, in my examination of new structural and spacio-temporal dynamics in digital media, I discover that there are explicitly 'artistic' techniques and image types which occur in both mainstream media and creative practice.[26] Once again, the challenge lies in accounting for all digital media, not with one theoretical model, but rather with an eye for the emergent trends across all digital applications within a contemporary visual culture.

I must also avoid the dominance in my selection of images of specific genres which thematically deal with issues of post-humanity, technology, metaphysics, futurity or utopianism, to focus more on the materiality and affectivity of a cross section of contemporary texts. This entails a resistance to focussing only on those texts which clearly and explicitly deal with the *representation* of digital ontologies, movies such as *The Matrix*, *Lawnmower Man* and *Tron*. There is also a need to examine other contemporary cultural phenomena which are inflected by digital processes, and as such I look to different digital forms of presentation in digital 3D through the trend of dance in 3D with films such as *Streetdance 3D*, and Wim Wenders' *Pina*, and also to new movements in 3D digital mapping and club visuals; all highly affective digital media forms which are within our current digital screen culture. The digital cultural shift here is seen to be reflected through both form and content, through different modes of image creation and presentation

[25] Mullarkey 2009: 10

[26] For example the same morphing technology of image interpolation that is used in the bullet-time shots of *The Matrix* are also used in the ultra slow-motion film of dancers in David Michalek's art project *Slow Dancing*. See chapter four for my discussion of these digital effects.

Affect theory in this context becomes a very suitable way to approach all media forms. It is intrinsically a democratic concept in that all images work in some way on an aesthetic, and therefore affective, register. While I centralise affectivity in my investigations, I don't intend to reductively denigrate narrative and representation as pretentious and normative, but instead to attempt to acknowledge the different registers and stratified dimensions of images and of perception/cognition in general. What will emerge, no doubt, is a level of overlap, a continuity of certain types of image which emerge from a specific technological condition. I will however approach them with a mind to see what Mullarkey terms 'the relational processes and hybrid contexts' of the images in question, a kind of sensibility which permeates culture generally.[27]

'DATA' GATHERING

Approaching affection as an embodied phenomenon, both corporeal and cerebral, means that it is tempting to establish a clear definition of it which would allow empirical testing. While *intuitively* we can all acknowledge that there must be some pre-conscious reception of sensory stimuli, we might tend to presume that this is an instantaneous process, an immediate conscious awareness of objects. We can quickly move to seeing that this is at least not always the case through noting that many bodily reactions are reflex, autonomic, not socially appropriate on occasion and definitely not consciously controllable. There is clearly a corporeal processing of sensory data that is involuntary and unconscious. A normal scientific reaction to this is then to ask how we can measure the gap between sense event, corporeal reaction and conscious awareness. Furthermore we might wish to measure what types of bodily reactions and pre-conscious awarenesses there are, and what ways this pre-conscious awareness translates into cognition, perception and action/reaction (this is the work of the Cognitivist discipline of film theory). We could also attach sensors to the brain to see which neurons fire, in what area of the brain at what time, to ascertain when and where the activity is occurring relation to the reception of the sense object (as is the work of the neuroscience). However, this measurement and the attempt to establish clear definitions can start to look a little misguided if all we ascertain is that it *is* actually happening, when we knew this deductively and intuitively already from our strong sensations and

[27] Mullarkey 2009: 10

autonomic reactions. What we cannot measure quantitatively is how the intensity of stimuli feels in the body in its pre-conscious, unfiltered excess, and this is the enduring 'hard problem of consciousness'. While it is now empirically possible to find the neural correlates of consciousness, i.e. where and what is happening in any given state of consciousness, the 'hard problem' entails being able to understand how consciousness actually emerges from these material processes, and how it feels within our consciousness.[28] Affect is part of a *process* of consciousness which starts in the sensory matrix of the body. While it is always useful to empirically establish its existence and its role, what becomes interesting about it is its processual properties, its relationship to perception, action or metaphysical awareness, and this is an issue most often tackled by philosophers.

Brian Massumi in *The Autonomy of Affect* starts by 'identifying' affect by re-interpreting the results of two empirical studies. [29] The first study ascertains that language and image resonate with each other to heighten or diminish an intensity of feeling given by the image alone, an intensity measured by autonomic reactions such as heart rate and skin resistance, as well as by cognitive barometers such as pleasurability and memorability. The second study establishes a relatively long half-second gap between physical stimulation and conscious awareness, and between decision to act, and manifest action – a half second in which the body and higher mental function run to catch-up with each other, with non-conscious autonomic response mediating between them. What Massumi evocatively extracts from these examples is that there is a bodily felt intensity or excess in the space between sensation and cognition, and between the actual attributes of a sensed object, and our conscious positioning of it. Massumi describes: 'It is a state of suspense, potentially of disruption. It's like a temporal sink, a hole in time, as we conceive of it and narrativise it. It is not exactly passivity, because it is filled with motion, vibratory motion, resonation. And it is not yet activity…'[30] What is significant in Massumi's methodology is that affect is established as this in-betweenness through the measurability not of the affect as motion or resonation,

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[28] Mark Solms and Oliver Turnbull, 2002: 47.

[29] Massumi, Brian 'The Autonomy of Affect' in *Cultural Critique* No 31, Part 2, Autumn 1995. Pp. 83-109.

[30] ibid: 86

intensity or excess, but simply of the space itself. Affect becomes *implied* by the test results, but this in fact tells us very little. It still remains essentially unmeasurable, other than by the signposts of autonomic reaction which do not tell us how it feels, but simply that the body does react physically and subliminally to both affective stimulus from the outside and to conscious affective agitation from the inside.[31]

John Mullarkey also attempts a simple test of affective intensity by screening a scene from *Titanic* to his students.[32] By asking his students to gauge on a scale of 1-10 how much they felt that they actively hoped, or actually willed, that the ship would miss the iceberg, he ascertains that despite their familiarity with not just the historical event, but also the events of the film, the students still were so engaged with the kinetic action on the screen that they felt it to be in some small way affectively real in their bodily and mental responsivity. He analyses this sense of actuality as beyond identification with any characters or viewer positions, and beyond the cognitive entrapments of intensifying suspense through musical rhythms, through to an evolutionary hardwired responsivity like the autonomic reactions mentioned above, by which powerful primal motivational mechanisms are activated. However, Mullarkey is quick to caution against the 'reverse engineering', retrodictive style of explanation which fails to explain *why* these results occur.[33] He points out that biology does not account for it, but rather a complex psycho-biology which still remains a mystery. However, the recent discovery of mirror neurons [34] and further scientific analysis of synaesthesia and simulation in

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[31] In their critique of affect theory, social scientists Callard and Pepoulias attack Massumi's misuse and misappropriation of these studies, citing the producer of these studies' difficulty in supporting Massumi's assertions regarding their work. Felicity Callard and Constantina Papoulias. 2010. 'Biology's Gift: Interrogating the turn to affect' in *Body and Society*, Volume 16. No. 1. London: Sage.

[32] Mullarkey, John. 'Life, Movement and the Fabulation of the Event'. *Theory Culture and Society*. Vol. 24. 2007: 62

[33] ibid: 64

[34] Mirror neurons, first discovered in 1992, are nerve cells that fire in the brain when observing the actions of another in exactly the same way as if you were performing the action yourself. They have now been discovered in other parts of the brain outside of simple motor functions. The implications of this mirroring' function for learning processes, vision, memory and emotion is still being investigated. University of California - Los Angeles. Apr. 13, 2010. 'First Direct

perception (which I will address later in this project) point to the possibility of merging philosophical and empirical/biological approaches to consciousness. While we can see how intensive sensations of temporality and space must in one sense remain abstract, complex and unmeasurable, we can also imagine a synthesis of discourses which might make it less 'mysterious'. I intend, however, to maintain that rather than clearly defining and measuring these processes it is preferable to strike the right balance between scientific investigation and aesthetic evocation, permitting a creative dynamic contemplation of complex processes.

Measurement in this complex scenario still, however, remains a contentious methodological issue as the scientist goes head-to-head with the philosopher. As Mullarkey points out, theoretical approaches to moving images have become deeply entrenched in an Anglo-American-cognitivist versus Continental-culturalist philosophical standoff where:

> 'Anglo-cognitivists accuse Euro-culturalists and other so-called 'grand theorists' of scientific ignorance, poor argumentation and theoretical irrelevance. Culturalists, in their turn, accuse cognitivists of political naivety, existential complacency and, worst of all, inadvertent collaboration with forces of ideological repression.'[35]

One side of this philosophical, essentialist divide sees film as textual; it can be read, interpreted, deconstructed, as can the viewer's cognitive responses be clearly measured in a social science, information/data processing paradigm. The other, culturalist side sees film as a material artefact, and the analysis is of a cultural, political, historical and metaphysical bent, without the need for quantification of specific properties or effects. As Mullarkey describes, affect in moving images, why it works and how it functions in our consciousness, is a 'messy' process.[36] Yet even within this mess, a pragmatic

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Recording Made of Mirror Neurons in Human Brain' *Science Daily*. www.sciencedaily.com-/releases/2010/04/100412162112.htm Accessed October 2, 2012.

[35] Mullarkey 2009: 10

[36] Mullarkey 2009: 11, 2007: 64.

process concept of affection at least suggests a clear field of common ground between the two positions outlined above. It gives us a clear tangent of research in a tangible concept, and proves useful in understanding the image's resonance with an ontological world-view. Poised between the intimately subjective and the universal, and between the scientific and the philosophical, an idea of affection allows us to achieve a broader conception of how the internal sensations of a body can impact upon collective memory and shared awareness of reality.

BERGSON'S INTUITION

Affect is not primarily a quantitative object of study in its own right, but a process of mind. It is real but amorphous, not totally relative as clearly there are cultural consistencies, though it resonates with each individual differently dependent on their own mentality, memories and experiences. This is why, as method, Bergsonian *Intuition* becomes significant and useful in my research, as it permits the examination of sensation and internal states that since they are not directly pertinent to action lie on the fringes of perception/cognition. Alexander Gunn, in his 1920 book on Bergson's philosophy, breaks down this concept of Intuition while stripping away what is called in the book's introduction the 'reactionary and crude' anti-intellectualist statements made by Bergson himself. He quotes from Bergson's *Introduction to Metaphysics* to ascertain the opposition between Intuition and analysis:

> 'By Intuition is meant the kind of *intellectual sympathy* by which one places oneself within an object in order to coincide with what is unique in it and consequently inexpressible. Analysis is the operation which reduces the object to elements already known, that is, to elements common to it and other objects. To analyse, therefore, is to express a thing as a function of something other than itself. All analysis is thus a translation, a development into symbols.'[37]

[37] Bergson, Henri in Gunn, J. Alexander. *Bergson And His Philosophy*. 1920. (Chapter 9: The Gospel of Intuition). London: Methuen. (Reprinted 2009. Whitefish, MO: Kessinger Publishing) Accessed 28.09.12 at www.ibiblio.org/HTMLTexts/John_Alexander_Gunn/Bergson_And_His_Philosophy/

But to Bergson this translation can never come close to touching the inexpressible uniqueness of the object, as in its desire to know the object intimately, analysis can only self-defeatingly drift ever farther from it through the proliferation and infinite variation of symbols and points of view.

> 'But Intuition, if Intuition be possible, is a simple act. It is an act directly opposed to analysis, for it is a viewing in totality, as an absolute; it is a synthesis, not an analysis, not an intellectual act, for it is an immediate, emotional synthesis.'[38]

Intuition is for Bergson a creative practice like the creation of an artwork; it emerges from within a meeting of two entities, not as an expression of an abstract theory. As Gunn elaborates, concepts, as the product of intellect, become static and 'leave out the flux of things' at the 'expense of the vital life of things.'[39] While they are necessary as working models within the physical sciences, when it comes to metaphysics they must be augmented or transcended by intuition. Intuition as methodology then becomes a striving for knowledge of the excess or immanence of that which is excluded by the theoretical model. Bergson proposes here that intuition is central to positivist scientific progress as much as to individual psychological and metaphysical knowledge and creative practice, since once we are aware of all the facts, true inspiration arrives in terms not of a clinical deduction, but as an deep sympathy with the object of study:

> '…when all documents have been collected and necessary drafts worked out, one thing more is needful--an effort, a travail of soul, a setting of oneself in the heart of the subject; in short, the getting of inspiration. Metaphysical Intuition seems to be of this nature, and its relation to the empirical data contributed by the Intellect is parallel to the relation between the literary man's inspiration and his collected material.' [40]

To Bergson, intuition of reality does not just begin with instinct, inspiration, or through some gut-feeling, but emerges through a thorough awareness or 'comradeship' with the

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[38] ibid.

[39] ibid

[40] ibid

'external manifestation' of the real object as facts, data, concepts or theory which allow us to achieve a level of deep affinity with the object. As Alexander Mair points out in the introduction to Gunn's book, there are 'bad' intuitions not grounded in sober awareness, with which we are all familiar:

> 'There are intuitions and intuitions, as every wise man knows, as William James once ruefully admitted after his adventures with nitrous oxide, or as the eaters of hashish will confess. To follow all our intuitions would lead us into the wildest dervish dance of thought and action and leave us spent and disheartened at the end… Our intuitions have to be tried and tested; there is a thorny and difficult path of criticism to be traversed before we can philosophically endorse them and find peace of mind.' [41]

After the intuition, to Bergson, follows a rigorous process of philosophic examination to test the observation. Thus it ceases to be the kind of derided superstitious practice often chauvinistically associated with the concept of 'female intuition', and instead becomes for Bergson the true source of scientific process and progress – the median point which resides in an inhabiting of the object of study, between empirical study and the gathering of facts, and the testing and critiquing of a new postulate. It is a field of engagement with the object of study which allows a resonance with memory, association, meaning and values to enter into a process which goes beyond mere summary or deduction from data. It is central in Bergson's philosophy as the true source of *all* knowledge.

Intuition poses an interesting resonance with the psychotherapeutic clinic practice of Daniel Stern described in *The Present Moment in Psychotherapy and Everyday Life*.[42] In this book Stern describes his method of taking patients back to a mundane moment of everyday experience, and peeling back the layers of the decision making process in some small, seemingly insignificant action to expose the deep-seated sensation of subjectivity and the implicit and explicit knowledges which inform and permeate every

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[41] Alexander Mair, 'Introduction' in Gunn, 1920.

[42] Stern, Daniel N. *The Present Moment in Psychotherapy and Everyday Life.* London, New York: W.W Norton & Co. 2004

action we take. In one case study, Stern asks a patient to describe their breakfast routine, and scrutinises the complex emotional and affective charge of the simplest action, like opening the fridge door and taking out the milk. Such analysis reveals the subliminal mesh of micro-narratives of shame and anger attached to this patient's most mundane actions, and the subtle affective reinforcement these narratives get within the most intimate un-thought moment. By guiding subjects through what is essentially an intuitive methodology, Stern thus takes them into the immanent heart of their experience in an examination of a 5-10 second 'present moment' which proves rich and textured with affective intensity. By doing this, he exposes ingrained complexes, values and beliefs that help as part of the therapy process. What Stern gives us here is an example of pragmatic, qualitative process of analysis to enter intuitively into the affective core of everyday experience, and though microanalysis of our memories of sensations, fleeting emotions and micro-narratives, we can expose larger matrices of the affect/percept/concept interrelation.

Steven Shaviro, in *Post-Cinematic Affect*, seems to refer to a similar concept when he talks of the 'structure of feeling' of a media text. He explains that film and video work to affectively express a general sensibility as a matrix of resonances, in his own words they work to build 'blocs of sensation' as 'compounds of affects and percepts'. He states:

> 'I am interested in the ways that recent film and video works are expressive: that is to say, in the ways that they give voice (or better, give sounds and images) to a kind of ambient, free-floating sensibility that permeates our society today, although it cannot be attributed to any subject in particular.'[43]

Shaviro proceeds to attempt to enter into this ambient sensibility with an evocative description of affective tonalities and the resonances these have with cultural and theoretical discourse and objects. He is not, he states, looking for explanation, but instead for evocations, and thus I propose that he is entering an intuitive exploration of the vitality of images in the same way that Stern's therapeutic process intuitively

[43] Shaviro, Steven. 2010. 'Post-Cinematic Affect: On Grace Jones, Boarding Gate and Southland Tales'. In *Film-Philosophy* 14.1

accesses the magnitude of short moments of consciousness, with an end to forming a new image of a greater matrix of thoughts and feelings, whether psychological or socio-cultural. The process does not require intellectual analysis of the variety that Bergson despised, rather the process and activity of evocation simply gives us new memories and new modes of consciousness which shape our way of being in the world.[44]

Intuition thus poses itself as the pragmatic solution to Mullarkey's triad of ways to philosophically approach film (discussed above), as a methodology which stops the inductive reasoning of the 'philosophy *of* film' from falling back into using texts as mere illustration of philosophic principles, allowing them to pose their own original thought.[45] By entering into an intellectual sympathy with the image which is first and foremost an affective immersion in them, and secondly through a stringent process of criticism, one can hope to avoid viewing them in a reductive manner.

Intuition can also can be seen as completely in line with Benjamin's concept of the monad as the *whole* object with all its vitality and intensity intact in an immanent totality, with which one can achieve a sympathy through micrological investigation to form *better* ideas than those contained in generic paradigms, genres, categories, concepts or theories.[46] In Benjamin's early aesthetic theory he pitches an idea of *genre* as being the consequence of a deductive and reductive reasoning which gleans particular details from individual works to form specious universal categories, against *Ursprung* – the expressionless, untouchable quality of the individual work.[47] While this could be conflated with Lyotard's sublime, or Adorno's *Wahrheitsgehalt* (truth content), it is not the brand of immanence which arrives at being a quasi-mystical

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[44] Stern 2004: 22

[45] Mullarkey 2009:13

[46] It should be noted that Deleuze's rethinking of 'concepts', following Bergson's insights, (and thus his complication of the distinction between art and philosophy as separate practices in *What is Philosophy?*), is that they are exactly like images, sounds, colours in their intensive affects, like 'images of thought' (Translator's note, *Movement-Image*). As Jean Luc Nancy writes 'the word "concept" means this for Deleuze – making cinematic' (in Flaxman, Gregory *The Brain is the Screen.* University of Minnesota Press: London 2000)

[47] Pizer, John. 'History, Genre and "UrSpring" in Benjamin's Early Aesthetics'. In *The German Quarterly* Vol 60, No. 1 Blackwell Publishing. (Winter) 1987: 75

transcendence, but is more like Bergson's *elán vital,* simply referring to the qualities of an object, image or event which will always remain virtual and on the edges of perception.

SUBJECT POSITION

What is clear then is that intuition, as pure thought, is a highly individual practice perhaps more akin to the creative process than to disciplined scientific observation – though it does intend to form insights as flexible concepts which are broadly applicable. The problem is that as methodology it is open to criticism from those who may say that a project of creative thought is overly individualistic and relativistic, and thus has little relevance to social and political relations and transformations.[48] The perils of addressing only the individual, universal subject, contextualised only by their ontological status as a singularity or corporeality as differentiated from 'the rest of the world', instead of contextualised by a specific socio-political and technological culture, is that any possibility of community organisation or social action seems to be side-lined as everyone is simply on their own personal journey through experience. Here I must exert caution to ascertain what I can truly say is a point which is applicable to a universal conscious subject – the Everyman – in the vein of universal philosophies of reality and consciousness such as those of Hegel and Spinoza, and in general theories of subject formation from Freud and Lacan (which intend to speak for everyone). I must be mindful to what is applicable only to subjects like myself who one could say live in the specific context of a media saturated Western culture governed by a habitual 'camera consciousness'. I thus have to be clear for whom I am speaking, and whose experience I am discussing, if not simply my own. In dealing with a philosophical concept of affective experience, I have to ask if it is necessary to discern in a common sense way between the affects of the real world, of objective actuality, which might seem to apply to everyone equally and 'naturally', and the affects of a technologically mediated 'second nature' of images as reproductions or imitations abstracted from the actual, to which we are habitually inured in diverse ways within distinct cultures. To set up a 'false' second reality as simulacrum is in a sense to strip it of social meaning, and

[48] For this critique, see Hallward, Peter. 2006. *Out of the World: Deleuze and the Philosophy of Creation.* London: Verso.

potentially to romanticise an original and authentic reality within which we knew the 'real' relation of things.[49] For this reason I move towards an ethical view of a progressive process of 'grammatisation' in which reality is, and always has been, continually generated through the circulation of images as signs and narratives, and in which technological advancements simply alter the dynamics by which this process proceeds.[50]

Deleuze's notion of a 'camera consciousness', which emerges in the *Movement-Image* to explain the relation between our metaphysical awareness and the images we consume, aligns well with Benjamin's notion in *The Work of Art in the age of Technological Reproduction* of a distracted mass whose apperception is moulded through the historically and technologically-located media they consume, and thus also with a concept of grammatisation. This is the process of a non-conscious absorption of 'abilities' to tackle what Benjamin calls 'the tasks which face the human apparatus of perception at the turning points of history', abilities that Deleuze might put in more metaphysical terms as our spacio-temporal, sensory-motor perceptual schema. These perceptive abilities as inhabited, embodied ways of seeing and feeling the world are, to Benjamin, appropriated in an 'absent minded' way in an age of moving-images, as opposed to the engaged, contemplative engagement fomented by the static artwork; and thus the authority of, and reverence paid to, the organisation of human sense perception in the auratic work is disrupted. [51] However, Deleuze in his *Cinema* books goes further than this to suggest that film does not just *influence* our metaphysical understanding of reality in our specific historical technological location, but stands in as a model for the whole of Western thought on the relationship between philosophy and time, and by implication, power.[52]

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[49] As is the tendency of certain Postmodern theorists e.g. Baudrillard, Jean. *Simulacra and Simulation* University of Michigan Press. 1994.

[50] Bernard Stiegler's concept of grammatisation is discussed at length in the previous chapter.

[51] Benjamin, Walter. 1968: 240. 'The Work of Art in the age of Technological Reproduction' in *Illuminations.* London: Fontana

[52] Flaxman, Gregory. 2000: 4 'Introduction' in *The Brain is the Screen: Deleuze and the Philosophy of Cinema.* London: University of Minnesota Press.

In this model, as re-examined by Gregory Flaxman in the introduction to his edited volume *The Brain is the Screen,* time is initially subjugated to space in the cinematic movement-image and thus can only be understood through a spatial metaphor, and this amounts to a normative regulation of thought. In the time-image, however, cinema fulfils its inherent potential for Benjamin's dismantling of auratic authority and time is freed from its imprisonment by spatial relations. For Flaxman the movement-image is directly traceable back to ancient Greek philosophical thought which expressed time as existing actually and externally as *divine* space. The time-image then relates to the shift in thought started with Kant's *Critique of Pure Reason* by which time becomes seen for the first time as phenomenal, interior and durational, as an 'a priori form of intuition', and not as existing externally.[53] Flaxman elaborates how this morally charged shift in Western thought was then reflected by the cinematic shift:

> 'The "regime" of the movement image bespeaks a process of regulation that Deleuze ascribes to a "sensory motor schema", a neural network that "affectively" contains the image-flux: the images procured are recognisable, capable of being linked to other images along a methodical, and ultimately normative, chain. The sensory motor schema is the mechanism of our relation to the world of images, the result of which is narrative, but this narrative must be understood as having been underwritten by a moral exigency, the promise to make good, common sense.' [54]

Thus the divine and moral order promised by external and eternal time, and which provided an assurance of rationality, is radically challenged by the time-image which reveals sensations of time to be flexible and dis-ordered. This shift becomes manifest in cinema in the post-war period of the 1950s and 60s following an artistic crisis of faith in the rational, causal linkage of images that expressed a teleology of change as progress, and which many thought led to the destruction of the war. The clear, consistent, predictable motor-sensory perception projected by the movement-image was seen by

[53] ibid: 4

[54] ibid: 5

many to be expressive of the type of thought that led to the holocaust, and thus there way a felt need to sabotage or undermine it.[55]

Deleuze states that with the time-image's disruption of this regime: 'Camera-consciousness raises itself to a *determination* which is no longer formal or material, but genetic and differential. We have moved from a real to a genetic definition of perception'.[56] With this the time-image ceases to be simply a reflection or 'recapitulation' of this dynamic in Western thought, as the technological apparatus of cinema now takes an active and *determining* role in sculpting a further transformation.[57] To Deleuze, as to Mullarkey, cinema can become in itself a practice of philosophy, which doesn't just reflect abstract thought, but manifests a potential to be its own distinct language of philosophic thought proceeding through visual and aural intensive affectivity. Camera-consciousness, through images, thus raises itself from a *passive-reflective* to an *active-determinative* status and becomes a refraction of thought on reality. It does this most effectively through the tactile, synaesthetic medium of moving-images which mobilises us to think actively about time and space, but still foremost through a non-abstracted state of direct affective immersion. Cinema thus is seen as the medium which best expresses the progress of Western philosophic, metaphysical thought, but then becomes, in the specific historical conditions of the 20th century, the technological circumstance which is the catalyst for a paradigm shift that has the opportunity to push it forward.

Within this understanding, the change in the image relation that occurs in the technological shift from analogue cinematic media to the digital presents us with another evolutionary transformation, potentially amounting to a further paradigm shift. With the digital we see an emergent tendency towards even more profound disturbances in any rational, methodical ordering of images and this can be seen, as with the time-image, to be a 'ethical' fracturing of dogmatic metaphysical authority.

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[55] As discussed by Deleuze in his conclusion to *The Time-Image*, and by Peter Canning in 'The Imagination of Immanence' in Flaxman's *The Brain is the Screen* 2000.

[56] *Movement-Image.* 1986: 85 (my emphasis).

[57] Flaxman 2000.

This would imply then that with the idea of camera-consciousness, Deleuze speaks not just about a subject who exists within a certain technologically-defined contemporary cultural condition, but rather of a subject who is a product of centuries of thought about existence – a complex body of thought which is mediated and affected by the structural and formal aspects of different media forms. Camera-consciousness thus is not inherently to do with the technology of the camera, but pre-exists it. However, the technology of mediation does make a difference in that it *reflects*, holding a mirror up to our process of consciousness, exposing our assumptions and challenging our routines of recognition. It gives new opportunity to experiment with philosophic attitudes which we passively and habitually repeat, and it does so through its own specific visual language.

This does then seem to identify a *specifically* Western subject existing within this philosophic, technological and mediated culture and tradition; but then Deleuze, drawing on Spinoza, raises it to a next higher level, suggesting that all thoughts and images exist together in a state of virtual potentiality on a universal plane of immanence.[58] This is not a transcendent plane, but simply the richness, depth and intensity of the affective reality into which we are already embedded, which exists virtually, and which becomes actualised in the moment of perception and through the activity of conceptualisation. The plane of immanence describes the relation between all images and thoughts and makes us all, that is, the universal subject, an image too within this system. In Deleuze's image-ontology we are denied true objectivity, as we are constantly co-defined by and mingled with the images we stand in relation to. The plane of immanence itself is thus not culturally specific, but it is a field of universal resonance between images and matter, brains and thought, which varies according to the power of control which specific cultures wield over systems of thought and thus over perception. In Foucauldian terms, the cultural perception of what is objectively 'natural' bears no relation to nature, but only to specific discourses by which knowledge and power are symbiotically linked to generate an idea of the natural or normal.[59] This means that on some base affective level which is the meeting point between ourselves

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[58] Schwab, Martin. 'Escape from the Image: Deleuze's Image Ontology' in *The Brain is the Screen*. 2000: 109.

[59] Foucault, Michel.1970. *The Order of Things: An Archaeology of the Human Sciences.* London: Tavistock.

and image, and before the activity of thought as the repetition of categories of difference, we all engage or interface with the virtuality of 'nature' in the same universal way. Affect here becomes abstractly conceived of as a levelling of the socio-political field as a pre-knowing state of potentiality, but a state into which power and knowledge always quickly rush in the act of perception.

Within this idea of a primordially democratic relation of equal images, the human brain, through evolutionary progress, becomes 'a special kind of image, one that opens up an interval in the modulations and variations of the universe. This interval propels what we call thinking'.[60] Following Bergson, thinking is almost always directed by an imperative towards action.[61] Thus virtual images cohere into rigidly concrete entities through the activity of thought as 'dogmatic' belief structures about the nature and behaviour of things, and the activity of totalising grand narratives of reality as closed systems of perception. Cinema as discussed by Deleuze, while originally conforming to this system of containment in the action/movement image, then becomes the form which can alter the 'natural' impulse towards this; it provides in the crystal image an affective break in continuity which refracts and fragments conditioned perception, and creates a schism into which a different perception can seep. Cinema then not only becomes a peculiar cultural, material and technological set of circumstances for images to manifest in our perception, but one that many philosophers consider to be particularly *suitable* for the refraction of reality,[62] away from these closed systems, since it presents us with the coalescence and convergence of all other art forms.

This leads towards a working conception of a universal subject as a virtual image on the plane of immanence, as a 'body-without-organs', who is being currently constituted in a bio-technological society where the technology shows a liberatory and transgressive potential. This is an expanding and furthering of the 'genetic and differential' determination of the modern subject by cinema that Deleuze noted in the *Time-Image*, but in an updated contemporary situation in which the proliferation of digital

[60] Flaxman 2000: 35

[61] Bergson, Henri. 1988. *Matter and Memory.* New York: Zone.

[62] Philosopher's such as Rancière and Badiou. (Mullarkey 2009: xiv)

technologies leads to a potentially more accelerated destabilisation of concrete subject positions within dogmatic and over-arching structures of knowledge.

NOMADISM

The idealised and abstract virtual subject described above does however need to be brought back down to earth, and requires some social and political positioning within the context of this project. There has to be some groundedness to the subject, otherwise there would be no ethical possibility for purposeful action. This need for a measure of socio-political reality leads me to address how to marry the acknowledgement of the actuality of one's specific circumstances with the virtuality of potential becomings presented by the refraction of rigid models of reality through new media technologies. What is needed is not a complete disintegration of structure, but a greater flexibility and a mobile mind increasingly open to other ways of seeing and feeling. This becomes best described as 'nomad thinking', a concept Deleuze elaborates from Nietszche's *Gay Science* to describe the need to look beyond and between systems of representation and analysis to a shifting flux of meanings.[63] Nomadism thus becomes the best methodological position of Deleuze and Guattari's 'full' body-without-organs, which is grounded, productive, and yet not petrified or caught in a repetitive and automatic pattern.

While the concept of the body-without-organs was taken by Deleuze and Guattari from Antonin Artaud's 1947 radio play *To Have Done with the Judgment of God* to evoke the *personal* virtual potential of every-body and an experimental individual creative freedom, the forces which can be said to determine us do so clearly at a social and cultural level and not just at the level of individual consciousness. This caused them in *What is Philosophy?* to acknowledge that between the body and the pure immanence of the BWO is the 'house'.[64] Deleuze evocatively describes that 'the flesh is too tender' for pure becoming, it is only 'the thermometer of becoming' and thus containing the flesh is the house, which can be understood as the ever-present social, cultural and

[63] Deleuze, Gilles. 2003. 'Nomad Thought'. Annotation by Mal Ahern. *Theories of Media* (Winter 2003) Chicago: University of Chicago.

[64] Deleuze, Gilles and Felix Guattari. 1994. *What is Philosophy?* London: Verso.

technological structures of belief that shape our perception. The house is conceptualised as:

> '…the pieces of differently oriented planes that provide flesh with its framework-foreground and background, horizontal and vertical sections, left and right, straight and oblique, rectilinear or curved. These sections are walls but also floors, doors, windows, French windows, and mirrors, which give sensation the power to stand on its own within autonomous frames. They are the sides of the bloc of sensation.' [65]

These walls give structure to the affects of the world, but Deleuze notes in extending the analogy that the house can be either *open* and communicating with the landscape, or it may be 'shut-up' and closed.[66] Through this analogy, he poetically notes that if one's concepts are fixed and rigid, then sensation is well-contained and unlikely to overwhelm, but if one is flexible and open, then a transformative affective potential is unleashed.

To escape this somewhat pastoral scene I turn to Rosi Braidotti to clarify in more pragmatic, political detail the actuality of the house. Braidotti accepts that there are always knowledges and power structures imposing themselves upon our idealised body-without-organs, and that there is rarely any pure-perception without the action-imperative intruding upon it, and thus she stresses the 'urgency of finding new and alternative modes of political and ethical agency'.[67] In *Transpositions: On Nomadic Ethics*, she elaborates a methodological position of theoretical nomadism based on a de-centered subject which can sympathise in a detached way with the myriad subject positions constituted by partial knowledges.[68] She states: 'Non-unitary subjectivity here means a nomadic, dispersed, fragmented vision, which is nonetheless functional, coherent and accountable, mostly because it is embedded and embodied', and which '…far from resting on a steady and unified vision of the subject, rests on a non-unitary,

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[65] ibid: 179

[66] ibid: 180

[67] Braidotti, Rosi. 2006: 33. *Transpositions: On Nomadic Ethics.* Cambridge: Polity.

[68] ibid: 33

nomadic or rhizomatic view'.[69] She here defines a nomadism which is grounded in the affective materiality of the body but which resists an essentialist view of materiality. She also strongly resists any idea that nomadism might be conflated with relativism or nihilistic defeatism, instead suggesting that it is our *only* option in our specific temporal and spatial site of our socio-economic conditions of advanced capitalism and globalisation [70]. She describes:

> '…the global economy does not function in a linear manner, but is rather web-like, scattered and polycentred. It is not monolithic, but an internally contradictory process, the effects of which are differentiated geopolitically and along gender and ethnicity lines, to name only the main ones. This creates a few methodological difficulties for the social critic, because it translates into a heteroglossia of data which makes both classical and modernist social theories inadequate to cope with the complexities… The unitary vision of the subject cannot provide an effective antidote to the processes of fragmentation, flows and mutation which mark our era.' [71]

Against this dissonant socio-political backdrop, we need to assume the mantle of a grounded ethical subject, but one who denies the neo-liberal individualism, self-centredness and relativism which capitalism thrives on through a grounded compassion for other bodies and communities. It invests in the idea of a universal subject, but one that is constructed through a phlegmatic acceptance of one's own geneology; through a studied sympathy with many locally situated knowledges; and instead of the idealised subject of an imagined global community conceived though what Braidotti calls 'the humanistic vision of a unified consciousness'.[72] Nomadism comes to reflect a methodology of ethical collectivity, a tacit acknowledgement of the confines and liberations of society and culture which is nonetheless primarily focussed on affirmative becomings.

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[69] ibid: 4

[70] ibid: 35

[71] ibid: 31

[72] ibid: 36

CONCLUSION

For my research, these theoretical approaches of monadism, nomadism and intuition give me a methodological stance of openness and transdisciplinarity which does not equate to a lack of scientific rigour, but to a necessary interrogation of the temptation towards rigidity, disciplinary certainty and established knowledge. In elaborating an ethical dimension to affective contemporary media I will be positing that the digital technological factors which determine the subject do so to disrupt closed systems of perception.[73] They are generative of new subjectivities that can be seen as flexible, post-human and nomadic. While indulging this affirmativity towards emergent technologies and the subsequent affects and effects, I do need to exert caution, as Braidotti says, 'to steer a course between humanistic nostalgia and neo-liberal euphoria', which is to avoid both idealistic notions of the post-human future and also any blind futurist technophilia, aware of the potential abuses and pitfalls of both positions.[74] As a media theorist it is too short sighted to simply bemoan the end of meaningful grounding in traditional narratives, nor can one celebrate technological advances – such as a classic film being re-released in IMAX 3D – uncritically. It is, however, possible to look at the new affects, relations, subjectivities and cultures that blossom around these events with an eye for their novel and emergent aspects.[75] I aim to assume an optimistic nomadism which attempts to be an evocative yet impersonal, empathetic yet phlegmatic investigation of the new affective topologies generated by the developing technologies. This approach addresses an intimate relation to the vitality of images rather than indulging a detached relativism or disparaging nihilism.

Affectivity poses itself as the concept which these methodological questions and answers are both defined and tackled by. This is to say it both determines the problematic vis-à-vis existing disciplinary theory in that it un-grounds rigid models of

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[73] In chapter seven I deal directly with an ethics of digital media.

[74] Braidotti: 2006: 36

[75] According to the Anthony Lane in the *New Yorker* (March 8, 2010), big money is being invested in technology to convert older black-and-white movies into 3D for re-release. The journalist wonders how affective *Casablanca* will be in this 3D format: 'one is torn between outrage at such blind desecration and a sneaking wish to know—well, what the hell would it *look* like?'

spectatorship and direct 'media effects', and proposes the solution as a neuro-biological phenomenon and also a valid socio-cultural concept. As I said in my introduction to this chapter, the notion of affect provides a democratic conceptual mediator between the individual and the universal; between normative and trangressive images; between narrative and abstract, popular and esoteric cinema; and between postmodern nihilism and techno-utopianism. Affectivity also appears to be the most suitable way to think about subjectivity as the foundation of engagement between reality and individual and collective consciousness. As Braidotti states: 'Affectivity is the key term here and it plays a structural function in the nomadic vision of subjectivity, related to the inbuilt temporality of the subject and thus to what is commonly known as "memory"'.[76] The subject is individually, socially, culturally and biologically constituted by affect, as the body is returned to being seen as the nexus of the multiple streams of selfhood.

Deleuze, in the conclusion to *What is Philosophy?* analogises the work of the scientist, the philosopher and the artist to crossing the Acheron river to the land of the dead, meaning that one has to dissolve oneself into chaos, a zone of complete indistinction, before returning with an idea or concept.[77] But this isn't a concrete concept which enjoys a 'tranquil certainty', but rather a tangent of thought, or a composition – what Deleuze calls a 'secant plane'– as a vector that crosses or cuts through apparent chaotic complexity. In this way, through engaging with affective images of our contemporary culture, I am not looking for governing rules or unity by which to legislate, but for trajectories and processes which will lead, I am sure, to more questions.

Although mine is not principally an empirical investigation with a testable and verifiable thesis, I need to observe the most fundamental rule of observed reality of forming functional but flexible models which have a broad relevance and application. I need then to approach affects as not atomised and completely relative in their effect, even though their resonance may be subtly different for each individual. These mediated affects, I hope to establish, are generally determining of our spacio-temporal awareness, our subjectivity and consciousness in ways that are refractive, fragmenting and generative of new insights at a cultural level. In doing this I have to maintain a

[76] Braidotti 2006: 154

[77] Deleuze 1994: 202-203

speculative stance, like the theoretical physics of cosmology relating to the unobservable machinations of stellar masses such as black holes, or quantum theories which predict and describe the behaviour of photons without knowing exactly why they behave as they do. I can only do this through a grounding in existing thought, and by a philosophically grounded style of intuition. While I won't reach a clear answer to the 'hard' question of consciousness, nor will I empirically establish the existence of affective systems as primitive neurological functions of consciousness (as is the work of Silvan Tomkins and other cognitivist and psycho-biological approaches), I hope to at least establish parameters for the re-examination of images of a contemporary digital screen culture with an eye for their plural registers of meaning

‘A Digital Frontier That Will Reshape The Human Condition.’[1]

> ‘The electronic image, that is, the tele and video image, the numerical image coming into being, either had to transform cinema or to replace it, to mark its death… The new images no longer have any outside (out-of-field), any more than they are internalized in a whole; rather, they have a right side and a reverse, reversible and non-superimposable, like a power to turn back on themselves. They are the object of a perpetual reorganization, in which a new image can arise from any point whatever of the preceding image.’[2]

> ‘The grid... a digital frontier, I tried to picture clusters of information as they moved through the computer, what do they look like? Ships? Motorcycles? Were the circuits like freeways? I kept dreaming of a world I thought I'd never see, and then, one day, I got in.’[3]

My opening quotes sit together perhaps strangely rhetorically aligned – one from Deleuze’s speculation at the end of the *Time-Image* as to the future of cinema in an electronic age, the other from a cinematic fantasy about the possibility of entering into the programmed world of a digital game-space. They both use a spatial metaphor, envisioning a flexible arrangement of images in space and organising immaterial data into a tangible image that might better align with something we could recognise in our everyday perception. Attempts such as these to imagine and then to digitally elaborate how an altered or heightened reality might be perceived lay out the conceptual contours of this chapter, in which I aim to examine the aesthetic project of tackling the digital ontological problematic: ‘the digital frontier’.

This digital problematic can be defined as the contemporary ontological ‘human’ condition within a world defined by digital communication, which is both expressed

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[1] The title of fictional character Kevin Flynn’s visionary book in *Tron: Legacy* (2010)

[2] Deleuze, Gilles. 1989: 265. *Cinema 2: The Time Image*. Minneapolis: University of Minnesota Press.

