

THE DIGITAL APPARATUS:
RE-IMAGINING CINEMA IN NEW MEDIA

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Notice 1

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Abstract

This dissertation examines the notion of digital cinema in relation to its analogue predecessor by relocating debates about ontology into the realm of media theory in order to re-imagine the function of realism. The dissertation is in parts a selective history of practices in realist film, a structuralist theory of medium specificity, and a critique of digital aesthetics in recent mainstream cinema. The introduction orientates the dissertation within the current debates, both popular and scholarly, over the film-to-digital transition taking place in cinema and indicates how this dissertation departs from recent theories of intermediality and digital cinema. These debates converge on contentions around teleology, medium essence, and subjectivity. The first chapter examines the relationship of art to realism and takes the two oeuvres of Dziga Vertov and Jean Rouch as templates for identifying a persistent and developing ideology of camera-reality. This ideology forms the foundation for the thesis's later qualification of cinema in the digital age. The second chapter posits a broadly structuralist account of media that challenges the notion of material medium essence. This chapter offers the neologism of 'alreadiness' to stress the immaterial underpinnings of a 'cinema-image' most purely informed by camera-reality. The third chapter interrogates the notion of film language within classical film theory with a view to laying down a concept of film discourse that is uniquely hermeneutical and specialises cinema without recourse to a material essence that would otherwise qualify realism. This concept of film discourse as purely hermeneutical contracts the separation of roles/subjectivities for the filmmaker and viewer. The fourth chapter investigates the historical development of illusion alongside the technological developments that saw a move from a dominating idealism to a dominating realism in pictorial representation. This chapter draws on a Bazinian notion of realism and, with regard to the changing ontologies of illusion, offers the analogy of the journey from magic to science. The fifth chapter takes the ideology of camera-reality and demonstrates how it comes to bear on percepts of illusion while also using the oeuvre of director Michael Mann to trace a development of camera-reality into the digital realm. Building on this, the sixth and final chapter critically engages digital cinematic examples that fulfill or corrupt the antecedent yet persistent immaterial cinema-image outlined in the first three chapters.

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Charles R. H. Tutton

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Introduction – Traditions in the permanent revolution of media

“The future belongs to the analog loyalists. Fuck digital.”

Steve Albini, famed grunge producer, from the back cover of the 1987 CD issue of Big Black’s album *Songs About Fucking*.

On 6 September, 2012, the *New York Times* published an article titled “Film is dead? Long live movies,” written by its two leading film critics, Manohla Dargis and A. O. Scott, as a response, timely or not, to the great digital tide sweeping through their object of criticism. Part State of the Union address, part Socratic dialogue, the article positioned the critics’ commentary in a back and forth rumination on the cinematic environment from past to present, gently and cautiously defining the state of affairs as they generally stood. Dargis was not cynical about the future, but she felt a keen connection and loyalty to a medium that history cannot destroy, but will inevitably carry away. She admonished those who might speciously consolidate destiny and future:

a 35mm film image can look sublime. There’s an underexamined technological determinism that shapes discussions about the end of film and obscures that the material is being phased out not because digital is superior, but because this transition suits the bottom line.

While Scott did not posture as being more of a realist than Dargis, he did on the other hand eagerly appear to be a person accepting and tolerant of the era he lived in and, being aware that it was an era of transition, he acknowledged that he too was in transition. While he fondly remembered the days of pre-digital cinema, only one foot was in the past, as he wrote:

I love the grain and luster of film, which has a range of colors and tones as yet unmatched by digital. There is nothing better than seeing a clear print projected on a big screen, with good sound and a strong enough bulb in the projector. But reality has rarely lived up to that ideal. I spent my cinephile adolescence watching classic movies on spliced, scratched, faded prints with blown-out soundtracks, or else on VHS – and also not seeing lots of stuff that bypassed the local repertory house or video store. I’d rather look at high-quality digital transfers... Like anyone else of a certain age I have fond memories of the way things used to be, but I also think that in many respects the way things are is better.

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Both critics paid a similar tribute to film; Dargis did not deny the reality of the present, and neither did Scott deny that he could find many things to merit in his current environment. What might seem strange about their two relatively temperate reflections on digital cinema is that while ostensibly commenting on the current state of things, they both opted to mostly comment on the past. Up to a point it is logical, but it also points to something very broad and yet specific about cinema – the human dimension.

The theoretical bread-and-butter issues of essences and definitions tend to shrink away the more emphatically people express their feelings about cinematic transitions, past and present. For these two critics, digital cinema is about non-digital cinema; the slipperiness of terms seems more necessary than accidental. The distinction between these two things is an interesting and important topic for them, but it has by no means become an impasse for people who want to think about cinema and discuss it. A taxonomic approach, in this regard, does not appear to be a vital methodology for cinephiles. Why is this? The fact is that Dargis' brief argument or comment about cinema's teleological status can break both ways, and in a certain sense it shows the inherent paradox of this concern. If cinema is not a phase in a journey to somewhere else, it could be considered a stand-alone destination, revealed to us in a relatively short birth of immaculate conception, where its intrinsic beauty and value mean that all precedents led to its door and everything afterwards, in one way or another, follows it. If cinema in this sense were to stay, it would indeed stand as teleological revelation. But then Scott offers a string of uncontentious comments that evince the psychosocial drift and drag of historical progress – cinema as phase. Scott argues that image quality improved rapidly; he highlights that the arrival of relatively lightweight, shoulder-mounted cameras in the late 1950s made it possible for *cinéma vérité* documentarians and New Wave auteurs to “capture the immediacy of life on the fly” and then:

Throughout history artists have used whatever tools served their purposes and have adapted new technologies to their own creative ends. The history of painting, as the art critic James Elkins suggests in his book *What painting is*, is in part a history of the changing chemical composition of paint. It does not take a determinist to point out that artistic innovations in cinema often have a technological component.

Would an adroit determinist be compelled to make such an observation? The first question Elkins might fittingly encounter is “What is paint?” – “What paint is.” The question begging, when cinematic history is summarily declared to have arrived and passed, is “*Which* is the cinema we were waiting for?”

There is of course the non-cinematic explanation of events, the passive, almost victim-like account, to which Dargis alludes early on as the impact of “the bottom line.” As David Bordwell is quoted by Dargis:

Theaters’ conversion from 35mm film to digital presentation was designed by and for an industry that deals in mass output, saturation releases and quick turnover... Given this shock-and-awe business plan, movies on film stock look wasteful.