[3] Character Kevin Flynn’s opening voiceover from *Tron: Legacy* (2010).

and impacted by the media technology into which we are immersed. This condition is one in which we, the contemporary technological subject, spend much of our time interfaced with a virtual immaterial realm in our work and leisure, public and private lives. The evolution of digital graphic technologies has meant that these interfaces are ever more ergonomic and organic in their spatial organisation, and as mental prostheses they augment our social, memory and imaginative processes to the extent that we find it hard to mark a clear boundary between our physical body and our extended 'virtual' mind. Furthermore, these interfaces and virtual worlds behave responsively and intuitively, apparently according to their own intelligent and rational logic; they seem to *act* upon us. It can often seem as if we are interacting with a wilful, intentional other mind, and not just a pre-programmed machine. The new digital milieux impact on us in subtle affective ways as we are mentally and physically conditioned by the media we engage with: game worlds impact our perception to the extent that reality outside the game is de-realised; virtual communities give us a sense of belonging; 3D graphic technologies give us an altered sense of presence in an ever-more immersive environment. Though anyone under forty years of age who has grown up with the constant presence of these technologies now seem to unproblematically accept them, these rapidly evolving types of conscious engagement still continually and subtly alter our habitual sense of presence in the world. We increasingly feel like there are constantly present other-dimensions – either spatial dimensions or dimensions of consciousness (extensive or intensive respectively, if indeed there is a distinction) – into which we can enter at any of a multitude of types of portal or interface.[4]

This changing sense of dynamic presence in the world is also conditioned by a expanding popular awareness of theoretical physics, which since Stephen Hawking's *A Brief History of Time* in 1988, and Bill Bryson's 2003 *A Short History of Nearly Everything*, as well as a plethora of recent TV content about 'the wonders of the

[4] This is a discourse which started in the industrial revolution, suggesting that machines took over our vital tasks giving us only abstract knowledge over previously manual processes, thereby changing our habitual sense of the world and our direct relation to objects – from use-value to an abstract commodity or exchange value. However, in a digitalised era, even machines and commodities are abstractions, and almost all processes apart from the most basic and biological are to some extent immaterial and virtualised.

universe', has given the general public knowledge about the complexities, speculations and ambiguities in knowledge of the universe.[5] Multi-dimensionality, quantum mechanics, holographic universe theory, dark matter or god particles are terms which now seem commonly used in mainstream media, making it into popular novels by Dan Brown, TV series such as *Fringe* or *Doctor Who*, as well as in news coverage such as that of the CERN particle accelerator in Switzerland.[6] It is understood that theories proliferate about the beginning of the universe, and about how the behaviour of sub-atomic particles changes when we study them as if they actually *knew* we were now watching them. The widespread acceptance and cognisance of these concepts (if not true understanding), which emerged around the same time as massive digitisation and the rapid transformation of our work and personal lives through digital technologies, has, I argue, generated a new ontological awareness which is not to do with the magic and alchemy, superstition or mysticism, nor about the psychoanalytic discourse inflected 20th century fascination with the complexities of mind and memory, but rather about the instability of a consistent and stable reality – not only within our mental perception of it, but in actuality. Coming to terms with this shift is humanity's contemporary ontological problematic.

Within contemporary culture, digitally defined media become interested in exploring this problematic, and rapidly evolving digital technologies of expression permit ever-greater aesthetic experimentation to tackle it. The technologies take on their own

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[5] Immensely popular physics TV programmes such as BBC2's *Wonders of the Universe* presented by Brian Cox (2011), and *Through the Wormhole* on the Science Channel in the USA presented by Morgan Freeman (2010), have penetrated popular culture, giving theoretical physics a new very public platform of discussion. These presenters have been dubbed by the Science Channel as 'rock stars of science'. Halterman, Jim. 2010. 'Interview: "Through the Wormhole with Morgan Freeman's Executive Producer Bernadette Mcdaid.' www.thefutoncritic.com/interviews.aspx?id=20100609_throughthewormhole. Accessed 16.09.12

[6] In a multitude of popular TV series such as *Lost, Heroes, Fringe* and *Awake,* as well as feature films such as *The Fountain*, *Donnie Darko*, *Source Code* and the upcoming *Cloud Atlas* (to name but a tiny portion of the popular media with this theme), there is a clear and distinct current cultural tendency or even *preoccupation* with exploring trans-dimensional bridges, quantum possibility and the neurological and psychological implications of this.

volition as the technician becomes both artist and explorer, creating and *discovering* what the new digital technologies can achieve. We now have quickly metamorphosing media forms which have the potential to shock and transfix, offering radically different experiences of reality which are ever more immersive and transporting. The media matrix which both converges in content whilst subdividing into different technological modes of presentation and consumption creates an intricate landscape which maintains its own, self-perpetuating cultural discourse on the boundaries of understanding of the physical world. This is a discursive landscape of related images which we inhabit because of its cultural ubiquity, and it creates a distinct change in our ontological awareness in which we are being guided and led by the new technology and its propensity to imagine and delve into inner and outer dimensions.

This colonial rhetoric is intentional. An observation can easily be made about a primitive human drive, or passion, to explore and gain knowledge of new frontiers. We explored the continents and landed on the moon, mapped the human genome and cloned mammals; now our contemporary frontiers are those of the digital, the quantum field, the dimensional, the neurological and the cosmological.[7] Correspondingly, our aesthetic projections have in the past taken us through the Wild West, to the centre of the earth, to 'space: the final frontier', and to the unconscious mind. Now we look to less material things, and our Western unconscious primal psychosexual fantasies of control and mastery seem to have become more complex rather than redundant in our post-colonial, globalised world.[8] The digital has become both a reflection of, and a metaphor for contemporary existence, where pixels are particles, and virtual spaces become liminal spaces of death and becoming. Due to the ambiguous existential status of this environment, the task of exploring these strange new world is placed almost exclusively in the hands of the imaginative digital media producer, and subsequently, us – as creative consumers of these images – the new digital pioneers.

With the films I am going to explore in this chapter, I look at how an altered reality is imagined and represented through digital processes and digital metaphors, how our

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[8] This 'frontier mythology' is investigated in Geoff King's book *Spectacular Narratives: Hollywood in the Age of the Blockbuster* (2000) London: I.B. Tuaris and Co. Ltd.

physical bodies are placed in relation to these spatialised worlds, how they resonate with what we perceive as everyday reality, and how the border-zone between these world of the film and everyday reality is policed. In *Tron*, a laser digitises Kevin Flynn, converting him into data and loading him into an artificially-intelligent game programme; in *Enter the Void*, drugs and death provide the gateway to a disembodied state of consciousness drifting through digitally distorted time and space. In these moments we are, as viewers, transported from a recognisable world, through digital non-space, into a new dimension which seems unfamiliar and yet which resonates affectively and conceptually with our embodied understandings of everyday reality. Our habitual perception is challenged in a digital dimension where every physical or temporal law is able to be manipulated and distorted.

These imaginative explorations of how everyday reality could be manipulated, distorted and transformed are permitted by digital technology in a way that hasn't been possible before in analogue cinematic technology. As an aesthetic impulse though, it long pre-exists the digital technology which facilitates its expression. This aesthetic impulse, the contours of which are laid out by Deleuze in the *Time-Image*, is at times surreal, at times expressionistic, but always redolent of the affective charge of altered states of consciousness such as dreams, psychosis or hallucination and thus explicitly related to creativity. In a digital era we have an increased ability to render these altered states in intensive and immersive media forms, and it seems that computer-generated images now tend to thematically deal with them in both representational and affective ways. The digital aesthetic project is explored in one facet by Lev Manovich's database aesthetic, but beyond his very materialist understanding of digital aesthetics as pure structural relations of information, the project has greater metaphysical implications for our implicit understanding of relations of force, matter and intentionality, as well as the standard dimensions of time and space.[9] Our consciousness of existence within a digital

[9] Manovich looks to the materiality of data through the prism of computer science to understand the ontology of the computer and its impact upon culture. He concentrates on the modular structure of data to extract a point about cultural modularity: 'Cultural categories and concepts are substituted, on the level of meaning and/or language, by new ones that derive from the computers ontology, epistemology and pragmatics […] We ask about similarities and difference

age, conditioned by popular scientific awareness of theories of quantum mechanics, cosmology and neurology, filters out and is expressed in popular media through highly affective simulations which explore the resonance of these ideas as they might directly affect our minds and bodies. Not necessarily constituting its own genre of digital-themed films, but often overlaid and contained within enduring generic structures, these resonances expressed as digital distortions and manipulations of time, space and object-relations potentially provide an original set of differential relations which re-constitute our fundamental sub-conscious intuition of the nature of reality.

Of course technological development doesn't come free, and a clear cultural critique is that media technology and its content will always be guided by the profit incentive of the market.[10] Critics dismiss the spectacle cultivated by digital technologies as mere frisson, a quickly fading and titillating thrill which leaves the soul deflated. This gives many cause to dismiss contemporary visual culture and to romanticise a by-gone age of classic analogue cinema. While there can be no doubt that capital interest is at the helm of technological advances in one sense, and that this might stunt or restrict creative expression due to the necessity of market appeal, I balance this cynical perspective with a clear idea that the technology has its own will, its own vitality which propels it along. Obviously not all digital media content has worth or validity, due largely to the clumsy impetus of the market incentive, but in my research I look for the fragments and moments of affective intensity within all digital media, which almost incidentally seems to open a door to a completely novel experience of reality – even within a seemingly crude context. These moments permeate the cultural field from high to low as emergent aspects of the new digital ontological condition, and it is these that drive forward what I consider to be the digital aesthetic project – a project that exists within, but has the potential to transgress, contemporary late-capitalist culture.

Through the following films I intend to explore the above concepts of a digital synthesis of an altered reality as a new grammatisation of the real which emerges as an apparent continuation of the aesthetic project of the time-image, yet as affectively distinct from

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in the material properties of each medium [old and new] and how these affect their aesthetic possibilities.' Manovich, Lev. *The Language of New Media.* (2002: 47) MIT press.

[10] See chapter seven for an in-depth analysis of these critiques.

analogue media. In these films, from the Disney produced *Tron* series: *Tron* and *Tron Legacy 3D*, and in Gaspar Noé's *Enter the Void*, I look first to how they relate to Deleuzian film theory in their digital construction of space and their rendering of time, and to the original affective resonances that are created with our conventional expectation. Secondly I look to how they position an idea of the body within computer-generated (CG) environments and what sensations and resonances are deployed and explored in this relation of affective embodiment or imagined physical presence within a virtual plane. Thirdly I look at how these boundaries are managed between the actual and the virtual dimensions of the films to ascertain what affective transference might occur between the differing ontological realms. Finally I ask how these aspects might challenge our habitual modes of inhabiting the real world in a lasting way, looking for emergent dynamics within what might be identified as a new digital ontology.

***TRON*'S AFFECTIVE VITALITY.**

Deleuze states that 'cinema considered as psychomechanics, or spiritual automaton, is reflected in its own content, its themes, situations and characters', pointing out that the French School never ceased to make films about clocks and clockmakers, as did the Soviets make films about industrial machines, in a dynamic by which the mechanics of cinema as time-based medium and industrial activity were metaphorically and reflectively represented.[11] I thus first look to the 1982 film *Tron*, and *Tron Legacy 3D* from 2010, as in the same way reflective of thought on the problematic of the digital as 'spiritual automaton' – in this case in the form of the video game and virtual reality environments. These two films provide a reflection on the ontological problematic of a digital era as regards our consciousness of reality, a problematic that has altered and evolved in the 28 years between the two films' release. The 1982 *Tron* film is also conspicuous in being the first major attempt to thematise and represent the digital virtual using the digital technologies themselves, and thus provides an excellent starting point in my exploration of digital image types.[12]

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[11] *Time Image* (1989: 263)

[12] Interview with conceptual artist Harrison Ellenshaw, in supplemental material on *Tron* DVD. Walt Disney Studios Home Entertainment.

In the opening shot of the original *Tron* we see multiple strata of digital coloured lights and strips in grid patterns stretching into the distance, through which we descend vertiginously and quickly with a controlled smooth motion, before emerging out onto the grid formation and lights of the city streets of some anonymous American metropolis. This morphing confusion, in the superimposition of a digital world of grids and data over the recognisable aerial shot of the city, introduces us to the main theme of *Tron*, that of the fusion and intermingling of two worlds: the digital and the real. The instant resonance created between a disembodied realm of pure information and our material world is a way of approaching the cognitive problematic of immateriality by forming an affective metaphor for embodied interaction, like a form of immersive role-play.

The *Tron* films both set forth to deal with certain aspects of the digital problematic: our struggle to imagine a digital system (such as a game) which functions ostensibly without conscious intention and yet *seems* to interact with us as if it is intelligent; and our difficulty in imagining a truly virtual immaterial space. To this end the original *Tron* film creates a 'real' physical world out of abstract digital non-space, with digital systems conceived of as 'ships, motorcycles, circuits like freeways' and with programmes anthropomorphised into caring, doubting and anxious subjects, or indeed as controlling and power-hungry autocrats.[13] *Tron Legacy* then pays homage to the creative vision of the first film while updating and complexifying the underlying concepts be more appropriate to an advanced digital culture. While in many ways just a graphic update of the 1982 *Tron* world, it also expands on the metaphoric content of the first film, that of the game system as a microcosm of society, and introduces the idea that this utopian simulation of society could have evolved and changed through time, becoming a 'digital frontier that can re-shape the human condition' (the tagline to the character Flynn's book in the film).

In *Tron* Kevin Flynn is a software designer who has been excommunicated from his previous employer ENCOM and from his own game designs by the power-hungry executive Dillinger who has stolen his ideas and passed them off as his own. Dillinger has installed an artificial intelligence 'Master Control Programme' (MCP) on the

[13] See the opening of this chapter for the longer version of this quote and citation.

company's mainframe where the game programmes run. This MCP has grown in power and intelligence and now controls Dillinger by blackmailing him with information about his crimes. To prove the theft of his work, Flynn breaks into the company building and the mainframe computer, but the MCP is aware of this and uses a laser developed to convert matter into data to dematerialise Flynn and project him into his own game world – where the MCP maintains totalitarian control. The digitised Flynn is forced to play death games with other player-programmes, but by collaborating with others he manages to break free of the game space. They travel through a digital wilderness landscape to find and destroy the MCP that controls access to the digital world. During this journey Flynn discovers that as a 'user', a creator of the programmes, he has unique powers to manipulate matter and energy. He eventually finds and destroys the MCP and is freed from the game to set the record straight, and to take control of the company ENCOM.

In *Tron Legacy,* set in the present day, Kevin Flynn's son Sam was orphaned by the unexplained disappearance of his father when he was young. Drawn back to his father's old game-arcade he discovers a secret room where there is a computer and laser. On being digitised into the virtual world, Sam Flynn is equipped for the games, and while engaged in deadly combat he is exposed as a user. Here he meets Clu, who looks identical to his young father but states that he is not, and who puts Sam back in the games to meet his death. Sam is however rescued by Quora, who takes him into the wild zone to meet his actual father. The real Kevin Flynn, who has aged, explains that he had set about creating a new perfect digital society in the game world, and had created the programme Clu in his own image to assist him in the task. However, when the system started to generate emergent programmes as new forms of life, he realised he has been wrong to try to *programme* perfection, and that the emergent intelligent life-forms were the far more important discovery. Clu didn't understand this revelation, and banished Kevin, subsequently engaging in an ethnic cleansing of the emergent programmes and sticking firm to his original 'programmed' vision of social perfection. Sam understands that he must get out of the game to delete the Clu programme and free his father and he is assisted in doing so by Quora. They soon realise that Clu is assembling an army with which he intends to bring his fascist vision of a perfect society to the real world outside the game. They do battle and Kevin and Clu end up destroying

each other, while Sam and Quora (who turns out to be the last remaining emergent life-form) escape the game into the real world.

I would suggest that the main psychological themes explored in these films are about our perceived omnipotence in a digital environment, which relates to the human fantasy of the power to control action, to create matter, to die and be reborn as immortals. In *Tron Legacy* we are also introduced to a competitive father/son psychological dynamic with both Flynn and Clu, and Flynn and Sam. The social themes can be seen to relate to capitalist control over our choices (in the figure of the corrupt CEO), the threat of humanity being superseded by technology (Artificial Intelligence), but also of the liberatory potential and utopianism related to digitality. *Tron Legacy* also engages with the ills and errors of modernism, and the meaningful role of the individual in society as a dialogue between individualisation and care for the other. In both films however there is also a meta-narrative about faith/belief, where losing faith is understood as disbelief in both god and in forms of social idealism. Furthermore there is in both films an interesting attempt to metaphorically deal with unfamiliar technological concepts. In *Tron* the script clumsily takes the jargon of computer terminology which would have seemed relatively unfamiliar at the time, and anthropomorphises it into real and recognisable relations of space and matter. Thus 'de-resolution' equals death, and nanoseconds become real measurements of distance (Lora: 'We can't do it, there isn't another junction for at least 7 or 8 nanoseconds. It's too far.'). *Tron Legacy* more sophisticatedly deals with the technological prosthesis of memory – with the 'disc' as memory storage device, with the digital degradation and pixilation of flashback images, and also with the interesting and topical concept of 'emergence' in computer systems.[14]

These explicit and implicit representational themes which can be teased out by semiotic 'textual' analysis of the narrative and mise-en-scene, while interesting and relevant, are not, however, my primary concern. What I wish to discern as distinct from, though intertwined with these concerns is that which passively emerges from the organisation of images, what emerges affectively as through another internal structural and intuitive logic. The enduring quality of these images is, I propose, not the obvious potency of

[14] These themes are explicitly explored in the work of Manuel DeLanda in books such as *Philosophy and Simulation: The Emergence of Synthetic Reason.* (2011) Continuum: London.

them on the first viewing – which could be attributed mostly to narrative tension and cathartic denouement – but rather their implicit vitality in their innovative construction of the pro-filmic spacio-temporal, energetic and material relations. These formal dynamics set them out as striking and new with a high impact on the viewer both within the affective moment and in longer circuits of cultural memory, as the technology permits for the first time a completely novel experience of an altered reality. This is what allows them to endure as germinal moments in cinema and to influence new generations of media creators and consumers. I think the obvious influence of *Tron* on films such as *The Matrix* (1999) is due not simply to the superficial equivalence of content and theme, such as sentient programmes, A.I. and computer simulation in general, nor of the pioneering technological use of the hybridisation of computer animation with live action, but is on another level to do with the imbued sense of space (depth), power (force) and affective intensity in a simulated reality environment. This seems to be a part of the digital grammatisation which *Tron* sets in motion, and it is this aspect of the films as a passive synthesis of affections which I wish to explore further.

AFFECTIVE RESONANCE OF *TRON*

The opening sequence of the 1982 film, as mentioned above, creates a distinct and purposeful resonant equivalence between the aerial grid-formation of a 'real' cityscape and the simulated lights, grids, patterns and streams of data in the represented digital game world. This equivalence becomes extended and even more intense as the film proceeds to disorientatingly sketch out the two dimensions within the narrative. In the first shot we descend through strata of grid-like light patterns until we hit the real grid of the night time city streets lit up by streetlights and signs, which is initially rather difficult to distinguish from the digitally generated objects. Immediately after this we are plunged further down into the street scene with an establishing shot of Flynn's Arcade, and then we proceed into the arcade with the bleeps and squeaks of the games on the screen and the young people milling around between them. We jump to the 2D screen of the game (in the picture above) with the light cycles crossing it, and then once again we descend another level to alight on the grid pattern of the digital game environment with its very striking and sharp 3D digital visual effect of the light cycles crossing the frame. In only a few seconds of screen time we have been thrust down from a digital space floating as it were above the city, down to the familiar spaces of the

street and the game arcade, and then further down again into the virtual insides of the game. This kaleidoscopic journey is seen from a very different and shocking POV to any conventional camera shot, and which is difficult to negotiate in any common-sense way within the moment and even on repeat viewings (perhaps even more so as we come to appreciate the virtuosity of this sequence). After this descent from the actual world to the virtual, we have a confusing back and forth montage between the digital space and the real world, in which we struggle to understand the relationships between the real-world characters and their digital avatars in the game world. Finally we jump back to the 'real' world (in a more stable sense), but confusingly this is to a reality in which a neon red-lit helicopter passes through the night sky, practically indistinguishable from one of the 'recogniser' craft that fly through the digital space.

This initial sequence lasts for a full seven and a half minutes at the beginning of the film in which we are challenged to actively and strenuously negotiate with the images, disorientated between what is real and what is imaginary (or virtual) within the ontology of the diegesis. Again at the end of the film, after the plot denouement, and once we have learnt and understood through narrative exposition how to better negotiate the frontier between these dimensions, in the very final shot of the film, we see a static aerial shot of a day-time cityscape which time-lapses into a night-time vista in which the city lights and the lights of the traffic seem to morph back into the imagery of the digital. This final affective resonance of a transition from the digital to the real, as in the very first shot of the film, operates as a perceptual metaphor of literal similarity which seems to liken the city to a computer programme or circuit board, and the traffic become as streams of data within the circuit. The city *is* a circuit board and a game space.

The concept expressed here can be seen to be a confusion or interchangeability between the ontological landscapes of the film, and this suggests that the themes presented in the film may have 'real world' implications. The affective dynamic could be said to reside in a aesthetic de-familiarising of the city and of recognisable spaces in general, as we come to feel that just behind the façade of our perceptual real-world is an alternate digital dimension just waiting to break through. In the film's book-end shots of the morphing aerial cityscape, I suggest we are given a *sublime* visual metaphor which passively and subconsciously works to instil certain feelings; a sensation of doubt (as a

misrecognition or unfamiliarity within the landscapes), a creative aesthetic reaction (seeing objects or relationships between them anew), and then a visceral sensation of empowerment experienced as a sensation of wonder or rapture. I propose that this sense of empowerment makes a subtle enduring change in our perception of reality, which starts in the momentary bodily sensation but extends into the mind as an altered sense of future possibility.

A further sequence which seems to carry a particular affective resonance comes in *Tron* when Flynn carries the injured character RAM into a safe place to rest. Flynn discovers here that he has the god-like power to reassemble digital matter into one of the recogniser ships. RAM notes 'you shouldn't be able to do that!' as the module in which they are standing elevates into the air, and the ship's components levitate up to take their place on the craft (while the music swoops and crescendos to emphasise the sense of wonder). This brings RAM to the realisation that Flynn is indeed a 'user', one of the creators of their world, and we share in his rapture as the ship assembles. This magical ability of the lead characters in the film to manipulate space and matter seems as a powerfully affective metaphor for our actual human power to omnipotently create (program) in the digital world. In *Tron*, as also notably in *The Matrix*, the lead character here learns that matter itself in the digital simulation can be created, reformed and destroyed at will. This forms a conceptual resonance with the scientific narrative exposition from the character Dr Lora about the laser which can suspend matter as atoms in a laser beam, store it as digital data and then later reassemble it as matter, and further with our real world knowledge of atomic materiality.

In the imagery of the film metaphors of matter as data and electricity as bodily energy are rendered affectively embodied, with corporeal life-force visualised as 'resolution', corporal punishment taking the form of a leeching of power, reward being a new power charge and death being a 'de-rezzing'. Death manifests in *Tron* as a fluctuation of colours, a pixilation and then a fading (in the death of the character RAM), and in *Tron Legacy* as a shattering into metallic 'pixel' cubes. I would say that this rendering of these concepts as corporeal metaphors, expressed through relations of resolution and dissolution in the imagery of the film, creates the passive sensation of the instability of matter, or of the continuity of the atoms of the body with those of the environment. Again, what I suggest is cultivated by these affectively resonant images rather than by

the narrative elements, is a corporeally experienced doubt or unease, proceeding to an aesthetic negotiation, and ultimately to a pleasurable empowerment based on a new perceptive capacity. Furthermore, beyond this aesthetic reaction our visceral experience of the potency of the protagonists in the virtual world of the film transfers to reality outside of the diegesis, and the viewer thereby experiences a corporeal sense of 'virtual' empowerment like that of the electrically-charged characters in the film. There is an affective overlap between ontological realms due to the metaphoric content.

Tron and *Tron Legacy* give us affective relations of space, matter and force as a way of stimulating imaginative, non-conscious metaphoric thought about digital immaterial processes – by simulating an environment where they become materialised. These dynamics are expressed through an idea of the body; the body is the medium onto which these dynamics are traced. Immaterial programmes are literally 'embodied'. This is done through simulating physically contoured spaces which are charged with implicit meaning in their landscapes, and we identify with these spaces through the anthropomorphisation of data and programmes into the humanoid entities which inhabit them. We empathise with these characters through their real presence and their interactions with each other and with the space.

Tactility and physicality thus emerge as highly significant as they render the space real and humanise the alien environment with an emotional resonance. The games they play in the *Tron* films testify to this tactile spatiality, as the characters have to leap around in space to avoid dropping into an abyss. A further moment of heightened physicality is when the characters Tron, RAM and Flynn find a pool of energy as a 'pure source' which they are visibly excited to drink from with their cupped hands. Later the digital programme of Lora palpably expresses her anxiety by drawing close to and touching both Tron and Flynn. These emphatic and melodramatic expressions of touch and body movement stress the corporeal humanity of the immaterial spaces and data. As a consequence we emerge from participating in the film-world feeling a different relationship towards digital (game) spaces which is based on a modified imaginative and embodied sensation of tactile presence in what previously would have seemed an abstract conceptual dimension. This coherent embodied vision of 'virtual reality' first seen in *Tron* thus created a powerful cultural resonance which has fed onto many other films like *Lawnmower Man, Brainstorm, The Matrix* and even *Avatar*. These films

together seem to have served a psychic need to deal with the ontological problematic of the digital as given to us at the time of their creation.

While in my analysis these metaphoric and affective resonances do have a cultural and psychological imperativeness to them, film theorist Sean Cubitt belittles their enduring significance within a context of the commodification of the film object, stating:

> 'The transition from the diegesis of the film to the social realm of the multiplex, even the emergence from video or DVD viewing to the familial space of the living room, is not without a certain frisson. The border state too has its significance, especially in the diminution of intensity coupled with a heightened alertness to whatever quirky events might occur outside the theater. An aura of wholeness persists, fading, as you make your way home. In comparison with the cultural engagement of the classical film, digital Hollywood denegates culture, raising it as the last alternative to society and state only to create it as the moment of its vanishing".[15]

Cubitt captures a common conception that dismisses as superficial and as mere 'frisson' the experience of spectacular exhilaration at the digital film, a sensation he claims bestows a false sense of fulfilment, while we are merely cultural dupes to the capital interests behind the studio system. But who can say that they never, even momentarily, felt lighter on their feet, more clever, more agile, or simply more *able* after engaging with a movie? Who also can say that they have never watched a film that made them doubt their perceived reality, that there might *actually* be a monster under the bed, or that there might be Machiavellian forces behind the appearance of order? Furthermore, who can say that they really felt cheated after having a personally stimulating, challenging and transporting cinematic experience? On one level these are cognitive reactions to planned and calculated stimulus, and the effects are easy to cynically dismiss as capitalist, spectacular manipulations of cognition and emotion. However, the intense and meaningful resonances they create with our affective systems of corporeal cognition, and with our more ingrained evolutionary, involuntary and pre-conscious

[15] Sean Cubitt. 2004: 269. In the chapter 'Technological Film' of his book *The Cinema Effect*. MIT Press: London.

modes of awareness, can emerge even though the intentional use of visual technological devices as gimmicks.

Of particular interest to me is Cubitt's discerning of a 'border state' as the moment outside of the cinema where the diegetic reality of the film still seems somewhat intensively real. He describes a 'heightened alertness to whatever quirky events might occur outside the theater' and 'an aura of wholeness which persists' with some clear distain, and yet it is exactly these types of effect which I seize upon as a sign that there is indeed an *overlap* of realities, a frontier zone, in which our body feels the actual presence and force of the fictional world in the real world as *affectively real*. This zone of overlap can be dismissed as foolish and insubstantial, and consciously pushed to one side, or otherwise it can be savoured and explored for the enduring resonances and subtle modifications it may contain.

VIRTUAL ONTOLOGY AND THE EMBODIED SPACES OF *TRON*

Having tried to establish the meaningful affective resonance between the real and virtual worlds in *Tron* through its process of a graphic embodiment and anthropomorphisation of notions of the digital virtual, I now look towards its more material and formal fabrication of relations of space, time, energy and matter to see what emerges as its own synthetic realism. I then ask what these dynamics might give to our experience of reality during, and also after the film, as potentially lasting effects. What emerges is a clear dynamic between body and space specific to this kind of aesthetic reaction to the problem of digital immateriality.

Film theorist David Rodowick in *The Virtual Life of Film* examines the popular impulse within the purely digital CG image to create a perceptual 'photorealism' which mimics the analogue process of cinematography.[16] This dwells on light, colour, texture, movement and sound as a 'nested hierarchy of cues that correspond with our understanding of these phenomena in daily life'.[17] These cues are encoded conventions from the history of analogue cinema which create an impression of reality in the image,

[16] D.N Rodowick. 2007. *The Virtual Life of Film*. Cambridge MA: Harvard University Press.

[17] ibid: 102

but as Rodowick points out, despite its potential to play with and modify these perception conventions, in digital cinema there is an exaggerated impulse towards realism.

> 'Having a modular structure composed of discrete elements whose values are highly variable, the powers of the digital image derive from its mutability and susceptibility to transformation and recombination. Yet the criteria of perceptual realism reinforce, even exaggerate *spatial* coherence. They strive to be more spatially similar and more replete with spatial information than photography itself.' [18]

As Rodowick goes on to explain, however, this creates a paradoxical concept of realism, an almost *perverse* hyper-realism based only on a perceptual density and exaggeration of spatial information which panders to a 'rather restrictive and circular concept of realism'. This realism is not the temporal realism that Rodowick (and Deleuze) identify in photographic and cinematic, analogue media, but a reality 'effect' based principally on geometrical relations. However, despite this curious photographic hyperrealism, what emerges as distinct from the photographic for Rodowick is that the ontological focus is shifted from reference to a real past to a (future) imaginary. He explains:

> 'The key point of reference now in the ontology of the digital will be to mental events – not physical reality moulded to the imaginary, but the free reign of the imaginary in the creation of images *ex nihilo* that can simulate effects of the real world (gravity, friction, causation) while also overcoming them.' [19]

In the *Tron* films then, I look to how the recognisable and orienting spatial markers of reality are simulated digitally, but more significantly how they are made to express *more* than reality. There is an imaginary effect here. In one sense this is obvious, since the *Tron* world is completely synthetic and fantastic with conventional cues towards a photographic style realism, but it also serves as an 'overcoming' of reality and a

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[18] ibid: 103

[19] ibid: 104

heightened experience of digital space. What emerges passively from these images then is a new synthesis of relations of space, time and matter, a synthesis of reality which corresponds more to a mental or psychological affective realism rather than a physical one, and one which seems to take cinema in a radically different direction. In describing these spatial dynamics, I aim now to show how an affective psychorealism is given which diverges from, and 'overcomes', the real world.

In the digital *Tron* dimension there is first the game space, completely controlled by the Master Control Programme. This is a pure Euclidean space outlined on a grid (or in concentric circles) and the objects within it (the light cycles) move in straight lines through wide expanses. This space is the governed, overseen, regulated space of the game and this narrative fact is reflected in its precise ordering of space. This space also reflects the mentality of the games' subjects, who are imprisoned, disempowered and struggling existentially over whether or not there is a creator and thus a meaning to their lives.

However, when a vehicle collides with one of the walls of this ordered space, the immaterial-looking wall cracks and crumbles asymmetrically, and it is through this symbolic and literal crack that the characters escape into an 'outside' space. In this outside space we are presented with a landscape of digital caverns and canyons stretching far into the distance, precipitous drops and outcrops, and numerous places to hide as compared with the blank open surveillance space of the game-space. The surfaces are all grand, smooth geometric shapes with sharp angles and wide open vistas stretching infinitely far into the distance and in this construction is expressed a sense of discovery, wonder and freedom, highlighted by the orgasmic moment of discovery of the 'natural' source of power in a fresh spring. Despite this relative freedom from monitoring, the outside is mapped on the wall of the control room and is populated by the organs of military control, the tanks, which carry the threat of death into the open landscape.

In stark contrast again we have a third digital space which lies in between dimensions, through which the digitised Flynn descends before arriving in the digital world. This space is distinctively immaterial as we speed past fractal blossoms spreading across the

screen, into a tunnel suggestive of Alice's rabbit hole, and then out into the darkness of an abyss with grids and patterns floating past, proceeding into complete darkness before alighting on a topological curved surface space of the 'planet' of the game, and eventually the city of the game centre, like a maze, where Flynn finally re-materialises in a room. It's a second technically impressive and disorientating journey in the film through multiple (non-)spaces, and this seems to express the loss of materiality and the disorientation experienced by the character Flynn who, without knowing what has happened, has just been sucked into a laser and uploaded to the game.

What is impressive about these constructions of space; the first ordered, the second 'wild', the third almost completely abstract; is that it is one of the first times that digital animation graphics were extensively used in a movie, employing four of the most advanced graphics companies of the time. While they may appear primitive now compared to something like *Avatar*, they are nevertheless very consistent with the design of the whole film, including the costumes, thanks no doubt to the work of the three production designers (including Syd Mead who had just worked on *Blade Runner*, released in the same year).[20] So what we are presented with is perhaps the first internally coherent and believable world (and between-world) generated by computer, and definitely the first visceral aesthetic viewer-experience of an imagined 'virtual' reality that was not a dream world or science fiction alien planet. This cannot have been taken lightly, a truly original image, which even while creating partially recognisable landscapes, and within a recognisable sci-fi genre formation of abduction into an authoritarian regime and being forced to play games (e.g. *The Running Man*), did so to render them quite unfamiliar.

However, in terms of the continuous, causal, spacio-temporal relations of the movement-image being dissolved as is seen in the context of the time-image, what we are actually presented with here is a fairly consistent world of causality and intentionality, riddled with extended representational metaphors for real-life freedoms, faiths and anxieties. This is more the territory of the sensori-motor-schema of Deleuze's action-image, and seems hardly radical in its organisation, with clear markers as to where the boundary between the actual and virtual worlds of the film lie and are

[20] Patterson, Richard. August 1982. "The Making of Tron". *American Cinematographer.*

traversed. Yet despite this representational coherence, on an affective level, we become for a moment, especially in the digital transition *between* worlds (as in the opening sequence described above), dissolved in an immateriality which resonates metaphorically with our abstract knowledges of atomic fields and virtual digital worlds. I propose that this in some subtle way changes our individual passive and habitual micro-perceptions of the behaviour of matter and space. As the first of the effects of this kind, it also opened a door to a wave of similar and ever more complex images, and together these form an affective matrix which enters into common consciousness.

What I am more broadly suggesting here, per Rodowick, and using *Tron* as example, is that in the shift from photographic, analogue image capture technologies to digital synthesis we see an emergent differential, a new ontology of images based on a mental-image. He states:

> 'Synthetic imagery is neither an inferior representation of physical reality nor a failed replacement for the photographic, but rather a fully coherent expression of a different reality, in fact, a new ontology.'[21]

This new ontology is based not on photographic indexical realism and its direct preservation of past moments and memory, and thus shifts away from being predominantly about temporality and duration. Digital images do however qualify as 'signs of art' in that they offer up something new which is ripe for philosophical investigation. Their passive synthesis offers us the repetition of conventional constructions of space as markers of realism, and yet in this repetition there is the unconscious distortion, mutation and displacement of the 3rd synthesis which hampers any dismissive and facile recognition. There is the creation of an affective metaphor which, often playfully, occasionally violently, demands a new synthesis of perceptions and concepts. The digital image brings in an original automatism in its structural and affective relations, which are more about simulation, modulation, distortion and 'elastic reality'.[22] Within this new simulated reality we negotiate an imaginary relation with our bodies; we project our virtual bodies across boundaries and through portals into the

[21] Rodowick. (2007: 176)

[22] ibid (2007: 170)

strange and curious new environment to see how it feels, and consequently, we feel different.

ENTER THE VOID: DIGITAL AFTERLIFE AND HALLUCINATION

I turn now to explore a contrasting though similarly de-realised and virtualised digital cinematic environment that nonetheless takes a radically different approach to the digital ontological problematic; the 2010 film by French director Gaspar Noé *Enter the Void*. This is a 160 minute 'psychedelic melodrama' which is an intense visual journey which seems, unlike *Tron*, to more literally explore the temporal themes of Deleuze's time-image as the 2nd and 3rd syntheses of time.[23] Its length announces it as a durational and experimental piece, not exactly mainstream fodder (though not quite an art film), which is at times thrilling, erotic and also intensely boring, possibly annoying, in its seemingly mindless repetition of events and shocks.[24] The film is also interesting since despite not thematizing the digital in any way narratively, every single scene was digitally altered (Noé says two thirds of the film was post production –'It's the most CGI-intensive specialty film I've ever seen') rendering it distinctively unreal or 'virtual', though often not in any clear discernible way.[25]

The spaces of the film are mostly of the real world, and despite some hallucinogenic mental scenarios fascinatingly seen from the mind's eye as if traced onto the back of the eyelids, the spaces are recognisable and seen from the first-person POV of the protagonist. However, this visual relation is dramatically altered when he is shot in the

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[23] 'It is long. It will hurt your eyes. Enjoy the trip.' said Noé presenting the film at London Film Festival 2009. http://www.filmshaft.com/enter-the-void-london-film-festival-review/ (October16th 2009)

[24] Peter Bradshaw in his *Guardian* review states: 'Some may find Enter the Void detestable and objectionable, though if they affect to find it "boring" I will not believe them. For all its hysterical excess, this beautiful, delirious, shocking film is the one offering us that lightning bolt of terror or inspiration that we hope for at the cinema.' *Guardian.* Thursday 23 September 2010.

[25] Harris, Brandon. 2010. 'The Trip: Interview with Gaspar Noé'. *Filmmaker* 19 (Summer). Accessed 12.09.12

chest in a bar toilet, and as the flickering images of his dying eyes slow and fade out, he leaves his bodily POV, and we assume the floating and god-like view of his disembodied consciousness. He witnesses his own body dying beneath him and then moves away above the streets, stripped of his body and his voice, but not of his (omni)presence in the lives of those around him.

What this instantly poses as a striking contrast to the *Tron* films is that instead of projecting the idea of a body into an imagined or virtual space, we have the removing of the body from real space to achieve a radically different kind of bodily relation to reality. Instead of the tactile emotional affectivity of the connected bodies of *Tron* which serve the purpose of making the immaterial dimension of digitality feel more human, we have instead a detached, drifting and strangely in-human inhabiting of the 'real' world where traumatic events and heightened melodrama are rendered eerily cold and unreal. Both films pose us, however, with altered states of consciousness inflected by the digital, and the direct relation of this to embodied presence. Both films also bring in a complex new relation of space, time and matter, and crucially both achieve these 'impossible' effects through digital technologies.

The film commences in real time with the protagonist Oscar in his Tokyo flat taking the hallucinogenic drug DMT. His friend Alex arrives and they converse about the themes of the *Tibetan Book of the Dead* while leaving the house to sell drugs to Victor, a young friend waiting for them at local bar, *The Void*. When Oscar sits down with Victor, police burst in to the bar. Oscar runs to the toilet to flush his drugs, and is shot through the toilet door by the police. He dies on the toilet floor and leaves his body. He floats through the city streets to find his sister who is working as a stripper in a dance-bar. He witnesses her having intercourse with her boss. What follows is a disorienting and meandering, achronological flashing between scenes from Oscar and his sister Linda's lives together through which we piece together their history, and then on to Linda and Oscar's friends' lives after his death. Their parents are killed in front of them in a horrific and terrifying car accident. They are separated from each other into foster homes. Oscar moves to Tokyo and becomes a drug dealer to save money to bring his sister to live with him. His naïve sister gets involved with drugs and the sex industry. Oscar is shot by the police. Linda has an abortion. Linda and Alex sleep together in a love hotel. A baby is born… Many of these scenes are repeated over and over from

different angles and with jarring or disorienting cuts between them. On two occasions Oscar's consciousness enters into another of the characters. It seems like the film moves from more a concrete reality in the past of Oscar's memory, to a breaking down of the boundaries between reality and hallucination in the future as the real Tokyo city merges and morphs into a luridly coloured fantasy city.

AFFECTS AND AESTHETICS OF *ETV*

Clearly what is being explored thematically here is the space between life and death, a haunting of the lives of those who remain, and a contemplation of a life – a metaphysical exploration of its meaning (or lack thereof). Narrative facts are discovered, emotions are expressed, but the narrative details do not seem to be the most important thing here. The emotional resonances come across as somewhat detached and cold and it seems we are not supposed to care about or empathise with these characters too much. So while the emotional mood is bleak, what emerges affectively is something entirely different. This is something between the images, in the movements of the camera/gaze and in the breakdowns, repetitions and fragmentations of the narrative space into Deleuzian 'any-space-whatevers'. As in *Tron*, the first space presented is the recognisable metropolis, and we are taken from here on a journey through which the coherent and recognisable relations of this space are digitally distorted, re-imagined and rendered unfamiliar with disorienting, swinging camera angles, impossible (in analogue technology) god-shots and digitally morphing landscapes. This bleak examination of the fragility of our conscious grasp of existence is affectively composed through highly abstracted relations of space, time, colour, shape and sound achieved in digital post-production, where the boundary between what is actual and what is virtual moves ever more towards being completely blurred. In the aesthetic experiment of the vivid, visceral digital rendering of an altered state of consciousness as virtual environment, we have a potent synaesthetic affective metaphor which confronts and 'does a violence to' our habitual understanding of space and time, but also of memory and experience. This particular type of time-image, harnessed, evolved and augmented through the digital process, and explicitly experimental in its treatment of space and duration because of this, I propose is in a broader sense passively altering our ability to think about and express our thoughts on life, reality and perception in general.

Asking exactly what does emerge as highly affective from these abstract structural relations, I could speculate that the gaudy colours and cheap forms of the sex clubs of Tokyo testify to the cheap and fake thinness of human relations or of reality itself, or that the languid motions and speech of the lead actress Paz de la Huerta express an affectively contagious detached apathy towards one's own body, life and work, but I feel that drawing direct lines between specific structural aspects to (necessarily) intangible affects is difficult if not somewhat misguided (though many textual analysts do attempt to engage in this kind of work). However, speaking in a less specific sense, what can be said to emerge intuitively from the affective dynamics of the film as a whole is a sensation of a lightness of being or a thinness to existence; an impression of our alertness to the virtual or hallucinogenic aspect of reality in general, particularly the hyper-real, hyper-mediated urban environment; and a nihilistic perception of the banality of human drama in the face of an eternity of death and rebirth. As a reflection on memory, imagination and dream states, the film with its drifting POV shots and jarring cuts also certainly presents us with an philosophic image of processes of consciousness which might offer new insights and perceptions about how we subliminally organise, replay and develop memories and moments in our minds.

Rather than digitality itself qualifying the sensory experiment of *Enter the Void,* drugs initially give the thematic backdrop for these aesthetic explorations of altered consciouness (Alex [speaking about the hallucinogen DMT]: 'It's the same chemical that your brain releases when you die. It's a bit like dying is the ultimate trip'). The tone is set in the first scene when, left alone in his flat, Oscar smokes a pipe and we enter with him into the intense visual hallucinations in his own mind for almost a full five minutes. These fractal patterns and flowing, organic forms which shift in colour and throb obscenely have almost no indexical perceptual correlate in reality other than in actual drug-induced visual hallucinations. We know at this early point in the film that this is the affective register that the film will be working in, a digitally heightened visual and aural intensity that doesn't mimic habitual perception. While drugs provide the initial grounds for this imagery, it is soon the contents of the *Tibetan Book of the Dead* (explained by Alex at the beginning of the film to be a description of the experience of consciousness after death) that becomes synonymous with the 'ultimate trip', and thus the spiritual journey of a soul after death is explicitly thematically linked to the hallucinogenic drug experience. While the expressed relations of space and time are

clearly influenced on a conceptual level by drugs and death rather than explicitly by the digital itself, this is an apt example of how the digital renders these relations affectively; the relations of the inner neurological state and the disruption thereof, perception, recognition and our sense of being in the world coming apart at the seams.

It is in-between and intertwined with the representational images of diegetic events that we find the digitally generated flashes of coloured lights, seemingly aimless floating aerial street shots with the movement of vehicles like toys below us, the layering of mundane but de-realised sex scenes, and the hallucinogenic flourishes of alien tendrils intruding into psychic space. However, the most crucial and defining shots in this film are the transitional movements between spaces characterised by the continuous and disorienting swinging motion of the camera, the heightening of the visual and aural intensity and the entering of the camera into tunnels and enclosed spaces, not unlike the transition between worlds in *Tron*.[26] The film presents us with multiple any-space-whatevers, in streets, in clubs and in a lighting store as seemingly disconnected spaces without narrative purpose, and the movement between these spaces render them temporally unplaced. These are all the brush-strokes of digital manipulation and modulation, and it is these digital transitions and transformations that in the end principally define the feel of the film. The aesthetics of the digital here permit the rendering of this transition into an altered state of consciousness in a heightened affective form.

This is not to say that similar 'digital' aesthetic style, jarring, and complexly graphic spatial effects were not achieved in analogue media, occasionally with animation and superimposition (for instance the dream sequence in Hitchcock's *Vertigo*), mirrors (e.g. Cocteau's descent into the underworld of *Orphée*) or simply through eccentric montage (e.g. Lynch's descent into the radiator in *Eraserhead*), but rather that this mode of expression reaches something like its *ideal* form in digital media, which is sustained for

[26] Interestingly, *Tron* is cited as a stylistic influence not because of the digital connection, but rather, as Noé states: 'Everything seems like it's made out of neon lights. When people smoke DMT, they say, "Oh I thought I was in the movie *Tron*." Everything is made out of bright lines.' Hart, Hugh. 7th Oct. 2010. "Tron-Style Visuals Drive Enter the Void's Psychedelic Death Trip". *Wired.* Condé Nast Publications. Accessed 16.09.12.

an entire 160 minutes in *Enter the Void*. Instead of these moments being contained within the sort of surreal or hallucinogenic dream sequences that in the classical Hollywood image serve as a disruptive break in the linear narrative, the digital permits the entire film to become a twisting and changing maze like neural synaptic connections, where there is no clearly defined reality external to the images. This comes to be like a fully affective dimension, where narrative and representation become shifting and ambiguous threads woven into a tapestry of sensation which one has to feel one's way across without any specific trajectory to follow. With the breakdown of any clearly marked boundaries between the ontological domains of the film, we must negotiate and explore these images affectively before attempting to draw out any explicit conscious meaning.

Defying and therefore bypassing the analytical cerebrum which would organise sensation into recognisable units within familiar structures, this experimental breakdown of boundaries yields more passive sensations and durations which enter dreamlike, as if by osmosis, into our subconscious lower minds as semantic and procedural memory. I propose that the more intense and longer lasting this experience of immersion, and the more regular our exposure to like experiences, the greater the chances are that we will start to instinctively feel the overlapping of the two dimensions of the actual and the virtual with their distinctive ontologies as a very real part of our everyday reality. A bombardment and cultural immersion in the images of simulated psycho-real inner-worlds and altered consciousness is part of the dominant new condition of digitality as a grammatisation which takes a differential, immanent and genetic role in percept and concept creation. Contra certain perspectives that would say that this kind of intense affective exposure might lead to derangement, I propose later in this project that this must have an *ethical* effect, as we truly begin to open our minds to different co-existing and emergent realities.

THE NIHILISTIC DIGITAL TIME-IMAGE

Enter the Void appears to be the digital time-image tour-de-force. It seems to be exactly what Deleuze tantalisingly refers to as the 'electronic-image', with a 'right side and a reverse, reversible and non-superimposable, with the power to turn back on themselves,

perpetual reorganisation…in omni-directional space'.[27] With its folding, drifting and aimless repetition we have layer upon layer of POVs from the hallucinatory, to the godlike, to the intimately implicated. We feel as if all the events of these characters short lives are spread out like a screen database in front of us, and that we are negotiating hyperlinks between desires and traumas, dragged this way and that by temptations and the harsh interjections of memories in the psyche of the protagonist as his life; past, present and future (leading up to his reincarnation or re-birth), all coexist in the moment of his death. These diegetic events negotiated by the hyperlinks of impossible camera movement and digital effects, come to seem exactly like Deleuze's description of the electronic screen, as 'an opaque surface on which are inscribed "data", information replacing nature, and the brain-city, the third eye, replacing the eyes of nature', as the disembodied consciousness of Oscar roams through digital omni-directional (non-)space.[28] The film thus principally expresses an ontological relation to the digital which, in contrast to the *Tron* films, explores its immateriality, the impossibility of touching it.

Within this aesthetic experiment into the digital rendering of a dissolved, fragmented, and disembodied consciousness, emerges a first distinctive thread of digital cinema's original psychomechanics. This seems to be the extension of the modernist paranoid imagination of a loss of humanity through the estrangement of the flesh in an increasingly technologised reality, heralded in films as early as Lang's *Metropolis*. However, this paranoia in the digital age becomes the idea of the complete loss of the body in a digital colonisation of the mind. Rather than the cyborg imagination of *Metropolis* or *Videodrome* as a fusion of flesh and machine, we have instead dying and shrivelling corporeality in a mental dimension of pure imagination. This emerges as a strong thematic trend in digital CG cinema, in films such as *The Matrix*, *Gamer*, or *Inception*, where the physical body withers, grows obese, or simply is neglected and fades into insignificance as one's mind become fully immersed in the online virtual world.[29] Media theorist Andrew Darley aptly describes this concern while paraphrasing

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[27] *Time-Image* 1989

[28] *Time-Image* 1989: 265

[29] This sense is literalised one again in ETV in an abortion scene where we see the discarded foetus in a steel kidney-dish in the surgery. This stands as symbol of the ultimate abjection of,

the postmodern critique of Paul Virilio:

> 'In the event of the triumph of electronic simulation systems life will literally become film a "spatial and temporal hallucination", the individual totally at the mercy of an electronic terminal. Indeed, Virilio invokes the nightmarish scenario of the "cadaver-like inertia of the interactive dwelling" in which ensconced in "residential cells", individuals of the future occupy "a canopy bed for the infirm voyeur, a divan for being dreamt of without dreaming, a bench for being circulated without circulating".'[30]

This corporeal detachment also in a way comes to seem perfectly Deleuzian, the theorist who, in making consciousness cinematic, dissolves the body into a virtual image amongst other images where the 'actual' body can come to seem of little significance – a *becoming brain of the body*.[31] *Enter the Void* seems broadly in line with Deleuzian metaphysical theory in which the tactile body in movement, the sensory-motor schema, becomes some kind of undesirable tether to an inflexible and bare-repetitious model of reality.[32] In this aspect the digital can be seen to be the ideal and natural conclusion of Deleuze's image-ontology, despite his hesitance to embrace it in his concluding remarks of the *Time-Image*.

In direct contrast, *Tron*'s overstated tactile humanity addresses the same problematic but through a heightened corporeal relation, and this emerges as a second aesthetic address to the psychomechanics of the digital. This is to analogise digital process to tangible corporeal, social and cultural processes and to render it as intimately implicated

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and disgust at, our fleshy humanity (The film does however end with the birth of a child, a redemptive re-birth of the protagonist).

[30] Darley, Andrew. 2000:187. *Visual Digital Culture: Surface Play and Spectacle in New Media Genres*. London: Routledge.

[31] There is a continuing theoretical difficulty in marrying a Deleuzian concept of the body with that of the Deleuzian brain. For greater insight into this difficulty with Deleuze's work, see: Laura Guillaume and Joe Hughes (eds.), *Deleuze and the Body*, Edinburgh University Press, 2011. Also, Gregg Lambert and Gregory Flaxman, 2005. 'Ten Propositions on Cinema and the Brain,' *Pli: Warwick Journal of Philosophy*, vol. 16: 114-128.

[32] This aspect of Deleuze's rendering of the body is strongly critiqued by Hansen (2004:xxi)

with the body through the placing of 'actual' bodies within the virtual spaces, heightening the significance of gesture and movement as affective dynamic forms. *Tron* places the touching/feeling body within a hyper-space with clear and recognisable contours. *Enter the Void* subtracts the body and renders space as discontinuous, mutating and unreal. Both images thus create an affective bodily relation, generating sensations which stimulate a kind of kinaesthetic, corporeal knowledge and awareness of this other dimension which we feel ever more close and present.

A DIGITAL NIHILISM?

Deleuze states:

> 'It is the time-image which calls on an original regime of images and signs, before electronics spoils it or, in contrast, relaunches it'.[33]

I'm not sure, however, that Noé anticipates that *Enter the Void* will be lauded as a cinematic metaphysical breakthrough in line with Deleuze's idealised 're-launching' of the time-image. He states nihilistically that it is about the vacuity of humanity, and that is not about life, memory and the afterlife, but rather about the fantastic dream of some loser who was stoned out of his mind when he died. Praised for its technical innovation and surreal vision, it is also attacked for its puerility, cliché and pseudo-philosophy – all reactions of which I think that Noé anticipated and invited.[34] So while successfully creating a severe disruption of generic form, he seems to almost be parodying and ridiculing the time-image and the profound, liberating or transcendent affects and effects that this should afford. Is this what digitality can afford us, a satire of metaphysics itself?

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[33] *Time-Image* (1989: 266)

[34] The film was described by one reviewer as: 'A lame fusion of stoner lifestyle, sexual fetish, and philosophical inquiry…A mash-up of the sacred, the profane, and the brain-dead'. Longworth, Karina. 22nd Sept 2010. 'How to Hallucinate Without Drugs: Watch Enter the Void'. *The Village Voice*. Accessed 16.09.12

What I believe *Enter the Void* presents us with is a pure Nietzschian future vision or 'eternal return' – that which Deleuze equates with the pure essence of creativity.[35] Dwelling on death, re-birth and the apparent futility of existence, the film expresses a strong nihilistic sensibility to the extent that it even ridicules its own spiritual affectations. For Nietzsche, confronted with the absence of teleology of moral progress in his theory of the ambivalent constancy of energy in the universe, any meaningful action, will, morality or faith in the identity of things become false gods.[36] For Deleuze also, the third synthesis of time is imagined exactly as the event of a nihilistic crisis of faith in the 'bare' repetition of difference when a mutation occurs, a rupture which draws identity and structure into question. This requires an abandonment of any secure ego perspective as we are forced to think anew about what was taken for granted, but is now rendered unrecognisable. While seemingly bleak in its violent confrontation to habitual perception, the concept of eternal return is, to Both Deleuze and Nietzsche, also the pure nature of becoming. It therefore comes to be the central tenet of Deleuze's 'will to art' in that it demands creativity and further synthesises the 'new' and a passive sensation of the still-to-come: a freedom and a liberation from structure.

Enter the Void's digital layering, repeating, distorting and the consequent intensification of affect serves to expose the falsity and pretension of cinematic chronological time and to fracture any structural predictions the viewer might have. If the third synthesis of time makes evident the faults in the repetition of difference, then the repetition and digital manipulation in *Enter the Void*, which repeats the same action from different, often gyroscopic camera angles, and hallucinogenically alters the image until it gradual morphs into a different reality, makes evident the breakdown of any firm perspective to the point of ridiculing or satirising it. This leads to an instability of perception, so just when you think that you can orientate yourself in some kind of narrative, we are confronted with another jarring shock or mundane any-space-whatever which serves to return us to the standard bemused and drifting state which the film demands. We do

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[35] See my literature review (chapter two) for a full discussion of Deleuze's third synthesis of time as a 'sign of art', theoretically aligned with Neitszche's concept of 'eternal return'.

[36] Faulkner, Keith Wylie. 2004. *Deleuze and the Three Syntheses of Time.* PhD Thesis, University of Warwick.

however become intoxicated with this immersive vision of an afterlife which is also an image of a drug-addled consciousness in which the viewer consequently becomes quite temporally disoriented, unsure of how long one has been watching. However, within these images potentially lies a more radical evolution in the time-image through digital processes; it ceases to be simply about temporality or the relationship of time to space, but rather becomes about consciousness itself, a consciousness which is not reducible to duration alone. This can be seen as not belonging to a relation of past and present, but can instead be analogised to an online and offline model of reality.

DIGITAL IMAGES OF THRESHOLD CONSCIOUSNESS

What these films – *Tron*, *Tron Legacy* and *Enter the Void* – present us with is an image of an imagined virtual reality like a creative projection of an in between state of being. This is a digitally-sculpted simulation of an inner-world and altered consciousness which resonates metaphorically with the real world and real perception within it, but which offers a heightened or 'hyper' relation to it. What interests me is not so much the ontological implications of these states themselves, be it dream, death, drugs or psychosis, but the digitally-influenced aesthetic forms used to generate these effects, and the impact that these dynamic relations as affective images have on our embodied perception and conception of reality in general. Moreover I am looking at what is decisively different about the images constituting these dynamics to ask the questions: in what ways is digitality more aligned with permitting alternate visions of the experience of reality than analogue images? And is this purely reflective, or actually generative of ontological discourses or *knowledges* (in a less specifically 'conscious' sense than that of discourse)?

In *Tron* we have a representation of an immersive virtual environment where space and materiality is questioned, dissolved but ultimately reconstituted as relations of desire, power and resistance, and always played out against the materiality of the human body. In *Enter the Void* time and space, as well as desire and power are folded towards a dissolution of purposive action in a disembodied, drifting and aimless hypnagogic state in disorienting non-space. For me these are both expressions of a threshold consciousness which are affectively constituted, and are done so effectively through a digital medium. These affects cause us, as participants in the hallucination, to reflect on

our processes of consciousness of any ontological landscape, and to *feel* differently about consciousness in general. This becomes not just about the automatism or ontology of the digital-image, or the ontology of the world represented within the image, but also about the epistemological and phenomenological questioning of how we come to know about reality, how we come to acknowledge what is real, and how we manage the boundary between actual and virtual.

In the aesthetic conventions of traditional analogue screen media (what would otherwise be known as classical Hollywood mainstream images), but also more generally in cinematic images inclusive of 'art' or avant-garde images, the boundaries between the actual and the virtual are very clearly demarcated.[37] This is often done by representational devices such as the fracture or cracking of the 'looking glass' (in for example Cocteau's *Orpheé*) or by falling into some kind of 'rabbit hole' or vortex as gateway or portal, which along with aesthetic devices such as the graded-film look of the flashback or the shift into technicolour as cues (as in *Wizard of Oz* and Powell and Pressburger's *A Matter of Life and Death*), clearly point to the different temporal or virtual status of the images. In these moments we as spectator become aware that we are entering into an alternate universe or altered state of consciousness, be that a dream world, psychosis, drug-induced hallucination, or death. These analogue effect were sometimes blunt, sometimes magical, but were always limited by the technological constraints of the necessity of having a pro-filmic *actual* event or filmic chemical process such as colour-grading. Now, digital CGI effects can simply and quickly mimic all of these effects, but in having their own volition and emergent qualities, we see an exponential growth of modulations and mutations in the creation of ever more clearly realised, yet in many ways unrecognisable, alternate worlds. While they do affectively heighten these transitional moments between dimensions, as we have seen in *Enter the Void* and in *Tron*, even more than this they have the capacity to blur the boundary, as if

[37] There are of course striking exceptions to these conventions from 20th century film, for example Powell and Pressburger's *The Red Shoes,* in which a large portion of the film is of unclear virtual or real status. However, even in this film there is a subtle moment when she steps through the silhouette of a man, and this does seem to mark the division between fantasy and reality. There are also clear breaches of this code from early cinema, prior to the dominance of the narrative film, for instance in the illusionistic films of George Meliés.

the two are merging and blending. Thus we have the real world, the recognisable and conventional cinematic milieu of reality, becoming changed and twisted; or indeed we have the alternate world breaking through into our own. This tension at the threshold between worlds becomes one of the main dynamics both thematically and aesthetically in contemporary digital CG films and television.

Deleuze noted this tension in his distinction between the first time-image, the recollection-image or the dream-image, and the second image of time, the crystal-image.[38] In the recollection-image, we have a time-image well contained and contextualised by an otherwise coherent construction of time. In this image we are made aware (not necessarily in the moment but certainly later to the 'attentive' viewer) that we are exiting linear time and that time has 'forked'. As Deleuze describes:

> 'The relation of the actual image to recollection-images can be seen in the flashback. This is precisely a closed circuit which goes from the present to the past, then leads us back to the present. Or rather, as in Came's *Daybreak,* it is a multiplicity of circuits each of which goes through a zone of recollections and returns to an even deeper, ever more inexorable, state of the present situation.'[39]

Thus in films like Gondry's *Eternal Sunshine of the Spotless Mind*, or Tarkovsky's *Mirror*, or even Lynch's *Mulholland Drive,* there are extended moments of temporal and dreamlike disorientation which nonetheless seem to lead back to a clear present moment and linear narrative – even if we have to do some mental labour or repeat viewings to achieve this understanding. For Deleuze this also usually applies to the dream-image: 'The dream-image is subject to the condition of attributing the dream to a dreamer, and the awareness of the dream (the real) to the viewer',[40] and thus the boundary is still always marked and maintained by the explicit tethering of the altered states to a character in actuality who is doing the dreaming.

In the crystal-image however, we feel disoriented in time, unable to work out exactly

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[38] *Time-Image* (1989: 98)

[39] ibid: 48

[40] ibid: 58

where present actuality lies in the shifting between memory, present and future.

> 'We find ourselves here in a direct time-image of a different kind from the previous one: no longer the coexistence of sheets of past, but the simultaneity of peaks of present…This second type of time-image is to be found in Robbe-Grillet, in a kind of Augustinianism. In his work there is never a succession of passing presents, but a simultaneity of a present of past, a present of present and a present of future, which make time frightening and inexplicable.'[41]

Digital CGI seems ever more suited to this blurring of parallel presents, a kind of multi-dimensionality. However, I would propose that due to this facility in dealing with time, it actually seems to dwell less on the temporal zones of past, future and present, and delves further into an inner world of the imagination.[42] Deleuze speculates on this shift away from the temporal dimension in stating: 'Perhaps there is a way to go beyond this split in the large (temporal) circuit, through states of reverie, of waking dream, of strangeness or enchantment'.[43] In the practically infinite flexibility of represented reality within the digital image, it feels like this is exactly what we are presented with: inner worlds, virtual domains and imagined dimensions as simultaneous presents, waking dreams and worlds within worlds. What this reveals to us, rather than purely temporal dynamics (which increasingly come to seem like the privileged metaphysical relation of film) is relations of space, force and matter. These affective dynamics of the digital image resonate with contemporary scientific discourse, but also with dream worlds, the 'offline' world in which magical combinations appear, and logical inconsistencies which are simply accepted rather than scrutinised for lack of naturalistic accuracy. In this 'digital' aesthetic mode of reception we increasingly accept these worlds as they are, filled with discontinuous elements which metaphorically figure the uncertainties of everyday reality.

This 'digital' aesthetic of the blurred boundary zone seems synchronic with Deleuze's Nietzschianism, which amounts to an abolition of any moral will to control, and a

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[41] ibid: 101

[42] Indeed this is the subject of Patricia Pisters 2012 book *The Neuro Image.*

[43] ibid: 59

profound openness to new becomings and new possibilities. When the boundary between worlds ceases to be policed, and actuality ceases to be protected in its integrity and coherence by the clearly defined rubicon, we are free to linger and creatively and to aesthetically explore the border zone. What is most thrilling about these border zones is the stimulating rush we have in crossing over, and the excitement of not knowing when we shall be back. And why does this boundary crossing thrill us so much? Only because it mimics and stands as metaphor the way that we police the borders of our own consciousness, between the waking state and sleep, and of our own sanity. As analogue cinema mimicked and was synced in with our temporal awareness in our 'camera consciousness', and with our capacity to temporally manage and edit our memories within core-consciousness, so digital cinema seems to ever more mimic and explore the way that we manage our sane relation to everyday reality and recognise the virtuality of our dreams, fantasies and altered states of consciousness.

CONCLUSION

Speaking of a new grammatisation provided by digital media through which to describe or think about reality, I was led to consider how time and reality are passively synthesised, that is, affectively constituted differently in digital media from analogue media. *Tron* and *Tron Legacy* represent the outer limits of the ability of the CG technology at the time to express spatial relations and thus to draw the viewer into the generated virtual environment of the film. This appears to be experienced phenomenologically as a pleasurable exhilaration, liberation or empowerment, which I posit is not just a fleeting and meaningless intensity, but rather a more permanent, even physical neurological change (albeit subtle) which in small increments alters our intuitive sense of everyday predictable reality. *Enter the Void* similarly expresses a virtual plane of existence, but does this by taking a real-time everyday reality and then twists, folds and layers it up to gradually break down all semblance of recognisable reality. In doing this we slowly lose touch with any sense of the cinematic temporal present and we are cut adrift to wander through images, creatively negotiating them, accepting them without trying to impose order or explicit representational meaning on them.

In these equations of consciousness and reality, we negotiate with the images through a notion of bodily presence within an imagined space, and the image of the body in these films is massively significant. Physicality, flesh and touch emerge as main reference points in their representational analysis, with *Tron*'s characters always touching and holding each other to verify their humanity, and *Enter the Void*'s characters estranged and abjected from the flesh. These relations to the body and the flesh to space, first deeply connected, then discarded and abjected, provide the two main dynamics with which to creatively think about the digital ontological problematic of conscious presence and interaction within a virtual immaterial realm. Images like this in the history of the moving image have posed an affective metaphor which becomes a grounded, embodied and visceral starting point for any higher-level contemplation of the different ontological landscapes within our consciousness of psychosis, hallucination or near-death experience, now inclusive of the digital. As humans we discourse on these spiritual problematics in the only way we know how, through the fabulation of virtual realities.

DYNAMIC SPACES, BODIES & FORCES: THE DIFFERENCE THE DIGITAL MAKES

While the last chapter focussed on how image makers address the existential problematic of the digital by reflecting on the relation of body and space through the digital 'lens', this chapter focuses more directly on the technological, structural and formal aspects of digital screen media to expand on its original synthesis of sensations of the body and movement within space. In doing this I look at the new architectures and topologies of space, the affective dynamics of movement, rhythm and gesture within these spaces and how they have impacted on our awareness of metaphysical qualities from a *genealogical* view. These structural dynamics are expressed in content which includes the renderings of bodies, objects and 'vitality forms' in computer-generated imagery and in digital slow-motion as well as in hybrid forms mixing CG animation and live action, and also incorporates the technological forms of presentation such as digital 3D and digital IMAX which also impact upon these dynamics.[1] In describing the new affections of rhythm and movement in these projected and screen images I aim to elaborate a digital visual regime which offers up an emergent intuition of presence and possibility within the world. It is a heightened, distorted and 'hyper'–spatial relation within digitally generated imagery which generates distinctive impressions of time, movement and force as bodies and objects move within the image. These impressions are generated primarily through a haptic, bodily address which, instead of positioning the media 'user' in a passive and static spectatorial position at optical distance from the framed image, involves them in an ever more immersive

[1] 'Vitality forms' are referred to by Daniel Stern as being a more abstract phenomenal sensation of intensity which incorporates time, force, movement, space and intentionality but which is not *only* expressed through the literal movement of a physical object or body, but also through sound, aesthetic experience, or any 'happening' which expresses 'energy, power or force in motion'. In discussing new modes of image creation and presentation, I wish to maintain this more expanded and abstract sense of movement as an energy or intensity, even when I refer to the movement of an actual body or object. Stern, Daniel. 2010. *Forms of Vitality*. Oxford University Press

kinetic play of bodies and surfaces which is palpably felt within the user's body as affects of corporeal intensity.

In contrasting these digital effects with analogue media, one can ask if they offer a real *progressive* shift in affections of physical/metaphysical forces, or is their impact merely a relative relation to what we are habituated to at the moment of emergence of any new media technology? This is to ask if the affective force of the digital image is, in this time, in any way *qualitatively* different to the effect of, for instance, early cinema on a public accustomed only to still images. The comparison seems an obvious one and yet the question is not so easily reducible to a relativistic position. One needs to appreciate broadly that with each technological shift in visual modes of expression comes about a new synthesis of perceptual reality and thus of metaphysical awareness. This is not a progressive teleology of aesthetic expression leading to greater enlightenment, though it is often described as such, but it is rather an evolving symbiosis between (technological) forms of expression and thought about reality.[2] As the birth of cinema reflected the changes occurring in modern life of industrialisation and urbanisation and the experienced compression, regimentisation and re-articulation of time and space at that time, digital media seems to reflect more contemporary existential concerns of post-

[2] The discourse of a progressive teleology of media posits cinema as the convergence of all previous aesthetic forms towards an ideal form of realist representation, with digitalisation as a continuation and honing of this process. It further posits 3D stereographic imagery as the next technological breakthrough after moving images, colour images and cinematic sound on a trajectory to perfectly mimicking natural perception (this is critiqued by Thomas Elssaesser in his 2012 talk 'The Return of 3-D: Logics and Genealogies of the Image in the 21st Century', which I discuss below). The realist narrative was boldly critiqued by Jean Louis Comolli in *Machines of the Visible,* where he points out that technological advancement towards realism is not purely technical but is instigated by ideological notions of what constitutes the real, an 'ideology of resemblance'. He states: 'What is at stake in the historicity of the technique are the codes and modes of production of 'realism', the transmission renewal or transformation of the ideological systems of recognition, specularity truth-to-lifeness.' Comolli, Jean Louis. 1980:133. 'Machines of the Visible.' in *The Cinematic Apparatus*, ed. Stephen Heath and Teresa de Lauretis. London: Macmillan.

industrialism, secularism and theoretical physics.[3] This is not about representation, identification and the telling of stories, but rather about the passive syntheses of more ambiguous expressions of vitality; of physical forces, of materiality and of course of time and space.

My aim is thus to document what original dynamics emerge in digital media as compared and contrasted to any previous time. Some of these dynamics appear to be the extensions of aesthetic impulses from the utopian hopes of early cinematic pioneers finally brought to fruition by digital possibility, while others seem to offer something truly emergent, unanticipated and original. While it is always productive to examine the genealogy of visual media to ascertain the historically consistent drives and impulses which affect contemporary visual media – pointing out the repetitive claims to *revelation* that new technologies consistently make – this can be quite a reductive process as it dismisses the truly novel to focus only on its precedents.[4] There is an

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[3] Cinema theorists such as Tom Gunning and Scott Bukatman have analysed the social context of cinema at its birth, asking who 'used' it and for what social purposes. (Tom Gunning, "The Cinema of Attractions: Early Film, Its Spectator and the Avant-Garde" in Thomas Elsaesser (ed.) *Early Cinema: Space-frame-narrative*. London: BFI Publishing, 1990; Bukatman, Scott. 2003. *Matters of Gravity: Special Effects and Supermen in the 20th Century*. Duke University Press.) Pasi Valiaho also examines how early moving images expressed new scientific and medical discourses of the body of the time, rearticulating bodily rhythms and durations, and thus also shifting corporeally rooted thought about reality. (Valiaho, Pasi. 2010. *Mapping the Moving Image: Gesture, Thought and Cinema circa 1900*. Amsterdam University Press: Amsterdam.)

[4] For example, in the historical work of theorists such as Ian Christie and Andrew Darley true novelty and originality is consistently de-emphasised since it was essentially foreshadowed by something similar in the past. Darley, Andrew. 2000. *Visual Digital Culture.* London: Routledge.

Christie, Ian – 'Beyond the Screen' – talk given at the Fulldome conference march 2011 in Birmingham's *Thinktank* Science Museum about the history of 'thinking beyond the screen' from the 18c Phantasmagoria up to the success of 3D today.

This playing-down of novelty is also an approach taken when dismissing new technological progresses in special effects and in presentation: a 'we've seen it all before' attitude. e.g. Roger Ebert on 3D in *Newsweek* 2010 who states: 'Whenever Hollywood has felt threatened, it has

imperative to recognise and focus on the original, emergent and different, without dismissing it as bare repetition, or worse still disparaging it as damaging to the glorious integrity of prior sanctified technological media forms. Therefore, I aim not to cultivate an opposition between analogue and digital media, but to assess the difference that the digital makes, and one would find it hard to deny that there *is* a difference in the visual content of our cinematic images of the last 35 years – the time period I here identify as our modern digital era.

At first, the emergent technologies of expression, in whatever era, with whatever technology, have a pronounced novelty to them. They shock or surprise audiences, and invariably a mythology arises around these first shocks; as it did for the Lumieres' *The Arrival of a Train at La Ciotat Station,* and as it did for *Avatar* 114 years later.[5] This 'wow' effect of new technology thus does not change through the centuries, but its effects and affects quickly become accepted, habitual and part of the prevailing 'default' expressive regime. Any sense of revelation quickly dissipates as the images become part of the normative structure of the media content. For this reason we must be observant as to what subtle changes these shifts do make to our awareness of the world, the differences in *kind* which affect consciousness, since we so quickly become habituated to them, and so quickly forget how the world seemed different before.

I initially engage in a short analysis of each of the two main technological shifts in the history of the moving image: first of the photographic images of movement by Eadweard Muybridge and Etienne Jules Marey and the scientific and aesthetic impact

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turned to technology: sound, color, widescreen, cinerama, 3-D, stereophonic sound, and now 3-D again.'

[5] Both mythologies here circulate around the audience struggling to discern reality from screen content. Both Tom Gunning (1990), and Stephen Bottomore (2000) examine various reports of audience reactions to early film in an attempt to document what he calls a 'myth of origin', also known as the 'train effect' after the alleged shocked reaction of viewers to the Lumières' film *Arrival of a train at La Ciotat*. Bottomore, Stephen. 2000. *The Titanic and Silent Cinema*. Uckfield: Windmill Press. Gunning, Tom. 1990. "The Cinema of Attractions: Early Film, Its Spectator and the Avant-Garde" in Thomas Elsaesser (ed.) *Early Cinema: Space-frame-narrative*. London: BFI Publishing.

I discuss the related '*Avatar* syndrome' in the following chapter.

they had; and then of the emergence of the first digital images within mainstream cinematic media and their distinctive formal features and affectivity. My point is to show that both these technological shifts instigated their own specific dynamic modes of expression of reality that have been developed upon and carried forth in subsequent moving images.[6] These expressions of reality arrive as 'revelation' before quickly becoming incorporated into their own seemingly transparent or common sense visual regime. Even though their original affective power still persists, they become too easily recognised and dismissed. Each of these two image regimes perhaps can be best defined formally by their spatial or topological features, and these formal aspects structure (but do not necessarily contain) the organisation of affects of temporality, force and kinesis. Furthermore, each image regime positions the viewer, audience or user within a spatial dynamic, varying between one of relative contemplative or analytical distance, or of immersive closeness and interaction. As users of the image we are affected by and drawn into these spatial dynamics which imbue us with a sense of (close or distant) presence within the screen image, affected by the means of presentation (cinematic, televisual, D3D or IMAX for example) and by the syntheses of space and movement within the screen image.

While elaborations of space do seem to be the principal distinctive factor in the digital screen image, these three dimensions cannot be abstractly considered without the changing dynamics of movement or bodies and objects within them, and furthermore, the technologies used to capture or render these dynamics. Thus with each screen combination of these factors we have a technical relation of figure and ground,

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[6] These synthetic dynamics can be thought of as a form of 'sensori-motor schema' identified and described by Deleuze in the concept of the action-image. Deleuze describes that the main characteristic of the movement-image is to contain and subjugate temporality within dynamics of continuous space and linear and causal action (*Movement-Image.* 1986). While Deleuze valued the liberation of time from its rational spatial containment by the action image in cinematic time-images, in digital screen media these sensory-motor-schematics can instead be a kinetic confusion of complex spaces, surfaces and bodies which expands our potential affections of time, movement and force. These are affects foreshadowed but not fully described by the time-image, not the clear separation of time and space, or the total annihilation of rational space, but instead often an almost hyper-coherent or increasingly complex constitution of a unified *spacetime*.

synthesising an affection of motion or energy, and dependent on compositional and structural aspects of the frame and represented space – normally reflecting some assumed conventional rules of physics. However, within the digital image, these rules can be malleable, changeable and breakable. With the new digital screen technologies we more often feel the shock of the impossible or a euphoric pleasure of wonder when confronted with images of movements within virtual spaces which defy our conventional understanding. We experience an aesthetic pleasure at the stretching, disruption and suspension of our models of physical possibility; effects which are specific to the digital. We enjoy an interactive experimental play with the image through which we can explore a new sensibility of bodily presence, form and power; this kinaesthetic sensibility to a certain extent is honed by the different technological means of image capture and presentation.

After a brief historical description of the technological shifts which impacted upon formulations of space, time and bodies, I move to analyse why these shifts are significant for consciousness. By using the work of Maxine Sheets-Johnstone and Erin Manning I ask how the kinetic dynamics between bodies and spaces are foundational in understanding our presence and position in the world, and how this is in turn foundational to thought, in Sheets-Johnstone's words, a 'thinking in movement'.[7] Having established the pivotal importance of these spacio-temporal-energic dynamics for consciousness I then look to very contemporary examples within digital screen culture which express these dynamics, first through dance and its inherent and explicit use of the body to explore space – recently enhanced with digital 3D technology – then through the epic battle-scene and its showcasing of heightened digital effects of movement and space in digitally enhanced environment. This leads me to discuss what I see as the emergent distinctive features of digital spatial dynamics, with the digital 'neo-baroque' style going in hand with digital 3D to define a new digital image regime. I engage with exponents and critics of this new image regime through Angela Ndalianis, Sean Cubitt and Thomas Elsaesser, identifying a decisive shift in digital screen media which proves to be a *difference-in-kind* as regards our ways of metaphysically

[7] Sheets-Johnstone, Maxine. 2009:56-58 *The Corporeal Turn: An Interdisciplinary Reader*. Exeter: Imprint Academic. Erin Manning. 2009. *Relationscapes: Movement, Art and Philosophy*, Cambridge MA: MIT Press.

positioning ourselves in the world. My analytical emphasis here is always on developments currently occurring in digital culture and the objects which incarnate these developments – objects which express new synthetic relations of body and space, figure and ground, form and consistency.

'MOVING' PICTURES: SCIENTIFIC VS. AESTHETIC TRUTHS

The British photographer Eadweard Muybridge is often credited with creating the first 'motion pictures', bridging the gap between photography and cinema with his invention of the zoopraxiscope in the 1870s.[8] His original commission was to document the movement of a horse's legs to solve the argument of whether a horse's hooves all left the ground at the same time. To do this he set up a row of quick-capture cameras which were triggered by threads tripped as the horse galloped past. The result was a series of closely sequential photographs which could be animated by being shown in quick succession. For this purpose Muybridge invented his own screening device, with the images on a spinning glass disc through which light was projected. Similar perceptual animation effects had been achieved with the zoetrope (using illustrated images) for over a thousand years in the East, while in the West it had only emerged in its modern form in the 1830s. However, in the 1870s Muybridge's zoopraxiscope proved to be the first *projected* image of movement which could be used for public display rather than for the individual user. Simultaneously, in France, Étienne Jules de Marey had embarked on similar research to capture the movement of humans and animals by capturing multiple successive images of a body in motion, using his chronophotographic gun which took 12 images per second within a single frame. Though these images could not be animated in the same way as Muybridge's, they nonetheless conveyed a vivid impression of motion, force and temporality.[9]

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[8] A contentious issue, with many claiming to have 'invented' the moving image, when in truth the invention was the product of several working in the field. For background see Brian Clegg. 2007. *The Man who Stopped Time: The Illuminating Story of Eadweard Muybridge: Pioneer Photographer, Father of the Motion Picture, Murderer*. Washington DC: Joseph Henry Press. Also: Braun, Marta. 1992. *Picturing Time: The Work of Etienne Jules Marey*. University of Chicago Press.

[9] Braun 1992: 43-47.

The images that resulted from these two early pioneers of the 'moving' image were the first to capture real movement in an indexical fashion using photographic technology. It is clear that previous to this, human perception was incapable of grasping the minutiae of movement, unable to know the motion of the insect's wings, of an invisible air-flow, or of a horse's hooves. As such this was initially solely a project of valid empirical scientific research, but it developed quickly into an object of public fascination, opening the minds of the public to previously hidden complexities of biological and physical realities. It had an aesthetic appeal in its new formal expression of a short moment, expanding time, stretching an infinitesimal duration into a form which could be studied or explored at leisure. In this way, a new visual technology managed to impact upon the common perception of time and force in a way which took the viewer into the immanent heart of movement through an aesthetically pleasing affection of real motion.[10]

While Marey's impetus was always the scientific documentation of movement and force within disciplines of anatomy and physics, Muybridge tended towards a more aesthetic goal. For Marey, the technology served only to increase our positivistic knowledge of the world, and he had no interest in the inherently illusory nature of perception. Perception was for him a faulty and unreliable process which held us back from adequate objective knowledge of the world, and the chronophotographic technology he devised was thus to 'supplant the insufficiency of our senses' and to surpass the limitations of the eye.[11] Muybridge, though within a pseudo-scientific auspice, tended to the more theatrical, and crafted images which were often narrative, titillating or impressionistic rather than carefully documented researches. He often engaged in the swapping out of individual shots in a sequence to conceal gaps or inconsistencies and to give a better impression of smooth motion, and his aim was always to create a more pleasing and aesthetically acceptable final result.[12]

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[10] Braun 1992: 254

[11] ibid: 255

[12] ibid: 238. Braun states about Muybridge: 'he saw himself, and always referred to himself as an artist' ibid: 54

Between these divergent tendencies of Marey and Muybridge we can clearly see an aesthetic dualism which develop with each and every new technological means of visual expression since the development of photographic media: the first tendency towards a greater exposition of an underlying reality, often underwritten by a rationalist fervour to understand and document; the second directed towards reflecting on and experimenting with perception and expression itself, heightening or exaggerating normal perception for stimulating and/or entertaining effect. The same dualism can be seen developing in early cinematic work, between the long-shot everyday naturalism of the Lumière brothers, and the magical illusions of Méliès' films. These impulses can be now seen as clear separate trends within digital media: between the intense high-definition and slow-motion detail of, for instance, BBC wildlife documentaries, and the exaggerated special-effects of sci-fi and fantasy images. However, though the first tendency towards a perfect and transparent actuality may hold as its true goal a positivistic or naturalistic expression of the world, it nonetheless also has an aesthetic and distorting stylisation to it, albeit distinct from the second tendency, whose explicit goal is to challenge perception for 'artistic' purposes. Each presents us with a version of reality, one based on a truth of detail (the truth of science), one based on a truth of ensemble (the truth of art), but both ultimately determined by technological mechanisms.[13] Both tendencies must therefore be seen as experimenting with technological possibility to give us a expressive re-presentation of the world as we have not seen it before, and thus they both offer us something new for consciousness as an *aesthetic* effect.

However, digital visual technologies present a new and complexified dynamic between these two impulses. What the digital rearrangement of pixels permits in a way that simply was not possible before is a naturalistic precision, a seamless consistency to images which otherwise might expressionistically juxtapose to perceptual realism. This seems to fold the distance between the two tendencies as we can see the same affective intensity harnessed by both fact and fiction. Increasingly we see the ontological indiscernibility of the scientific document from the image which deliberately exaggerates to toy with perception. Digital processes twist and blend the complex detail of reality into dissonant hyper-realities which have an uncanny effect in their proximity to the real. This is very different from the convenient distortions of Muybridge's

[13] This distinction is made by Sizaranne, as referenced by Marta Braun 1992: 275.

photographs which served an impressionistic or subjective truth to express movement; and it is also distinct from Méliès trickery which served to shock and surprise with its boldly stated illusionism and physical impossibility. Instead the digital generates an uneasy and discordant naturalism which synthesises new affects of the real – a truth fused of both scientific detail and artistic ensemble.