The point is ambiguous here, firstly because Scott is left to take it up in the article, but secondly because the political dimension, implied in both Bordwell’s choice of terms and his characterisation of an “industry” dealing in “mass output,” belies the question of whether the industry is only changer, or also changed. In the article, clarity demands that Scott chase down this obvious ambiguity with a bifurcation of roles at play in this industrial transformation:

Let me play devil’s advocate... If there is a top-down capitalist imperative governing the shift to digital exhibition in theatres, there is at the same time a bottom-up tendency driving the emergence of digital filmmaking.

Whether top-down or bottom-up, the production and reception of cinematic objects has a cost, and that cost may be accounted for by alternative means in a non-capitalist system (even in an anarcho-syndicalist one), but there is nonetheless a cost to be considered, and chief in the determination of cost for all means of production of goods and services is technology. In the case of digital technology, outside the immediate realm of cinema, a uniform transformation has reconfigured cost models, both top-down and bottom-up. A movie business run today in the style of those circa 1985, with only traditional structures and strategies (also in a manner as though all other businesses were run in such a way) would have the same fate as any large business that attempted to survive and grow without the use of mobile telephony and online computing. Needless to say, the surviving movie business models of the past, with their outmoded operational size and market objectives, are increasingly squeezed and averse to risk, chasing only the largest targets. In the same world, and on a much smaller scale, the average filmmaker will opt to take up similar advantages in the digital age. Currently, a \$200 digital camera and a \$200 million digital movie¹ are both affordable each in their own way to those who opt to use them.

¹ A large-scale digital movie can more surreptitiously conflate genres, combine audiences, deliver spectacle, realise otherwise difficult or impossible concepts, pool resources and streamline production. All these things work to relieve perceived financial risk.

The image in the apparatus

To the generations born between 1900 and 1970, the era of digital machines might sometimes seem best defined as representing the interminable activity of pushing buttons that do not appear to have any mechanical, or even physical, connection to the outcomes they produce. These machines are just screens and gadgets with little computers inside them that we ‘tell to do things.’ What these machines do can seem so tailored to our purposes and arbitrarily functional that the nature of how they work seems utterly mysterious and, for the user, beside the point. ‘How does it work? Who knows, who cares, but one of the things it does is this—’ In the digital era ‘how?’ is really always the same question with the same answer, and also not a very revealing one. The basic assumption is that in digital machines, at some point everything is turned into nothing and out comes whatever result you want. The substance of the question ‘how?’ has in this case disappeared. In cinema, the gradual redundancy of this question has stonewalled the already aggravated progress of film theory.

When these digital machines enter the cinematic fray, with their connotations of nothingness, muddy waters darken still because cinema has from its outset always had an immaterial capacity. That capacity is a formless half, where modes of change intersect, as time, space, thoughts, memory and body fracture each successive gestalt. Adding to this, the infiltration by intermediality into the cinematic nervous centre can seem like an appalling sacking of last century’s cultural capital. If the material basis of cinema continues to be splintered and gutted, replaced by algorithms physically rendered by polarising filters and digital micromirror devices, what will be its legacy? The fact is that it is only now that the material componentry of cinema fittingly reflects the multiplicity it effects. The struggle to define cinema now seems more excusable. But cinema is indeed a tradition, and although it feels increasingly as if cinematic objects reside in dimensions without time or place, the impulses behind that very feeling reveal the presence of forces able to furnish form from the opposite direction from where the cinematic apparatus was always placed. Who writes the written word? What is meant? Where and when is it written? These questions do not become absurd when the writer cannot be found. This is because there is a written tradition, wherein these questions facilitate meaning by themselves. Cinema continues in kind. Unable to ever fully possess its objects of study taxonomically, film theory has always necessitated a negative capability. At the dawn of the cinematic digital age, this was entirely clear to Thomas Elsaesser. Old theory had to adapt; it had to consider a cinematic image airborne in the ether, detached from its material grounding:

Yet in [its] dispersal across cultural studies, pragmatics, or cognitivism, film studies may indeed find a new definition of its purpose. All of them marginalize what for the cinema has been central: the photographic image. And if Metz’s question “to understand how films are understood” (fertile though it was) was probably in the end too modest an

agenda to sustain a whole academic discipline, it was he who first raised the problematic of the image in its full complexity. Ever since his rereading of Bazin, the image has been the ontologically and semiologically most contested concept (suffice it to mention Umberto Eco's intervention and his advice to abandon the very notion of image). But as long as celluloid was its only basis, the image retained a physicality whose deceptiveness the electronic media underline from an altogether non academic perspective. In front of the computer, for instance, no one speaks of images: only of graphics and animation. As Raymond Bellour has pointed out, it is no coincidence that Metz, Nam Jun Paik, and Jean Luc Godard are contemporaries. With images reaching us as the analogue video, and more recently, in a digitized form that is indifferent to its material manifestation, it becomes difficult, and therefore once more necessary, to think of the image. Now it is not so much the reality effect, but the materiality effect of the cinema that is at stake, and with it, the questions of film theory, of the apparatus – of ideology and subjectivity may need to be rethought (Elsaesser 1993 pp. 46 – 47).

It is towards this rethinking of ideology and subjectivity that Chapters one and two address themselves. Chapter one seeks to explore the argument that while cinema (principally its apparatus) has often been defined by the fact that it reflects physical reality in both form and function, the idea of 'material aesthetics' need not be tied to the functional element of cinema's relationship to physical reality. This suggests a material aesthetics of sorts that could plausibly operate above and beyond the boundaries normally circumscribed by assorted definitions of material essence. Chapter two seeks to delineate notions around the two concepts of image and medium. The quest at that point is to illustrate a way of understanding an image that is innately, constantly and by necessity *transmedial*. This culminates in the positing of the term 'alreadiness' to describe a sense that a subject may feel, which creates and refers to specific ontological suppositions. This is a sense first encountered in the photographic and cinematic apparatuses, but it is also a sense that can be felt or provoked in new media that do not share the material basis of the former mediums. In this instance, the migratory sense of 'alreadiness' is referred to simply as the 'cinema-image.'