Within conventional understanding of cinematic history, mainstream entertainment cinema grew to be more pre-occupied with telling stories in a narrative literary tradition rather than with creating innovative expressions of space, movement and temporality, as this tendency was more explicitly pursued as a goal in and of itself in avant-garde and experimental film practice.[14] While this bold mainstream/avant-garde dualism does not do justice to the subtle and complex intersections and co-influences between the two practices, it seems that in the late 20th century and early 21st century, given the new tools that make it possible, digital screen media shows us a direct re-orientation towards an experimental approach to exploration of movement and temporality. This observation becomes particularly clear when we consider that the revelatory and germinal digital temporal effect of 'bullet time' in *The Matrix* – which freezes and slows time almost to a halt as we swing around the action 360º in the time it takes for a bullet to cross the room – is in fact a direct digital update of Muybridge's 19th Century multi-camera technique, augmented and smoothed by digital interpolation software.

However, while this might seem like a simple return to or recurrence of a previous image regime, the relation posed towards time and movement within digital media becomes noticeably different when we consider that these effects do not pertain to document or index details of an external reality, but instead aim to play with our sensibility about what in fact is natural or real in terms of movement and time – not just within our perception (as may have been more the focus of avant-garde image movements influenced by 20th century theories of mind), but also interrogating actual objective physical reality (influenced by contemporary theoretical physics and existential philosophy). The emphasis under the new digital image regime becomes the

[14] For a survey of this tendency of traditional film theory between 'normative and polemical classifications', see Elsaesser, Thomas and Malte Hagener. 2010: 2-4. *Film Theory: An Introduction Through the Senses.* New York: Routledge.

modulation, mutation and distortion of space, form, movement and time to expose different sensations of the real; to push and challenge any stability of 'continuous aspect' perception.[15] This then becomes the real departure for digital visual technology from the analogue, a near perfectly *lucid* mimesis of reality, but without claim to literality or objective truth, an imagistic oxymoron of naturalistic abstraction. We see the world not revealed in greater detail, but through a looking-glass which challenges recognition without rendering unrecognisable.

FORMAL DYNAMICS OF THE DIGITAL IMAGE

The structural dynamics of these digital aesthetic effects which simulate and refract the markers of perceptual reality, and which generate a kind of metaphysical uncanny, are, in a more specific sense a) new topologies and constructions of space, and b) the potential to break with consistency and stability of body, object and surface in a photo-realistic, rather than merely perceptually suggestive, fashion.[16] Firstly, as discussed in the last chapter, digital screen media often works within an emphatic or often hyper-architecture of space, in both digital CGI and in digital (D)3D, and this heightens and twists our perception of the dynamics of movement within spaces.[17] Secondly, the objects and forms which move in these spaces become themselves subject to mutation, being able to stretch, dissolve and morph into other forms, so the *idea* of the movement of a predictable and consistent form through time itself alters. Though it maintains a temporal dimension, this destabilisation of form seems to become about more than just the opening up of a temporal moment of passing for closer analysis/contemplation (as with analogue image capture in the style of both Muybridge and Marey) but rather

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[15] In the Wittgenstein sense, the stable 'aspect' of the cognition of things is continuous in that physical reality generally conforms to expectation. Mulhall, Stephen. 1990. *On Being in the World: Wittgenstein and Heidegger on Seeing Aspects*. London: Routledge.

[16] Such *perceptually* realistic effects of disruption of form could be achieved in analogue media by superimposition, cross-cutting or even in animation, though I wish to make a point about the seamlessly detailed and uncanny photorealism of these same effects in digital media.

[17] As Rodowick discusses in *The Virtual Life of Film* (2007), lacking a direct indexical relation to reality, the digital image primarily synthesises spatial effects as 'reality markers' to strive for a perceptual realism: 'They [digital images] strive to be more spatially similar and more replete with spatial information than photography itself.'

experiments with our ideas of space and material form, and with our presumptions about causality and possibility in physical reality. It challenges the rule-bound expectation of metaphysical consistency that is in no small part based on our habituated awareness of conventions of representation of form, movement, space and time as established in photographic media. It introduces a new and novel reflexive image relation which in turn introduces a new intuitive sense of possibility, becoming a form of visceral, kinaesthetic learning. To elaborate on these new relations of space, motion and form I now wish to survey the emergence of the use of computer graphics in mainstream media, with a view to establishing what germinal affects they generated at this early stage in their development, and further to highlight how they distinguished themselves from photographic media.

In 1977 we saw the first use of a 3D computer graphic in cinematic media in *Star Wars*, in a scene where the fighter pilots are briefed about the attack on the Death Star using a 3D wire-frame graphic simulation.[18] Having previously collaborated with John Whitney Sr. in programming the experimental abstract CG film *Arabesque*, the computer animation artist Larry Cuba was employed to create a more concrete spatial simulation for the film. In the image the 'camera' POV assumes the position of a pilot flying very smoothly and steadily down a canyon-like trench to a point where a shot must be fired at a small target to destroy the Death Star. This simulation foreshadows the actual scene in the movie in which a 40ft constructed model of the trench was used, and in which there is an increased spatial and kinetic complexity due to there being in-air battles, explosions and multiple and less stable camera angles.[19] The effect of the spatial graphic simulation in the film is in stark contrast to this filmed sequence; it has a calm and almost hypnotic quality in the fluidity of the motion and the sensation of weightless propulsion at speed down the Death Star trench. The three dimensional spatial depth of

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[18] See Patricia D. Netzley's *Encyclopedia of Movie Special Effects*. 2001. New York: Checkmark Books. Also there is an interesting 'Timeline of Computer Animation in Film and Television' on wikipedia.org (Accessed 03.03.12).
Larry Cuba describes the creation of the visual effect he produced for *Star Wars* in a short youtube clip: 'Making of the Computer Graphics for Star Wars (Episode IV)'. Accessed 03.03.12.

[19] ibid.

the image is emphasised by the sense of smooth motion towards a perspectival disappearing point in the distance, as the walls of the trench rapidly fall away from the sides of the frame. The CG animation effect is comparable here to hand-drawn animation, but with an intensely increased 3D depth and fluidity of movement that is quite distinctive. Similar 'raster' wire-frame model animation effects were subsequently used in *Alien* in 1979, and the affective tone of their smooth, weightless motion foreshadows much more contemporary spatial effects such as the first-person 'spideycam' POV in *Spiderman* (2002) – in which Spiderman swings down New York City streets – and indeed in most CG flight scenes, for instance recently in, *Tron: Legacy* and *Avatar*.[20] It can be seen that from the very first mainstream use of CG effects, coming from technicians previously employed in making avant-garde and experimental films, an innovative sense of space and movement was generated that was recognisable yet distinctive. These early spatial simulations set the standard and showed the strength of the technology in generating these intensive affects and as such they have become a familiar and generic image-currency in CG animated imagery.

While the CG simulated spaces in these films have a direct referent in a recognisable space (a landscape, cityscape or edifice), another use of the early graphic effects generated a truly novel sensation of movement. This was the creation of non-spaces or immaterial spaces more similar to the abstract shapes and flowing forms of the aforementioned experimental CG animation of John and James Whitney. In the opening sequence of the Disney film *The Black Hole* (1980), we saw again a wire frame model of an object, but this time as a *virtual* representation of flat space, punctured by the eponymous black hole. To the sound of a haunting waltz, the POV very slowly drifts around the rim of the hole before falling into the darkness within. While this is a very simple and slow effect, it is dramatically affective in its synthesis of movement, space and sound. Two years later in *Tron* we were given a similar affective tone in the transition between the two worlds of the film as Flynn's digitised consciousness travels through a 'worm-hole' and floats through an abstract digital non-space before arriving on the digital plain. It is this early impetus to create imagined virtual spaces without physical referent that also emerges as a trend in digital screen media and developed

[20] The 'spidey-cam' effect for Spiderman (2002) interestingly was produced by John Dykstra who was also special photographic effects supervisor on *Star Wars.*

through films such as *Lawnmower Man* (1992), *Stargate* (1994) and *Contact* (1997) contextualised by a character being in a immaterial digital space within a virtual dimension or by space and time travel. What this provides is a perceptually realistic affect of presence and motion within a virtual space without recognisable landscape contours other than of a tunnel or tube which twist and turns, or of free-floating 'objects' which fly past to signify movement through space. Foreshadowed in analogue media by the astounding slit-scan 'stargate' sequence in *2001: A Space Odyssey*, this rabbit hole, vortex or worm hole effect continues to be a strong and persistent affective chord typical of digital visual effect, that of a kaleidoscopic movement through ill-defined space, usually as a transition between other more spatially recognisable worlds. This affective chord becomes even further enhanced in 3D, recently in movies such as *Thor* and *The Green Lantern* (both 2011) in which travel between galaxies is rendered in even more immersive and kinetic detail in astounding vortex shots.

The first digital effect of a transformation of material form *within* the image is to be found in *Star Trek: Wrath of Khan* (1982), with the 'Genesis Effect'.[21] Again highly spatialised, this CG animation sees a planet transform from a barren moon into a verdant Eden in a one-minute sequence which time-lapses as our POV spins around the planet, seeing an atmosphere develop and the oceans fill with water. Here for the first time we saw the impressive digital transformation of a relatively photorealistic landscape as opposed to a raster wire-frame simulation. Then, with the development of morphing technology, we were for the first time in *Willow* (1988) presented with the indexical photographic image of an object that shifts in its material properties and in elaborate detail to become another object – a first real and visceral breach of photorealistic form by digital processes.[22] In this scene we see a goat smoothly elongate its neck to turn into an ostrich, its forelegs raising up and spreading to become wings. This bird form shrinks into a tortoise, then swells again into a tiger, before finally shifting into a human form. In the following years, further ground-breaking morphing effects were use in *Indiana Jones and the Last Crusade* (1989), *Terminator 2: Judgment Day* (1991), and in Michael Jackson's music video *Black and White* (1991).

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[21] David A. Price. 2009. *The Pixar Touch: The Making of a Company*. New York: Knopf Doubleday Publishing Group

[22] Netzley 2001: 239.

Comparable effects had been achieved in analogue media using simple crossfades and superimposed composites of sequences of static shots, each of which differed slightly from the previous, and essentially a form of stop-motion animation (a good example being Lon Chaney's 1941 *Wolfman* transformation). However the new digital technology created more fluid transitions of more dramatic changes in form, of objects in motion, that were very technically impressive at the time.[23]

As Vivian Sobchack points out in her book *Meta-Morphing* (2000-b), though morphing technology may have settled into the background as a visual effect, and even become somewhat clichéd through overuse, it still maintains a surprisingly uncanny affectivity, especially in its mutation of photorealistic images of the human body.[24] While morphing as a novel and spectacular visual effect faded from obvious popular use in cinema and television within a few years, its use persists in more subtle ways today. For instance, it is often used to create a smoother slow-motion effect with footage that was shot at the standard 24 frames-per-second, digitally transitioning between individual frames using optical-flow interpolation technology to avoid the staggered motion that would otherwise be achieved. This is the technique used in *The Matrix* bullet-time set-pieces to enhance the fluidity and smoothness of the motion effects, inserting extra digitally created frames between actual shot frames.

Through the development of early CG animation and digital morphing techniques, we can chart the early emergent structural and formal aesthetic trends which have now become very familiar generic defaults within the new image regime of digital screen media. These effects have evolved over the last 35 years into seamlessly organised worlds in which human actors move in new ways. What was added was a new dimension of corporeal presence within virtual space through new three dimensional depth effects, an original sense of movement and force within these spaces, a sensation of the material mutability of body and substance, and a changed sense of temporality. All these effects emerged over a period of years and now converge and coalesce in films such as the *Matrix*, which self-reflexively play on the idea of digital virtual simulation,

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[23] This early wolfman morph effect is discussed in 'Meta-Morphing and Meta-Stasis', in Sobchack. 2000(b): 133.

[24] Ibid.

thus incorporating all possible variations on the altered affections that the digital can afford. Time is sped up and slowed down (in the martial arts training scenes and bullet-time scenes), space and physical forces such as gravity are breached in powerfully affective ways (in building jumping and flying scenes), and matter is mutable, with bodies and objects subject to changes in form (with the spoon bending and the agent's morphed shape-shifting).

These digital effects were and are technically impressive, viscerally felt and cognitively astounding in a way that is surely comparable to the dawn of photographic images of movement and motion pictures. However, they have achieved such a greater level of uncanny photorealism that their affective impact is no longer based on a perceptual realism which play on our sensory weaknesses to create *illusions* (as rooted in the aesthetic tendency of Muybridge), but rather on the *perfect and detailed mimesis of nature* which nonetheless cannot help but to surpass and distort the real. There is a smoothness and gloss to these effects, which while being proximate to the real, maintain a hyper or exaggerated relationship towards it. They are undeniably immersive and intensive in a way that differs from what has gone before in analogue media.

What I suggest is that these new mass-mediated affections of space, time, energy and materiality prove to engender a real shift in our embodied intuition of these metaphysical notions, in the same way as photographic moving images did, both reflective and generative of the experience of, and discourse about, existence as it amalgamates within a certain historical moment. At a time when there is talk of the immanent death of the analogue image,[25] and as we become increasingly corporeally and mentally immersed within a total ubiquity of the digital image, I propose that we passively become habituated to a sense of digital possibility. While in the next chapter I directly tackle the phenomenology of how we are affected at a fundamental level of

[25] This view of the analogue image's demise is reflected on in the work of artist Tacita Dean (See 'Tacita Dean's Turbine Hall Film Pays Homage to a Dying Medium'. Charlotte Higgins. 10th October 2011. *The Guardian*), as well as being discoursed through the press (see for example 'Hollywood Says Goodbye to Celluloid' in *The Telegraph*. Nick Allen, Los Angeles. 25 Dec 2011, in which the author remarks: 'Celluloid will become a curiosity in art house cinemas determined to keep traditional film going.')

mental awareness by these mediated images, I first wish assess how the kinetic dynamics of the body in space are foundational to a metaphysical sense of position and presence in the world, and how this might be affected by shifts in the digital expression of these dynamics.

MOVEMENT, SPACE AND KINAESTHESIS

> 'A creature's corporeal consciousness is first and foremost a consciousness attuned to the movement and rest of its own body. When a creature moves it breaks forth from whatever resting position it was in; it initiates movement, and in ways appropriate to the situation in which it finds itself. The inherent kinetic spontaneity of animate forms lies fundamentally in this fact. Kinetic spontaneity can be analysed in terms of kinesthetic motivations, a species-specific range of movement possibilities, a repertoire of what might be termed "I cans", and – by way of proprioception and more particularly, of kinesthesia – a sense of agency.'[26]

Interdisciplinary theorist Maxine Sheets-Johnstone develops an evolutionary perspective on the emergence of consciousness through tactile and kinesthetic bodies. She describes this perspective to be at odds with the philosophical discourse which sees consciousness as a higher-order cerebral capacity of only higher forms of life.[27] In her essay 'Consciousness: A Natural History' she gives an intricate analysis of life on earth upwards from the simplest organisms, to establish that all animate forms have some sensory organs which gather both information on the external world and also on the movement of their own bodies as proprioception.[28] Animate forms are 'topological entities: changing shape as they move and moving as they change shape',[29] meaning that all organisms are adaptable, self-monitoring, context-dependant creatures 'in a

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[26] Sheets-Johnstone. 2009: 181. *The Corporeal Turn: An Interdisciplinary Reader*. Exeter: Imprint Academic.

[27] Sheets-Johnstone writes a direct attack on cognitivist and linguistic theories of mind which in her view 'arrogantly distort' 2009: 170.

[28] ibid: 149

[29] ibid: 179.

spatial, temporal and dynamic sense', and that this is necessary for survival.[30] Consciousness for Sheets-Johnstone thus develops directly out of the evolutionary internalisation of external, tactile proprioceptors into internally mediated systems. These internalised systems maintain a stable awareness of one's own body with its possibilities and constraints within the environment in a way that is able to predict and spontaneously react to context. This evolutionary trajectory of corporeal awareness from purely reactive external tactile senses, inwards to a proprioception of body and a kinaesthetic set of 'I cans' within a primitive 'mind' is for Sheets-Johnstone, the precondition for an emergent sense of self, which is the foundation of more complex higher consciousness functions. Thus our sense of self as existing within spatial, temporal and dynamic continuum is firmly grounded in a corporeal sense of position within a physical context.

Sheets-Johnstone ascertains that these kinaesthetic dynamics are foundational to our sense of self-awareness and awareness of the world, and intimates that there is no easy separation between a simple corporeal awareness and the higher mental functions by which we might position ourselves in the cosmos through metaphysical awareness. This understanding of an internal corporeal awareness of physical possibility, a phylogenetic, intuitive orientation towards metaphysical properties developed through a natural evolution of animate forms, proves useful as I assess the impact upon consciousness of images of space, movement, form and time. It prompts me to ask how our kinesthetic and proprioceptive senses are impacted by visual and aural stimuli, causing an adjustment in our subconscious awareness of environment and 'I cans' in a deeply ingrained and corporeally inhabited way. Considering the common contemporary discourse which sees human evolution as now primarily technological rather than physical/biological, we can see that the increased, accelerated and more immersive mediation of reality in a digital age could result in a changed dynamic sense of physical presence within the world.[31] Furthermore, with the shift in digital media towards a more

[30] ibid: 180

[31] This concept of humanity's cyborg evolution is captured by the work of technological futurist and inventor Ray Kurzweil, who suggests that technology grows exponentially; that by 2020 we will have computers powerful enough to simulate the human brain and by 2029 they will

immersive, haptic and stereoscopic image-regime, we can see that our sense of corporeal awareness might be affected more profoundly than with previous analogue media, which could be said to have existed at more of an 'optical' distance from the body.

Into her perspective on the kinesthetic foundation of consciousness, Sheet-Johnstone develops a notion of dance and play as rhythmic motion activity which dynamically reflects the spatio-temporal and rhythmic coordinates of our world.[32] This is movement which is not directed toward a specific task within everyday reality, but instead towards 'the qualitative structure of movement' which she describes as such:

> 'The creation of any dance is the creation of a spacio-temporal-energic dynamic that not only is anchored in movement itself but is thoroughly unique, that flows forth with its own particular surges and fadings, expansions and contractions, intensities, attenuations and so on.'[33]

The sensations of these corporeal kinetic dynamics are described as ineffable, beyond linguistic description, and yet tangibly felt. Because of this they have always been culturally recognised as meaningful beyond any goal-directed activity, and there is a natural propensity to appreciate them in an aesthetic sense, as a pure mode of expression. These 'sublime' affects are felt to connect one to the ineffable, hence dance and rhythmic motion's connection to spiritual or ritual uses in human history. She quotes the musicologist Curt Sachs to elaborate this primal expression of metaphysical notions:

> '"Rhythmical patterns of movement, the plastic sense of space, the vivid representation of a world seen and imagined – these things man creates in his own

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surpass our intelligence. *The Singularity Is Near: When Humans Transcend Biology.* 2005 New York: Viking Press.

[32] Sheets-Johnstone. 2009: 321

[33] 2009: 317

> body in the dance before he uses substance and stone and word to give expression to his inner experiences.”’[34]

This notion of rhythmic bodily motion and kinetic dynamics is intricately related to the ineffable notions of space, time and force as a mode of expression of and experimentation with these notions. The body and the movement of muscles and limbs are here perceived as the first medium, our first technology of expression of the way it feels to be in the world. This is a mode of expression of experience that is universal, even pan-species, that starts in a very personal way in the body with childhood play, but which develops into an aesthetic semantics at a relational and at a culturally mediated level. These kinetic semantics are dynamic movement patterns which are shared by species or groups, and used to express the ‘the ineffable qualia of life’–aesthetic expressions of the affection of forms and structures, physical and meta-physical.[35] In digital media, the form of communal sharing of these expressions is changed, vital forms and gestures are modified, and new affection of ‘spacio-temporal-energic’ force is generated, in a fashion not dissimilar to the work of Marey and Muybridge in their own times.

Cultural theorist Erin Manning, in her book *Relationscapes,* extends this idea of relational movement and the relation between movement and thought more explicitly beyond the expressivity of the human body and into purely aesthetic experience.[36] The expression of vitality forces here become paint, celluloid and glass, which capture bodily sensations of motion metaphorically, and work within a semantics of kinesis even if they are in the form of static media. Through analysis of ‘kinetic images’ by Australian aboriginal painters, sculptor David Spriggs, animator Norman Mclaren, and by filmmaker Leni Reifenstahl, she asks what sense of movement is contained within the works and what sense of motion the observer gets from them. She emphasises the haptic address of these analogue artworks, looking at the expressed dynamics between topological space and movement, and how these touch us in intensive, affective, non-

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[34] Curt Sachs 1963, quoted in Sheets-Johnstone 2009.

[35] 2009: 324

[36] Erin Manning. 2009. *Relationscapes: Movement, Art and Philosophy*, Cambridge MA: MIT Press.

representational ways. Through the philosophy of Alfred N. Whitehead, Manning sees that these affects of motion are not simply reactions to fixed impressions of movement as actualised forms, but rather set an incipient thought process into motion, giving rise to new sensations and intuitions as aesthetic responses to the images. Through Manning's analysis we can see that our body is always caught in a relational flux of not just other objects and bodies within extended 'actual' space, but also of virtual expressions of spacetime and motion which can affectively impact upon us in corporeally felt ways as if they were themselves in the extended space around us, rather than on a flat screen. The way we inhabit and orientate our bodies within the world is thus relationally constituted by interaction with images (the creation of images as well as their consumption) as well as through 'actual' or unmediated spacio-temporal experience.

I thus would like position my analysis of kinetic digital images in much the same way; as *spacio-temporal-energic* dynamics generative of emergent sensations, thoughts and intuitions about movement, space, force, time and material form. The digital rendering of bodies and forms in motion within digitally generated spaces, and the digital capture and presentation of spacio-temporal dynamics in formats such as D3D and IMAX generate new affections of corporeal and metaphysical potential. These directly affect the individual, but as culturally shared and technologically mediated forms they start to become like a shared grammar of dynamic and vital forms and gestures, a technological grammatisation of metaphysical coordinates. Now extending this analysis to the actual objects of contemporary digital screen culture, I look first to the explicit example of dance in digital 3D, then expanding it out to rhythmic dynamic kinesis in general within digital screen media, to assess what novel affection of a sense of corporeal kinetic agency can be seen to be offered up by the new technologies. These digital dynamics provide new coordinates within which to orientate our embodied kinesthetic awareness, a changing set of 'I cans' within the physical world.

THE BODY IN MOVEMENT: DANCE IN DIGITAL 3D AND SLOW-MOTION

Wim Wenders states in the *Guardian* article 'The Great Leap Forward': 'I can safely say that 3D and dance are made for each other'.[37] In making *Pina: Dance or We Are Lost* (2011), he confesses that he had struggled to find a visual vocabulary to make the film he had envisioned for some 25 years, primarily being unable to recreate the element of space with which to bring Pina Bausch's dances to life on screen. He elaborates: 'Space is the dancers' very own medium. With every gesture, with every step, they conquer space – and cinema has never been able to give us access to that.' Not until 2007 when Wenders saw his first modern-era *digital* 3D film did he manage to visualise how the film could be made. 'With 3D, I was finally convinced we could enter the dancers' very own realm…As a spectator, you're involved like never before: you feel the essence of movement – motion and emotion.'[38]

The central thrust of this article by *Guardian* dance journalist Judith Mackrell is that for the choreographer and the filmmaker, before 3D, dance has never worked well on screen. She states: 'However artfully filmed, the dancers always look diminished in two dimensions, like specimens trapped behind glass, and it's all but impossible to capture the emotional and physical impact of live performance.' This 'diminishment' of dance on film is seen as a consequence of the screen's flattening of the stage space and the necessary wide-angle camera distance from the dancers. This generalisation does, however, come with a few conspicuous exceptions – notably Powell and Pressburger's 1948 film *The Red Shoes*. As an exception, *The Red Shoes* works so effectively due to the exaggerated sense of space conjured by a stark *contrast* of emphatic depths. The dance starts with a paper flat, 2-dimensional and shallow stage space through which the character Vicky Page dances, but as she goes emotionally deeper into the dance her reality starts to fragment, the stage space becomes dramatically deeper and more extensive. Three-dimensional spatial effects of extended perspective clearly breach the stage space, and finally even the film-studio space is ruptured. Eventually we see waves crashing into the stage and the sea stretching off to the horizon in a cleverly composited

[37] G2 supplement 29.09.10, author Judith Mackrell. www.guardian.co.uk/stage/2010/sep/28/3d-dance

[38] ibid.

image, generating a sense of infinite space. This 3D effect, however, is achieved with elaborate cinematic set building, backdrops and compositing film effects, something generally not achievable when trying to capture a stage-choreographed performance. These are aesthetic, melodramatic enhancements of space with a magical and uncanny quality which strengthen the emotional and physical impact of the dance.

However, with digital 3D (D3D), stage space is rendered with a much increased spatial depth, which without cinematic confection can endow the same sublime and dramatic impact to the *live* dance performance. As choreographer Wayne Eagling states in the same *Guardian* article: 'Ballet has never worked for me on screen; it always looks so flat. I wanted to see if it could look any better, and this (3D) is promising […] It's good, very lifelike, almost as if you are watching from the front of the stage.' This lifelike sense of proximity, detail and depth nonetheless creates its own uncanny affectivity in its spatial immersiveness, as if we ourselves are within the dance.

Added to this augmented spatial depth, the dancers' bodies themselves also seem less flat in 3D, as Mackrell poetically notes about Eagling's piece *Men Y Men*:

> 'The dancers' bodies jump into gilded high definition, the flesh on their bare chests and arms looking solid and bright. Their movements acquire sculptural volume, pirouettes no longer appear like flat pinwheels, but revolve with a deep spiralling expansiveness. Best of all, there is an illusion of air around each body, restoring the dancers to their proper element; space.'[39]

This observation rings true with Wenders' film *Pina*; there is an energetic and muscular tonality to the dancers as they move to and from the camera. There is rarely a static camera-shot at a distance which flattens the image, but instead the camera moves around, towards and through the dancers in intimate choreographed moves of its own. The viewer closeness and corporeal presence within the dance in *Pina* is perhaps most obviously comparable to the highly visceral dance scenes in Darren Aronofsky's recent 2D yet highly digitally inflected film *Black Swan*, with the film released only three months apart. *Black Swan*, which visually and thematically references *The Red Shoes*,

[39] ibid.

plays out through its dances an intense psychodrama mostly expressed through an intensity of facial expression and the fragmenting of the dancer's body into parts. While there is plenty of movement from the hand-held camera shots, there is little spatial or sculptural depth here, with a shallow depth of field, blurring out the background stage space and only rare wide-shots of the full body of the dancer. This mid-shot and close-up shot choice of the DOP serves principally to expressionistically highlight the inner mental environment of the character rather than the actual movement of her body.[40] In this expressive aspect a comparison could also be made to *The Red Shoes*, but the expressionistic technique here is quite different, synthesised through 'magical' digital special effects (the sprouting of black feathers), and through close up, rather than through space and movement. For *Black Swan* the dances are instrumental only as affective climax to a melodramatic narrative and the choreography seems almost redundant within this equation. While the effect is nonetheless breath-taking and highly affective, it is of a very different order to the images of both *Pina* and *The Red Shoes*. These films use expansive spaces within which we read the full body of the dancer for a register of dynamic tension between figure and ground, and in which the facial expressions, while not insignificant, are of marginal importance.

The stage spaces of *Pina* are rendered with great visceral depth in 3D, the textures of the sets; splashes of water, jagged stone and moist brown earth, seem to pop out. The 3D effect is even more pronounced in Wenders' *exterior* locations which synthesise an emphatic visual depth through a centralised disappearing point far in the distance, serving to exaggerate perspective. Occasionally these exterior sets are in also in motion, creating a mobile dynamism of dancer, space and object.

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[40] This choice of camera-shot may also have been used out of necessity, to conceal the relatively untrained movement of the actress, Natalie Portman. The wide shots are at such a distance as to conceal the fact that a trained double was used (with a suggestion that Portman's face was digitally grafted onto another dancer's body), and the dance scenes are predominantly mid-shots of only Ms. Portman's upper half. (Adam Markovitz. 2011. 'Black Swan' double claims Natalie Portman only did '5 percent' of full-body dance shots in the movie. *Entertainment Weekly*. March 25th 2011. insidemovies.ew.com. Accessed 18.09.12.)

While the film is absorbing even in 2D presentation due to its deep focus cinematography and kinetic dynamism (as home-video audiences will attest to), the digital 3D projection of *Pina* brings a quite enhanced sense of expansive space and force of presence in which the frame of the screen seems to completely dissolve. Dance seems particularly effective in 3D because the increased mobility of the 'actors' gives license to play and experiment with these enhanced spatial effects. The dancers stay within an inherently contained 'stage space', even when in exterior locations, and this space is defined only by the time it takes to cross it in choreographed moves (without running off into the distance or out of shot). There is a tensional dynamism between the dancer and the limits of this bound space as they move through it; a tension between figure and ground as our attention flickers and shifts between the space and the dancer.[41] Ground space in the cinematic medium can be essentially be anywhere, whatever shape, and with whatever depth of field, so we also have this stark contrast between foreground dancer and immense background depth, a relation that is enhanced to a hyper-spatiality by 3D. This heightened spatial contrast and kinetic dynamic, in digital high-definition, creates its own aesthetic effect, leading one dancer in Eagling's company to remark: 'It's so intense, it looks like we do in real life, only better'. This leads one to think that, just possibly, the experience of dance in 3D is *even better* than seeing it live on stage, with the greater mobility of perspective from a moving camera position, an almost tactile closeness to the dancer and an enhanced spatiality, cumulative affects which result in an intimate and engaging experience.

3D could be, as the *Guardian* article states, 'a revolution' in terms of presentation and reproduction of dance, and as such it has been picked up in the mainstream mostly in loosely narrative urban-dance films like *StreetDance 3D* and *Step Up 3D* – though broadly speaking there is not much variety in content.[42] However, 3D is not the only revolutionary digital effect brought to dance. As part of Carlos Acosta and Zenaida

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[41] This results in what is called by dance theorist Marc Boucher a 'kinetic synaesthesis'; a complex sensation of being in motion ourselves due to diverse elements and dynamic tension within the 'gestalt' of the experience. This is further explained in the following chapter.

[42] On 3D dance and specifically *Step Up 3D*, see Ross, Miriam. 2011. 'Spectacular Dimensions: 3D Dance Films' *sensesofcinema.com*. Feature Articles, Issue 61 | December 2011. Accessed 18.09.12.

Yanowsky's recent dance performance *Premieres Plus* at the London Coliseum (August 2011), there was a slow-motion film *Falling Deep Inside* by Simon Elliott, shot digitally at 800 frames-per-second and projected onto a mesh drape covering the whole curtain area.[43] The camera goes close-up on the dancers' legs and it is astounding to see the minute detail of muscular movements at the intense level that the digital slow-motion and high-definition brings to the image. The film's producers relate this detail to 'physical emotion under the skin before the movement', as if emotions exist as subtle muscular tensions before being expressed through action, exactly the type of potent pre-acceleration and incipient motion described by Erin Manning in *Relationscapes*. The short film takes us into the infinitesimally small moment of an affective corporeal state before actualisation as physical expression, an over-full moment of intensity and tension.

Another piece, David Michalek's *Slow Dancing,* in which the movement of varied different genres of dance were projected onto multiple screens in extreme slow-motion, similarly permits us to see the barely perceptible gestures and movements of the dancer's body in a great level of complexity.[44] This footage was shot at 1000 fps, but was further slowed and smoothed through optical-flow interpolation by Apple programme *Shake*.[45] Both projects seems, like Marey and Muybridge in their time, to open up through new technological mediation a immanent dimension of movement which changes the way we perceive the dancers' performance. We attain a much greater appreciation of the complexity of muscular form, the nuance of balletic technique in line and extension, the more sculptural aspects of the dancing body, and even of the textures and subtleties of costume and lighting. We can, in Manning's words 'feel the palpability of the imperceptible', as we come to appreciate the dance in a new aesthetic light, opening us up to dance performance's sublime 'petites sensations'.[46]

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[43] www.imdb.com/title/tt1924263

[44] The films were projected onto screens outside Sadlers Wells and in Trafalgar Square in London 2010. www.slowdancingfilms.com/about_en.php. Accessed 25.01.12

[45] www.apple.com/pro/profiles/michalek/ accessed 18.09.12

[46] Manning 2009: 88.

As one reviewer describes of *Slow Dancing*:

> 'Dancers…appear, at first, to be merely vast posters. Then a gesture; a second; soon the viewers realise that they are watching the creative act itself: here is the essence of those two intangibles, art and technique, merging together to produce performance.'[47]

Here is described a new aesthetic appreciation of the 'intangibles' of dance, which she compares to a witnessing of the pre-actualised moment of 'the creative act itself'. Digital technology has, in these above circumstances, permitted a new affection of the energetic force, form and temporality of the dancer's body, understood to be like witnessing the ephemeral moment of artistic creation, an empowering notion indeed.

THE KINETIC DYNAMIC OF THE EPIC DIGITAL BATTLESCENE

Though we can see that the kinetic expression of the potential of an actual body in extended space (in dance) is decisively altered in the digital image, we can now expand the analysis of a digital transformation of rhythmic movement to other images of motion-in-space. Cinema theorist Anne Rutherford makes the point that we do not need the image of an actual body to identify with to experience a corporeal effect.[48] She refers instead to all the other relational aspects on the screen which have a visceral impact: architectural space, depth, colour, lighting, camera shot, composition, confusion of noises and lights, angles and rhythms; a complexity of factors within the image.

> 'This is an image with no centre, no focal point (a body)…the surface of the shot conceived on a hundred different planes…the tensions and dynamisms of the image can effect a bodily agitation. I am thrown into another dimension, my viewing body fragmented, dispersed, disoriented. I experience a shot in my stomach, as if my stomach turns over.'[49]

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[47] www.theartsdesk.com/dance/david-michalek-slow-dancing-trafalgar-square-nederlands-dans-theater-sadler's-wells accessed 18.09.12.

[48] Anne Rutherford. 'Cinema and Embodied Affect' *Senses of Cinema*. Issue 25. 2003

[49] ibid.

Rutherford's dynamic interrelation of elements within the image resonates well with Erin Manning's analysis of both still and moving images, breaking them down into rhythms and lines of force within topological space which evoke 'force taking form', incipient *sensations* of movement (if not actual motion) which express an expansion of possibility for bodily actualisation. While the sensations might not be so intense as those that disorientate, they give to our consciousness an affection of kinetic energy which we can imagine with our kinaesthetic bodies as a metaphor for actual bodily movement. Even within the visual experience of watching dance, we often see not bodies moving with each other in a naturalistic way, but rather lines and forms moving in and around each other in a pure kinetic confusion; a kinetic synaesthesia of ill-defined forms. In contemporary dance the body is often further twisted and distorted, juxtaposed against other bodies, partially obscured, and moving at speed so as to render them harder to recognise, becoming simply abstract shapes. We can see that all media extending from charcoal drawings on a cave wall to film can be seen to inherently contain an abstracted sense of vital force beyond that which is literally represented, a kinetic affectivity which impacts upon our minds and bodies to give us a specific impression or intuition of spacetime.[50] The digital then gives us a further heightened fluidity and complexity, a visual density of kinetic imagery created in the postproduction suite that is even harder to grasp with our conventional perceptual models. The rhythms and forces at work in the digital image take on a new intensive dimension as bodies fragment and change shape amid a confusion of objects and within malleable spaces, an effect enhanced within immersive 3D where the boundaries of the frame dissolve.

Specifically within digital screen media we can see emergent generic kinetic images as innovative impressions of spacetime developed through and from the first digital images in mainstream media that I described above. These are novel syntheses of action and scene, figure and ground, sound and light, from a microscopic to an epic scale that would simply not be achievable in analogue media due to labour and production cost, or indeed purely physical constraints. They exhibit kinetic dynamics which are entirely

[50] The two mediums of cave painting and film are affectively brought together in Werner Herzog's recent 3D film *Cave of Forgotten Dream* (2011).

specific to the digital, and though these types of cinematic sequences may have been foreshadowed in analogue media, they seem now to be defined by the digital effects used to render them. While the standards of analogue action such as the chase-scene (such as the Thanator chase in *Avatar*), and the related kaleidoscopic affects of the flight-scene (such as the aforementioned worm-hole sequence in *Contact*) have been transformed by digital processes into infinitely more complex kinetic sequences, it seems that the predominant kinetic image in contemporary digital media is in fact the battle-scene. The epic battle-scene seems to be the digital spacio-temporal-energic image *tour-de-force* and as such it proliferates in narrative digital-effects cinema. While there are many critical discourses about the ideological effect of the fusion of military imagery and entertainment in video games and movies, and the subsequent normalisation of extreme screen violence, it can be seen that the battle-scene simply presents filmmakers with the best context to showcase highly kinetic and complexified digital-effects, where, exactly as in dance, you have multiple bodies and objects moving at speed within dynamic spaces.[51] It thus becomes the best diegetic device to experiment with grandstanding digitally-rendered affections of motion, space and temporality. If, as Sheets-Johnstone suggests, dance is the most straightforward and primal mode of expression of our relational sense of space and potential movement, the digital battle scene takes this and multiplies it thousand-fold, where the multiple bodily forms flow against each other in an intricate choreography of camera movement, rhythmic action and bloodletting.

In landmark digital films such as *Avatar, Tron* and the *Matrix*, but also in every recent 'blockbuster' digital-effects film: the *Transformers* series, every supernatural narrative such as the recent *Immortals,* every new superhero movie (*Thor, Captain America, Green Lantern*), and even increasingly in most epic 'period' movies such as *Hero, Gladiator* or *Saving Private Ryan*, the battle scene is pivotal not only (or not at all) for the narrative, but for the expectation of an audience who, in this analysis, come to the cinema to be astounded and exhilarated not primarily by the violence, but rather to engage with the highly affective kinetic 'action' afforded by the digital technology. In

[51] For work on the influence of military technology on entertainment see *Theaters Of War: The Military-Entertainment Complex*, Tim Lenoir And Henry Lowood. Stanford University. http://www.stanford.edu/ accessed 18.09.12.

many such (non-CGI) films the digital effects are all but invisible, though the elaborate choreography of movement is often completely produced of computer-controlled camera movement and digital post-production. While the dramatic centrality of the fight scene has *always* been the case in the mainstream genre film – with swashbuckling adventure yarns and martial arts movies – in the digital age of entertainment we have a far heightened dynamic of space, time and force, on a much larger and more immersive scale, due entirely to digital effects. The digital battle-sequence also seems to become, at least in part, less about the tense dynamic of winner and loser where we directly identify with a protagonist's will to victory, and instead is regarded more aesthetically as the source of impressive effects of scale, technical skill and impossible detail.

These effects are temporal, with the speeding up and slowing down of objects and bodies spinning and flying through the air, and spatial, with 3D effects and epic computer-generated sets, and amplify force and energy, as gravity-defying stunts are performed and objects are projected impossibly through the air. For example, in *The Lord of the Rings: The Two Towers* we see digital hordes of warriors swarming over the elaborate bridges and embattlements; the gravity defying motions of Legolas as he jumps onto one of the mammoth creatures; or the movement of the catapults and their projectiles; all of which present a certain heightened and intense rhythm and fluidity of motion within an extensive space.[52] The corporeal tensing and arousal in watching these scenes is arguably not simply to do with our will (through identification processes) for a specific character to come out victorious, but rather we feel incorporated into the force and flow of the movements. In a further example, in Michael Bay's *Transformers* series, we have some of the most disorienting battle scenes ever seen, with pivoting camera angles and a visual density and complexity of detail in the moving machine parts that make the mind boggle. Within this kaleidoscopic disorientation we even seem unable to follow which character is battling which; instead it is the immersive 3D kinesis of form, detail and rhythm, allied with the surrounding booming sounds, that provides the visceral exhilaration.

[52] These complex crowd effects were generated by a computer program *Massive*, developed by the filmmakers themselves, that generated crowds of 'artificially intelligent' individuals who make their own decisions based on behavior patterns. "Top 10 F/X Scenes in Movie History" at www.popularmechanics.com Accessed 31.04.12.

The visceral effects of this kind of action are necessarily of a flux between corporeal tension and anxiety – the spectator's muscles twitching and their body turning into the direction of the screen action – and then an aesthetic wonder at the fluidity, speed and scale of the action, switching between complete immersion and at one step back, wonder at the technical mastery expressed in the shot.[53] This flux is often managed through the digitally stylised and phased slow-motion effect, where the viewer has a momentary respite from the kinetic hyperactivity of the scene to savour the composition of a shot – usually a body flying gracefully through the air in some dance-like spin – before being flung back into the high-speed action at less of an 'optical' distance.[54] For many, this kind of tension and anxiety is not a pleasurable experience, though for others the exhilaration, disorientation and intensity is to be savoured.[55]

These exaggerated images demonstrate an impulse to forever amp-up the pace and complexity of the digital effects, placing total emphasis on affective intensity and immersivity, occasionally at the cost of emotional empathy or within politically dubious representation, and often leaving the audience cold.[56] However, used as well-placed and appropriately qualified set-pieces, they add a new affective dimension to the spacio-temporal-energic coordinates of narrative and genre screen media which opens up a new metaphysical vista within our available modes of expression. They bypass the distanced

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[53] This effect is analysed by Jay Bolter and Richard Grusin as being the flux between immediacy and hypermediacy. 2000. *Remediation: Understanding New Media.* MIT Press: Cambridge MA.

[54] See *Transformers 3: Dark Side of the Moon* Highway battle scene for an example of this.