While it may have been a moot assertion even in 1993 for Elsaesser to say that a person in front of a computer will more likely speak of only graphics and animation instead of images, the point illustrates a connotative difference. Images impress upon us, not we upon them. Graphics and animation connote open-ended objects of labour, endlessly subject to input. Why is cinema so readily placed in the domain of images? Why does the aura of laborious activity –of input – so quickly pass away from the cinematic image? Why do images seem simply given? But while an image may be accepted as given, it is not so easily said when we begin to speak about an image *of...* Suddenly things will move into the realm of conjecture. There is not a great essential difference when people say they either 'see things differently' or 'see different things'. For the

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conscious being, the effect renders the affect. Musicologist Charles Rosen writes of the “inaudible” in music:

The highest art of the composer is to make the counterpoint blend together into a continuum out of which the individual voices rise and are set into relief. The purpose of Baroque counterpoint is not the opposition of different voices but the creation of harmonic unity out of independent parts (Rosen 1998 p.5).

This harmonic unity is the structure least attributable to the actual sounds impacting, resonating and decaying in the ear, which measures of pitch and timbre can readily resolve into independent lines. The effect, the music, is a summary of perception; only its parts are actual, yet suddenly, in our experience of music, they are derived from it. The music itself though reaches somewhere into the inaudible.

At the heart of this thesis is the belief that the subject is no match for the world she encounters. The forms and content we all witness, believe in and act towards should be understood foremost within the history of consciousness rather than simply and more directly within the history of the world. So accepting that there is a world and that it is real, though it may be a visible world, what we see is mostly invisible. In this sense, this thesis posits images as a category comparable to music as stated above. Much as the sounds of music are illuminated and heard through – derived from – the inaudible, images are cases of the visible seen through or derived from the invisible.

The future of cinema

Returning to the increasing role of digital machines in cinema, the questions over the future of cinema’s immaterial capacity can in this regard provoke the sense of a foregone conclusion. Because digital machines involve the essential transformation of real world phenomena into nothing and then from nothing into real world phenomena, the development of technologies happens on either side of this transformative equation. The development has headed, and will continue to broadly head, in several directions. Audio and visual phenomena for input and output will increase in relative resolution and magnitude. This requires increasing information-processing power and increasing bandwidth for information relay. This delivers *more, faster*. The devices for both input and output will be more portable and easier to use, which means they must be lighter and smaller and the human interface for controlling these devices must be minimised, ultimately to the extent that desired outcomes by the users are intuitively controlled. Intuitively controlled means controlled on human terms, rather than machine terms.

The ultimate digital machine is the invisible, silent one, which cannot be felt and does not impede in any way on the user with any aspects attributable to its singular nature (all componentry is hidden or resides outside the realms of the senses). The expression of desire should equal the desired outcome as neatly as possible.

If one imagines that there is a generic, immutable concept of cinema (which of course there is not), the digital destiny in such a case can easily be extrapolated to provide a vision of a technology where one can produce a film that has, at least, the perceptual impact (magnitude and resolution) of a huge cinema screen and accompanying sound-system. It should also naturally be the case that, in that same cinema of the future, one can view any legally available film in the manner in which it was produced to be viewed. In both cases, the activity should be determined by thought or voice control and perceived in the mind's eye and ear. Production and reception should be able to take place anywhere. So a potential scenario is: a person makes the finishing touches on a film wherever and whenever, and if this person gives consent for the film to be made available to someone else, the film might potentially be viewed wherever and whenever. An almost nihilistic fantasy, of course, but that is the cinema that can hypothetically be foreseen and it requires no advancement of any cinematic essence on a technological level. Long gone are screen technology and other material concerns; in regard to any real-world referent, people's eyes and ears can serve all input. Therefore technologically, all that are being used are neurological sensors and data-processors.

What ultimately comes about in this fantasy/nightmare is that the difference between real-world phenomena and the alternatives (that which are not real-world phenomena) erodes towards disappearance. At this technological stage, in hypothesis, thoughts are being counted as real-world phenomena because of their literal impact on cinematic outcomes. Any cinematic world can be perceived as the world that is perceived. In this particular future we would have the world and cinema on a level pairing. The impact of thoughts as handles or expressions of creative control for filmmaking would therefore render cinematic images the kind of currency previously accorded only to words which, between a thought and an expression, experience very little mutation. This is the old simulacrum scenario in excelsis. It is a final stage in the tendency towards the inner world and the outer world merging, between our comfortable conceptions of what is and what is not/should/would. That is quite simply where cinema is heading already. But as this thesis will argue, that is where it was always heading.

Let it be accepted that, as stated, digital machines involve the essential transformation of real-world phenomena into nothing and then from nothing into real-world phenomena, and that the

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development of technologies happens on either side of this transformative equation. If at the heart of digital technology lies the germ of nothingness (information) that germ can be characterised as growing relatively in its ontological domain or alternatively that the inputs and outputs are diminishing relatively in their ontological domain. Understood either way, the territorial encroachment is one in favour of nothingness (or immateriality). But this is a conceptually limited assumption and it should be asked: What will configure this immateriality? In the case of cinema, or digital cinema, that is what this thesis aims to explore.

Jay David Bolter and Richard Grusin's *Remediation: understanding new media* begins with a reflection on Kathryn Bigelow's *Strange days* (1995), with particular reference to a gadget in the film's story – a Superconducting Quantum Interference Device (SQUID), called the "wire." The wire enables a user to experience another person's memories, and Bolter and Grusin posit that: "If the ultimate purpose of media is indeed to transfer sense experiences from one person to another, the wire threatens to make all media obsolete" (p.3).

The "if" is cautionary and rhetorical. The "wire" is, when subjected to ample logic and considered for all intents and purposes, merely a more complete version of the virtual-reality devices that were widely found in many video-game arcades throughout the United States by 1995. The "wire" still falls well short of actually making the user the possessor of the memories it presents, nor does it provide any fully consequential conduit between the user and the mediated experiences. The body is still split into two capacities, virtual and real, lame and incapacitated in one or the other. In truth, media might well be argued to aim to convey much more than 'sense experiences' from one person to another. Indeed, does the novelist or essayist wish to convey sense data to her reader? Directly? Certainly not. Indirectly? At times, yes. But the writer and the reader, the speaker and the addressee, are intentionally separated even if they are the same person. The clearest message is the message unsent and the whole enterprise of mediation is based on the premise that two must become one.

And so, in their contemporaneous culture of middle-1990s digital proliferation, Bolter and Grusin see contradictory imperatives at work, as media technology appears to almost organically strive for both immediacy and hypermediacy. This is something they describe as a double logic of remediation. The desire of human culture is to: "both multiply its media and to erase all traces of mediation: ideally, it wants to erase its media in the very act of multiplying them" (p.5).