[55] Scott Bukatman highlights the escapist pleasures of the 'kaleidoscopic' loss of orientation of technological spectacle within the hyper-rationalisation of spacetime which typifies the modernist experience. Bukatman, Scott. 2003. *Matters of Gravity: Special Effects and Supermen in the 20th Century*. Durham, NC: Duke University Press.

[56] For an example of highly stylised action at the cost of political correctness, see Zach Snyder's *Sucker-Punch* (2011), which was heavily criticised for its offensive faux-feminism: 'These so-called heroines are inherently weak characters who fail themselves and each other as sisters, friends and confidants. Even in their fantasies of revolt they bow down to the male gaze, stripped of both agency and voice'. Monika Bartyzel. 'Girls on Film: Faux Feminism in *Sucker Punch*' *Cinematical.* blog.moviefone.com. Mar 28th 2011.

analytical gaze for a visceral intensity which can intoxicate, breaching stable notions of presence and, as described by Rutherford above, creating a fully embodied reaction – 'a bodily agitation'. What emerges is a clear aesthetic impetus to push the technology to ever increasing novelty and spectacle, to generate ever-increasing breaches of expectation and suspensions of physical/biological possibility. This impulse towards fixating on technological form and detail within media, and on the ever-increasing immersivity and interactivity with the screen image within a peculiar spatial logic, has recently come to be known as the digital 'neo-baroque'.[57] I now ask how the baroque sensibility has come to be associated with recent digital developments, and what this means in terms of a decisive shift towards a new image regime within digital image culture.

THE DIGITAL NEO-BAROQUE: A NEW SPATIAL IMAGE REGIME

The baroque style has consistently been called upon by philosophers and art historians in narratives of disruption, reinvention and rebirth of more rigid and inflexible hegemonic regimes of representation, and therefore also of thought: from Walter Benjamin, Heinrich Wölfflin and Eugenio d'Ors in the early years of the 20th Century,[58] to Deleuze, Christine Buci-Gluckman and José Antonio Maravall in the latter years.[59] Now in the 21st century, the baroque sensibility has again become prominent

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[57] This concept of the digital neo-baroque is developed in work by cultural theorist Angela Ndalianis (*Neo-Baroque Aesthetics and Contemporary Entertainment*, 2005, Cambridge MA: MIT Press.), Sean Cubitt (2005) and Tim Murray (2008).

[58] Benjamin, Walter. Orig. 1928. *The Origin of the German Tragic Drama*. Trans. John Osborne. London: Verso.

d'Ors, Eugenio. 1935. *Du Baroque*. Paris: Gallimard.

Wölfflin, Heinrich. 1932. *Principles of Art History: The Problem of the Development of Style in Later Art.* Mineaola NY: Dover Publications.

[59] Deleuze, Gilles. 1993. *The Fold: Leibniz and the Baroque*. Trans. Tom Conley. Minneapolis: University of Minnesota Press.

Buci-Glucksmann, Christine. 1994. *Baroque Reason: The Aesthetics of Modernity*. Trans. Patrick Camiller. London: Sage Publications

Maravall, José Antonío. 1986. *Culture of the Baroque: Analysis of a Historical Structure*. Minneapolis: University of Minessota Press.

specifically in reference to digital media culture. As contemporary media theorist Angela Ndalianis describes, the baroque ocular regime was and is, in both the 17th and the 20th century, 'an order that *calls upon* systems of classical or Renaissance perspective in order to overturn, investigate, or complicate their rational, self-contained visual and narrative spaces.'[60] Classical representational systems such as the Renaissance invention/re-discovery of perspectival depth of space were characterised by a static, centred and passive viewer position, whereas the baroque fractured this closed system, delighting in toying with habitual expectations of order. As Ndalianis explains further:

> 'The spatially invasive nature of baroque and neo-baroque spaces instigates participatory spectatorial positions through dynamic compositional arrangements. With borders continually being rewritten, neo-baroque vision provides optical models of perception that suggest worlds of infinity that lose the sense of a centre, which are associated with classically ordered space. Rather, the centre is now to be found in the position of the spectator, with the representational centre changing depending on the spectator's focus. Given that neo-baroque spectacle provides polycentric and multiple shifting centres, the spectator, in a sense, remains the only element in the image/viewer scenario that remains centred and stable'. [61]

The baroque aesthetic's first priority, according to Ndalianis, has, since the 17th century, been that of exhibition, virtuosity, spectacle and active audience engagement.[62] It is the pleasing element of illusion, complexity and the consequent sense of wonder which has always been intimately linked through history to the possibilities afforded by science and new technologies. While the baroque has at times been used as a derogatory term for excessive ornamentation, redundancy, over-complexity or obscurantism in all creative disciplines from sculpture to theatre, these tendencies are contrasted to a

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[60] Ndalianis, Angela. *Architectures of Vision: Neo-Baroque Optical Regimes and Contemporary Entertainment Media*. web.mit.edu/comm-forum/papers/ndalianis.html accessed 21.03.11.

[61] ibid.

[62] Ndalianis, Angela. 2005. *Neo-Baroque Aesthetics and Contemporary Entertainment*, Cambridge MA: MIT Press.

detached rationalism, cool intellectualism and ascetic simplicity in art based on purity and function. The baroque celebrates exuberance, theatrical melodramatics and heightened sensory stimulation, and thus has always been seen as more direct and accessible – a less esoteric and ironically more populist form, despite its opacity. It was thus often disdained by those who valued the clarity and transparency of the Renaissance style.[63]

The *neo*-baroque form in contemporary visual culture emphasises the possibilities of new digital technology to create viscerally affective architectures of spacetime which revel in their own technical mastery of simulation. The baroque stylings of digital effects driven narrative films (that regularly transfer over into computer games and theme-park rides), are for Ndalianis all primarily oriented towards a complete spatial immersion and interaction, extolling visceral affect and excess without elitist pretension. These values of immersion and haptic address seem like the governing logic in the development of digital visual media, inclusive of Dolby digital surround sound, and extending to D3D and digital IMAX. As such some critics see this as a detraction from the traditional cinematic arts, as in the original derogatory uses of the word 'baroque' to express something misshapen, grotesque and excessive at the cost of meaningful form.[64] By making its aesthetic priority short-lived intensities in affections of wonder and awe, it becomes again a cinema of attractions, rather than a socially embedded and culturally meaningful narrative medium.

Stereoscopic D3D has emerged in the last five years as being very much part of this neo-baroque impulse, revelling in contrasting depth effects and richness and complexity of motion. This desire for immersive depth within media extends back to the first baroque era. Ndalianis analyses the baroque 'quadratura' ceiling paintings by artists such as Andrea Pozzo, who used the then new perspective techniques of *di sotto in su* (viewed from below) to create the illusion of extended three-dimensional space on a flat ceiling above the viewer, extending the architectural space into the heavens. The image

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[63] Martin Jay 1988: 16 'Scopic Regimes of Modernity' in *Vision and Visuality.* Hal Foster (ed). San Francisco: Bay Press.

[64] "Baroque". Encyclopædia Britannica 1911. www.theodora.com/encyclopedia/b/baroque.html. Accessed 02.10.2012

below shows his ceiling at the Church of S. Ignazio (1691-1694). In this tableau image we can see the similarity with the spatial dynamics of the digital neo-baroque imagery of the movie battle-scene. We have the similar 3D depth, within which occurs an intense confusion of colour, form and detail. We can see a visual complexity which revels in a technical mastery, cultivating simultaneously both a sensory absorption and a cognitive astonishment at the technical achievement on the part of the viewer.

As Sean Cubitt describes in his analysis of cinema history, the films of the neo-baroque in their spatial and temporal coordinates are less like linear narratives, but rather like puzzle spaces: 'Spatialization takes over from narrative the job of managing the film's dynamics. Movement here is sculptural, architectural, or geographical rather than temporal, and space itself is malleable',[65] noting further that: 'The film world seeks an audience that will realize it by uncovering its secret algorithm'.[66] Narrative here is merely 'decorative', and what we are instead given is a series of spatial illusions and effects as problems to solve. We must negotiate with the baroque puzzle, at once in awe of the complexity of form while also deeply implicated in finding its solution. This feels like a cognitive challenge, a problem for the logical mind to square off these spacio-temporal coordinates into a neat and coherent image of form, but the aesthetic pleasure is in the exploration and in the discovery of the tricks and illusions, a reveling in the Escher-esque distortion of conventional Euclidean modes of representation of space and time. While Cubitt ultimately criticizes the self-contained hyper-coherence of these monadic film spaces which ultimately lead nowhere but back in on themselves, (he refers particularly to the clichéd closures given through retort to weak narrative devices such as coincidence and destiny), he fails to see that, as in Escher's work, this superficial coherence is not 'totalitarian' as he suggests, but rather an invitation to play.

Beyond cinema, but very much in the 'Escheresque' tradition, a further current neo-baroque trend in digital visual culture worth noting is projection mapping. Projection mapping is a relatively new digital projection technique (emerging around 2007) that can turn almost any 3-dimensional object into a screen. *Modul8* software is used to warp and wrap the projected images to make it fit perfectly on multiple irregularly shaped

[65] Cubitt 2005: 224

[66] ibid: 242

screens – usually the multiple surfaces of a three-dimensional object. The result is a projection installation that can make it seem as if a 3D solid and fixed object is moving, flexing, throbbing, glowing, crumbling or even exploding. The object can be anything, from the very small (a training shoe used in an advertisement for the brand *New Balance*) to the very large (a whole tower block at London's Millbank for brand *Nokia,* and on the disused Battersea power station for *Bombay Sapphire*).[67] The best uses of this technology have been mainly restricted to these marketing purposes and for live music and club visuals (for example in the stage shows of dance-music acts Amon Tobin and Etiénne de Crecy) due to the expense of producing these performances on a large scale, and as such the creative limits of the medium have yet to be properly explored by artists. However, given the right conditions – complete darkness and powerful projectors – the results can be highly intensive, as physical form is apparently folded and collapsed, walls are opened outwards or rendered transparent, and buildings are transformed into other objects.[68]

With urban projection mapping, dramatic distortions of space, matter and form as digital neo-baroque illusions are taken out the cinema or living room and relocated onto the surfaces of the urban environment as public events. They take the familiar landscape of the city and alter its materiality; turning monoliths into screens, and solid concrete and brick into fluid substances. Like the baroque painters, these images revel in the illusions afforded by the technology, and draw us into a new mode of perception, adding an original new virtual dimension to public space.

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[67] These images and their like can be readily found on YouTube and similar video sharing sites, indeed their marketing efficacy often depends on the images being distributed and shared though these platforms.

[68] For a genealogy of digital video mapping's 5 year history, see: Daniela Krautsack '3D Projection Mapping and its Impact on Media & Architecture in Contemporary and Future Urban Spaces'. *Media-N. Journal of the New Media Caucus*. Summer 2011: V.07 N.01: 'Under Fire: 3d Animation Pedagogy' www.newmediacaucus.org/ Accessed 18.09.12.

D3D, THE NEO-BAROQUE AND CRITIQUE OF IDEOLOGY

In the Western monocular visual tradition we have grown accustomed to reading images from a one-point perspective, from left to right, in a seemingly 'rational' mode of composition and narrative arrangement.[69] This habitual mode of spatial perception comes to seem the most transparent way of representing the real; the real reveals itself in a 'naturalistic' way to us from this perspective. The baroque flouts these rules, demanding that we look again, shift our perspective or viewer position and actively enter into the representation.

> 'Rather than reflecting a classical concern for the static, closed and centralised, the neo-baroque system is dependent upon dynamic forces that expand, and often rupture borders. Differentiation, polycentrism and rhythm are central to neo-baroque storytelling strategies and, as with examples of seventeenth century baroque, neo-baroque entertainment media of the late twentieth century introduce "a taste for elliptical form provided with real centres and multiple potentials".'[70]

As such there is an implicit critique of power within the apparent playfulness of the baroque. This is a critique of the regime of vision which states that there is a stable reality governed by certain rules, and that there is one correct way of positioning oneself in relation to this reality. Instead it instils a plural and reflexive relation to the representative image and problematises facile recognition; it exposes as false the institutional conventions of reality perception that we take for granted.

This critique of classical systems of representation/perception has been manifested at various times in history by 3D stereoscopic technologies. Where the monocular regime

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[69] As explored in the work of Martin Jay, the regime of 'Cartesian Perspectivalism' is generally understood to be the hegemonic (and therefore not totalitarian) visual model of the modern age since the Renaissance, reflecting subjective rationality and a scientific world-view: 'it followed the logic of the gaze rather than the glance, thus producing a visual take that was externalised, reduced to one point of view and disembodied' 'Scopic Regimes of Modernity' in *Vision and Visuality.* Hal Foster (ed) 1988. Bay Press.

[70] Ndalainis. *Architectures of Vision* (web.mit.edu)

of vision comes to represent the fixed way of seeing at a safe mental distance of Cartesian analysis and judgement,[71] the stereoscopic image is posited as neurologically bypassing this ocular distance and confronting the viewer with a haptic, immersive address. As Thomas Elsaesser has addressed in his 2011 talk *The Return of 3-D: Logics and Genealogies of the Image in the 21st Century*, early forms of stereoscopic viewers emerged around the end of the 19th century for a wide array of uses, and were seen as a challenge to the bourgeois fine-art regime of expression as seen in renaissance perspective painting. [72] Later in the 20th century certain anti-bourgeois avant-garde art movements such as Cubism, Dada and Surrealism kept stereoscopic vision alive as a critique of normative static perspective.[73]

However the most recent incarnations of 3D have been dismissed by many (Roger Ebert, Mark Kermode et al) as being an unnecessary gimmick and 'a waste of a good dimension', [74] which merely disturbs the classical cinematic experience. They see the technology recurring every few decades as a somewhat tacky and superficial side-show experiment in titillation, while the serious business of cinema carries on regardless. While this is perhaps technically true in a historical sense, with the 3D effects previously contained within the low genres of horror and pornography (e.g. *Creature*

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[71] For Martin Jay this entails an emotionally distant, dispassionate and domineering gaze, in analysis of Buci-Glucksmann he states: 'She emphasises its rejection of the monocular geometricalisation of the Cartesian tradition, with its illusion of homogeneous three-dimensional space seen with a god's-eye-view from afar. […] the Baroque self-consciously revels in the contradictions between surface and depth, disparaging as a result any attempt to reduce the multiplicity of visual spaces into any one coherent essence'. (Jay 1988: 16/17)

[72] Elssaeser, *The Return of 3-D: Logics and Genealogies of the Image in the 21st Century* Plenary lecture given at University of London Screen Studies Group. Friday, 28 October, 2011.

[73] Duchamp experimented extensively with stereoscopic pairs and was the first person to develop a system and a device (1923) that produced a 3D stereo fusion in the mind with a single 2D image. Shearer, Rhonda Roland 'Why the *Hatrack* is and/or is not Readymade' *Tout-Fait: The Online Marcel Duchamp Studies Journal.*
http://www.toutfait.com/issues/issue_3/Multimedia/Shearer/Shearer10.html

[74] Roger Ebert. 'Why I Hate 3-D (And You Should Too)' in *Newsweek.* May 9, 2010. Kermode, Mark. 'No, your eyes aren't deceiving you – 3D really is a con'. *The Observer*. 11 April 2010.

from the Black Lagoon, *Stewardesses*).[75] This seems to have changed with the recent emergence of *digital* 3D, and with the aforementioned contributions of directors such as Wim Wenders and Werner Herzog a digital visual culture (discussed above), we are seeing eminent auteurs of the analogue film form taking up the new technology for apparently artistic reasons, rather than for novelty value. This makes genealogical sense in many ways when we consider the themes of these directors' films *Pina* and *Cave of Forgotten Dreams,* which explicitly thematise and reflect upon the expression of bodies and of movement, aim through D3D technology to achieve a heightened visceral aesthetic effect in much the same way as the 'body genres' of horror and pornography.[76] The optical distance and framing of regular 'flat' cinema in both instances is breached as we feel a heightened sense of corporeal presence within the frame, creating a more primal sense of immersed haptic reactivity to the image, which works particularly well with dance, horror, porn[77] and also with gaming,[78] where an immersive corporeal affectivity has perhaps always been the primary goal. However, in current usage the 3D effects have shifted from being foregrounded in short and titillating 'things flying towards the screen' moments, and have moved towards a more aesthetic, embedded usage. As another auteur-director Martin Scorsese observes about the making of his new film *Hugo Cabret* (2011) in 3D:

> 'Every shot is rethinking cinema, rethinking narrative – how to tell a story with a picture. Now I'm not saying that we need to keep throwing javelins at the camera, I'm not saying that we use it as a gimmick, but it's liberating […] But it has a beauty to it also. People look like… like moving statues. They move like sculpture, as if sculpture is moving in a way. Like dancers…'[79]

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[75] Anthony Lane. 'Third Way: The Rise of 3-D'. *The New Yorker* March 8, 2010.

[76] Williams, Linda, 'Film Bodies: Gender, Genre and Excess' in Barry Keith Grant (ed). *Film Genre Reader*. Austin, Texas: University of Texas Press.

[77] See articles: Ben Child 'China Goes Wild for 3D Porn Films' *Guardian* 6th April 2011, and Xan Brooks 'Caligula Director hints at 3D Porn Remake' *Guardian* 29th January 2010.

[78] The 2011 release of the Nintendo 3DS sees the first widely distributed autostereoscopic (no glasses required) screen media, which according to reviews sees a perfect and ungimmicky integration of the technology into heightened gameplay (*Super Mario 3D Land* review – 21st November 2011, *Guardian* Nick Cowen)

[79] In interview with Mark Kermode for the *Observer* 21st November 2010. (sic)

However, while Scorsese in this interview also falls into the system of believing that the new image regime of D3D *bridges a gap* between real perception and screen representation, he can see that rather than merely replicating natural perception something new here is added, a new aesthetic effect which has the effect of heightening and altering our sensation. He himself likens it to the Cubist rendering of a 'cinematic' temporal dimension in saying 'a painting can't turn…if you look closely at some of the portraits from cubism at the time, you'll find a portrait of a woman that is actually a projector', as the image rotates around the subject, 'projecting' a sense of the cameras movement.[80] Like Duchamp's experiments in stereoscopy also, we see that these images, while evoking a third spatial and a fourth temporal dimension, can still be far from perceptually naturalistic, giving instead quite a distorted view of reality.
We can see that many of the affects of digital 3D do indeed 'rethink cinema' in that they not only offer up a more haptic address, adding a dimension of depth which is more intensive and immersive, but within this they create a new and novel experience of reality which still seems very much experimental, breaking new ground even within the commercial confines of mainstream media.

CONCLUSION

I have argued, using examples from the very first digital spatial, temporal and material impingements into screen media, through different dynamics of movement in screen space- in dance, in immaterial spaces and in the epic battle-scene, through baroque architectures of space and the 3D technology used to render them, and to the flexion and distortions of real-world form with projection mapping, that we now have a well evolved and decisively different digital image regime from that which went before. The new digital screen technologies synthesise an original sensation of space and time, materiality, force and rhythm, generating new dynamic landscapes which comes to feel like a very real part of our world. Furthermore I have tried to establish through the work of Sheets-Johnstone and Erin Manning that this technological shift in kinetic expression could have a real impact on a phenomenology of existence, from corporeal kinaesthesis and perception to abstract metaphysical thought. As a final point I'd like to use a couple

[80] Ibid.

of empirical studies to further demonstrate how malleable our sense of the real actually is, to suggest that what we often think are fixed, consistent and unchanging physical qualities of the world are actually relatively fluid.

A recent empirical study tested the ability of participants to intuitively project objects into a fourth dimension through their immersion in a virtual reality simulation. The researchers state:

> 'Representations of space and time are deeply rooted in human thinking, reasoning, and perception of the world. However, living in a physical world of three dimensions, humans have their perceptual and cognitive systems tailored for sensing, storing, transforming, and reasoning about three-dimensional (3-D) objects.'[81]

They aim to prove that our ability to conceive of, and to intuit, fairly complex higher dimensional space can be dramatically and quickly expanded by quite minimal exposure to three-dimensional virtual simulation. They go on to say:

> 'It is a long-lasting question whether human beings, who evolved in a physical world of three dimensions, are capable of overcoming this fundamental limitation to develop an intuitive understanding of four-dimensional space. […] Here we show evidence that people with basic geometric knowledge can learn to make spatial judgments on the length of, and angle between, line segments embedded in four-dimensional space viewed in virtual reality with minimal exposure to the task and no feedback to their responses [...] These results suggest that human spatial representations are not completely constrained by our evolution and development in a 3-D world.'[82]

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[81] 'Human four-dimensional spatial intuition in virtual reality'. *Psychonomic Bulletin & Review* 2009, 16 (5), 818-823. Michael S. Ambinder, Ranxiao Frances Wang, James A. Crowell, And George K. Francis. University of Illinois, Urbana-Champaign, Illinois, and Peter Brinkmann. City College, New York, New York

[82] ibid.

The researchers suggest that by developing and using new technologies of representation, we can relatively easily adapt into a new intuitive sense of space and time. They say that while his was hypothesised previously, it was not possible to test until virtual reality was available, with the possibility of inserting the test subjects into a spatially coherent 'other dimension'.

In a second empirical study, again using virtual reality, researchers claim to have altered thought and behaviour by 'transferring men's minds into a woman's body'.[83] In a VR simulation men could look down and see their woman's body beneath them. During the experiment a second virtual female approached and touched the participant's arm – a visual image which was reinforced with physical sensation from a researcher in the lab touching the participant simultaneously. In another situation the participant flinched and their heart rates jumped when being struck by the virtual character in the simulation. The researchers state:

> 'If you can temporarily give people the illusion that their bodies are different, then the evidence suggests it also affects their behaviour and the way they think. They can have new experiences: a person who is thin can know what it's like to be fat. A man can have experience of what it's like to be a woman.'[84]

While here they principally describe an empathetic identification effect, thinking that a man could 'feel' like a woman, the hidden significance of this research for me seems to be about the malleability of our mental image of our own bodies and its capabilities, from only a little exposure to an altered sensation of corporeal presence within a technological simulation. The research suggests that corporeally immersive technologies can instigate a suspension of disbelief and an erasure of cognitive dissonance to the extent that the participants can have a strong physical reaction in response to event occurring to their virtual bodies in a virtual world. The researchers thus conclude that 'our mind thus have a very fluid picture of our bodies'.

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[83] Ian Sample. 'Virtual reality used to transfer men's minds into a woman's body'. *Guardian.co.uk* 12th May 2010.

[84] ibid.

What these two examples evoke (without, I hasten to add, categorically proving) is the idea that through digital simulation – through virtual representations of bodies and their positioning within a virtual reality – we can alter what actually prove to be fairly fluid mental models of reality. This can be a heightened intuition of the world's metaphysical properties, or a different kinaesthetic sensation of our own bodies within the world if indeed, following Sheets-Johnstone's thought, the two sensations can be at all separated. In digital screen media – through CGI, D3D, digital mapping, digital HD, digital slow-motion and morphing software, and with more emerging technologies[85] – we have an immersiveness and intensity of physical detail which can afford us emergent and original sensations of the body within space and the energic force with which it moves. This is best perceived as a playful, interactive learning process, even though it often proceeds through experimentation which can occasionally seem bizarre, redundant, superficial or gimmicky. However, there can be no doubt that these effects amount collectively to a new image regime, a new default in contemporary digital screen media, the impact of which on a generation that was born into a digital era is only beginning to be understood.[86]

[85] Other technologies of interest which have emerged in the last couple of years include *Fulldome* 3D presentation (within a silver dome such as those used by planetariums) which gives a 3D immersive effect without glasses; and innovative uses of the *X-Box Kinect* camera, which by tracking bodily movement can used for instant interactivity without the need for a hardware interface for not only gaming but also for dance performance and music creation.

[86] I myself was born in 1977, the year of the release of *Star Wars*.

REALITY SUTURES, SIMULATION and DIGITAL REALISM

> 'A psychologically tested belief of our time is that the central nervous system, which feeds its impulses directly to the brain, the conscious and subconscious, is unable to discern between the real, and the vividly imagined experience - if there is a difference, and most of us believe there is. Am I being clear? For to examine these concepts requires tremendous energy and discipline. To allow the unknown to occur… and to occur… requires clarity [sic]. And where there is clarity there is no choice. And where there is choice, there is misery.'[1]

> 'Everything is backwards now, like out there is the true world, and in here is the dream.'[2]

In *Avatar* we are presented with a direct analogy for the suturing of our mind into a digital screen 'virtual' reality. The main character Jake Sully's consciousness is projected into the body of his avatar, and his experience of reality is mediated through his conscious connection to an alternate body in an alternate world. As we enjoy the pleasures of 3D immersion and identification within a fantastic alien-world from our cinema seat, Sully is similarly transported from his disabled body restrained within a capsule into an enhanced and empowered blue body in which he can perform amazing physical feats. His projection of consciousness proves to be an apt metaphor for the process by which we mentally invest in and virtually inhabit the images we see on the screen. We see characters in situations performing impossible tasks, in situations we can never hope to be in, and we experience these scenarios in some vicarious way, our bodies tensing and releasing, laughing and crying, even jumping and twisting in our seats as the bodies and objects move on screen. The difference is that while the character Sully knows the simulation is real and deadly serious,[3] we as mature spectators maintain at least a partial conscious knowledge that it is just an imaginary

[1] The Swami in The Monkees' 1968 film *Head*

[2] Jake Sully (played by Sam Worthington) in *Avatar* 2009.

[3] This knowledge is emphasised in many films involving the transposition of consciousness (*Brainstorm, Tron, Total Recall*) by expository dialogue that informs the audience that 'virtual' death within the simulation equals brain death in reality.

projection presented for our pleasure. What this means is that we can engage in a kind of metaphorical 'imaginary' relation with the images on the screen; a playful creative engagement through which multiple simulation and mirroring cognitive processes are mobilised without serious mental risk.[4] While children seem less able to police the boundary between virtual and real in terms of the suggestive metaphoric power of the screen image, shrinking in real horror or gurgling with delight, adults have entered more firmly into a 'symbolic order' detachment from the imaginary screen reality. We are told that these illusory images cannot really affect us, and we feel that our engagement with them is an intentional act.

However, have we not all experienced the odd unsettling cinematic moment where our firm grip on 'exterior' reality is shaken in such a way that even as we leave the cinema we feel that screen reality to be impinging on our own – be it a threatening shadow, or a 'glitch in the matrix' sensation of déjà-vu? Can we really say that we have complete conscious control over the images we consume, and exert that control to perfectly police the boundary between the virtual and the real? Anyone who has had a particularly vivid dream which references the mood, tone or embodied experience of watching a movie, or indeed a dream in which we actually enter into the movie, can attest that however we consciously position the experience of spectatorship, some of it gets 'under our skin' and bleeds into our subconscious mental processes. But going even further than this, I move towards seeing that the virtual screen image is not a thin reproduction of reality which causes occasional interference in our 'natural' perception, but is actually in a sense more real (in its virtuality) than the real. The screen image is a register of our ways of seeing, the image of our 'actualisation' processes of mind that extract meaning from the multiplicity of sensory input. Thinking this, we can start to understand that it is not the screen reality that impinges on our own, but rather that it is external reality that is checked for validity against the virtual (mentally-simulated) image.

[4] As Commoli ascertains in 'Machines of the Visible', we are not imbecilic passive consumers; we 'play the game', and fool ourselves for the pleasure. We are accomplices in the illusion. Commoli, Jean Louis, in DeLauretis and Heath (eds) *The Cinematic Apparatus*, London: Macmillan.

This chapter aims to address how images come to enter into our consciousness, at what level(s) of consciousness they enter, and what alterations they passively make when they take up residence in the neural substrate of our memory. In our exposure to these images as spectators and consumers, I ask in what way we consciously and subconsciously process them as part of our patterns and systems of recognition and abstract thought about reality. I propose that in youth, and also beyond and throughout adulthood, there is a developmental structuring of associational, procedural and semantic memory of 'virtual' media experience which is cemented in the synaptic connections of the brain. To a large extent we perceive the world through our understanding and awareness of the content of, and connections between mediated images. Thus the changing technological forms of mediation of reality, from the novel and painting, to cinema and television, each generate a deeply interconnected and ingrained way of recognising and processing sensory input. I move towards seeing digital screen media as synthesising a distinctive mode of thought about reality; a reality in which there is an uncertainty about reality itself, and an intuition that our sensory experience of the world and its objects is not the whole story. Digital media seem to tell a different story about a subtle vitality of matter and space which lies just beyond normal perception, but which can nonetheless be tangibly and corporeally felt.

While the major discourse of the mind of the 20th century was that of the unconscious network of meanings connected through symbolism and signification, in the 21st century we move deeper into a neurological understanding of the modular structure of mental processes in which cerebral meanings and embodied affections are subtly co-triggered.[5]

[5] Sigmund Freud in fact began his career as a neurologist, but evolved towards theoretical neurology and psychology before founding psychoanalysis as a therapeutic practice. It was his turn to psychology which instigated the 20th century pre-occupation with the unconscious mind. Now the current 'turn to neurology' in humanities and social science in the last 20 years seems to come on the back of new technologies of brain-imaging and measurement (the digital scanning techniques of MRI, CT, EEG, etc), but also arrives as a fashionable critique of social and cultural theory influenced by psychoanalysis. This 'neuro-hype' does however threaten to overwhelm more politically informed analysis – leading to recent conferences in Berlin and London to discuss the opportunities and pitfalls presented by the new prominence of neuro-science: *Neuro-Reality Check: Scrutinizing the 'neuro-turn' in the humanities and natural sciences.* Workshop at the Max Planck Institute for the History of Science, Berlin. December

Neural synapses form through our early development, but as has been recently proven, further re-form and develop in new ways as our experience broadens and accumulates.[6] By offering up an unstable image of a reality in flux, digital screen media seem to reflect this greater self-transformative power of the brain, as much as of the world and matter itself. New understandings of neurology, as also of physical reality through quantum physics and cosmology, intertwine with the capacities of the new technologies of representation to create a new complex and heterogeneous ontological model of metaphysical properties of time, space, force and matter. I move in this chapter to suggest that our brains adapt and change to account for the symbiosis between these new contemporary knowledges and digital technologies, a passive but material recreation of neural connections which re-orientates the senses to see and feel differently.[7]

THE MALLEABLE MEDIATED MIND.

We are familiar through psychological discourses of conditioning that we become quickly inured to certain stimuli, in such a way as we respond automatically and habitually without thought or analysis. But while this process has conventionally been measured through behaviour or physical response,[8] how does one research the

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2011; also, *The Neurological Turn*, at The Future of Medical History Conference, Hosted by The Wellcome Trust Centre for the History of Medicine at UCL, July 2010**.**

[6] This quality of 'plasticity' of the brain is described in the work of philosopher Catherine Malabou, as I will examine in greater detail below.

[7] This is a theme developing recently in Katherine Hayles' work in which we she identifies a new transformed cognition in digital culture: 'There is a mounting body of evidence to suggest that different media wire the brain in different ways…The neurological re-wiring takes place quickest when small repetitive tasks are repeated over and over, reinforcing synaptic pathways and encouraging the associated neural nets to grow — as, for example, clicking a mouse, scanning a web page, etc.' N. Katherine Hayles, 'post for convergence; print to pixels', posting to the *empyre* forum, 9 June, 2010. Accessed 18.09.12.

[8] As originally documented through the work of Ivan Pavlov. In Pudovkin's 1926 film *The Mechanics of the Brain* we see documentary footage filmed in Pavlov's laboratory of experimentation on animals and small children to prove physiological and behavioural conditioning. continued…

conditioning of more ambiguous awarenesses such as the metaphysical sense of presence, order and consistency which cannot be so easily monitored? How do we become conditioned to the more abstract and ephemeral notions like those of space and time? The answer of course is experience. Throughout childhood, imaginative and mimetic play tests our boundaries and continuities of space, time and force (as anyone who has fallen out of a tree can attest). But we also experience media, and we learn through media many more abstract notions that we cannot experience as directly as the ground as it rushes toward us. How do we have an idea of weightlessness in space for instance, or an idea of the density of matter at the big bang? Or how do we have a concept of two neutrons colliding in the CERN particle accelerator, or of the speed of light? We learn about these through media representation,[9] and attempt to imaginatively simulate an experience of these things in our minds as if they were directly experience-able by our bodies. As I will go on to explain, these notions are shaped largely by our ability to mimic or simulate them in the mind, through our bodies, or in media, and our changing technological capability to represent them shapes our ability to imaginatively visualise them, both in the mind and in media. The media we experience therefore provide us with a palette of imaginative mental schema though which we can simulate abstract experiences.

We learn about the world by processing sense data and forming consistent mental schema – a conglomeration of direct experience, abstract modes of thinking about that experience and by metaphoric associations with similar experiences or ideas

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More recently we have seen much contested, but popularly known, research conducted on physiological desensitisation to violence as a form of conditioning, specifically after exposure to violent media in the form of video-games or films. See for instance: 'The effect of video game violence on physiological desensitization to real-life violence.' *Journal of Experimental Social Psychology* 43 (2007) 489–496. Nicholas L. Carnagey, Craig A. Anderson, Brad J. Bushman.

[9] Following Stiegler, we can understand everything from gesture, to language, to drawing also as being media technologies which record experience as a form of shared tertiary memory (see chapter two for my discussion of this). Steigler, Bernard. 2010(a). *Technics and Time, 3: Cinematic Time and the Question of Malaise.* Trans. Stephen Barker. Palo Alto, CA: Stanford University Press.

experienced either directly or through media. This process happens both consciously and unconsciously, becoming part of our procedural and semantic memory as a kind of embodied habitual knowledge. The crucial question here becomes: how do we discern at a less-than-conscious level between virtual memory – the semantic abstract knowledge about something – and the more directly experienced procedural, embodied memory? As neuro-psychologists Mark Solms and Oliver Turnbull note in their book *The Brain and the Inner World*, perception is predominantly sculpted by abstract habituated models of reality derived from early learning experiences.[10] We thus usually see what we expect to, based on previous experience, and this entails the simultaneous activation of both direct and abstract knowledges as they were encoded at the same time in the different modules of the brain.[11] Both make up our habitual mental response in a relatively undivided way. This means that our mind is activated in subtle and complex sub-conscious ways by memories of things that happened to us directly, as well as memories of 'virtual' or simulated experiences we may have had through media or in dreams, and that these can be separated only by drawing the mental process into a higher level of analytical consciousness. I further suggest that certain fundamental mental schema which relate to abstract metaphysical knowledges are formed even more so by the confusion of real and virtual experience in the mind.

Beyond the initial neural development and synaptic concretion in our early years of learning, there is still a vast amount of adaptability in the brain.[12] There are many popular cultural discourses of neural flexibility and adaptability, most pronounced that of brainwashing, usually positing that through exposure to media (propaganda) in an eroded or weakened metal state, we can essentially be 're-programmed'. This normally

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[10] Solms, Mark and Oliver Turnbull. 2002: 159. *The Brain and the Inner World: An Introduction to the Neuroscience of the Subjective Experience*. New York: Other Press.

[11] They explain how memories are simultaneously stored in different ways in different modules of the brain: 'As a set of experiential episodes, as a set of abstract facts, and as a set of habitual response'. If one part of the brain is damaged, the memory can live on albeit altered, leading to situations where a patient can abstractly remember the act of performing a skilled task, but cannot actually do it any more, their semantic memory intact while their procedural memory of the same thing has been removed. ibid. 2002: 157

[12] This is evidenced by slow degenerative brain disorders like Rasmussen's encephalitis where the brain has time to transfer most functions over to healthy parts of the brain.

refers to cultural values or belief systems, but what about physical and metaphysical senses, our sense of position and presence in the world or in the universe?[13] Our practical and pragmatically naïve everyday experience of reality is that space and time exist in empirically real terms, outside of our comprehension of them, in enduring transcendent form. Following Kant, however, we can abstractly understand that while all sensory perception is shaped by notions of space and time as organising frameworks, these notions are not grasped through sensory experience, rather they are essentially a priori, deduced by the mind, and completely synthetic. From Einstein we know also that time and space are relative and unfixed qualities. As synthetic mental structures, metaphysical intuitions of time and space are thus constantly tested against sensory experience, and they are therefore subject to modification within changing environmental factors. This is evidenced by the shifts in the experience and understanding of time and space first in industrial modernism, then in globalisation and digitalisation that are examined by theorists of modernism and postmodernism.[14]

I move towards asking how different paradigmatic technological media forms affect us: how do they reflect/refract the world, and how do we cognitively process this information? Does the media representation of the fundamental forces of the world – time, space, energy and materiality – subtly alter our metaphysical understanding, and therefore our perception of these qualities in a lasting and deeply ingrained way? In our phenomenal experience of the world, do we really manage to police a clear boundary between 'real' and virtual experience, or at an affective level is the boundary between actual waking experience and the virtuality of screen-mediated experience (as also of dreams) more blurred or intermingled than we might think?

At an embodied level of cognition, I suggest that we have a sympathetic reaction to media images. This involves the activation of simulation processes in the subconscious

[13] Which posits the speculative issue of whether someone could be conditioned or brainwashed into thinking about space and time radically differently, perhaps into thinking that time-travel is possible.

[14] For example Paul Virilio describes exactly a kind of brainwashing or neural 'brainstorm' brought on by the contemporary folding of space and time. Virilio, P. 1988. *The Vision Machine*. Bloomington and London: Indiana University Press and British Film Institute.

mind/body. This is the intense corporeal reactivity which we all might experience when watching, for example, a horror movie, an empathetic relationality understood at an *affective* level of identification through the activation of bodily knowledge – rather than identification at the more analytical level of cognitive awareness which has been more conventionally identified in 20th century film theory.[15] At this level of embodied metaphoric association, neural bonds are formed – a passive synthesis of corporeal associational and metaphoric memories which then lies dormant, waiting to be triggered again through subconscious patterns of recognition. Each technological medium lays down its own structural syntax of a mimesis of reality that we learn to read, negotiating the initially abstract and complex significations, rhythms and connections until they become familiar. From these negotiations we automatically synthesise embodied understandings and organising frameworks by which we cognise not only media but reality also.

Understanding that we must consciously maintain a boundary between our perceptions of the real and the virtual, requiring some structure and stability in our mental schema to do so, I ask whether our increasing fascination with fracture and discontinuity in digital media representation fundamentally changes our sense of the world in a way that is either quantitatively or qualitatively distinct to previous analogue and photographic media forms? Directing this question to culturally definitive films such as the *Matrix, Avatar* or *Inception*, one is led to ask if there is a sea-change in our collective consciousness towards a less 'naïve' version of reality – a destabilising and consequent restructuring of mental schema. Furthermore this leads me ask whether digital mediation in fact more accurately reflects the essential virtuality of our abstract thought processes due to its verisimilitude in

[15] The Psychoanalytic theory of Christian Metz and Jean-Louis Baudry held that film spectatorship was *egoistic*, useful to us in feeding our fantasies, even though this was perceived to be driven by unconscious motivation. Elihu Katz's 'Uses and Gratifications' theory later focussed on more consciously *active and intentional* uses of media for individual social and psychological requirements. Both, however, engaged primarily in analysis of processes of identification and representation through narrative and character devices as if we were 'reading', rather than simply 'experiencing' film, and the pleasures and uses they described seem more cerebral than corporeal. Elihu Katz; Jay G. Blumler; Michael Gurevitch 'Uses and Gratifications Research.' *The Public Opinion Quarterly*. Vol. 37, No. 4. (Winter, 1973-1974), pp. 509-523. Oxford University Press.

presenting imaginative simulations of the world – does it becomes a closer inscription of our inner mental landscape? Do digital screen media in their generation of realities seen through the prism of recent discourses of neurology, perception and physics generate a new metaphysical sensibility, a new digital ontology?

To explore how our cognitive engagement with screen images impacts upon our ways of seeing the world and on our sensibilities and intuitions surrounding our *being* in the world, I now wish to re-examine the interface between the mind and the image. By doing this I aim to complexify ideas of the way we virtually inhabit the image, imagining the actions and objects on the screen to be actually occurring to a simulated image of ourselves within the image itself. To do this I first turn to examine the traditional notion of suture in cinematic theory, towards expanding and re-thinking its meaning to encompass an affective closeness to the image that twists the distinction between real and vividly imagined experience, before then moving on to concepts of mimesis and simulation in the context of digital images.

RETHINKING SUTURE

> 'The ultimate gap that gives rise to suture is ontological, a crack that cuts through reality itself: the whole of reality cannot be perceived/accepted as reality, so the price we have to pay for 'normally' situating ourselves within reality is that something should be foreclosed from it: this void of primordial repression has to be filled in – "sutured" – by the spectral fantasy' [16]

Suture is the process by which the dissonant gap between fantasy and reality is closed in the spectator's mind, permitting us to fully identify with a realistic and believable depiction of reality. It is how we are guided into the reality of the fiction on the screen. It is, according to Žižek amongst others, a 'grammatical' visual device in narrative cinema used to achieve a sensation of subjective investment without feeling passively manipulated or overwhelmed by the 'reality' of the fiction. It consoles us that the fiction we are experiencing as real and immediate is a manipulation that we are party to, not

[16] Žižek, Slavoj. 2001: 71. *The Fright of Real Tears: Krzystof Kieslowski between Theory and Post-theory.* British Film Institute: London.

one that controls us. For Žižek this also reflects our relation to political reality; we are aware that we are seeing the world through narrative constructions (ideology), but by including this awareness in the narrative – by representing the limit of the narrative order – we feel that we are party to the (hegemonic) process, and we then can return to being absorbed in it since we are not at risk.[17] The tension of an unseen force controlling events, that might force us to step out of the fiction, disinvest and question the construction of the fiction, is a gap that must be 'sutured', closed, with an appeasement that it is just 'part of the process' and that all is well. Suture is necessary, for Žižek, because there can never be a fully-contained self-enclosed totality in the illusion – the Other, the Real, the gap in the symbolic order – which exposes the truth about the constructedness of the fiction; this truth always bleeds in through the cracks. As such suture never fully works, we are never fully immersed in the narrative, and attempts at suture must always be a matter of trickery.