Bolter and Grusin's study is a diachronic one. It strives, up to a point, to bear out a Foucaultian genealogy of media, but focusing less on power roles than on formal relations between different media (p.21). In this sense, they seek to describe a genealogy of remediation.

With regard to cinema and photography, Bolter and Grusin isolate the concept of photorealism as a polestar for experts on computer graphics (the term 'experts' is assumed to include creators, critics and theorists), which in turn signals their book's conceptual inroads into issues surrounding digital cinema. Bolter and Grusin initially suggest a broad argument that falls in line with this thesis' larger contention when they state that when photorealism is approximated: "in such cases the computer is imitating not an external reality but rather another medium (We argue... that this is all any new technology could do: define itself in relationship to earlier technologies of representation)" (p.28). This is an argument that might be sympathetic to the statement, extending upon its logic, found in this thesis' Chapter five, that "the best definition of a medium...should be resolved not through a fuller qualification of what it can do, but instead of what it can't do." Yet Bolter and Grusin are quick to preface this belief with the caveat that:

computer graphics experts do not in general imitate "poor" or "distorted" photographs (exotic camera angles or lighting effects), precisely because these distorted photographs, which make the viewer conscious of the photographic process, are themselves not regarded as realistic or immediate (p.28).

As this present thesis hopefully makes clear, particularly later in Chapters five and six, making the viewer conscious of the dormant/replaced mediums of photography and traditional cinematic technology is instead a chief means to create a "realistic or immediate" effect in the case of digital imaging.

When extending from implications of photorealism into the cinematic domain, Bolter and Grusin opt to redefine their terminology, substituting the former term with "filmic realism," which they define as, "a sequence of computer images that could not be distinguished from a traditional film..." (p.28).

In the historically original context for photorealism, painting, the project as art form can be well described ontologically, as Bolter and Grusin do, as: "not immediate perceptual experiences [photography]; rather they [photorealistic paintings] are paintings about immediacy, about photography as immediacy" (p.121). Ultimately, where remediation most acutely foreshadows the

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present thesis is in its incorporation of Linda Chase's musings on the paintings of Ralph Goings, when she is quoted as saying:

Photorealism is an art of many ironies – not least of which is that the artist seeks a directness in relation to the visually experienced world through the use of secondary source material, and that he achieves a heightened sense of reality by reproducing an illusion of an illusion. With his use of the photograph, the artist actually gains a double immediacy (1988, pp. 121–22)

This notion of reproducing an illusion of an illusion concisely foreshadows the thrust of the arguments found in this thesis' final two chapters.

Garrett Stewart's *Framed time: toward a postfilmic cinema* (2007) clarifies that the larger argument he outlines over the course of 250 pages: "concerns not what can be done with the digital, but what the digital has already done to cinema. And more than this, how cinema has seen fit to picture its own transition" (p.1). The conceptual framework of Stewart's study centres on a dichotomy comprised of a formerly singular cinematic notion of "frame time" and a new and now dominant notion of "framed time," from which the book takes its title. Stewart describes the difference between these two notions and their relationship to each other in cinema history thus: "increasingly, the temporal transit (mechanical) of the image, frame by frame, gives way to its temporal transformation (electronic) within the frame" (p.2).

Similarly to this present thesis in wanting to be neither proscriptive or evangelical, *Framed time* aims not to be a: "prolegomenon to some new screen poetics but simply to suggest an undeniable trajectory of the medium in its second century" (p.1) The medium being cinema. As Garrett's study obviously places itself in the same murky debate as this thesis, it naturally offers its own concise definition of the pre- and post-digital cinematic states on either side of the 'historical shift': "Filmic cinema: temporal change indexed by segments, then remobilized frame by frame. Digital cinema: time seeming to stand still for internal mutation" (p.3).

As a work that characterises its central concept, framed time, as a "narrative inflection" and a "psychic topography," Stewart's book at length ponders "how a digitally intermixed cinema might realign the fit between photogrammatic seriality and the psychic sequencing of plot" (p.4). Stewart states early that the ins and outs of how his concept of "framed time" will illustrate:

on-screen results [that are] different, more specific, more thematically explicit, and often a good deal more narratively implicated, than the generalized “time-image” famously advanced by Gilles Deleuze will grow gradually clear [to the reader] (p.4).

It may be argued that what *Framed time* is missing is a firm foundation in the cinematic apparatus. According to Stewart in *Framed time*, his earlier book *Between film and screen: modernism's photo synthesis* (1999) sought to stress that filmic cinema is produced by the “light thrown between spooling strip and screen rectangle” (p.4). But this is only because its mechanism activates the difference on that strip (and bridges the gap) between those single cellular frames that file by in a succession as unseen as their synthesis is visible (p.4). This is a process he likens in *Framed time* to Bolter and Grusin's concept of remediation; in this case in particular, a remediation of photography by cinema. Stewart's usage of the term “frame” unfortunately may be interpreted as irresolute. His notion of a shift from “frame by frame” to “within the frame” is ontologically ungrounded. The “frames” to which he refers are not comparable across either side of the historical shift. The moving frames are invisible, as he says, and they operate visibly within a fixed frame. These two are already different “frames” and yet he observes a shift taking place whereby temporal transformation instead happens “within the frame.” But this shift takes place within the domain of the already invisible realm of the first notion of a frame (the cellular frames on the strip). For the viewer, the frame has not changed and there is no shift. The frame is the same. It is a bit like saying that as golfers worldwide increasingly choose in droves not to join golf clubs and instead play public courses, golf has moved from being a sport played *in* clubs to one played *with* clubs.

An emergence of a “framed time” would also seem to draw attention to itself as a sort of ‘Cinema 3,’ and yet Stewart is eager to promise that despite appearances, “framed time” will “gradually” in his manuscript be revealed as an alternative concept to Deleuze's time-image, despite already being a concept touted as postfilmic. “Framed time” must be postfilmic, but this is no truer than the fact that the time-image really must not be postfilmic. How could these two concepts therefore ever be confused in the first place? Quite easily, if filmic cinema is defined as being “produced by the light thrown between spooling strip and screen rectangle.” Of course, Stewart's approach comes from a critical perspective and is oriented by textual analysis. In terms of locating the shift within a “psychic topography,” Stewart sets out to answer his own question: “Why this coincidence of the postfilmic image and post-realist narrative, and where specifically?” This question is based on an extensive collection of films used as evidence to chart a historical argument that cinema's photographic erosion has coincided with “plots obsessed by the psychosomatic contours of human temporality and human memory” (p.3). Stewart's “more specific hypothesis” is that within the past decade prior to publication (2007), screen plots have tended to remember and address cinema's

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derivation from the photomechanical imprint – all while the “photogram” is “invaded or replaced in screen imaging by the digital photon [sic]” (p.4).

However, where Stewart states that what he is suggesting with his conflated term “cinnemonics” “...is that the original photogrammar of film tends to operate, sometimes at more than one level, like a kind of ocular portmanteau – by overlap and interpenetration” (p.3).

Sean Cubitt’s *The cinema effect* (2004) interrogates the cinematic phenomenon not as something that is but instead as something that does. It promises to replace the language theory of Metz and the psychology of Bordwell with “a more digital analysis of the mathematical bases of motion” (p.8). Cubitt’s theoretical framework arises from a subject-to-object epistemology, drawing on Marx’s commodity fetishism in order to furnish object-status on media as material phenomena. Object-status naturally facilitates notions of value, and in this regard Cubitt sees communication, which he considers “the fundamental activity of human beings,” undergoing an operative transformation from “face-to-face interaction” to commoditisation (p.2). Cubitt extends this logic into the argument that “selfhood is a derivative of communication,” which would mean a conceptual reassignment of precedence for these two ideas with regard to convention. Selfhood or self-consciousness is therefore merely a “special effect of a particular historical mode of communication” (p.4). By his own admission, this renders Cubitt unsure “whether what [he] perceive[s] is raw phenomenality, abstract identity, or synthetic truth” (p.4). Over the course of *The cinema effect*, he is emboldened to argue that there is an inherent instability in the “self” that arises in the division of object and subject due to their relationships depending on such things as “light particles in time,” leading to statements such as the following:

Peckinpah’s West is Einsteinian rather than Eisensteinian... From where I stand, events that happen remotely are future events, because I cannot perceive them until their light reaches me. The obverse is also true: my present is the past of an observer who, simultaneous with me, cannot know what happens to me until after it has happened (p.211).

Cubitt bases this understanding of time, these references to “events,” “my present,” “past of an observer,” who is “simultaneous with me,” on Mauro Dorato’s noting that Einstein’s definition of simultaneity “for distant events shows, we do not have privileged epistemic access to all events happening in the present” (p.211). Some may raise the objection that Cubitt has speciously elided the original scale of context for terms such as “distant events” and “all events happening in the present.” Mauro, let alone Einstein, might not endorse the intricacies of special relativity being

applied to the mechanisms of consciousness, which take place on a scale where light traverses distances so close to instantaneously, and the central nervous system and associated neural pathways are so complex (extensive and thus slow), that metaphysical deductions like Cubitt's are unsound. Cubitt offers his own terminology for dealing with filmic materialism through the terms "pixel, cut and vector," which he briefly compares to the ascending structure of Charles Sanders Peirce and Hegel's approximate triads of firstness/being, secondness/essence and thirdness/notion (p.3). He adumbrates his terminology by offering an analogy for these triads through a hierarchical breakdown of a football game.

Placing cinema in the category of effect, Cubitt draws upon Gottlob Frege's definition of zero as "not identical with itself" and in doing so argues that zero's resulting "internal difference" reveals an affinity or equivalence with cinema because "zero acts, rather than is, because of this instability" (p.33). Cubitt most pithily describes zero as "the privileged marker of difference" (p.33). More problematically though, he insists on differentiating zero from "nothing," absence, "failure to be exemplified," and the "negative," while Frege has expressly equated "not identical with itself" and "nothing," as quoted in Cubitt. It is therefore even more strange that, after arguing a direct example in the 19th century (pre-mass-energy equivalence) law of the conservation of energy, Cubitt goes on to stress that his zero must be distinguished from the "negative theologies of absolute absence that characterize a twentieth-century secularism..." (p.34). Relational matters become confusing as well when Cubitt explains that "zero is the relation between plus and minus, existence and nonexistence" and then it is "the point of equilibrium between positive and negative. Rather than [representing on a balance book] the simple absence of money, it denotes an even standing of income and expenditures" (pp.33–34). Ultimately, Cubitt desires to present a "mathematical zero of cinema" that is not one of "emptiness and inactivity but its opposite: the sum of all activities" (p.34). Invoking Paul Virilio's concept of God as the temporally omnipresent, it is this God who sees the filmstrip, not the film (p.34). Zero therefore originates and operates the process of image motion and the process of inhabiting time. According to Cubitt:

A gallery of motionless frames is like a museum case of pinned butterflies: lovely but dead. In the divine presence, their life is stilled and their zero becomes void. Yet this zero time, which from God's seat looks like the static copresence of all times, is for us the principle of a difference that the One God cannot perceive. And the reason He cannot perceive it is His self-identity. Only those for whom identity is incomplete and othered, those whose subjectivity, in other words, is non-identical, is zero, can inhabit rather than regard it [zero time]. (p.35)

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And so the full analogy is presented: the time of the filmstrip is divine, complete and self-identical; the time of the film is human, incomplete, not self-identical and at zero. Therefore, unlike the photographic still-image, which is complete and self-identical, the moving image is, in time, not ever only or wholly itself.

If one criticism must be levelled at Cubitt's metaphysical account of cinema and its history, it is that much like Garrett Stewart, he overlooks a distinction in his taxonomy between the frames in the filmstrip and the frame[s] in the film. It is difficult in light of this to understand what he posits as more than the not unintuitive axiom that movement equals time. Calling time "zero" and characterising it as some point of origin is charmingly elegant, but the zero he specially attributes to the cinematic mechanism is really spatial, not temporal. One can also look at a filmstrip in time and see it as dead butterflies, but in order to create the particular moving image Cubitt analyses, a space must be fixed in an appropriately relative way. While Cubitt works at length to address issues of relative stillness and movement in the body and image, initiating his address in the tenets of modernity (flâneurism, the train etc), the key distinction cited above is never clearly borne out. It is not that the missing distinction between frames in Cubitt's or Stewart's work is elementary or vital to every theory of cinema, nor necessarily even this thesis', but that the lack of this distinction is central to the conceptual and rhetorical expedition in their work. It would be insulting to suggest that these two theorists are unaware that such a distinction exists, and that is not the suggestion. The objection here is only that the distinction is pertinent to both their contentions and that the omission of an explicit addressing of it has crucially facilitated both of their theories.