While this analysis is astute and well-grounded in a form of Marxist transcendental idealism, it struggles too much with the limitations of representation; the focus is always on the outside of the image as antagonistic and the subsequent experienced sense of distance or 'lack' between self and image, and for me this does not ring true. For Žižek the image *is* the symbolic order with a monolithic authority, and the Real is outside of the image, antagonistic and traumatic, needing to be disguised and sutured through ideological 'spectral' fantasy. He posits an idealised notion of suture as a compensatory structural device, and over-simplifies the actual engagement of the viewer into a formula which requires that the viewer is first completely immersed, and then she is not (because she abruptly becomes aware that the image is constructed), and thus a crisis in subjectivity is caused which need to be sutured. It is founded on a notion of there being real threat to a viewer's subjective position in watching a film, and further on the real need for the text to dominate. While it seems certain that particular visual constructions function to make the action appear more seamless and believable, it seems likely that cognitive engagement with the image might be more complex and fluid that is given in this formula. Following my earlier trajectory, we can say that a complex process of subconscious negotiation through metaphor and embodied simulation occurs when we are immersed in a screen image. If there is ever a failure of

[17] ibid: 32.

suture where we disinvest in the projected reality, it is because there is not enough metaphoric activity to draw us into the virtual world of the image. We can actually deal with a high level of cognitive dissonance in watching an image, running several systems of recognition, immersion and identification within our conscious mind at any one time, without experiencing the kind of jarring or traumatic break which Žižek suggests. This can be (and I would say usually is) an almost playful process of willing engagement and disengagement with metaphoric and sensory material from the image.

In light of this we need to rethink the use of the term suture to explain the more complex and deeply implicated way that we manage the boundary between real and virtual experience, in the consumption of media, but also between reality and dream or fantasy. Instead of thinking in terms of shot-constructions and montage as syntactical 'tricks', we can talk about affective immersion within the image where the frame disappears and we experience the reality within the image as 'virtually' real. This roughly follows Stephen Heath's rethinking of suture beyond the ideologically framed and restrictive uses of the term.[18] Heath insists that there is a complexity to cinematic images which cannot be confined to just one form of structural analysis, instead positing a connotative plurality or fluidity of meaning through analogy and symbol, and through many other structural and stylistic techniques not limited to the classical 'suture' two-shot structure.[19]

It could be said that there is a strong imperative to do this work of the rethinking of suture as mental interface specifically within the context of digital screen media. Due to there being digital effects and digital presentation systems such as D3D in which there is a heightened immersion, and with a *specific* type of image which reflexively dwells on fantasy and virtuality at the cost of indexicality, it seems that screen reality is at once more immediate and yet more self-conscious about its ontological status.[20] Within these

[18] Heath, Stephen. *Questions of Cinema*. Indiana University Press. Indiana 1985.

[19] Magrini, J.M. 2006 'On the System of Suture in Cinema'. *Otherzine* Issue 10. www.othercinema.com. Accessed 18.09.12.

[20] For Bolter and Grusin (2000) this dissonance is conceived of as a flickering between immediacy and hypermediacy, between transparent immersion and awareness of the constructed nature of the image, not as conflicting but rather as coinciding, fluctuating perceptions which permit a sensory investment in the image while maintaining a safe cognitive distance.

highly constructed images it seems the 'real world' symbolic order outside is drawn into question in increasingly complex yet playful ways, and the levels of metaphor become even more heterogeneous as the virtuality of reality becomes of central importance. Thus we find ourselves wholly investing in increasingly unrealistic and unbelievable images, moving freely between the symbolic and imaginary in complex ways which seem to do away with the notion that we require any sort of stable and unthreatened subject position. Suture thus becomes an issue not of concealing or patching an inherent lack, but rather of *managing* our mental and corporeal investment and immersion in hyper-real and hyper-immersive affective images.

In the analysis of film and television theorist Francesco Cassetti, belief in the projected reality as indexically or plausibly real is not, and never was, the primary function of suturing devices. Rather the suture functions to maintain the integrity of the screen reality, even though we know it is illusory. He states: 'What matters is the presence of a multifaceted and multi-layered discursive strategy, one that assembles the chain of discourse, thus providing a pervasive sense of mastery and a flawless sense of reality, even if it is illusory'.[21] Suture is seen as a matrix of rhetorical devices which render the reality coherent without us having to invest in it as real, but rather experiencing it as an integrated metaphoric and mimetic world that we can believe in. In the digital, Cassetti states, we are given coherent worlds without indexical qualities, but which nonetheless have reality cues as 'suturing points'; his examples suggests these are in naturalistic movement, and in raw 'surveillance' style camera shots. Our suture into a transparent realism thus, to Cassetti, was never natural but based on a certain conventional construction of screen reality, and this relation does not fundamentally change with digital media. In this light, we look instead to what it is about digital media that does suture us into its reality, what cognitive and affective negotiations occur which cause our investment in the image.

[21] Casetti, Franscesco. 2011. 'Sutured Reality: Film, from Photographic to Digital'. *October* 138: 95-106. Minneapolis: MIT.

SIMULATION AND THE 'MIMETIC CAPACITY'

> 'Metaphor is central to creativity because it involves the ability to detect unity in variety. Although usually thought of as a linguistic device it has been argued to be a core element in artistic photography, film, dance, sculpture, and painting… Metaphor is an important component of ordinary language used by adults to build up and use their conceptual systems in understanding the everyday world. Consequently creative processes, in terms of metaphoric understanding and symbolic play, share much in common with "ordinary" psychological processes…' [22]

To delve further into suture as the name for the process by which we directly engage with screen images and feel them to be in some way real, I ask how we as spectators imaginatively feel the events on screen to be happening to an idea of ourselves within a mentally simulated environment. This virtual environment, into which we project a virtual self, seems to exist between ourselves and the screen, with input from the 'reality' of both, a subconscious negotiation space where we make sense of sensory input through complex metaphoric and synaesthetic cognitive processes. The simulation is not a fully detailed representation in the mind, but a line-sketch of reality – a cluster of non-rationally, often dissonant, related mental schema which our perception is constantly being checked against. It is constructed though metaphoric processes, an 'as-if' model of reality by which hazily felt details, ideas, emotions or moods are activated from embodied procedural and semantic memory, allowing us to recognise familiar patterns and correlate them with previous experience.

In this section I aim to analyse how a process of embodied perception through mental simulation is deeply intertwined with recent neurological theories of relationality, empathy and sympathetic cognition in general (even more recently inflected by the 'discovery' of mirror neurons), and then more specifically how this is involved with aesthetic 'creative' engagement with images. Affective elements experienced in media

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[22] Jay A. Sietz, 1997: 374. 'Metaphor, Symbolic Play and Logical Thought in Early Childhood'. In *Genetic, Social, And General Psychology Monographs*, Vol**.** 123 No.4: 373 - 391. Heldref Publications.

or performance impact upon simulation in the same complex evocative ways as sense input from 'reality', through processes of conceptual and affective metaphor vehicles, which trigger perceptual simulations as imaginary visions of what something might be like if were happening to us.[23] This analysis, for example, helps us to explain the kinetic affective intensity of dance through the idea that we have a developed (phylogenetic) virtual sense that we are moving ourselves.[24]

Walter Benjamin in *The Doctrine of Similar* begins to describe the affective relational connectivity between our minds and others in his description of the primal phylogenetic and ontogenetic human impulse to mimic.[25] This impulse he describes can account for all 'higher human functions' i.e. all abstract thought is founded on the 'mimetic faculty of perception' by which we can see metaphorical similarity between things. This develops initially through mimetic play (the impersonation of objects) and through 'magical correspondences' (Benjamin examples astrological interpretation), by which the perceived sensuous likeness of things to human actions or processes is analysed and acted out. Anthropologist Michael Taussig extracts from Benjamin's other short essay on the subject, *On the Mimetic Faculty,* a fundamental point, that: 'Man's gift for seeing resemblances is nothing other than a rudiment of the powerful compulsion in former times to become similar to and behave mimetically.'[26] He sees that this compulsion to mimic is a primitive drive to 'get hold of', or connect with, something other than oneself. This is a 'two-layered motion of mimesis – a copying or imitation, and a palpable, sensuous, connection between the very body of the perceiver and the

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[23] For detailed examples see L. David Ritchie. 2008. 'X is a Journey: Embodied Simulation in Metaphor Interpretation' *Metaphor and Symbol.* Volume 23, Issue 3 July 2008 , pp. 174 – 199. Taylor and Francis.

[24] This is the analysis of dance theorist Marc Boucher in 'Kinetic Synaesthesia: Experiencing Dance in Multimedia Scenographies'. *Contemporary Aesthetics*. (online journal) University of Michigan: MPublishing. www.contempaesthetics.org accessed 12.08.12

[25] Benjamin, Walter. 1979 (1933). 'Doctrine of the Similar', *New German Critique*. No. 17, Special Walter Benjamin Issue. pp. 65-69

[26] Benjamin, Walter. 2005: 691 (1933). 'On the Mimetic Faculty'. *Walter Benjamin: Selected Writings. Volume 2, Part 2 1931-1934.* Michael Jennings; Howard Eiland; Gary Smith (Eds) Harvard University Press.

perceived.'[27] Thus to imitate, to perceive a metaphoric likeness or to simulate an idea of being something or doing something else in one's mind, is also a primitive urge to feel like, or to feel close to, another object or person.

This mimetic faculty seen as a phylogenetically developed part of human cognition allows us to understand how fundamental an empathetic and affective closeness with others is in processes of communication, comprehension and abstract thought. With mirror neurons we can see that we are evolved as a species to mirror and model the actions and mental states of others, and it seems presumptuous to think that this occurs only with things that are physically present in front of us rather than virtually present on the screen. Our natural and subconscious processes of cognition involve first the activation of metaphoric processes of recognition of resemblances and secondly the simulation of 'being' other, the similar, as a virtual experience of this relation.

> 'Seeing resemblances seems so cerebral, a cognitive affair with the worldly. How on earth then could it be the rudiment of "nothing other" than a "compulsion", let alone a compulsion to actually be the Other. What does this say about thought, let alone the ability to discern resemblance? Doesn't it imply that thinking is, like theatre, a configuration of very object prone-exercises in differentiated spaces, in which the thought exists in imagined scenarios into which the thinking self is plummeted?'[28]

Thus all thought is seen (through Benjamin) as a struggle to feel what something might be like by imaginative association, by simulation and metaphoric processes. Theatre, cinema and art are thus the forums by which thought can be exercised in physical space, rather than as purely mental simulation.

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[27] Taussig, Michael. 1992: 21. *Mimesis and Alterity: A Particular History of the Senses*. Taylor and Francis.

[28] ibid: 33.

METAPHORIC PROCESS AND EMBODIED SIMULATION.

Metaphor is often only thought to be a function of language, but it can better be thought of as a process by which any image triggers a simulation of something else for which it can then stand in for by association.[29] It is often abstract, irrational and impossible to explain using language:

> '[It is] the ability to link disparate perceptual, affective and conceptual domains. These include the perceptual domains of movement, colour and shape; cross modal or "synaesthetic" ability to perceive likeness in different sensory modalities; a rudimentary physiognomic experience (the attribution of affective properties to visually perceived objects)…The capacity to link the psychological and physical domains, and to compare the abstract properties of two different things lacking in physical resemblance.'[30]

Metaphor is the cognitive mechanism which permits diverse symbolic thought and is thus posited as the foundation of creative thought.[31] Cognitive psychologist Lawrence Barsalou goes so far as to suggest that in fact all cognitive processes, including abstract reasoning, could be accounted for by simulation.[32] Metaphoric vehicles lead to mental simulation which is completely individual and idiosyncratic, changing from situation to situation. Conceptual mappings are always indeterminate, though there may be shared generic metaphors like archetypes in a collective consciousness which work in similar ways for everyone.

Given a 'metaphor vehicle' – which could be either an image or a phrase which triggers a process of metaphoric association, for instance the expression 'her bedroom was a tomb' or an image of the entrance to a tomb – any number of simulators could be

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[29] As Seitz notes, this is an Aristotelian perspective, that metaphor is merely an embellishment of language. 1997: 377

[30] ibid. 1997: 374.

[31] Modell, Arnold H. 2003: 25-26. *Imagination and the Meaningful Brain.* Cambridge, MA: MIT.

[32] Barsalou, L. W. 1999. 'Perceptual symbol systems'. *Behavioral and Brain Sciences*, Vol. 22: 577–660.

triggered depending on the context, based on associational memory of other images seen or previous experiences of being trapped in cold, quiet, dark places, entailing embodied sensations of damp, dark places, specific sounds and even shivers running up one's spine. This process interacts with perception and understanding at every level, with simulators working through metaphoric associational process to make the world coherent by filling in details and evoking comparisons that permit recognition, classification and evaluation.[33]

The process of embodied cognition through metaphor interweaves fragments of relevant associational and procedural memory (previous affective and perceptual experiences as well as motor impulses), synesthetic elements, language, emotions and abstract concepts (including cultural and social belief systems). While these passively emergent elements which bubble up involuntarily within our mind during perception can all converge at a higher level of cognition and conceptualisation to form judgement and associational meaning, they are constantly running at a subconscious level during all cognitive processes allowing us to engage in the apparently simple process of recognition. Philosopher David Gamez interestingly suggests that dreaming is exactly this same kind of mental simulation process running in an 'offline' capacity; we are running these models of reality mentally whether sleeping or awake, though while we are asleep or even in daydream 'reverie' we are without the data input from the outside world to check against the simulation.[34] Thus what we experience in dreams is a kind of disjointed and fragmentary simulation of reality evocatively charged with mood and emotion through illogical metaphoric links and associations.

With language being for many the most obvious source of metaphoric meaning, many studies have looked specifically into the link between language and embodied simulation, describing how we create a simulation of the activity described in language.[35] It is suggested that we imagine the performance of an activity usually through a simulated image of ourselves engaged in the described action, while also

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[33] Ritchie 2008.

[34] Gamez, David. 2007. *What We Can Never Know: Blindspots in Philosophy and Science.* London: Continuum

[35] Lakoff, Johnson and Gibbs 2006, referred to in Ritchie 2008.

simultaneously simulating an experience of being the speaker or writer of the words describing the action and what their thought process might be, and the correlation between these two simulations. Far from language having developed as simply an abstract system of representation which serves as a trigger for simulation, it is likely that language and metaphoric mimesis co-evolved. Psychoanalyst Arthur Modell can be seen to roughly follow Benjamin's trajectory of thought in his essays *On the Mimetic Faculty* and also *The Doctrine of the Similar* in analysing the development of language as itself being a natural result of this process of metaphorical mimesis as simulation.[36] This evolution started with a primitive relationship of gesture to metaphor in that we 'feel' another person's gestures and instinctively mimic them both physically and mentally (as simulation). This pre-linguistic communication evolved into more complex metaphorical gestures, and ultimately to spoken and written language as an advanced system of abstract combinatory metaphors for actions and their emotional relevance. Thereby the same simulation of action/emotion which goes on imaginatively, and unconsciously, during conversation is an extension of a non-verbal relational thought process which formed the basis of gestural 'conversation' even before the development of language as expressive tool.[37] Further evidence for this is given by Modell in that the observed mirror neurons exist in the Broca's area, understood neurologically to be the centre of language production.[38]

Gesture and language can thus both be understood as communication technologies which subliminally trigger shared metaphoric associations, at a fundamental level permitting intersubjective understanding. Similarly the syntactical structure and style of cinematic images can be seen as a further evolution of the ability to mimic and to perceive similarity, by which we are 'sutured' into the intentional action of others. This is Bernard Stiegler's concept of grammatisation rearticulated through Benjamin, and through recent simulation theories of mind. The technological means of communicating

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[36] Benjamin, Walter. 'The Doctrine of the Similar'. In *Walter Benjamin: Selected Writings. Volume 2, Part 2 1931-1934.* Michael Jennings; Howard Eiland; Gary Smith (Eds) Harvard University Press.

[37] Modell. 2003: 188.

[38] Modell 2003: 184. (this subject is tackled also by Manuel Delanda, *Philosophy and Simulation.* 2011)

and storing memory as an exterior artefact (both written language and cinema here seen as forms of tertiary memory) come to define the way in which we can think about and perceive, i.e. simulate mentally or even just imagine how the universe is and what our relationship to it might be.[39] Deleuze established this in the *Cinema* books, that the sensory-motor mental schematics of the movement-image contain and restrict thought.[40] Digital screen technologies come to be the next stage in the evolution of technological forms, opening a world in which the imagination has few(er) restrictions.

MIRRORING, KINETIC SYNAESTHESIA AND THE IMAGE

Establishing the fundamental connection of the operation of mental schema with communication technologies in general, we can move beyond language towards the idea that in 'ordinary' perception we engage with media images in similar way, where an image triggers a synaesthetic set of related images at a subconscious level. These images are linked metaphorically but irrationally. This starts, as with language comprehension, with the involuntary reflection of the image in a mental simulation in which we are experiencing the image content ourselves; if the image content is fragmented or unrecognisable our cognitive process extracts patterns based on metaphoric association to synthesise an image which we *can* comprehend. This is the passive work of consciousness in 'normal' perception processes of recognition, a process which can become disrupted either through intoxication – resulting in slow or mis-comprehension, or through chemical imbalance in an altered mental state – giving rise to hyper-comprehension, paranoia and psychosis. This process of normal perception and the disruption thereof is simulated in media representation, and where the image composition is deliberately modified to disturb recognition, this can simulate the embodied experience of intoxication or altered mental states. Nonetheless, the process of cognition in everyday perception is based in the recognition of patterns, inflected by our mental schema of the predictability of things which are, in large part, organised by the technological means of representing the world.

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[39] Steigler, Bernard. 2010(a). *Technics and Time, 3: Cinematic Time and the Question of Malaise.* Trans. Stephen Barker. Palo Alto, CA: Stanford University Press:

[40] Deleuze: 1986, 1989.

Research shows that subjects shown two photographs of the same figure in motion but in two different positions, automatically connect the two positions with a simulated virtual movement.[41] This is a principle of gestalt psychology, that the brain synthesises a complete image out of spatial and temporal cues, generating recognisable form where none is explicitly represented. As a form of organising perception it is clearly implicated in the impression of movement given by the early 'moving' images of Marey and Muybridge, and also in the convention of continuity editing, where the cut between shots of a continuous action occurs at the point of greatest motion, thereby concealing the edit.[42] The conclusion drawn is that part of the brain is dedicated to motor imagery, creating a virtual simulated model of the kinesthetic feeling of motion, but without the actual proprioception of movement. This was described in psychological analysis as motor-action mirroring *behaviour* well before the recent discovery of actual neurons dedicated to this mirroring action. These mirror neurons are apparently activated in exactly the same way as if we were performing the action ourselves.[43] It highlights the integral role of simulation in creating a coherent field of consistency in the way we understand reality. Sense input is always being correlated with simulated mental schema, and furthermore to a simulated idea of our bodies within a given environment.

Modell suggests that the activity of mirror neurons in the mental simulating of the *actions* of another person is just one 'matching mechanism' in the brain that explains relational intersubjectivity. While the mirror neurons studied so far seem specifically related to an sympathy with the intentional action of another, we also may have systems for the mental mimesis of inanimate objects, and for empathy with the emotional or physical states of others, for instance pain or joy.[44] This lends weight to the idea that we

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[41] Hagendoorn, Ivar. 'The Dancing Brain' In *Cerebrum: The Dana Forum on Brain Science* Vol. 5, No. 2, Spring 2003. Dana Press. He refers to empirical research by Zoe Kourtzi, Nancy Kanwisher (at MIT) and by neuroscientist Jennifer Stevens et al (1999), which monitored brain activity in the watching of still images of actions, and in the juxtaposition of two still images of differing body positions in which movement between them is imagined.

[42] Jill Nelmes. 1996: 74. *An Introduction to Film Studies*. London: Routledge.

[43] See Modell 2003, chapter 10. This cognitive observation also seems to provide a neural basis for Deleuze's discussion of 'the interval' in his cinema books. Classical Hollywood seems to bank on our brains 'filling in the gaps' to achieve a seamless flow through time and space

[44] ibid: 187

constantly generate an 'as-if' simulated model of reality in our brain which functions metaphorically and mimetically, policing a boundary between being the same-as and being different-from, and which always positions an idea of our body as virtual sounding board in all simulated situations.[45]

However, while it seems obvious that we would easily identify with a body on the screen as a direct metaphor for our own, cinema theorist Anne Rutherford expresses a wish to move beyond this to think about how we experience an embodied reactivity to movement and action which is not of the body. In *Cinema and Embodied Affect,* Rutherford explains Linda Williams' research on body genres such as porn and horror, and how we experience a strong embodied reaction to the presence of bodies on the screen.[46] But beyond this direct identification with the body of another, she refers to the other synaesthetic components within the image such as space, colour, lighting, composition, noise, angles and rhythm which can equally generate a strong visceral experience without the presence of a direct analogue for our own body: 'this is an image with no centre, no focal point (a body)…the tensions and dynamism of the surface of the image can effect a bodily agitation.' She describes how the kinaesthetic sense of her own body seems disrupted as her simulated body is absorbed synaesthetically into the virtual screen image. The density of sensory input triggers an intensive confusion which draws her out of her own body into a virtual, but fully embodied sensory state. We are forced to ask how the brain mirrors such affective imagery; do we actually need to have a coherent kinesthetic idea of the body in our simulating processes, or can the body become merely planes and forces, an abstract virtual experience of a body not spatially contained by limbs and joints?

This synaesthetic flux of movements, lights and sounds is referred to by dance theorist Marc Boucher as 'kinetic synaesthesis' suggesting that visually perceived movement

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[45] This connects to Antonio Damasio's idea that consciousness itself cannot exist and evolve without a physical body, or at least a simulation of a physical body which is integrated into the environment; there is no disembodied consciousness. Damasio, Antonio. 2008. *Descartes' Error: Emotion, Reason and the Human Brain*. Random House.

[46] Rutherford, Anne. 2003 'Cinema and Embodied Affect' *Senses of Cinema,* Issue 25. http://sensesofcinema.com/ accessed 03.03.12.

can be experienced as kinaesthesis. Here he refers to multimedia environments where a dancer moves through a projected set, and the 'tangible movements of the dancer integrates with the virtual movement of an image, creating a dynamic tension between figure and ground'. He describes that because of diverse elements and dynamic tension within the 'gestalt' of the experience, we experience a complex sensation of being in motion ourselves, which seems essentially to be a heightened embodied simulation in which different sensory modalities are triggered, and which is experienced as a corporeal exhilaration. We feel as if our own bodies are dispersed between the movements of the dancer and the other images, lights and sounds, and this gives us aesthetic pleasure. The aesthetic pleasure here seems to relate to the loss of control over sensory input, and the inability to exert the intellect over this input to rationalise and recognise it. This is not, however, an experience of a disembodied mind, cut adrift from a tangible idea of a body and free-floating, but rather a fully corporeal experience of a disorganised, dispersed sensorium untethered to a clearly-defined body image. It is this dissolution of the boundaries of the body that feels like a creation, an aesthetic intensity.[47]

Jean Epstein emphasises the role of synaesthetic sensation as part of the creative process in his 1921 text *La Poésie de Aujourd'hui*, in which he describes the 'vague illogical sensations' that emerge from the 'non-linguistic, non-rational cognitive mode'.[48] Clearly influenced by the discourse of psychoanalysis of his time, Epstein saw the subconscious as embodied knowledge that the intellect suppresses, a disorganised, subtle and dimly felt, but emotional and sensitive side of human consciousness from which inspiration can arise:

> 'Synaesthesia is the physiological side of the subconscious, basically, everything is synaesthesia […] The mass of multifarious and confused sensations is so weak and rapid as to be no more perceptible individually than the pricks of two points of a compass placed too close together.'[49]

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[47] Boucher. *Kinetic Synaesthesia.* accessed 12.08.12

[48] Stuart Liebman. 1980. *Jean Epstein's Early Film Theory: 1920-22.* Unpublished PhD thesis. Accessed on microfiche at BFI library.

[49] Epstein, Jean. 1921:82-83. *La Poésie de Aujourd'hui: un nouvel état d'intelligence.*

Epstein highly valued the synaesthetic suspension of logical analysis within an 'intellectual fog' to achieve a heightened sensitivity to powerful metaphoric connections from some primitive part of the mind (also activated during dreaming). In cinema, as film historian Malcom Turvey has noted, this equates to Epstein's 'cinema of immanence' in contrast to the 'cinema of transcendence' implied by the *Screen* group of theorists and by extension Žižek in following their conception of suture theory. Rather than the camera becoming seen as the disembodied eye of a transcendent subject, an analytic and dissecting gaze, the camera for Epstein penetrates into the immanent heart of a complex physical state, caught up in the visceral forces of the action on the screen.[50] This is an intimate and intense sympathetic relation to the object on screen which reveals a hidden and complex 'soul' of the world. This always entails an emotionally charged resonance which wraps around an object, not just a process of recognition, but one of a revelation or 'physical incarnation' of immaterial entities to the eye. Epstein feels this to be like a corporeal intoxication:

> 'The face of the world may seem changed since we, the fifteen hundred million who inhabit it, can see through eyes equally intoxicated by alcohol, love, joy, and woe, through lenses of all tempers, hate and tenderness; since we can see the clear thread of thoughts and dreams, what might or should have been, what was, what never was or could have been, feelings in their secret guise, the startling face of love and beauty, in a word, the soul.'[51]

This almost mystical notion of a synaesthetic mind-meld with the world on screen can perhaps be more clearly thought of as a model of 'ecological' perception, which posits normal vision as actually a complex kinesthestic and synaesthetic process of cognition.[52] All sense perception must be understood to be affectively embodied and

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Paris: Éditions de la Sirène. Translation from Liebman 1980:121.

[50] Turvey, Malcolm. 1998: 34. 'Jean Epstein's Cinema of Immanence: The Rehabilitation of the Corporeal Eye.' *October.* Vol. 83. pp.25-50. Cambridge MA: MIT Press

[51] Epstein, Jean. 'On Certain Characteristics of Photogenie,' in Abel, Richard.(Ed) 1988: 318 *French Film Theory and Criticism: A History/Anthology, 1907-1939.* Volume 1. Princeton University Press. Quoted in Turvey 1998:36.

[52] See also Modell 2003: 185.

synaesthetic before it is subdivided, processed and edited into separate sense categories. We never watch images from an 'ocular' distance, but rather we are always mentally negotiating with an environment of surfaces, objects and qualities which are pertinent to our body. Furthermore, following Epstein, we see that this synaesthetic model of perception allows us to understand how emotion and 'feeling' enters into normal cognition. Anne Rutherford notes how each associational image is also redolent with memory and imbued with hazily felt meaning; her example is the image of a cliff, which not only has meaning as a 'falling off place', but might also have associations with other models of 'dangerous' or 'fearsome' places. These emotional resonances form part of our embodied synaesthetic perception as a pre-conscious simulation before they converge on a higher perceptual and conscious level – if, indeed, they ever manage to. This model of perception posits an indivisible, non-dichotomous inhabited bodily state as a 'gestalt'. Reflecting on the function mirror neurons, we see that this mirroring of the intentional action of another cannot necessarily be separated from an empathetic feeling of how the other might feel about their action and their potential reasoning process leading to the action within the gestalt. Mirroring processes as simulation activity seems thus to be multi-modal mimesis, a primitive urge to 'become' other in a corporeal and intimate emotional involvement.

It would be tempting, especially when talking about heightened emotional evocation of cinematic images, to think that we are talking only about experience which is potentially *sublime* in its emotional charge, such as the aforementioned cliff which will give rise to an emotional experience of wonder, awe and fear. However we can see that even the mundane aspects of ecological perception have an affective *metaphoric* resonance which can be simply aspects of dimensionality, verticality, horizontality, or rhythms, forces or dimensions that we become aware of in the spaces around our body as intensities. We can see that all images are emotional, inflected with emotional meaning, but without *sentiment*. Massumi, in the *Autonomy of Affect*, described an affect as an emotion not yet qualified through the work of intellectual association, but emotion here simply describes an intensity as part of a synaesthetic haze; the cliff instils a sensation of an embodied *emotional force* rising within the gut, but this is not yet

analysed as the recognisable, 'qualified' human sentiment of 'fear'.[53] For Arnold Modell, more in line with Epstein than Massumi, this higher-level cognition is what he calls 'feeling', as contrasted to the baser, more bodily cognition of emotion which he considers to be essentially unconscious.[54]

Anne Rutherford further adds to this nuance between emotion as affective resonance and emotion as sentiment by making an interesting distinction about Brechtian distanciation. She explains that the estrangement process is normally understood as forcing an emotional distance between the subject and the text, denying the kind of empathetic identification encouraged by the soporific 'suturing' effect of the conventional Hollywood media. Instead she re-reads this process as cultivating an immersion based on primitive *affectivity* rather than a *sentimental* emotional response. By denying emotional empathy on the level of sentimental identification which is 'passive and habitual' and of 'pathos', we are forced into a reflexive relationship with the sensual state; we are not *swept away* into escapist fantasy but rather become more aware of our visceral bond to the environment and *swept into* our immersive affective space.[55] Again we can see that suture here can be redefined to incorporate the kind of affective, synaesthetic and metaphoric engagement with the image that occurs normally in the subconscious mirroring and simulation processes of embodied perception.

I have spent much of this chapter moving between perspectives on normal perception and cognition, and cognitive engagement with mediated images, to emphasise the way that our 'everyday' reality is largely structured at a subconscious level of passive synthesis by the mediated images which surround us. Reality is thus though to be 'mediated' even in normal perception. Our processes of consciousness are shaped and honed by the images we consume and the connections between them, and the technological form of the creation and sharing of these images impact upon the ways we can think about, imagine and communicate about existence. Each media form brings

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[53] Massumi, Brian. 1995. "The Autonomy of Affect," *Cultural Critique* no. 31. Pp. 83-110. Minneapolis: University of Minnesota Press.

[54] ibid: 134.

[55] Rutherford 2003.

about a new matrix of connections – syntactic, semantic and synaptic – which constitute an ontological shift, and which subtly re-align the sensorium to have an altered intuitive sense of the metaphysical qualities of the world. I now move on to apply these ideas more specifically within digital media, to analyse how this more recent shift in media technology seems to move towards an acknowledgement and deeper understanding of these above issues. The media form itself seems to be a reflection on the synaesthetic confusion of the senses and the malleability of our sense processing capabilities, playing with ideas of mental simulation and virtuality. I then look at the films *Avatar* and *Source Code* to extend my thoughts about some of these issues.

VIRTUALITY, PLAY AND DIGITAL PLASTICITY

> 'Metaphor, like pretend play, involves suspension of reference to the everyday world; hence, the referent (e.g., an imaginary horse) is termed non-ostensive, making possible a new creative reference, a "remaking of reality."'[56]

In digital visual media we are presented with the re-making of reality, be that a creation of a completely synthetic reality or simply an amendment or adjustment to a more indexical version of reality. Metaphoric symbolic play is, similarly, how we developmentally hone our cognitive abilities as children, remaking our own perceptual reality into imaginary worlds.[57]

One contemporary popular cultural discourse would have it that children don't need to use their imaginations in a digital age where 'junk' fantasy is given to them on a platter at the cost of 'real' play (as opposed to sedentary, screen-based entertainment). On the other hand it can be seen that with a media culture saturated with hyper-real and increasingly immersive screen environments which simulate imaginative worlds and alternate dimensions, there is an even greater capacity for metaphoric interactivity as a

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[56] Seitz 1997: 376.

[57] Ibid. Also noted by Benjamin: 'A child not only plays at being a grocer or a teacher, but also at being a windmill or a train. The question which matters, however, is the following: What does a human being actually gain by the training in mimetic attitudes?' *Doctrine of the Similar.* 1933.

form of play. Animation as entertainment has traditionally filled this aesthetic role in the child's development, and in many ways CG image-making, as has been noted, actually has more in common with animation than with photographic media.[58] However, what we have been introduced to with the digital image is the complete hybridisation of animation and live action to the extent that monsters, supernatural creatures and anthropomorphised animals that were the staple of animation in the 20th century can now become almost completely photorealistic, set within a perfectly coherent world. The question here could become whether this digital shift makes a developmental difference for the creative imagination of the child, but this would take me down the path of discerning good and bad imaginative content, and of making reactionary value judgements about the contemporary state of children's minds (which I have no intention of doing).[59] Suffices to say that the significance and importance of imaginative play for the child's mental development seems very well established; instead I want to extend the question of cognition, simulation and imagination in digital screen media more to the adult mind, to culture in general, and to collective consciousness, asking whether a difference is also made.

As Catherine Malabou notes in discerning between *developmental*, *modulating* and *reparative* plasticity, the brain does not stabilise and cease to change at a neural level after its initial formation in childhood, but in fact continues to adapt and regenerate: 'an ongoing reworking of neuronal morphology.'[60] New neural networks continue to be laid down through interactivity with images, and these modulating neural pathways can lead to fundamental changes not only in identity and personality (in the field of psychology) but also potentially in physical and metaphysical notions (philosophy). In Malabou's new book *The New Wounded* she examines the neuropathological cases at the more extreme ends of the spectrum to demonstrate how complex yet fragile our subjective

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[58] Rodowick 2007:106; Manovich 2002; and Cubitt 2005.

[59] In a letter to *The Daily Telegraph*, 110 teachers, psychologists, children's authors and other experts call on the Government to act to prevent the 'death of childhood', stating: 'Since children's brains are still developing, they cannot adjust to the effects of ever more rapid technological and cultural change.' Ben Fenton. www.telegraph.co.uk/news/1528642/Junk-culture-is-poisoning-our-children.html. September 2006.

[60] Malabou, Catherine. 2008: 25 (2004). *What Should We Do With Our Brains?* Trans. Sebastian Rand. New York: Fordham University Press.

ontological groundedness is at a neural level.[61] Talking about the book in interview with theologist Noëlle Vahanian, she explains how delicate our subjective awareness, which seems to run to our very core, can actually be:

> 'Neurobiologists make us conscious of the fact that metamorphosis after brain damage is at every moment possible; there is something like a break of the subject which is not death, which is another kind of possibility. To be destroyed as a subject when you suffer from a concussion, for example, means that you become someone else. The possibility of becoming someone else at every moment and for everybody equally – for even if we know that certain people are more likely to be the victims of such damage, we also know that everybody may undergo this kind of destruction at any moment – this possibility alters how we conceive of the subject. The fact of being mortal is one thing, and the fact of being plastic means being able to be totally transformed and become somebody else.'[62]

Within this view of the fragile integrity of subjective ontology, I take the idea of metamorphosis further to suggest that even without severe brain trauma, disease or degeneration, the brain is plastic enough to modulate certain fundamental structures of metaphysical understanding – through metaphoric operative processes, otherwise known as symbolic play.[63] Rather than sudden trauma, there is a slow accumulation of subtle changes and adaptations based on novel experience and intense affection that nonetheless creates new neural circuitry in the brain.

Media theorist Patricia Pisters postulates in her analysis of Malabou's work that the digital image exhibits a 'neural' plasticity of its own within processes of re-

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[61] Malabou, Catherine. 2012. *The New Wounded: From Neurosis to Brain Damage.* Trans. Steven Miller. New York: Fordham University Press.

[62] Vahanian, Noelle. 2008: 9. "A Conversation with Catherine Malabou." *Journal for Cultural and Religious Theory*, vol. 9 no. 1 (Winter 2008): 1-13.

[63] Following Piaget's theory of operative and figurative intelligence. Piaget, J., & Inhelder, B. 1973. *Memory and intelligence*. London: Routledge and Kegan Paul.

programming and regeneration.[64] She notes that contemporary cinematic images 'no longer represents the world as seen through the eyes of a character, but rather films are direct expressions of character's mental worlds' – giving *Eternal Sunshine* and *Inception* as examples. These characters become neurologically displaced through psychopathology, and the conventions of physical reality within the image become infinitely malleable, questioning metaphysical certainty as time and space are confounded.

The link between digital technology and neural plasticity here seems analogical, but for Malabou the link is raised to an ontological level, with a 'new materialism' of decay, re-generation and re-formation – a material ontology that extends from the brain and digital media to the atomic organisation of matter. We can then see that digital media has an automatic propensity towards experimentally representing material plasticity which may mirror the neural plasticity of the brain as also expressing the hidden forces (such as the possibly discovered Higgs field) which holds elementary particles together as matter. In digital screen media, the world is indeed plastic, bodies are subject to transformation and mutation, objects are immaterialised, and space and time are heightened, extended and folded. In reflecting and refracting notions of a material ontology of plasticity though digital images it seems that we might drawn closer to intuitively grasping this aspect of Being. Are these images not potentially a form of affective metaphysical conditioning by which we can learn to contemplate a Spinozan monist ontology – the absolute oneness of thought and matter? Could the brain, through reflection on an ontological plasticity through the metaphoric and mimetic material of digital media in fact assert its own active plasticity to a greater extent?

The plastic brain here is seen to be a field of potential becoming, and while this could seem to return us to a passive child-like state of docile vulnerability and malleability, for Malabou plasticity is definitively *active* and capable of resistance; self-determining, if not purely by intentional action. We can see that imaginative, metaphoric and symbolic play as aesthetic engagement with images can be an intentional, active form of

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[64] Pisters, Patricia. *Plasticity and the Neuro Image: A Response to Catherine Malabou's What Should We Do with Our Brain?*. 13th November 2011. On www.patriciapisters.com. Accessed 31.06.12.

embodied learning which stimulates the modulating capacity of the brain to re-present the self and the dynamics of becoming within a plastic world. Taking this into account, I now look at two films which indeed play with a plastic notion of reality, offering up affections and reflections the ability of an active neural plasticity to mould and change reality.

AVATAR AND DIGITAL NATURALISM

> '…As Bazin already knew, no technique is integrally and exclusively progressive. Observing that "realism in art can only be achieved in one way – through artifice", Bazin offers to "define as 'realist', then, all narrative means tending to bring an added measure of reality to the screen" But every realism is a selection, and necessarily an abstraction, which does "not permit the original to subsist in its entirety". The resulting mix of abstractions, conventions and "authentic reality" produces "a necessary illusion", allowing reality to become identified in the mind of the spectator with its cinematographic representation'[65]

Digital media theorist Pat Power describes in his work the flawed aesthetic logic in CG animation's drive for ever greater verisimilitude within a realist and naturalist paradigm of technological innovation.[66] Within this paradigm, every new media technology is posited as drawing ever closer to the perfect recreation of an external reality. To critique this agenda he points out that Aristotle's original conception of mimesis as the aesthetic worth of the artwork comprised an element of stylisation or exaggeration, which plays more with the nature of mind and of perception to invite interactivity with the image. This observation is given a cognitive scientific dimension by Power as he follows research in the field of neuroaesthetics by Ramachandran (2004) and Zeki (1999) which shows that expressive and stylised imagery that doesn't just aim for an unproblematic naturalism gives heightened multimodal neural stimulation. Unlike simple recognition this invites active engagement through problem solving and metaphor which expands

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[65] Sean Cubitt 'Making Space: Bitmap, Colour, Codec'. In *Senses of Cinema* Issue 57. Dec. 2010. www.senseofcinema.com. Accessed 12.09.12.

[66] Power, Pat. 2009: 109 'Animated Expressions: Expressive Style in 3D Computer Graphic Narrative Animation' in *Animation*. Vol. 4. No.2. 107-129. London: Sage.

the viewer's imagination, and activates areas in the limbic system associated with emotional reward.[67] Power gives as example the animations Richard Linklater's *Waking Life* and Ari Folman's *Waltz with Bashir*, which through impressionistic and expressionistic animation techniques create a poetic psychorealism, emphasising emotional resonance over the mimicking of 'natural' perception. This, he explains, involves the activation of multi-level neural systems associated with aesthetic appreciation, rather than just primitive and lower-level recognition systems.

However, what Power aims at with his discussion of these themes is to highlight that the striving in 3D computer graphics for hybrid aesthetic of naturalistic completeness actually denies this kind of expressionist interactivity with the image and therefore an aesthetic reaction. He reads stereoscopic 3D, specifically in the case of *Avatar,* to actually be the completion of a naturalistic agenda in which a seamless synthesis of live action and computer animation is achieved.[68] This, for Power, is positioned contra more expressive forms, and thus the main thrust of his argument is to oppose expressivity and stylisation with naturalism, and he consequently calls for a less-is-more approach to CG animation. I find this opposition problematic, since realistic, naturalistic portrayal in digital media never actually ends up completely natural as per normal perception – being either enhanced, modulated or in some other way affected by digital processing – and nor should it. The technology through which the real is here filtered always endows it with an expressive quality. The meticulously realistic portrayals of elements such as time, space and forces such as gravity always change something subtle, making them a little magical. We can see this same quality in Marey's scientific photographic studies of movement, where the perfect revelation of the minutiae of corporeal kinesis stands as to our 'natural' perception as highly expressive. Epstein too noted this in his analysis of the close-up, where the camera, in capturing the exterior appearance of things in intricate detail, reveals them to be entirely mysterious with a hidden interior life.[69] We

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[67] ibid: 115

[68] ibid: 123

[69] Jean Epstein. *Magnification and Other Writings* Transl. Stuart Liebman *October*, Vol. 3 (Spring, 1977) MIT Press. Here he poetically describes the rapture of detail in the close up: 'Muscular preambles ripple beneath the skin. Shadows shift, tremble, hesitate. Something is being decided. A breeze of emotion underlines the mouth with clouds. The orography of the face vacillates. Seismic shocks begin. Capillary wrinkles try to split the fault. A wave carries

can see that even without the explicit use of exaggeration or stylisation as modes of artistic expression, and instead through trying to attain accuracy and precision detail, we still achieve an evocative aesthetic ambiguity to the image. There is no such thing, in this understanding, as a naturalistic representation; the media technology always perverts, distorts or reconfigures; it is always to some extent an abstraction.