D. N. Rodowick's *The virtual life of film* (2006) gives a subtle foretelling of the optimism that runs throughout his book in the following passage:

Because the digital arts are without substance and therefore not easily identified as objects, no medium-specific ontology can fix them in place. The digital arts render all expressions as identical since they are all ultimately reducible to the same computational notation. The basis of all representation is virtuality: mathematical abstractions that render all signs as equivalent regardless of their output medium. (p.10)

Therein we can attribute the book's title and an optimism reserved specifically for classical film scholars. Rodowick is in no denial about the coming of the digital age, even in regard to cinema, but he believes that in its death, which he believes happened many years ago, it will find a new virtual life. Rodowick's book engages several questions that are hot topics in the fields of 'new media' and 'digital art' such as 'What is a medium?' and 'What is virtuality?' However, because Rodowick's

book focuses on something much more specific, namely film and digital cinema, it is able to tackle these questions in a self-limiting and perhaps more successful way (Tutton, 2008).

As a scholarly work, this book stands out for its sober approach to a topic that usually finds theorists arriving in a fractured and excited state, and a good indication of this is Rodowick's careful evaluation that we do not live in a "post-photographic age" but in an age where "photography and cinema have rapidly become both more than themselves and something else entirely" (p.143). And indeed, it is an ontological study of photography and cinema, in both analogical and digital formats, which dominates his book with the aim of explaining this "more" and "else." He begins with the argument that "it is useless to want to define the specificity of any medium according to criteria of ontological self-identification or substantial self-similarity" (p.19). Rodowick elaborates that, "cinematographic specificity rests on the analysis and definition of a code or codes immanent to the set of all films," yet any instance of film "is itself a conceptual virtuality" whose objects "var[y] unceasingly" and that the practice of extracting codes from it would be an "interminable" process (p.19). The underlying position from here, for Rodowick, is that the virtuality that digital technology donates to previous mediums can be traced in a genealogy stemming from time-based spatial media such as photography and film. And as he makes clear subsequently, it is because they are time-based (Tutton, 2008).

Though he tempers his argument by drawing out the case that film is best understood as a "hybrid medium" with "no single leading component" and that it is not reducible to a single "essence," soon Rodowick concludes that "all media evolve...but not toward a predetermined essence" (pp.36–37).

Searching for an ontological definition that is complementary to his case, Rodowick draws from Stanley Cavell's *The world viewed: reflections on the ontology of film* (1971). Cavell's notion of a medium asserts that every medium is comprised of a set of "automatisms". Rodowick believes that Cavell's notion of ontology in no way assumes an essentialism or teleology (p.42). He quotes Cavell, writing that "the notion of automatism codes the experience of [a] work of art as 'happening of itself'" (p.44). Automatisms doubtless provide opportunity for artists, but also reveal, themselves, further new automatisms to the artist. But this proliferation is always instigated by the artist. Automatisms are created by a mixture of need, luck and our foresight, all within circumstantial limits. These are predominantly provided by prior automatisms (Tutton, 2008).

Having established this ontological qualification as a framework, Rodowick moves his focus on to photography. He stipulates that photographs, despite appearances, are not "representations". In fact,

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he ponders, “the more we think about photographs, the more difficult it is to place them ontologically and to understand how they bridge the world and our perception” (p.55). If we agree that in a painting we do not see a “representation of a physical world referent”, but instead “a complex history of hand-directed actions”, what is it we see in a photograph? (p.57). Rodowick argues that in a photograph, thanks to its causal automatism, we ‘see’ a “common duration wherein the camera and [an] event were commonly held” (p.61). “If mimesis there be in photography, it is not spatial. Rather it is the confounding perception that things absent in time can be present in space” (p.64). That is an obscure truism. Because photography and film are most active on the level that they do not so much show things but are instead of things, and that is what we ultimately recognise in them. With these two analogical mediums, we know that the content of what we see is something before we know what it is, and that something is the past (Tutton, 2008).

For Cavell this all means two things: photography, because it shows us the past, allows us to view the world while holding our real perception of it at a distance (a photo is not our perception); consequently, film represents a moving image of scepticism (pp.67–68). The image of scepticism can be understood in the sense that we may doubt our perception, what we see, but in viewing something unseen to us, something elsewhere, we are unburdened of our anxiety. We aren’t looking, the photo is. Thus, in their analogical method, photographs do not so much represent, but instead transcribe.

Early on in his book Rodowick states, in accordance with Bolter and Grusin, that “photographic realism remains the holy grail of digital imaging” (p.11). And it is on this premise that he progresses his established argument into issues regarding the digital image, writing that “to consider a photograph or a digital image as perceptually real involves an assumption that such images are representational. Moreover, representation is defined as spatial correspondence” (p.102). The point is that to “wish to render the digital image identical with photography, it already imagines the photograph as if it were a digital image” (p.104). Thus, he believes, if we are to insist that analogical images, such as photos, contain ‘information,’ which can be quantified in discrete units (via digital media), we find ourselves in the quandary of quantifying something that doesn’t exist (a representation). Instead, we should only say that it “would take 12 million pixels to make an electronic image perceptually similar to a 35mm photographic image” (p.119). The “effects of perceptual realism produced in digital to analog conversion are not qualitatively equivalent to analog presentation,” because on the one hand we have similarity, and on the other analogy (p.121). Rodowick categorises these two not as spatial equivalents, but as temporally causative methods of conversion and transcription respectively (Tutton, 2008).

Rodowick makes it clear that the necessary condition of analogical transcription is that inputs and outputs are continuous, whereas digital information requires analogue translation (conversion) and consequently means a separation of inputs from outputs (p.113). In time, as a result of this, we can fail to realise that as similarity replaces analogy, the ‘outputs’ with which we are very familiar may have no direct causal relationship to the events we believe are related to us by these media (p.123). Rodowick then equates the making of a digital image to something like “a very detailed painting from the information given in a very precise description” (123). Is a computer a medium? What are its automatisms? Our use of computers for media conversion by digital information requires the input/output separation already explained, and this inevitably severs the physical world from this valuable ‘information’ through both the discontinuity in time and discontinuity in space. This continuity was the valued essence of transcription. And so: “computers can and will produce ever more convincing homologons, or simulacra of physical world processes, but never analogons, or representations” (p.129). Moreover, as Rodowick points out, “the ontology of information is... agnostic... to outputs” and is “insensitive to the qualities of things and thoughts” (p.130) (Tutton, 2008).

Referring as evidence to an artwork of John Whitney’s, Rodowick contends that the “beginnings of electronic and computer art fully acknowledge that the basic automatism of electronic imaging was not taking a picture but modulating a signal” (p.132). This means that “as a time-based medium, the electronic arts derive their powers from the ability to vary parameters that yield new outputs from given inputs” (p.132). So in initiating a response to questions of how to define mediums, Rodowick gives us more satisfying answers.

To further qualify his categorisation of digital images as time-based, Rodowick locates their most natural existence in the “physical” electronic image (current screening devices). Because of this, he argues fairly that digital images “are never fully present to us and are always incomplete in space and in time,” due to the momentary, temporally continuous and constantly ‘live’ manner in which electronic screens technically render images before our eyes (p.134). Therefore, never being complete in space or time, this specific image is “a time-based image,” meaning “even a photograph displayed on an electronic screen is not a still image” (p.138). This is an observation similar to Cubitt’s except that Rodowick clearly attributes his observation to specific technical elements in apparatuses used for digital imaging. These apparatuses can be understood as different to the traditional cinematic apparatus and, moreover, there is no notion posited comparable to “zero time” to blur the concept of time within and without media. Rodowick is in general wary of piling

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metaphor upon analogy to lubricate the movement of his analytical eye. When such rhetorical and illustrative devices are employed, they are not disguised as qualities intrinsic to what they concern.

Before we move on to a direct address of the current ontological state of cinema, some may ask, ‘What is the fate of film?’ Rodowick describes its status as akin to “a precious metal... installed in galleries and museums, where they are meant to be viewed in unique situations as autonomous artworks... regaining a sense of aura”; finally, “film is becoming art” (p.158).

Near the end of his thesis, Rodowick eventually reveals what he believes to be the nature of the cinematic metaphor, where cinema, or the idea of cinema, persists. The virtual life. Sans film, it is argued that cinema will, in this fluid and developmental guise, survive for much longer. But there are some catches. Rodowick turns to the “digital event”, a phrase he came across in the DVD extras of Alexander Sokurov’s *Russian ark* (2002). The digital event is “any discrete alteration of image or sound data at whatever scale internal to the image” (p.167). In light of this, we may still speak of ‘takes’, but not ‘shots’, “with respect to a visual image, space has changed meaning here. Space no longer has continuity and duration, rather, any definable quality of defined space is discrete and variable” (p.166–9). In the virtual space of virtual film, the term ‘editing’ becomes somewhat inaccurate; there are no ‘cuts’ in virtual space (p.171). In a world of infinite spatial discreteness, a filmic cut is redundant. In digital cinema, the cuts we see are symptomatic of the cinematic metaphor; it is the virtual life where cinema survives (Tutton, 2008).

Returning once more to Cavell, Rodowick ponders whether the perceptual immersion we find in virtual spaces may be a certain kind of scepticism, spaces which provide a “present” that is entirely our own (p.171–2). Indeed, Rodowick wonders whether the cultural dominance by digital technology indicates a “philosophical retreat from the problem of skepticism to an acceptance of skepticism”, whereby “a power expressed as coexistence in time... a state of simultaneity... characterize[s] our new strategies for overcoming isolation... through the medium of computers” (pp.175, 180).

Ultimately, Rodowick believes that photography and film should be included under the banner “new media” on genealogical grounds, as they are “figural,” using a term explicated at length in his previous book *Reading the figural* (2001). In this sense, photography and film stand as points of departure from which more typically defined “new media” develop, and in which the former subsist. Because of this, Rodowick asserts that there is much work to do and fruitful bounty to be found in returning to classical film scholarship (Tutton, 2008).

Mark B. N. Hansen's *New philosophy for new media* (2004) advances a comprehensive and constructive framework for approaching the notion of the "post-medium condition." Hansen seeks to account for the innovative and developing "aesthetics of new media" by correlating it with "embodiment" (p.3). Embodiment, a fecund word in the last 20 years of critical theory, in the sense Hansen uses it invokes the body of work in recent neuroscience that broadly demonstrates that cognitive content in specific ways structurally reflects the body's sensorial order (p.3). Hansen's privileging of the body as what Henri Bergson called a centre of "indetermination" serves to account for a more practical and streamlined conception of future media, which he identifies in the structure of the digital image using assorted new media examples. With the body as centre, new media presents itself as the cutting force of Occam's razor to both practical and theoretical conceptions of media. The body's ability, or purpose, to frame information into the form of images is central to questions regarding the ontological limits of new media. Specifically chosen new media artworks that utilise the creation of interactive environments offer Hansen an analytical window on how the body gives validity to images in space. The new media component of all these artworks can account for their ability to ensure that "movement from the physical to the virtual image space is accompanied by a feeling of continuity that partially obscures the difference between physical and virtual space" (p.49).

Hansen's position foregrounds the reasons that the body does not have any essential method, single talismanic object or material force for deciding what is real. Instead, it is a relational and aggregative intuition that enables the body to decide what it is doing, and specifically what it sees. Also raised is the question of the body's relationship to screen or framed images that are perceived by the user as discontinuous with surrounding space.

Much of the new media examples Hansen engages are far removed from the technological and ontological specifics of photography and cinema tackled in this thesis. Although it might not seem obvious at first, questions such as 'What are the implications for the "framing function" of the body with the advent of new media technologies?' addressed in this book have nonetheless led to key theoretical inroads in this present thesis. Where earlier media such as film and photography offered a more static viewpoint for the body, new media enables a new dynamism. The senses may now encounter a quicker, more streamlined experience in terms of the integration of what were previously demarcated or statically arranged medium channels. While this thesis rejects the Kittlerian assumptions often adopted in the face of this 'integration,' the manner of understanding this trend in media leads to an appreciation of the less obvious or 'embryonic' levels of mediation, not just in bodily experience, but in the abstract as well. In this sense, Hansen's reorientation of

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media theory into a more fundamental and ‘structural’ template like the body instigated the theories of media found in this thesis’ Chapter two.

Hansen promotes an understanding of new media that presents it as one of combinatory, complementary, and fluid media experiences. But a key question that arises is this: As previous mediums converge, do our senses? This thesis takes the position that, on the whole, the answer is no. This gives basis to the early rejection of Kittler’s media predictions. This direction or trend looks for an appropriate theory to be used in accounting for this development not just in media, but for the body’s potential as well. Tim Lenoir states in the foreword to Hansen: “As media lose their material specificity, the body takes on a more prominent function as a selective processor of information” (p. xxii). It is difficult to decide whether this should be considered a development or a regression.