Avatar shows us an almost perfect synthesis of live action and computer simulation through technological innovation, a seamless integration that Manovich has described as the main impulse of the 'hybrid aesthetic'.[70] One of these innovations involves the filming of live actors with close-up cameras and reference markers on their faces, which along with high-speed processing power allows the director to see an image of the character's computer-animated face in real-time during filming. This motion-capture naturalistic detail of minute expression animated into the faces of the CG Navi people in the movie clearly aims to increase emotional empathy through direct facial affectivity despite their altered appearance. Though naturalistic in many ways, *Avatar* at the same time seems highly stylised and expressionistic in others, with its baroque architecture of space, floating movement and fantastic CG animated landscapes. Like the Rotoscope technique of tracing over photographic footage frame by frame, as used in Linklater's *Waking Life*, we have here rendered realistic movement and expression, but with very unrecognisable, or should I say uncanny, elements. As affectively naturalistic as some aspects of *Avatar* are, in terms of movement, depth of focus or facial expression, I defy anyone to say that there was a simple facility of recognition within the image. What we instead see is a hyper-reality that is proximate to the photographic but with always with an uncanny resemblance.

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them away. Crescendo. A muscle bridles. The lip is laced with tics like a theater curtain. Everything is movement, imbalance, crisis. Crack. The mouth gives way, like a ripe fruit splitting open. As if slit by a scalpel, a keyboard-like smile cuts laterally into the corner of the lips.' 1977: 9.

[70] Manovich, Lev. 2007. *Understanding Hybrid Media.* Published in Betti-Sue Hertz, ed., *Animated Paintings* (San Diego: San Diego Museum of Art, 2007). www.manovich.net Accessed 18.09.12

This is a 'digital naturalism' which is completely expressive and stylised, though algorithmically emulating the perceptual habits of photographic naturalism. As Manovich expains:

> 'Computerization virtualized practically all media creating and modification techniques, "extracting" them from their particular physical medium of origin and turning them into algorithms. This means that, in most cases, we will no longer find any of these techniques in their pure original state. The media techniques became "supercharged" and amplified; their range and application were extended; and their controls were made explicit, formalized, quantifiable, and programmable'[71]

Manovich here points to the more recent tendency within digital hybrid screen media which deviates away from the aesthetic impulse to photorealism which Pat Power identifies. The fusion of different media 'styles' and aesthetics within the digital realm, where everything exists as a set of adjustable variables creates whole new aesthetic chimeras, and photorealism exists as just another abstracted set of values like depth of field, perspective etc. When fused with CG animation, as in the case of *Avatar*, a new aesthetic emerges which, though it does indeed move towards a perfect aesthetic continuity and coherence cannot simply be placed on a teleology towards complete photographic naturalism. As Manovich points out above, along with Rodowick, we have a heightening, amplification and even perversion of analogue media techniques, the aesthetic affects/effects of which are just starting to be understood.[72]

In discourses of cinematic realism, the technological capacity of the medium to bring us into a closer contact with aspects of reality was praised. Bazin placed highest value on the wide angle, long-take shot with high depth of focus so the eye could roam 'naturally' around the shot.[73] Technically, in contemporary D3D we could have an infinite depth of field – our eyes being able to focus at different depths and roam around

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[71] Manovich, 2007.

[72] See Rodowick's *Virtual Life of Film.* 2007; 104.

[73] Bazin, André. 2005 (1967). *What is Cinema?* Trans. Hugh Gray. Berkeley: University of California Press

the screen.[74] However, despite this potential, in *Avatar* the depth of field is often limited as a stylistic affect to guide the viewer into the cinematic reality, and as a marker of the familiar camera technology even though no camera exists in this context. We have long takes here, but rather than the fixed relation to reality of the uncut Bazinian long take, we have instead a 'montrage' *within* the frame by which individual pixels are adjusted – and with *Avatar*'s innovations we move towards this modification process even being possible within real-time and with almost documentary style camera movement – a form of 'augmented reality'.[75]Along with motion blur, lens flare and hand-held camera movement these recognisable features of photographic imagery capture suture us into a comfortable cinematic experience. We feel at ease within our relation to the representative reality on the screen because these photorealistic markers are given to us, even though the experience of blue people in 3D could be quite cognitively challenging.

'Realism', in Bazin's sense, here becomes a problematic term (as if it wasn't already). Sean Cubitt states in the quote at the beginning of this section that; '…every realism is a selection, an abstraction', adding that Bazin himself noted this. He continues: 'Today, deep focus and staging in depth are the norm for blockbuster event movies, most of which have only the most tangential relation to Bazinian realism.'[76] Whereas photographic analogue media exerted a claim to objectivity in their recording and documenting of the world, the digital lays no such claim. In *Avatar*'s mimesis of reality we have an objective image, instantly and in real-time manipulated to be enhanced and complexified not to the level of any 'real' scene, but far beyond. While obviously this is a fantasy film, and elements are clearly supposed to be imaginatively realised, the

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[74] As one blogger notes in describing the drawbacks of creating false depth of field within 3D formats; coining the term 'h3dache': Martin Anderson, 15 February 2010. www.shadowlocked.com/2010021585/opinion-features/how-to-avoid-getting-a-3d-headache-while-watching-avatar.html. Accessed 19.09.12

[75] For discussion of this definition of *montrage*, see Deleuze 1989: 41, He states: 'Sometimes montage occurs in the depth of the image, sometimes it becomes flat: it no longer asks how images are linked, but "What does the image show?" This identity of montage with the image itself can appear only in conditions of the direct time-image.'

[76] Cubitt 2010.

richness and complexity here is intended to be 'better than reality'.[77] While in the past two decades CG fantasy films have focused on exactly the alien, extraordinary and *un*real, this has been because the simulation of reality has previously been too difficult to render accurately through purely digital means. However, through technological innovation, *Avatar* has brought us a new moment of realistic simulation of human beings in 3D presentation. We have really quite an extraordinary cognitive and aesthetic experience here, requiring not a little mental labour, both passive and active, to place within our world.

We can see then, through *Avatar*, a complicated set of affective metaphors, realisms and expressionism rendered by the digital image which are not easy to position within existing image theory. Despite the heavily critiqued naïve sentimentality, pseudo-ecological politics and questionably racially stereotyped narrative within the film,[78] for my analysis I must look to its other aspects to ask: is there a richness of metaphoric and symbolic play? Is there a subtle or ambiguous expressivity/affectivity? Is there emotional charge beyond sentimentality? Does the film reflect a plastic notion of the world? In asking these questions I ask whether it provokes a neuro-aesthetic response, stimulating multi-modal and multi-level stimulation? Or in other words, does it instigate a synaesthetic metaphoric reactivity, an anti-intellectual haze from which new perceptions and new connections arise?[79] The answers to these questions are of course highly subjective, and as such they should perhaps be taken as prompts to reflect on

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[77] The media and multiple blogs have documented the 'Pandora Effect' of obsession/depression after watching film, since reality was so underwhelming after 'visiting' the planet Pandora (See for instance 'The Avatar effect: Movie-goers feel depressed and even suicidal at not being able to visit utopian alien planet.' *The Daily Mail.* Liz Thomas, 12 January 2010). This is, interestingly, a parallel experience to the existential depression experienced by Sully himself in the film's narrative when he feels that the avatar has become more real to him than his disabled body.

[78] See for instance: Anonymous blog. 2010. 'Leaving the World: Avatar' asubtleknife.wordpress.com/2010/01/10/leaving-the-world-avatar Accessed 19.09.12.

[79] These are questions which suggest potential empirical research, though my purpose is simply to raise them as issues concerning the levels of engagement with this film and with media in general.

whether *any* digital media experience is of 'artistic' value in being expressionistic, rather than simply realistic.

Returning to my very first point in this chapter, our mental and physical investment in the image reflects the narrative's projection of Jake Sully into his avatar body, and we are similarly transported into an alternate world in our mentally simulated environment. As the reviewer on film blog *a subtle knife* notes, each time she turned up to the cinema to see *Avatar* she came prepared to see the flaws, but on each occasion she was swept up into the 'sheer lyricism of the moviemaking'. Only in the cold light of intellectual analysis was she left feeling cold by the experience. However, she notes:

> 'The sophisticated animation techniques give filmmakers an imaginative reach and power not seen in film before: if nothing else, science fiction and animated films will never be the same again after *Avatar*.'[80]

This is because *Avatar* gave us a new mimetic language advanced by motion-capture technology and by 3D presentation, and our imagination is altered by it. By this I mean to say our capacity for mental simulation changes; we see and feel the world to be different. *Avatar* pushed simulation to a new level, instigating a new level of digital realism defined by new technological tools which cherry-picks from analogue markers of reality but enhances with an intensity of detail and visual imagination which completely departs from the analogue in a way that is a difference in kind, rather than a difference in degree of progression toward a perfected naturalism.

In my following analysis of *Source Code*, I move to look at how this notion of digital simulation of reality is elevated to be like a real dimension of reality, taking the notion of the hyper-real and turning the film world into a new quantum dimension. In this film the notion of a digital ontology is rearticulated as the boundary between code and reality breaks down in a way that reflect the above discourses on the essential virtuality of perception and cognition.

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[80] Anonymous blog. 2010. 'Leaving the World: Avatar' asubtleknife.wordpress.com/2010/01/10/leaving-the-world-avatar Accessed 19.09.12.

SOURCE CODE AND THE QUANTUM MIND

In Duncan Jones' *Source Code* (2011), we are again, like in *Avatar* (and also *Tron*), presented with a disembodied consciousness projected into a body in another world. In this case this other world is an alternate quantum dimension, existing ostensibly only as data within a computer programme. This data has been extracted from the mind of a man at the moment of his death and contains an eight minute recorded track of the memories leading up to the moment of a terrorist attack in which he dies: the titular 'source code'. Projected over and over again into the body of this other man during this eight minute window, the protagonist has the mission of discovering who planted the bomb so a further terrorist attack can be averted. However, within this 'simulation', and despite being told that the events that occur within the simulation have no bearing over the 'real' world, our hero Captain Colter Stevens starts to believe that he can alter the course of events. For him the simulation is so real, and his ability to act within it so decisive, that he refuses to believe that he has no power to change events within it. Therefore, on his last upload to the source code programme he requests that his 'real' body – only an intact brain stem on life-support in a lab – be switched off on the hope that this alternate reality proves to be real. This hope proves to be well-founded, and he has the opportunity to tell his 'operator' in the lab that the source code programme does something that they never would have expected; it creates an alternate quantum reality.

The radical sceptical philosophy toyed with in this narrative is that the universe/reality exists purely as simulation within a brain or computer. It is not clear in the denouement which of these substrates reality actually resides in, whether the programme continues running in the computer, or in the brain of the now not-dead man he inhabits, or indeed elsewhere. As in *Avatar*, our protagonist's real body ultimately dies, and his consciousness is transposed into another body. Thus consciousness here is seen as embodied, but extractable and movable as data, information or electrical activity. But going further than *Avatar* down this road, reality in *Source Code* is understood as how we imagine it to be, and this is reinforced in the film by Captain Stevens initially perceiving himself to be trapped in some kind of escape pod in the real world, before he learns that this environment is merely a projection of his imagination. The body, and embodiment itself, here is really posited to be as much a part of the hallucination as the environment he finds his body to be in. Matter here is in fact all illusory, projected

outwards from a disembodied mind. We are also given a sense that time is an illusion; during Steven's transitions in between brain and source code programme, and back to brain, in the boundary zone between, we see flashing images of not only his past, but also of his future within the new reality.

The implication here is that all being is illusion/simulation, and that the past, present and future of all quantum possibilities exist within a flux. Being digitally transported between possible realities, Stevens exists for a moment within this flux where he catches glimpses of other times and places. This in fact moves towards some kind of holographic universe theory, as proposed by Michael Talbot,[81] by which the whole of the information of the universe is contained within each part, or alternatively that matter and energy, as much as time and space, are merely projections from some underlying dimension of reality that we are not privy to, such that we cannot think of things as separate parts or entities, as each part relates back to the whole.[82] The whole universe is imagined in this way as pure information, organised by holographic principles and projected from an external source, and this is easily analogised to simulation within a computer. Thus *Source Code* the film becomes an imaginative vision of an entire universe being contained within a short string of code, and of a programme which runs that code as a simulation, inadvertently generating an alternate reality.

While holographic theory seems fantastic and somewhat mystical, as physicists struggle to fathom quantum mechanics, it has recently gained real support, at least as a source of sceptical debate.[83] As a principle for sceptical philosophy, it also expresses something about the nature of perception, simulation and neurology, and this is played out in the film. It asks, what if reality is a virtual simulation, our bodies also part of this simulation. The irony is that Captain Stevens initially thinks he *is* in a highly elaborate digital training simulation, and is then told that even though it is a computer

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[81] Talbot, Michael, 1991. *The Holographic Universe: The Revolutionary Theory of Reality.* Harper Collins.

[82] ibid

[83] Jessica Griggs 'Hologram revolution: The theory changing all physics'. 13 July 2011 , *New Scientist*. Also Marcus Chown 'Our world may be a giant hologram,' 15 January 2009 *New Scientist*

programme, it is actually real. Then in a further twist he is told that the place where he thinks he is corporeally present (the capsule) is actually imaginary, not even part of the programme. In the denouement we discover that his consciousness lives on in a new mind, simulating its own reality. The concept that is played out here is that virtual simulation and reality are one in the same.[84] Thus the internal dimension of the brain generates reality per se, but not in complete isolation, as there is actually a world out there that our senses react to, even if that 'world' is only pure information and not matter and energy as we perceive it to be.

Going further even that this, research by neurophysiologist Karl Pribram posits that the brain itself is a hologram:

> 'Pribram believes memories are encoded not in neurons, or small groupings of neurons, but in patterns of nerve impulses that crisscross the entire brain in the same way that patterns of laser light interference crisscross the entire area of a piece of film containing a holographic image. In other words, Pribram believes the brain is itself a hologram. […] If the concreteness of the world is but a secondary reality and what is "there" is actually a holographic blur of frequencies, and if the brain is also a hologram and only selects some of the frequencies out of this blur and mathematically transforms them into sensory perceptions, what becomes of objective reality? Put quite simply, it ceases to exist. […] We are really "receivers" floating through a kaleidoscopic sea of frequency, and what we extract from this sea and transmogrify into physical reality is but one channel from many extracted out of the superhologram.'[85]

Obviously this radical skeptical philosophy has profound metaphysical implications quite beyond issues of perception and cognition, where relations of space, time and matter are no longer the overarching dimensions of reality, but totally illusory. Reality here is created by observation, and we observe what we are conditioned to recognise by

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[84] This implication tethers to a long tradition of thought about Indirect Realism supported by Bertrand Russell, Thomas Metzinger, Gregory Mulhauser, Steve Lehar and Richard Dawkins amongst others (Gamez, 2007: 34, *What We Can Never Know*).

[85] Talbot 1992.

the forms of tertiary memory by which knowledge is shared, that is digital media. However what interests me is how the film introduces these concepts and uses digital processes of computation and algorithmic programming here to stand as a metaphor for neural activity. It moves between the idea of consciousness as disembodied data within the machine, and as embodied in the flesh, albeit the virtual flesh. This is a film not only informed by the digital, but also heavily constructed by the digital, and thus posits a very plastic idea of the ontologically grounded subject. As both Pisters[86] and Rodowick[87] note, the digital image, cut adrift from any analogical relation to physical reality, turns to mental landscapes and reflections of cognitive schema. In a further twist, the digital itself comes to stand for the material of consciousness – not simply the analogy of the computer to the brain as in discourses of AI, but rather of all physical reality, including corporeality, being pure information processed as simulation within a 'quantum mind'.[88] This is a move away from a conventional materialistic view of reality towards a pure consciousness which is completely immaterial; this move seems to be paralleled, reflected and perhaps even *generated* by digital media's move away from any material connection to physical reality. In a complex symbiosis, media spins its own quantum realities like 'source codes', and these increasingly seem to fuse with the 'real' world.

The most digital effects-driven pieces in the film, other than the explosion which engulfs our characters in flame and tears them apart, are the transitions between 'bodies' that Captain Stevens goes through. In these shots we see a splintering of Stevens into geometric shards and lines spreading across the screen like the contours of a digital model rendering of a landscape. Later in the film we see these effects mixed with distorted and distended shots of a scene at the end of the movie in the 'alternate' future, and images from Stevens' memory of the accident which maimed him in Afghanistan. This is accompanied by digitally distorted voices. The effect is one of Stevens' body being stripped of its flesh, exposing the digital framework underneath, as

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[86] Pisters 2012.

[87] Rodowick 2007: 104

[88] The quantum mind as concept came about as a reflection on the mind/body dualism caused by observation interference in early quantum experiments. Walker, Evan Harris. 2000. *The Physics Of Consciousness: The Quantum Mind And The Meaning Of Life.* CITY?: Basic Books.

if he himself is a digitally animated simulation. This model then morphs into the alternate world. In a further transition back to 'reality' mid-way through the film he is looking at his female companion and seems torn between realities; her face flashes and becomes digitally distorted into the familiar 'shard' shapes geometric vertices of a virtual skeleton as a voice calls to him from the other world in the lab. The clear early implication is that Stevens and the alternate dimension exist only as code, as simulations maintained within the programme, but with the interruption of the characters low-resolution POV memory images, as with images from the future, into this digital flux, we see that 'reality' is intruding upon the virtual. Though this is not a CG animated film as *Avatar* is, the digital effects here allow expression of, and bring into relief, the single major underlying conceit of the film, the ontological underpinnings, which imbue the film with a certain affective tone.[89]

The implication within my analysis is that the film gives us a complex metaphysical problematic expressed through a digital metaphor. This is achieved not through its pseudoscientific exposition but rather through (digitally) expressing relations of perception, consciousness and embodiment. Reality is simulation, and is real in as much as we feel and perceive it to be real from an embodied perspective. Self-image, memory and temporality are expressed as plastic and folded, without recourse to mystical or magical explanation. This reflects scientific discourse on quantum possibilities within reality, but moreover philosophises over the nature of our perception of reality, the virtuality of our memories and the illusion of time-passing. It also seems to posit that what constitutes the real is simply having a body and the will to act in our world with it. This is what draws Stevens into believing in the alternate world and his ability to intentionally change it with his actions.

This embodied will to action acts as metaphor for our relationship with the images on the screen. It is our investment in the possibility of intentional action within the screen

[89] I think this is the case with many such films which are maybe not so ostentatiously 'digital', for instance *Black Swan*, *Donnie Darko* and *The Curious Case of Benjamin Button*. These films can be seen to pivot on their key climactic moments which are digitally inflected not only by the effects within the image, but by their reflection on an ontology which could be said to be stimulated by the shift to the digital.

reality that sutures us into it. We are Stevens in his darkened chamber, projecting our consciousness into the alternate dimension *as if we were* him. We mirror his actions and model his intentions. In this process we are also drawn into his questioning of reality and quite possibly we see the world through new eyes as we emerge from the cinema, thinking about what it means to change our destiny within our given reality. However, as David Gamez notes:

> 'The problem with indirect realism is that although we are forced into it (by logical conclusion), it is also an extremely counter-intuitive claim, Although it is easy to *say* that the world is a virtual reality generated by the brain, it is almost impossible for us to really *see* everything around us, everything that we take to be the natural world, as a virtual reality model. Someone who could *sustain* this terrifying vision would be on the brink of madness […] Supporters of the brain hypothesis are doomed to oscillate between naïve and indirect realism.'[90]

And this is why the feeling fades and we inevitably return to our naïve realism. However, we have still had this experience, and our reality, our plastic brain, has been subtly changed by it. This virtual experience has become part of our semantic and procedural memory.

[90] Gamez 2007: 35

ETHICS and AESTHETICS: META-POLITICAL IMPLICATIONS

By way of conclusion, I wish to examine the digital shift in terms of the kinds of utopian and dystopian visions which circulate around new media forms, visions which are regularly charged with a moral and ethical exigency. These prognoses concern themselves with questions about our future, and the tone usually refers to underlying Western philosophical beliefs in the advancement of humanity – a linear teleology of progress. Accordingly, one can be positive, negative, or ultimately ambivalent about the changes the digital makes: positively, these changes guide us into a new era of aesthetic play which liberates our sensorium, realigns our notion of the real, rewires the brain (to be more like itself) and stimulates our creative capacities;[1] negatively, it corrodes our imagination, is tied into nefarious networks of subtle governmentality, strips us of our narratives for life, and dissolves the political intellect into a sea of free-floating and short-lived intensities; ambivalently, it is simply different – a different way of thinking, a different mode of attention, a different sense of the world; prognoses for the future are deferred, or at least left open.

I have attempted to examine the differences in a neutral way, and yet as a child of a digital age – perhaps just as my parent's generation, the children of the new wave, might feel about TV; or as my great-grandparents and grandparents might have felt about moving, colour and talking images – I am excited and moved by the changes I see, and thus I must moderate my enthusiasm. Acknowledging the excesses of negative critique which fatalistically write the epitaphs of art, history, god, communication and creativity, I have tempered my need to redress the balance, and thus rather than wildly celebrating recent developments in digital screen culture, I have aimed for an optimistically ambivalent tone (if that is not oxymoronic). This has led me towards what has been named (in describing the work of Gianni Vattimo) a 'mellow nihilism' within

[1] Here I refer to my use of Catherine Malabou and Patricia Pisters in the last chapter, through which I aligned a digital metaphysical plasticity with the quality of neural plasticity to suggest that at a neural level we (humans) are re-formed by the media we consume, and re-conditioned to fundamentally acknowledge that the world and our brains are indeed plastic.

our digital age, or what could perhaps be named a *digital nihilism*.[2] What this entails is a refusal to ascribe to any simply positive version of reality or any ideal situation (a past golden age or future utopia), instead choosing to see the immanent possibilities and potential of the situation that we do have. Thus while I do not offer up any ideal version of the future, I also choose to believe that all is not lost, and that within a digitally mediated reality, modulation, discontinuity and plasticity cultivates a metaphysical openness. I thus do perhaps end up subscribing to a teleology of progress, but one coloured by a fundamental denial of foundationalist thought. By working through the 'meta' and 'micro'-political aspirations of some of my main theorists and with further reference to my objects of study, in this chapter I hope to adequately explain this position.

The more pessimistic socio-cultural critiques of the new media tend to filter down to one underlying condition – advanced capitalism. Indeed, most would-be celebratory theorists of new media temper their enthusiasm with a cautionary note over concerns for the future of the politics of communication and representation, the environment of creativity or the quality of analytic thought. In many ways, it would be lax not to do so, as this is the ethical subject of media studies: its social, cultural and ontological meaning expressed in concern for the future of human existence.[3] As the new forms of image capture, creation and presentation that I have discussed (D3D, Digital Slow Motion, CGI, digital mapping) emerge within an environment of hyper-capitalism and all that that entails – spectacle, homogeny, celebrity, cliché – it can seem impossible to see them as anything other than objects fixed within the economic superstructure, and any affective pleasure or cognitive enrichment is instantly undermined by the object's position within commercial culture.[4]

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[2] I develop this term from Oventile, Robert Savino. '"Mellow Nihilism": A Review of Gianni Vattimo's "Nihilism and Emancipation"' *Sobriquet Magazine.* www.sobriquetmagazine.com/mellownihilism.htm Accessed 19/09/12.

[3] As Benjamin notes at the beginning of his *Work of Art in the Age of Mechanical Reproduction* essay, within any observation and theorisation about 'developmental tendencies of art under present conditions', there should be a *prognostic* value, and these prognoses can indeed have value as a 'weapon' (for him against Fascism, and for a revolutionary politics of art). 1999: 218.

[4] This is the question I tackled through Agamben's analysis of Benjamin's and Adorno's letters to each other in my methodology chapter: can the object of analysis itself open up a microcosm

However, it is in exactly the incipient conditions of this modern capitalist age that cinema originally emerged as an apt way to witness and interpret the dramatic developments in ways of living and thinking. The technology presented itself initially as artistic counterpoint to social and economic change, and has always been imbued with utopian hopes of social change and future vision. Through the work of early filmmakers and film-theorists such as Eisenstein, Vertov, Epstein and (later) Bazin, we saw how the artistic mode of film had the transgressive potential to significantly alter social conditions.

Imbued in early cinematic theory was a utopian futurism that cinema had a revelatory potential. This was the ethico-aesthetic paradigm of the modernists, and the ideal of these theories was strictly in the avant-garde revelation of a new order of expressionistic truth outside of realist modes of representation. This expressed a political commitment to an ethical future in which cinema as an autonomous art form crafted an aesthetic utopia. For Eisenstein cinematic montage graphically and materially gave us a Marxist dialectic, synthesising the *tertium quid* or 'third thing' as an ideological concept absorbed by the spectator affectively and intuitively.[5] For Vertov the *Kino Eye* exposed a deeper truth of actuality through bringing documentary footage to the masses, and through this relation to the cinematic apparatus, humanity could be elevated to greater precision through greater affinity with the machine.[6] For Epstein (and Bazin also), the cinematic technology had the potential to reveal a deeper truth of detail or temporality through, respectively, the close-up and the unedited naturalistic long shot. For each of these theorists, something about the potential of the mechanics and distribution of the cinema, and of the relation of the spectator to these images, led them to believe that social and cultural change could be instigated by the revelations provided. Through a mode of aesthetic engagement with film images we would discover some deeper truth

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of significance within the affective moment, or does one have to refer back to the discourses of cultural capitalist hegemony to position these moments as either insignificant or manipulative? I look at this issue below through a critique of Sean Cubitt's position.

[5] Eisenstein, Sergei. 1977. *Film Form: Essays in Film Theory.* San Diego: Harcourt Brace.

[6] Vertov, Dziga. 1984. *Kino-Eye: The Writings of Dziga Vertov.* Trans. Kevin O'Brien. Annette Michelson (ed). Berkeley: University of California Press.

about reality, and life would be improved. The gravity of modern fatigue, industrialisation and urbanisation did not escape these optimists, but the technology of cinema was seen as not just escapist, rather potentially revolutionary. Why then are moving-images contemporarily (in their popular form, and even as art) so often perceived to have *no* transgressive potential, being as they are objects of a commercial culture? When the Frankfurt School indicted the products of mass-culture, they at least held up the avant-garde as a potentially oppositional force. Now it can seem that the dialectic is dissolved, with all cultural forms existing for the purposes of profit.

In late modernism we have a cultivated suspicion of the aesthetic utopias imagined by the historical avant-garde, leading as it did to the dual excesses of totalitarianism and commodification. Positioned as provocation, the avant-garde arts promised emancipation and new social order, but what actually occurred was at first the rigid aesthetic ideology of fascism, and latterly the dissolution or absorption of any avant-gardism into the cultural logic of late capitalism, leading, in the view of many theorists, to standardisation and homogeneity. In a well-established age of digital mass-communication, what they see is the abandonment of any ethico-aesthetic regime; instead culture generates a hyper-synchronisation of aesthetic modes controlled by certain powerful forces of commerce through the new communication technologies. In other words, art as an autonomous realm ceases to exist, and thus as a consequence any ethics of aesthetics also is perceived to die. For Bernard Stiegler as for many other 'postmodern' theorists who on the surface ascribe to this way of thinking (for example Jameson, Baudrillard or Virilio) the outlook is bleak as we become increasingly separated from the real, and thus also any aesthetic political reflection upon the real.[7]

However, this thesis of the death of art focuses too much on a singular idea of utopia, crafted through the imagination of a dialectic relation between commercial culture and the autonomous, political avant-garde (in the Marx-inflected aesthetic theory of Adorno, and also that of Lyotard, examined in chapter two). Walter Benjamin, in his own time, seemed a solitary voice to stand against this resistance to a rigid superstructural thinking

[7] Steigler, Bernard. 2010(a). *Technics and Time, 3: Cinematic Time and the Question of Malaise.* Trans. Stephen Barker. Palo Alto, CA: Stanford University Press.

in refusing to indict the new mass images as part of advanced capitalist ideology, instead seeing a new democratised popular image form, and a new secular and political function of art in society.[8] More contemporarily, the prerequisite opposition of art to commercial culture for any possible ethical future has been again challenged by Jacques Rancière and Gianni Vattimo.[9] For these philosophers the dialectic is not so clearly delineated, and a commercialised culture does not simply spell the end of creativity or of the political artwork.

For example, in the objects of a design culture both Rancière and Vattimo see a profitable yet artistic field of cultural production, which like architecture carries both a use value and an aesthetic value. These art objects are not held at optical distance and appreciated as beautiful but essentially useless, but are instead blended into everyday life, forming part of a new politico-aesthetic regime which does not require being confrontational or provocative, and yet which does not equal a bland homogeneity. As Vattimo states:

> 'Mass culture has by no means standardized aesthetic experience, assimilating the whole of the "beautiful" to the values of that community which has felt itself to be the privileged bearer of the human – European bourgeois society. Instead, it has explosively brought to light the proliferation of what is "beautiful", assigning the word not only to different cultures through its anthropological research, but also to "subsystems" within Western culture itself. In fact, the utopia of *an aesthetic rehabilitation of existence through a unification of the beautiful and the everyday* has come to an end in parallel with the end of the revolutionary utopia of the

[8] This is the general theme of *The Work of Art* essay, that a popular form of art within a context of commercial production can still have the value of a revolutionary weapon. In the preface to the essay Benjamin insists that we must address our actual art culture optimistically, rather than only thinking about an idealised form of art in an imagined better situation. He suggests that by focussing on *positive* theses, rather than on criticism, about the developmental tendencies of the specific objects of contemporary art culture there is a revolutionary potential. (1999: 217-218).

[9] I examine these theorists in detail below.

> sixties, and for the same reasons, namely the explosion of systematicity and the unintelligibility of unilinear history.'[10]

So contra Bernard Stiegler et al., rather than standardisation and hyper-synchronisation, for Vattimo we have a relative explosion of heterogeny, plurality and diversity, which he defines as 'heterotopic'. Heterotopia here defines both a plural and diverse utopia, and also a liminal space outside of (but not in opposition to) hegemonic control. Aesthetics then becomes redefined as an immanent field of multiplicity, of many different ways of perceiving beauty and sublimity, rather than as a transcendent, autonomous sphere beyond understanding, and as such it becomes radically open:

> '…Utopia has disappeared, even from aesthetics, with the advent of a certain "universality" in the channels different models of value and recognition have found to express themselves. […] A mass aesthetic experience has taken shape in the combined voices raised by communitarian systems of recognition and communities that show, express and recognize themselves in different myths and formal models.'[11]

This *could* seem like an abandonment of a strong guiding ideology, towards a cultural relativity and universality, which could then also seem like a de-politicisation of the aesthetic sphere. However, to counter this, Jacques Rancière comes to redefine aesthetics to be a matter of everyday existence, which is necessarily political, yet does not deal in utopian or dystopian visions.[12] Where Benjamin stated that any attempt to aestheticise politics would end in war, it seems this is because he subscribed to the utopian, dialectic vision of aesthetics.[13] Therefore any attempt to impose an aestheticised utopian vision must then become an imperialism or a fascism. Instead, for Rancière, aesthetics is inherently political as it is seen as part of a system of what is

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[10] Vattimo, Gianni 1992: 67 (my emphasis). 'From Utopia to Heterotopia' In *The Transparent Society.* Cambridge: Polity Press.

[11] ibid. 1992: 68

[12] Rancière, Jacques. 2006. *The Politics of Aesthetics.* Trans. Gabriel Rockhill. London: Continuum.

[13] Benjamin 1999: 241.

comprehensible and expressible, and any regime of expression is ordinarily charged with political values, with power struggles.[14] Thus 'normal' perception and cognition of reality is at a fundamental level both aesthetic and political.

For Stiegler this is also true; that the everyday matter of sensation and expression is grammatised into circuits of attention and memory through a process of political negotiation, but where Rancière posits this as a benign or ambiguous process of conflicting forces, Stiegler sees the balance firmly tipped in the direction of control. [15] For Stiegler it is a technological question, where digital media move us closer to the manipulation of aesthetic modes of sensibility and affection, towards a controlling of both public and inner life. As Stiegler's translator Daniel Ross states:

> 'What Rancière fails to think is that aesthetics, that is, sensibility and feeling, has become the very means by which every aspect of life is calculated and controlled, through the invention of aesthetic and affective technologies configured toward synchronising experience, and therefore desire, and therefore behaviour, to the point of becoming "counter-productive," that is, to the point of threatening the destruction of desire itself, and therefore politics, if not indeed economics.' [16]

Indeed, Rancière has been accused (by Badiou) of having a merely symbolic commitment to politics, offering not reflections on real political situations, but merely 'motifs' for escapist 'meta'-politics, or for 'lazy posturing of the "my art is my activism" kind'.[17] Thus the issue of the political reality of contemporary technology, a crucial question for both Stiegler (and Benjamin in his own time), seems not so adequately theorised by Rancière and Vattimo. Though Vattimo celebrates new global

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[14] Rancière. 2009.

[15] See Stiegler, Bernard. 2011 (2004). *The Decadence of Industrial Democracies.* Trans. Daniel Ross and Suzanne Arnold. Cambridge: Polity. Also: Rancière, Jacques. 2002: 151. 'The Aesthetic Revolution And Its Outcomes: Emplotments of Autonomy and Heteronomy.' *New Left Review.* 14, Mar-Apr 2003.

[16] Ross, Daniel. 2010. 'Politics and Aesthetics, or, Transformations of Aristotle in Bernard Stiegler.' *Posthuman Destinies.* www.sciy.org accessed 31.05.2011

[17] Ben Davis. 2006. 'Rancière, For Dummies' *Artnet* review of Jacques Rancière's *The Politics of Aesthetics.* On artnet.com Accessed 19.09.12.

communities and communication – which could have a technological reading – neither he nor Rancière seem to move beyond pure and broad concepts toward a pragmatic political and ethical reading of modern digital objects of commercial culture.

TRANSFORMATIVE TECHNOLOGY

To then frame the technological question within this context of ethics and utopian/heterotopic vision, we ask whether the specific machinations of a digital visual culture are or are not political? And if they are political, are they in any way separable from the hegemonic logic of late capitalism? This is to work towards asking if there can truly be said to be any ethical outcome for recent developments in digital media. To examine this I look at the ethical discourse of technology through the theorists who do specifically target it, before moving to look at examples of specific technologies, finally returning to attempt a reading of Rancière and Vattimo through a more specifically technological lens.

Deleuze sets this project in motion by giving an impression of a technological medium of expression which, in its structural elements, at first *expresses* modes of perception and of metaphysical intuition, and then later comes to expand them in an ethically and socially productive way: 'a determination at first formal and material, and then later genetic and differential'.[18] First it *reflects* the trajectory of Western thought in form and materiality, then as spiritual automaton it comes to determine or *refract* this mode of thought – thought and technological means of expression co-defining each other in a symbiotic relation.[19] The movement-image, for Deleuze, was based on a closed moral exigency founded on a singular teleology of progress – the outcome of a Western metaphysical legacy. Through narrative function and sensory-motor-schema it generated symbolic threats as alien, enemy or other to an established moral order, and dealt with them to provide closure as a return to order. This entailed the synthesis of a continuous temporality through an image-relation which provides the assurance of a stable 'good' order to return to. For Deleuze the time-image is an open and ethical (as

[18] *The Movement-Image* 1986: 85

[19] This draws close to Heidegger's concept of *Gestell* or 'enframing' in *The Question Concerning Technology*.

opposed to a moral, closed) entity. It synthesises a fracture within the Western tradition of transcendent continuous time, opening us up to an experience of pure duration, a direct image of time. What this presents us with is instead a 'radical ethics of multiplicity… affirming and exploring the ruination of the sensory-motor-schema of the heroic-communal relational action-image under the stress of "events that are just too much"'.[20] By this strategy any closed model of truth, any dualism of good/evil is abandoned for experimentation with image relations and thus with affection and perception. For Deleuze only the cinematic technology, the moving image as a temporal medium can represent and then further instigate this shift by achieving its own spiritual automatism.[21]

Deleuze then, in his conclusion to the *Time-Image*, states that the aesthetic principle of the 'electronic image' pre-exists the digital technology which brings it to its ideal form.[22] He identifies this as an impetus expressed in the time-image, an aesthetic of 'superimposed layers, with variable outcrops, retroactive relations, heavings, sinkings, collapsings', with a 'right side and a reverse, reversible and superimposable, with the power to turn back on themselves, perpetual reorganisation…in omni-directional space'.[23] Nonetheless, he expresses a strong concern that this impulse should, within the digital, form part of a new will to art, a 'cerebral creation' and a new aspect of the time-image, not being made into 'a business, a pornography, a Hitlerism' and thereby becoming 'a deficiency of the cerebellum'.[24] The pure time-image, he states, called in an original regime of images which liberates time from its subservience to movement, and while the 'new methods' of electronic media offers potential for a will to art, he foresees that it will either be invalidated by being appropriated by commercial forces, or *relaunched* as a reinvigorated ethical aesthetic:

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[20] Canning, Peter. 2000: 350. 'The Imagination of Immanence'. In: Flaxman, Greg (ed). *Brain Is The Screen: Deleuze and the Philosophy of Cinema*, University of Minnesota Press: Minneapolis.

[21] ibid.

[22] *Time-Image* 1989: 266

[23] ibid

[24] ibid

> 'Electronic images will have to be based on still another will to art, or on as yet unknown aspects of the time-image. […] The fact is that the new spiritual automatism and the new psychological automata depend on an aesthetic before depending on technology. It is the time-image which calls on an original regime of images and signs, before electronics spoils it or, in contrast, relaunches it.' [25]

The prerequisite for this *relaunch* of a will to art is for Deleuze the emergence of a pure speech act, a 'creative storytelling which is as it were the obverse side of the dominant myths, of current words and their supporters, an act capable of creating the myth *instead of drawing profit or business from it*.'[26] Only by a dissolution and destruction of any existing moral rational order can we bring about this relaunch 'emerging from the debris of the end of the world'.[27] Here Deleuze reveals his Marxist dialectical and utopian politics. Only through 'art beyond knowledge, creation beyond information' can a 'redemption' be achieved.[28] He explicitly equates the interests of profit and business with a rationalisation and a 'Hitlerism' which is deadly to creativity and thus it must be completely obliterated. For Deleuze, pure time, pure immanence and pure difference is diametrically opposed to spatialisation, transcendence and identity. Only through the abandonment or annihilation of the latter can one achieve the former.

But, the revolution never came, and instead we have a cultural *evolution* which I suggest comes to fruition under a digital visual and late capitalist regime. This evolution is the near perfect fusion of art and commerce in postmodern digital culture in which the consumer is increasingly an active, skilled and informed reader and decipherer of images and objects, which are tangible, useful and entertaining and yet which play along the boundaries of rational comprehension. In this work I have endeavoured to discover objects/images which are either an extension of the aesthetic principle of the time-image (in *Enter the Void*'s any-space-whatevers, *Inception*'s dream-images, or *Pina*'s durational dances) or indeed which innovate in original ways that could be constitutive of its relaunch (in *Avatar* and *Source Code*'s digital rendering of images of

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[25] ibid: 267

[26] ibid: 270 (my emphasis)

[27] ibid: 270

[28] ibid: 270

metaphysical flux and neural plasticity, and in the baroque mutability of form and matter in digital projection mapping). These objects achieve these effects in ways that may slip through the gap in Deleuze's closing of the door on creativity, by expressing 'another will to art, or *an as yet unknown* aspect of the time-image'.[29] The contemporary truth is that a real, un-idealised art object can hardly exist outside of the economies of production and creation in late-capitalism, even though it may fulfil the condition of a will-to-art.

THE EVERYDAY ART OBJECT– BY INDUSTRIAL DESIGN

As Benjamin noted: 'the tasks which face the human apparatus of perception at the turning points of history cannot be solved by optical means, that is, by contemplation alone'; instead these tasks must be inhabited, and the necessary skills in perception are received and learned in a distracted state, requiring little direct attention. [30] For Benjamin, cinema was the artistic medium by which the modern subject tackles these tasks, but we can easily expand this category to cover other popular images not held at a contemplative distance as with aesthetic objects of cult or auratic value. Art here is reinstated as a democratic public exercise with which we engage without ceremony or ritual. So where does this form of aesthetics exist in contemporary commercial culture, if not cut adrift from it as a transcendent and unresolvable sublime realm of expression (as previously given to us by the avant-garde movements in art and design)? Can we honestly say that our contemporary entertainment culture equips us with the skills in perception that we need at this point in our history?

Rancière sees that in industrial production, through design, we are given objects – as much as in the exclusive art sphere – which 'are committed to doing something else than what they do—to create not only objects but a sensorium, a new partition of the perceptible.'[31] In these everyday objects we have a form of 'applied art' through which we see a mode of 'collective education' in a symbolic economy of common life. He states:

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[29] ibid: 266 (my emphasis)

[30] Benjamin, Walter. 1999: 240.

[31] Rancière 2003:140

> 'He (the designer) thinks of himself as an artist, inasmuch as he attempts to create a culture of everyday life that is in keeping with the progress of industrial production and artistic design, rather than with the routines of commerce and petty-bourgeois consumption.'[32]

This point about the ethos of design integrity which overrides cynical profit motive is also developed by Vattimo, where he sees an ideology of design – 'the dream of an aesthetic rehabilitation of everydayness by an elevation of the forms of objects and the appearance of our surroundings' – closing the gap between the everyday and a dialectic utopianism.[33] Thus Vattimo, like Benjamin and Rancière, sees that in a modern economy of commercial industrial design, in the generation of the novel and new, we have a modern form of art which is meta-political in a way which is deeply integrated and implicated in our day to day lives.[34]

But can screen media be said to be a design object in this meta-political sense? Certainly to Benjamin we seem to get an idea of the film as a practical object, compared by him to a building which has a simple value of shelter, and yet which is one of most ancient forms of artistic expression.[35] It is indeed hard not to see how architecture is inherently political, since its significance lies in the artistic design which can often ostentatiously (e.g. in churches, justice courts, town halls) express the gravity of the activity which goes on within by demanding attention and respect. Yet this significance is not only appropriated in an 'optical' conscious and analytic manner, but rather by the formation of particular habits through tactile appropriation. The same can be said for the objects of a contemporary design culture:' a symbolic economy which would display a *collective* justice or magnificence, a celebration of the human abode replacing the

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[32] ibid.

[33] Vattimo 1992: 64. His example of Bauhaus style shows how an ideology of design became equated with revolutionary Marxism.

[34] ibid

[35] Benjamin 1999: 240.

forlorn ceremonies of throne and religion'.[36] For Rancière this is no less political for being more subtle, and imbricated with our less reverential tasks.

Thus we can start to see the screen media as having a socio-cultural use-value as an entertainment form, and yet as also an aesthetic object which, as in Rancière's analysis, generates its own 'partition of the perceptible'. Film, for Benjamin in his time, was the art-form which was the true means of exercise for the distracted appropriation of a given regime of the sensible. Certainly the moving-image still today, diffused into multiple formats, and then converged again into the digital screen image, still fulfills this purpose. As an industry, it is engaged in the cyclical production of entertainment, through which we absorb knowledge about the tasks that currently face perception. It is also an industry of artists: scenic artists, production designers, photographers, actors and post-production artists. These workers and technicians do think of themselves as artists working within a creative industry, even while producing objects which are the disposable forms of a cultural economy which plans obsolescence so that the new and novel can be constantly re-generated. Through this system of production design a 'meta-political regime' or symbolic economy is synthesised and developed. Though this regime might not necessarily inhere in individual objects, it does emerge as a matrix between them, and constitutes a regime of representation or 'grammatisation'.

In thinking of digital screen media as objects of industrial design, and as art objects of the everyday variety, we can see that they do not need to be enduring, auratic and canonical to be significant, but instead can form part of a matrix of the perceptible in a temporary or even disposable way. Vattimo states:

> '…Aesthetic theory has yet to do justice to the mass media and the possibilities they offer. It is as if it were always a matter of "saving" some essence of art from the menace the new existential state of mass society presents not only to art, but also to the very essence of man. Reproducibility is thought to be irreconcilable with the seemingly indispensable demands for creativity in art. This is due only in part to the fact that the rapid diffusion of information tends to render every message instantly banal. Above all, it is because the reaction to this depletion of

[36] Rancière 2003: 140 (my emphasis).

> symbols is the invention of novelties that like those of fashion, that have none of the radicality seemingly necessary to the work of art.'[37]

He points out that conventional aesthetic theory poses a failure to adequately theorise our actual experience or enjoyment of art in late modernity and in mass media, which is, he explains, based on 'oscillation and disorientation', and on 'minimal and continual variation'.[38] This presents us with a constantly changing media landscape which, like fashion, can seem banal and superficial, but which actually presents us with a softer, more fluid and playful version of reality, and thus in real ways can still disrupt forms of manipulation and control.[39] Superficiality and novelty here cease to be pejorative, and instead refer to a more enjoyable, less oppressive culture of everyday life. In Vattimo's analysis it relaxes strong, monolithic and autocratic notions of reality, towards a 'weak' metaphysics which is more plural, ambiguous and open – conditions conducive to free-thought and creativity.

Vattimo here comes across as a broadly postmodern optimist, to counter the more bleak analyses of mass culture from certain modernist and postmodernist critics. Nonetheless, as previously stated, my discourse here is about technological mass media, an equation of Benjamin's notion of technological reproducibility and Heidegger's more abstract notion of the whole technological apparatus as techné.[40] The more contemporary discourse of Bernard Stiegler thus allows us to balance this theoretical formula with the recent shift in digital technologies, and to the industrial and commercial machinery behind it.

STIEGLER'S ETHICAL CRITIQUE

Stiegler's vision begins more ambivalently than Deleuze's concept of an ethical time-image, and his subsequent fear about the commercial colonisation and destruction of it

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[37] Vattimo 1992: 57

[38] ibid

[39] ibid :59

[40] Heidegger, Martin. 1977. *The Question Concerning Technology.* Trans. William Lovitt. New York: Harper Perennial.

within digital media. He sees that thought, knowledge of how to live and even feeling for one another is *originally* technological.[41] Technologies here are re-cast not as tools, but in the Heideggerian sense as modes of ordering things by which to reveal the actual.[42] Language as technology describes the world and gives a sense of it, and we are *impelled* to do this work of describing by the simple existence of the technology. All modes of expression, including all media technologies, but also all modern manufacture technology, in this view serves the same purpose, as modes of ordering the sensible/perceptible, taking the raw material of the world and processing it to make it coherent to us, and so we can then use it. Thus, very much in line with Rancière and Vattimo's views expressed above; industrial production is perceived the same way as artistic creation – *poiesis* – as a type of activity in the pursuit of revealing truth.[43]

Stiegler, uniting Heidegger with Derrida's *Grammatology,* comes to describe a process of 'grammatisation' which is not so explicitly confined to an idea of language as Derrida's concept, but instead comes closer to Rancière's politicised 'regime of the perceptible'. Grammatisation 'names the process whereby fluxes are reduced to discrete, formal, symbolic, and reproducible elements'.[44] Language is perceived as only one technological form amongst many, and in Stiegler's *Technics and Time 3*, the focus comes to bear on the more subtle and affective digital visual media technologies within advanced capitalism which become prostheses for memory.[45]

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[41] This is the subject of Stiegler's *Taking Care of Youth and the Generations.* (2010b. Trans. Stephen Barker. Palo Alto, CA: Stanford University Press.) in which he analyses how marketing technologies have affected the youth and family relations.

[42] In chapter two I analysed this aspect of Heidegger's theory of technology in some detail.

[43] While this describes the more tangible manual activity of humanity, the same could be applied to processes of cognition. Spinoza and Bergson both describe how we are compelled to organise primary affects into recognisable patterns. For Spinoza the activity of mind is to contain affects to create positive emotions. For Bergson almost all of our mental capacity is focussed on recognition rather than a pure experience of the now (see Chapter two for my expansion of these theories)

[44] Ross 2010.

[45] Stiegler, Bernard. 2010(a). *Technics and Time, 3: Cinematic Time and the Question of Malaise.* Trans. Stephen Barker. Palo Alto, CA: Stanford University Press.

In Stiegler's view digital media offers up a new technical condition of expression and thus a new grammatisation. Though technologies cannot be seen as culpable, they define the modes of knowledge sharing available to us and which make us human. They have been integrated with humanity in cyborg ways since the first primitive hominid communication. The hope for the new digital grammatisation is that it might involve the social and political re-telling of stories and the sharing of knowledge and experience in new communities and through new aesthetic forms. For Deleuze this should be a radically new creative storytelling, in novel forms, which contributes to the destruction of the myths of the past.[46] Stiegler, however, moves towards a more bleak prognosis when it comes to digital media. He sees that in the objects of mass communication – through cinema, television and digital technologies – there has been a slow process of homogenisation by which there is a degree of similarity in all aesthetic forms of communication. What this amounts to for him is a deliberate and cynical programming of aesthetic modes of engagement, that is to say affective media, to condition and influence desire with the aim of controlling behaviour. The digital mass media thus provides the best form yet by which commercial interests can distribute images which 'synchronise' desires, simplifying and emboldening them, reconditioning them towards forms of consumption which regress to instant 'drive' satisfaction. In this dystopian digital mastery of affective governmentality, desire and aesthetics will be destroyed as we are habituated into automatic modes of attention/engagement and consumption/satisfaction, which regress us to the *id* state of the ideal consumer.[47]

In this way the new digital grammatisation can be easily perceived as a sophisticated method of biopolitical governance. For Stiegler, the 'programming industries' which produce the technical means of recording memory (i.e. the media industries) have a vested interest in controlling consciousness on the level of unconscious drives. This is done by controlling our attention through psychotechnologies of 'spectacular innovation', tricks and gimmicks which 'short-circuit' the longer systems of attention by which knowledge and memory are shared inter-generationally.[48] These longer

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[46] *Time-Image* 1989: Conclusion.

[47] Ross 2010.

[48] Stiegler, Bernard. 1998: 21. *Technics and Time 1: The Fault of Epimetheus.* Trans. Richard Beardsworth and Georges Collins. Stanford, CA: Stanford University Press.

circuits of generational transmission of knowledge are also technical and grammatised, but work through more traditional 'programming institutions' such as family, education, community (as contrasted with the 'programming industries'). Programming institutions encourage longer circuits of cultural memory which nurture considered desires based on shared knowledges, and it is this process that, for Stiegler, is interrupted and short-circuited by the affective allure of the digital marketing technologies. Humanity is arrested, unable to mature, and even regresses to a passive condition by which we are unable to take responsibility.[49]

Stiegler projects the idea that our capitalist consumer culture is somewhat too far gone down one path, in that we have already completely lost these long circuits of attention which encourage mature responsibility as the essence of 'human nature'.[50] One could, in this instance, accuse Stiegler of being simply a bleak postmodernist theorist, harking back to some belle-epoche of oral history, community and family. However it rather seems that for his broader philosophy there is no idealised or utopian 'human' state, just a neutral battleground of forces. For each grammatising process, there is a controlling and disciplining which can seem like a reductive process, but in the liminal phase of this process there is also a transformational, transgressive potential which must be recognised to be seized. For philosopher Daniel Ross (also Stiegler's translator), as for myself, if we accept the bleak condition of which Stiegler speaks, there is then an ethical imperative to see what possibility for redemption lies within:

> 'We must take up the question of what new potentials arise from the new processes of grammatisation elaborating themselves today, and ask whether these potentials can be harnessed toward the cultivation of *new* practices under a new industrial model with the goal of *re*-aestheticising politics (but in the best sense,

[49] Barker, Stephen. 2009: 8. 'Transformation as an Ontological Imperative: The [Human] Future According to Bernard Stiegler' in *Transformations*. Issue 17: Bernard Stiegler and the Question of Technics. www.transformationsjournal.org/journal/issue_17/editorial.shtml Accessed 31.05.2011

[50] ibid: 7

> such that this is not at the *expense* of political reason, but rather forms the very motive of reason itself).'[51]

I feel I must recognise the value of the seeds of transformation which already exist within the current digital grammatisation. Within digital screen culture, I have had cause to reflect on those objects, images and practices that I feel are specific to the digital and which constitute a new aesthetic. Within this aesthetic I have attempted to describe the adjustments and modifications to an imbued metaphysical sense which could amount to a new ontological world-view. This evolved digital sensibility is acquired in Benjamin's 'distracted' sense, becoming a matter of habit, and as Benjamin noted about film in 1936, it manifests as skills of perception by which we tackle the new tasks demanded of us at this point in history. Furthermore, I feel these aesthetic advances, emerging automatically from the new technological processes, do qualify as 'an as-yet unknown aspect of the time-image', thus constituting a re-launch of the will to art.

I have hoped to prove that digital technical expressions are increasingly complex, rich and stimulating in their immersive affectivity and metaphoric resonance, and also present a possibility for new industrial practices for making and sharing experience. I have argued here that these practices potentially function even within the confines of industrial control to empower and motivate creative and political awakenings. To demonstrate this I now return look at some of the discourses and forms previously discussed in this project, specifically to address the critiques of contemporary D3D technology and the neo-baroque digital film, and to then assess the ethical potential of these new forms of presentation.

DIGITAL 3D TECHNOLOGY AND NEO-BAROQUE STYLE.

As discussed throughout this project, the contemporary images of the current digital visual regime lead to new constructions and impressions of space, time and energic force. This is achieved through new and evolving systems of image capture and presentation, exampled through the new digital 3D projection (D3D) and projection-

[51] Ross 2010.

mapping formats which have risen to prominence within digital screen culture in the last five years. What this entails is a return, or perhaps a reinvigoration of a visual regime which flouts conventional narrative tradition for technological novelty and spectacle, formal and structural experimentation, immersion and interactivity. For many theorists the fluidification of Euclidean spatio-temporal coordinates stimulates a loosening of the bonds of a crushing modernist rationality which continually stresses coherence and continuity (as I have referred to through the work of Tom Gunning, Gilles Deleuze, Scott Bukatman, Martin Jay, Thomas Elssaeser, Angela Ndalanis and Luciana Parisi). However, coming as these images often do through the mediation of digital post-production and presentation, because their effects aim primarily towards illusion rather than realism, and finally because they are almost infinitely marketable as experiential commodities, many critics cannot help but see them as anything other than as spectacle or simulacra fixed within a postmodern commercial culture in which 'authentic' meaning is drained, attention is short and existence is defined by consumption.[52]

As Thomas Elsaesser points out, in an ironic turn, the stereoscopic media technology that has historically existed as a *critique* of monocular and bourgeois visual regimes (including the complex viewing positions of the original 16th century baroque art style as well as 20th Century Dada and Cubist art movements) becomes in the digital era the new *normative* image regime, and this carries certain ethical risks. In becoming ubiquitous, the current 3D technology potentially becomes simply the new default mode of mass-media commercialism, and as such becomes party to the ideological cultural flows associated with that. On a further more worrying note, as the immersive affectivity is ever heightened in new digital technologies, it seems that what is lost is exactly the sense of analytical cognitive distance from image content. The very aspect of haptic closeness to the image which stood as critique of a rationalist and Realist optical regime is here seen as having been appropriated by commercial interests as an insidious form of influence. Affective media here is portrayed as a neurological bypassing of our rational-critical faculties and this potentially allows us to become

[52] The concept of simulacra as identified by Baudrillard is attacked by Deleuze in *Difference and Repetition*, where he disagrees with Baudrillard on the status of the copy without original referent. He reappropriates it as an ethical concept which confronts the identity of the 'original' and transforms it. 2004a: 154-156

overly influenced.[53]

While this sounds like the familiar paranoid fears of mass-hypnosis and subliminal messages which have circulated since mass-media first came about, this takes a more sinister turn when we consider, as Erin Manning does in *Relationscapes*, the powerfully immersive and affective tone of explicitly political propaganda. In Manning's analysis she uses the example of Leni Reifenstahl's work for the Nazis, specifically *Olympia*, identifying the powerful suture of the 'biogrammatic' images of the human form stemming from feelings and relational connections cultivated by the rhythmic and intensive imagery. She notes that in fact the pre-conscious impact of these politically-charged, highly affective images of perfect bodies moving in perfect motion can be considered even more powerful than the content-driven propaganda that we might be more familiar with.[54] The explicit goal of the Nazi propaganda machine to conquer hearts and minds through affective media extended somewhat logically into experiments in 3D with films *So Real you can Touch It* and *Six Girls Roll into Weekend*.[55] The technology and aesthetic of stereography which only a few years earlier had formed part of an avant-garde critical art movement was thus appropriated as a potential propaganda tool of the Nazi aesthetic cultural movement.[56]

While the new affective and immersive digital imagery can be quite easily critically positioned either as a revolutionary critique of closed inflexible thought, or inversely as an order of sinister and insidious commercial control of our desires, it can also, in cineastes Roger Ebert and Mark Kermode's school of thought, be simply written off as somewhat irritating, redundant and superfluous.[57] Film theorist Sean Cubitt seems to

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[53] Elsaesser, Thomas. 2012. *The Return of 3-D: Logics and Genealogies of the Image in the 21st Century.* Plenary lecture given at University of London Screen Studies Group. Friday, 28 October, 2011.

[54] Manning. Erin. 2009. *Relationscapes: Movement, Art and Philosophy*, Cambridge MA: MIT Press.

[55] 'Nazi 3D films from 1936 discovered'. Ben Child. *guardian.co.uk,* 16 February 2011.

[56] See chapter five for analysis of stereographic technologies in the early 20th Century.

[57] While Ebert and Kermode both dress their critique up with scientific concerns about picture brightness, nausea and headaches, the real thrust of their argument is about the perceived quality of such films in which they hark back to 'golden age' narrative cinema. Roger Ebert 'Why I

subscribe more to this latter point of view than either of the former when he says that contemporary technologically driven neo-baroque visual media is just so many modular stylistic devices which thrive on an insular formal excellence at the cost of intelligence or social understanding through meaningful connection.[58] On the subject of cinema he states:

> 'Contemporary cinema is more ambitious than contemporary philosophy, but neither undertakes to understand the universe any longer […] The film world is a windowless monad, a simple structure unafflicted by connections to the rest of the world, entirely inward.'[59]

He laments that as the form of contemporary visual media becomes desperately self-referential, and any 'evolution of the spirit' is set aside in a series of cognitive solitaire games that experiment without ever reflecting on the 'actual' world, which is here perceived as social reality. These displays of technological virtuosity become, for Cubitt, only formally and aesthetically pleasing images which provide a soporific relief from the 'chaotic trudge' through the real world, a superficial distraction from philosophical contemplation. We are stripped of our will, subordinated to the image, and worse still, subjugated to the corporate ideological power behind the construction of these images.

However, even Sean Cubitt yields to a moment of magical transportation in his analysis of *The Abyss*. He refers to the 'drifting reverie' of a mesmerised gaze as we watch a CGI alien water tentacle slink its way through the hallways of the submerged ship. He notes that our attention is dream-like and distracted as we flicker between awe at the

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Hate 3-D (And You Should Too)' *Newsweek* May 9th 2010. 'No, your eyes aren't deceiving you – 3D really is a con' Mark Kermode. *The Observer*, Sunday 11 April 2010. In which Kermode states: 'The thing these movies have in common is that they are essentially trash – sleazy, crass and exploitative and owing more to the carnival sideshow tradition than to any history of narrative cinema. As such, they are perfectly suited to the phoney-baloney gimmickry of 3D, in the same way that *Polyester* suited Odorama and *The Tingler* needed the hidden seat buzzers of Percepto to put a spark into its audiences' collective arses.'

[58] Cubitt. Sean. *Cinema Effect* 2005:242, 269

[59] ibid: 242

visual effect and total immersion in the fiction, and evocatively states that this 'leads us towards firstness', a Peircian firstness which is pure affective absorption. He clearly, through his language, values this novel experience, referring to it as 'that wonder which is the proper, conceptless affect of firstness',[60] but then undermines it as a 'seduction' and a 'hypnotized subordination to the magic of illusion'.[61] He describes how in *The Abyss* we are given, through its innovative digital special effects, an 'artificial though not synthetic' experience, but this mesmerised state is not creative or inspirational; rather it is an abuse, a fake, which lead us away from consideration of life or reality, deeper into a self-satisfying, meaningless monad which is nothing other than the magical power of the commodity form; a 'virtual satisfaction of virtual needs'.[62]

A state of conceptless firstness alone is not enough for Cubitt. It is ultimately an empty experience as it doesn't engage culturally, socially or philosophically. We must have higher level analysis, the activity of the intellect as processes of secondness and thirdness for an experience of firstness to become in any way significant. He states that: 'Mere firstness would produce nothing but a chaotic scribble.'[63] And further that:

> 'Presenting itself as if it were Peircean firstness, in fact Hollywood today offers its audiences a mirror in which their aspiration toward being is rewarded with the vision of the absolute object, secondness without the possibility of thirdness that can arise only from a socialized system of texts and spectators.'[64]

Here, like Stiegler, Cubitt asserts that our technological circuits of attention have been hot-wired by commercial influences to take any desire for ontological understanding, and to give it a false satisfaction, a quickly fading sensation of wholeness. It 'addresses only the present instant, doomed by its dependence on the cutting-edge to radical obsolescence'.[65] He accuses mainstream cinema of duping its audience: 'Despite the

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[60] ibid: 242

[61] ibid: 256

[62] ibid: 269

[63] ibid: 81

[64] ibid: 269

[65] ibid: 271

narrative's attempt to make the corporate state the villain of the piece, *The Abyss* mesmerizes its subject into descending into the depths from which the magic arises'.[66] While the 'pre- or alinguistic nature of the digital sublime' promises to be an escape from ideology, it results only in a *denial* of ideology, a willful blindness.[67]

For Cubitt the enlivening affects supplied by cinematic digital screen media, while thrilling, fade quickly into nothing since they are essentially meaningless. He dismisses any enduring individual or cultural effect of engagement with the digital image, saying instead that we are merely engaging in 'a transformed mode of play, prizing intensity over intelligence'. However, if we cease to see the purpose of contemporary media – indeed of any media form – as the crafting of timeless objects of social meaning, we can see them rather as an active and dynamic process of play and learning, which rather than simply making intensity its prize, actually experiments ethically in forms of metaphysical embodiment and addresses the ontological issues which our world currently confronts us with. It doesn't matter so much if they come to seem dated or obsolescent (as for example with morphing effects), like so many toys and games of our childhood, because in the rapid proliferation of images and technologies these objects of contemporary screen culture become part of a shared cultural currency, part of our communal 'tertiary' memory.[68] These digital visual 'intensities' have served their purpose, forming a matrix of metaphorical associations that passively synthesise a sense of what it is to be living in a digital age.

I have tried to prove through this work that these digital objects of firstness as affects supplied by digital screen cultures and practices, be they sensations of space, time or force, do indeed synthesise aspects of secondness and thirdness as new concepts and perceptions, though not directly through content-driven and representational methods. I have also posited that this is not simply a denial of or escape from ideological processes, but a fundamental de-stabilising of the metaphysical foundations which support any rigid ideological belief. While the method might be playful, experimental

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[66] ibid: 256

[67] ibid: 269

[68] Referencing Stiegler, tertiary memory is a technologically shared cultural memory of experience.

and therefore sometimes apparently banal or superficial, the new grammatisation of affective fluxes through digital mediation do generate new desires, new practices and a new existential condition. In future work, I hope to develop this analysis through deep analysis of more digital images, as they emerge, always maintaining an eye for the emergent affective content which reflects and refracts our habitual awareness of the world. It seems that there is a distinct need to do this work as long as the popular realm of image critique (that of Ebert and Kermode) often seems stuck in a 'cinephiliac' attitude which celebrates a specific type of auteurist cinematic image that was perceived to be under direct attack with the arrival of *Star Wars* and the era of the technological blockbuster film.[69] Having been born in the year of the release of *Star Wars*, I insist that there is a different attitude and mode of analysis for the images of a digital and commercial image culture, which instead develops on the idea of a mentally agile viewer able to negotiate with multiple virtual simulations of reality in processes that refract and reconstruct.

THE ACTIVE SUBJECT IN DIGITALITY

The central ethical issue as developed in this chapter becomes one of activity or passivity, whether the spectator within a commercial digital visual culture is an active, interactive and educated consumer who acts on a playful impulse to step out of the rational ordinary, or whether they are a dupe, a gullible individual whose desires have been conditioned to become mere base drives requiring instant gratification, and whose consumption is automatic and brings no authentic satisfaction. Entering into this argument Mark Hansen establishes that the subject in digital culture is more active than ever. He summarises:

> 'As I see it, digitisation requires us to reconceive the correlation between the user's body and the image in a more profound manner... The image has itself become a process and, as such, has become irreducibly bound up with the activity of the body.'[70]

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[69] For the epitome of this type of analysis, see Sontag, Susan. 2002: 117-122. 'A Century of Cinema' in *Where the Stress Falls*. London: Jonathan Cape.

[70] Hansen, Mark. 2006:10. *New Philosophy for New Media*. MIT Press: Cambridge MA.

Without space and time as given transcendent qualities in new media in the form of linear timelines and continuous spaces, Hansen describes how the human body (by which he also means the brain) must actualise durational spacetime through a negotiation with the profusion of data into which we immersed.[71] Hansen therefore describes how in a digital age, rather than minds becoming 'soft', our embodied processes of cognition are achieved through increased and complexified activity.

Luciana Parisi and Steve Goodman, however, go further than this in criticising the anthropocentrism of this concept of 'activity' where the human mind/body is positioned as nexus for all potential actualisation. They prefer to construct an ecological model in which the activity of the human is only a part of an *autopoetic* system. Their article 'Rhythmic Nexus: the Felt Togetherness of Movement and Thought' posits the idea of technology synthesising its own fluid and immanent dynamic as an 'extensive continuum', or quantum flux, into which we as humans fit.[72] This idea integrates well with both Stiegler's and Deleuze's idea of the 'spiritual automaton',[73] moving the emphasis away from the human, and onto the immanent flux of possibilities for expression framed by the computer.[74]

As we, as a culture, move towards this digitally generated, autopoetic extensive continuum of indetermination, we see the emergence of a 'topological aesthetics' entailing an ethical experimentation with virtuality and the generation of spacio-temporal anomalies.[75] We can see this aesthetic tendency in many of the objects of digital screen culture that I have examined in this work, where space and time are distorted into liminal zones and other worlds. It often seems like artists and filmmakers simply have a well-developed sense of the spiritual automatism of the digital, engaging

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[71] ibid: 253-254

[72] Parisi, Luciana. & Steve Goodman. 2008. 'Rhythmic Nexus: the Felt Togetherness of Movement and Thought: Extensive Continuum Towards a Rhythmic Anarchitecture'. *Inflexions* No. 2 (Dec 2008) www.inflexions.org/n2_parisigoodmanhtml.html Accessed 19.08.12.

[73] *Time-Image* 1989:156.

[74] The flux itself is not technological, but any means of extracting meaning, of cognising or feeling anything (of actualisation from the virtual) is necessarily technological even at an unthought level.

[75] Parisi and Goodman 2008.

in the work of *revealing* it rather than *sculpting* it. It can seem as if it is indeed a different dimension or quantum flux which is close to us, surrounding us, or on the other side of some portal *waiting to be explored* rather than created (although in the quantum theory view, every exploration, every experimentation, is also a creation). There seems an aesthetic imperative, perhaps also an ethical one, to explore this immanent flux and to speculate on our potential human interaction with it. As a culture we ask: what are the possibilities for post-humanity emerging from this digital ether?

Parisi and Goodman point out that in the logic of late capitalism, commercial interests have inevitably taken note of this aesthetic shift towards indetermination and try to pre-empt or guide future potential desires to secure predictable profit – efforts towards containing, controlling and predicting desires in what they call an affective 'ecology of allure':

> 'A new stratum of topological control directly inciting mental, physical, and affective activities is deployed by ubiquitous clusters of adaptive software enabling the installation of smoothening platforms of pre-emption, a distributed ecology of allure – where allure describes the attractional power generated by contrasting eternal objects or virtual worlds selected by actual occasions. This pre-emptive power operates through the contagious activity of futurity in the present, of potential space-times serving as attractors to actual occasions. For example, artificial agency of markets that install lures to feeling, thereby pre-empting a desire yet to come.'[76]

This concept of the insidious affective allures of digital psychotechnologies – as creating an illusion of subjective choice while actually steering desire – is very much the mode of analysis followed by Steigler (as discussed above). However, for Parisi and Goodman, this attempt to attract and allure for the purposes of market control must ultimately fail, since:

[76] ibid

> ‘Such pre-emptive strikes, instead of blocking or slowing a novel future from happening, speed up the production of novelty...’[77]

They state that attempts at control and pre-emption actually feed the multiplicity, causing it to grow rather than whittling it down as intended. The pre-emptions contribute and feed an aesthetic of virtuality, rather than managing to channel it into specific modes of consumption. This, for the authors, is an ethical outcome, as the proliferation of possibility becomes self-perpetuating. Industry has had to change, to become more open, more responsive and more accommodating to customer demand, despite their simultaneous attempts to limit choice and to channel desire through tactics of affective ‘allure’.

We can summarise that anxieties surround new digital media and the potential for control of passive minds through affective, immersive, non-conscious means. This is seen as an insidious attempt at moulding desire which may or may not be effective. At best this process softens minds, and is corrosive to meaningful social and political engagement; at worst it can be implemented as part of a fascist mind-control. Inversely, the human mind is seen by others seen as more astute, more active than ever, negotiating a minefield of affective lures and seductions and capable of creating ever-more novelty through the processes of perception/actualisation. This is not, as in Deleuze’s vision, a total fragmentation or discontinuity which entails the dissolution/destruction of prior forms and a cultural revolution, but rather a proliferation of plural continuities within the new aesthetic, a discovery of different rhythms, structures and flows. Moralistic, singular and monolithic thinking is weakened within an *exponential* virtualisation that appears to have has its own agency and automatism. It is ethical in its playful aesthetic experimentation; not oriented towards anything other than exploring and extending what is means to be conscious. It is in essence a freeing, nihilistic aesthetic.

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[77] ibid

DIGITAL NIHILISM AND ONTOLOGICAL PLASTICITY.

Returning to Vattimo, we can now weave together his brand of optimistic postmodernism with a specifically digital aesthetic, and with a new digital ontology which entails the weakening of 'strong' metaphysics. In his analysis metaphysics comes to signify a certain rigidity or homogeneity which comes under attack in digital modernity.

> 'Vattimo pursues what he calls "weak thought." Resigned to imprisonment in metaphysics, this thinking hopes gradually to bend metaphysics toward dissolution. Weak thought questions "strong" claims, truth assertions brandishing as their ultimate warrants anachronistic, termite-ridden metaphysical cudgels. The trick to weak thought is to work strategically with the erosion of foundations rather than to react futilely against this nihilistic trend.' [78]

Metaphysics, to Vattimo, is equated with God and superstitious beliefs of some transcendent overarching order. The postmodern age thus finally puts the last nail in God's coffin, and what we are left with is a nihilistic fluidity and an immanent plurality. The digital ontology that we move towards becomes analogous with a liberal, tolerant, and democratic society, and a digital nihilism entails the embracing of the 'crises' of postmodernism.

Vattimo suggests in the quote above that this kind of nihilism is not some acceptance of relativism leading inexorably to political apathy, instead it can be can be strategic, eroding the foundations of any metaphysical presumption. Here digital screen media can be seen to have a clear strategic role in devising a new ethics. In the representation of the 'relaxation' or dissolution of metaphysics, all fundamentals of the physical world are drawn into doubt, twisted and folded. Everything becomes unfixed, unfounded: from physical structures, spaces and objects; personality, memory and mental processes; to reality, physical laws and possibility (and in various combinations of the above). The liminal impossible, the uncanny and the fabulous are no longer the material of biblical miracles and the holy sublime, but are now the secularised content of digital distortions

[78] Oventile 2006.

and modulations. The death of god and metaphysics in crisis thereby becomes inextricably linked to a new aesthetic regime and a new regime of the sensible – entailing the death of 'art'. This typifies the digital aesthetic that I have here identified, an aesthetic that reveals a world rather than just representing it. Vattimo makes this connection:

> 'The aesthetic experience of mass society, the giddy proliferation of "beautifuls" that make worlds, is likely to be significantly altered by the fact that even the unitary world of which the sciences believed they could speak has revealed itself to be a multiplicity of different worlds. It is no longer possible to speak of aesthetic experience as pure expressivity, as a purely emotive colouring of the world, as one did when the basic world was regarded as a given, open to scientific method of science.'[79]

I would argue that this aesthetic experience of which he speaks – a shift beyond expressionism to the synthesis of new naturalisms – only comes into full fruition in a digital visual regime of the perceptible, because only now can one adequately give a window onto the multiplicity. While this might have been foreshadowed or *suggested* in analogue media with crystal images and 'irrational' cuts, it now bursts into full photorealistic expression.[80] As I have examined, digital screen media accurately reflects the essential virtuality of our abstract thought processes due to their verisimilitude in presenting imaginative simulations of the world, and further generate a digital naturalism which juxtaposes against, and yet mimics, perceptual reality.

Digital naturalism as aesthetic impulse thus exhibits an *ontological* plasticity. This notion of an ontological plasticity breaks down the division between neural activity, the activity of the body, and the activity of particles and forces in the world. Aesthetic experimentation is the plastic activity of the brain (and body) to reform the world as we sense or perceive it. In the view of a Spinozan monism there is no dichotomy between

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[79] Vattimo 1992: 69

[80] *Time-Image* 1989

intension and extension; matter and the way we think about it are one substance.[81] The same rule seems to apply in quantum theory's understanding of the role of the observer. Digital plasticity is therefore the full realisation of this dynamic, which entails the making-redundant of previous scientific and theological paradigms about the world, and the empowerment and freedom to re-make the world outside of these mental bonds. For Catherine Malabou, plasticity is in essence strategic and active (like Vattimo's strategic 'weak-thought'). *Plasticity* entails an activity, an agency – the power to regenerate, re-form and transform. *Flexibility* here is equated with bending to ideological will, by receiving rather than giving form. It is presented by Malabou as the passive mental condition of consumerist capitalist, and it actually *conceals* or obscures plasticity to the extent that 'we do not know what we can do with our brains'.[82] However, I suggest that now, even within late capitalism, there is exactly this ethical aesthetic experimentation with modes of existence and observations of reality that reflects and therefore foments an ontological plasticity. This is the shift I identify within a digital regime of expression, where normal thought becomes more active, creative, and experimental.

CONCLUSION

In this project I have tried to establish the existence of a type of 'digi-thinking' analagous to Deleuze's cinematic 'camera-consciousness', but specific to the material/immaterial qualities of the digital visual medium. This has entailed an examination of an *essence* of digital technology (in Heideggerian terms), which gives shape to us and our interactions with the world in as much as we use it in an instrumental mode or as a tool (e.g. of memory, of expression, of design, of manufacture).[83] This I have identified as digital screen media's spiritual automatism,

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[81] Spinoza, Baruch. 2002. 'Ethics'. In *Spinoza: Complete Works.* Trans. Samuel Shirley. Michael L. Morgan (ed). Indianapolis, London: Hackett Publishing Co.

[82] Malabou, Catherine. 2008:12. *What Should We Do With Our Brains?* Trans. Sebastian Rand. New York: Fordham University Press.

[83] The first footnote to Heidegger's essay *The Question Concerning Technology* outlines the difficulty in translating 'essence' from the German word 'Wesen'. The translator states that: 'it does not simply mean *what* something is', but also 'the way something pursues its course', 'comes to presence' or 'endures as presence.' Heidegger thus reveals technology to be a *process* in which we are deeply implicated: 'Everywhere we remain unfree and chained to technology'.

which draws us into a mode of thought and awareness distinct from that given to us through analogue media. In bringing together Deleuze's notion of passive synthesis with Stiegler's theory of grammatisation I have further tried to elucidate how these automatic technological processes affect us in tangible ways. Through his conception of passive synthesis, Deleuze describes an affective experience of the image through which durations are synthesised and temporal experience becomes comprehendable in new ways. Following on from Deleuze, Stiegler gives us a clear view that most human activities– social, cultural, creative and even commercial – are foundationally technological in that they are contingent on the available modes of knowledge sharing. Expanding upon the concept of a digitally synthesised reality, I bring Deleuze and Stiegler's conceptions of consciousness and experience together with social, aesthetic, political and ethical issues, through their own discourses, and then through interaction with Vattimo and Rancière. By doing this I show that both cinematic and digital media, in their own times, have certain automatic and genetic processes which impact upon the creation and inter-relation of images within their own 'regime of the perceptible'. Through the dominant cultural forms of mediation and remediation an affective landscape is cultivated, a palette of complex metaphoric connections and simulations which gives shape to potential thought. Digi-thinking is thus to be conceptualised as a mode of metaphysical consciousness that is affectively synthesised through the automatisms of digital visual technologies, and which permeates all thought and activity.

From Stiegler, via Derrida, we understand that technologies act as a *pharmakon*, with an enabling potential to construct new realities but also to limit and stultify thought. For the technology of film, in Deleuze's analysis, the spiritual automatism of the screen image took these two clear directions of the pharmakon. The movement-image drew us by affective allure into the power of representation – '…from the beginning linked to the organization of war, state propaganda, ordinary fascism, historically and essentially.'[84] The time-image then confronted us with the unrepresentable –'the sensory-motor break makes a man a seer who finds himself struck by something

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Heidegger, Martin. 1977:3-4. *The Question Concerning Technology.* Trans. William Lovitt. New York: Harper Perennial.

[84] *Time-Image*: 165

intolerable in the world, and confronted by something unthinkable in thought'.[85] In the time-image man confronts the limits of his ability to think, and yet this is no simple negation, but rather a *virtual* shock that is infinitely generative of new thought. Similarly, with digital media we also see the two faces of the pharmakon. On the one hand we have the tendency to ever greater systematisation and rationalisation in digital visualisation and database aesthetics – the figurative, linear relation of things in the philosophical tradition of the movement image (which for Stiegler and Cubitt equates to increasing standardisation and homogenisation). On the other hand we have the extension of the regime of the time-image through the technology of the digital, in which its spiritual automatism gives us a new virtual 'unthinkable'. Within the field of digital humanities we now see developing new stands of inquiry which see this ethical power of the digital image – new affective strategies of resistance, new links and relations synthesised by the new organisations of information.[86]

In my analysis, and in the manner of Deleuze's Nietzscheanism, the ethical power of the digital image is in its nihilism.[87] As he states:

> 'For it is not in the name of a better or truer world that thought captures the intolerable in this world, but, on the contrary, it is because this world is intolerable that it can no longer think a world or think itself. The intolerable is not longer a serious injustice, but the permanent state of a daily banality… Which, then, is the subtle way out? To believe not in a different world, but in a link between man and the world, in love or life, to believe in this as in the impossible, the unthinkable, which none the less cannot but be thought.'[88]

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[85] ibid: 169

[86] As in the work of Patricia Pisters, Timothy Murray and Mark Hansen et al. that I examine in chapter 2.

[87] See chapter 4 for my analysis of Deleuze's 3rd synthesis and its relation to Nietzsche's nihilism. Deleuze shifts in tone from Bergsonism in the first and second syntheses of time, to Nietzschianism in the third synthesis. The third synthesis, in a sense, abandons tangible duration for a 'pure sensation of time' that is untethered to the recognisable and can be seen as an expression of a nihilistic aesthetic. See Faulkner, Keith Wylie. 2004. *Deleuze and the Three Syntheses of Time.* PhD Thesis, Warwick: University of Warwick.

[88] *Time-Image*: 170.

Deleuze proposes the irony that it is only through acknowledging the powerlessness of thought, or of belief, that we can think and believe anew. This powerlessness of thought must then entail a return to the body, to sensation and to the possibility of action.

> 'What is certain is that believing is no longer believing in another world, or in a transformed world. It is only, it is simply believing in the body. It is giving discourse to the body, and, for this purpose, reaching the body before discourses before words, before things are named'[89]

Thus the aesthetic of the time-image addresses the body first, in ways that disrupt higher-level analysis. The digital image also, as extension and re-launch of the time-image, is first and foremost focused on affective intensity in a way that often make it seem mindless. However, in my address to these images I look closely at the specific affections they yield to reveal their incitements to *mindfulness.* From cine-thinking we move to a new digi-thinking cultivated passively within the body.

In Bergsonian fashion, the dynamic of movement-image and time-image focuses on the temporal dimension as fundamental to all experience; how time is made linear and contained through the continuity of movement in the former, and fractured and broken to yield an alternate experience in the latter. I proposed in my introduction that the cinematic time-image is formally inclined to reflect and refract temporality due to the very materiality of images fixed linearly on a roll of film. Film offered an affective experience of time – cinematic time – that could not have been foreseen before its invention, and Deleuze was *enabled* to think about temporal experience by the phenomenon of film. At the moment of writing the *Time-Image* he could then only speculate on the affective experience of the digital-image (or electronic-image), as he had not yet fully experienced it. Now, almost 25 years later, we can engage more fully with the affective experience of the digital, and what emerges is not only temporality as fundamental to experience, but rather something more expansive in metaphysical resonance. *Plasticity* presents itself as the fundamental quality which is affectively revealed through the formal substance, image content and processes of digital media.

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[89] ibid: 173

From temporality we move to plasticity as fundamental to the experience of the digital image, and this is due to the relative immaterial materiality of information as data. This is something that is revealed and actualised through digital images in a way that could not have occurred before their existence. Rather than the pure image of time, constantly escaping definition, we have a pure image of metaphysical flux. While the physical sciences are occupied in the work of putting name to this experience of quantum flux, the work of affective expression of the same quality is taken up by digital screen media This work is, however, not towards defining and naming but rather to expressing various metaphysical unthinkables as affective confrontations to thought.

I argue in my analysis of the objects of a digital visual culture that what is expressed is a profoundly doubting and interrogatory attitude to reality and corporeality, not in terms of perceptual realities (as was the remit of 20th Century, psychoanalytically informed cinematic images), but rather in actuality. These are images of virtuality that due to their automatic qualities wrestle out of our conscious control. What is returned to again and again in *Pina*, *Avatar*, *Source Code*, *Enter the Void* and *Tron*, as with D3D and projection mapping practices, is visual experimentation with notions of the body, of sensation and of the possibility of action within a reality which is defined only by its plasticity. Through these digital images emerges an ethic of exploration in an unstable, virtual and sublime world, where we confront thought's impower, and yet through a sense of wonder and awe find this to be an empowering position.

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