Ultimately what is demonstrated is that there is a reverse logic at work in conventional media understanding, whereby media are understood to endlessly provision backwards forms by which we encounter, react to, understand and generally construct the world. This thesis argues that the equivalence implicit in Marshall McLuhan’s famous phrase “the medium is the message” must not be underplayed as contrarian rhetoric to conceptually highlight the notion of a medium. From another perspective, McLuhan’s statement resembles an important elevation of the status of message. Hansen’s notion of enframing facilitates the insight that mediation is a means of selecting an aspect and therefore rejecting the completeness of the world, not just temporally as Cubitt’s zero-time suggests, but in every conceivable sense, even emotionally. Although vague and trite, the sentiment is most simply conveyed by mirroring the syntax: the message is the medium. Thus, this thesis will argue that digital cinema is a new medium of the cinematic message.

If we return to Dargis and Scott, to their insights on the teleological approach, it is worth admitting that the journey or destination arguments apply to cinema much as they do to all mediums. In the following chapter, the larger issue of this duality will be explored firstly in the context of art in general and then specifically with regard to cinema, using the oeuvres of two filmmakers, Dziga Vertov (1896–1954) and Jean Rouch (1917–2004).

Throughout this thesis, reference is made to ‘traditional cinematic technology’. Of course, there are and have been numerous technologies involved in the creation and reception of moving image media over the last century and longer, but certain key characteristics have been generally constant, such as the use of a lens which transmits and refracts light onto a material film of some kind,

causing an image of visually meaningful scale, geometry and tone to appear, which can then be viewed again by shining light through it. Automotive technology has been comprehensively and repeatedly transformed over a similar timescale, yet the combustion engine, suspension system, rubber wheels et al. are still defining characteristics of this 'technology' and therefore similarly represent a 'tradition in automotive technology' that is no less vague than the equivalent in cinema.

Chapter One – Camera reality

Film... is uniquely equipped to record and reveal physical reality and, hence, gravitates towards it. Now there are different visible worlds. Take a stage performance or a painting: they too are real and can be perceived. But the only reality we are concerned with is actually existing physical reality - the transitory world we live in. The other visible worlds reach into this world without, however, really forming a part of it. A theatrical play, for instance, suggests a universe of its own which would immediately crumble were it related to its real-life environment (Kracauer 1997, pp.28–29).

In this chapter, the work of Dziga Vertov and Jean Rouch will be used to discuss and describe cinema's innate value as both an art form and a medium that provides a special document of reality. But this notion of reality must be immediately qualified. This chapter does not argue that cinema is, because of some physical/material essence or quality, somehow more real, realistic or realist than any other form or medium of representation. The chapter expounds an understanding of cinema that values the medium's provision of a document of reality not on the grounds of ontological fact, of physical/material essence, but instead on the grounds that it acutely affects our relationship to and feeling about the physical/material world.

The chapter's contention is that such a document has a special relationship to reality because it facilitates an individual's relief from a chronic anxiety in that regard. This anxiety stems from an inherent scepticism of reality. This scepticism results in an individual's compulsion to demarcate two sorts of realities: the inner and the outer. The particular way that cinema is characterised in this chapter relies on the simple argument that the cinema camera has an innate quality of freedom and autonomy that precedes whatever meaning and use we thereafter make of the documents we produce using it. This is to say that camera-reality is not from the outset *our* reality. The freedom and autonomy in this case refers therefore to a freedom and autonomy the camera has from us as users.

Vertov and Rouch will be cited extensively as exemplars who, each in different but complementary ways, display a consciousness of cinema's capacity to provide a realism that does not have to be contrived. This notion of the camera as a free and autonomous medium and film celluloid as its documentary proof can be interrogated and elaborated ontologically at a very detailed level. In the

following chapters, the ontological details are dealt with, but beforehand it is important to establish a basis for these notions in pre-digital cinema in a way that is historically conscious and demonstrative.

Realism as a medium in art and cinema

Before proceeding to a discussion of these two filmmakers, a freehand exposition of the basic notion of realism in art is given, simply to cement the seemingly nebulous dichotomy mentioned above of two realities: the inner reality and the outer reality.

The emergence of the cinematic medium presented a crisis to this dichotomy of ‘inner’ and ‘outer’ reality by enabling us to suddenly express our inner realities in the language of our outer realities. This represents a cross pollination that excited us but also cast new doubt on both of those realities. The intention here is to use this very basic idea of inner and outer realities to illustrate a core value of ‘cinematic purpose’ in both production and reception that in many cases tends to remain unstated, latent in the making and viewing of films. That is, while the cinematic medium presented on the one hand a crisis, on the other it presented the opportunity of removing ourselves from the burden of being the only bodily witnesses to our outer realities. There was now the camera and us. With the partial alleviation of this burden, a dominant scepticism about the manner in which we represented the world to ourselves was assuaged. This scepticism had up until the invention of cinema been one of the chief instigators of the invention and innovation of mediums. And ultimately for the thesis argument it is the case that as cinema moves from ‘material aesthetics’ to ‘digital aesthetics’, this special cinematic quality, which enduringly alleviates these pressures of scepticism, is a quality that will subsist in the transition. As the arguments developed in the chapter become clearer, it is hoped that this will serve as a foundation for the more in-depth material in later chapters, all of which aims to address not only the changing face of cinema brought about by the increasing relevance of digital aesthetics, but to also discern how the ontological questions that cinema presents have far more varied implications when the issue of cinematic realism is given breadth by this split of ‘inner’ and ‘outer’ realities. The play of these two forces, which behave in our minds as both competitors and co-conspirators, may shed light on why cinema has been able to traverse the huge ontological terrain it has over the last 100 years, on the one hand being a material, worldly medium and on the other an abstract and immaterial one. That cinematic realism is the ever-shifting transmedial foundation for this ongoing development from celluloid to digital forms signifies the importance of giving context to cinema’s enduring and special brand of realism and proves the dynamic nature of what qualifies this realism over time.

There has long been a debated concept of film realism, ostensibly fought on ideological boundaries. The repetition of this debate is very often prompted by the fair and natural inclination to question the powerful realism of film, especially with regard to its effect on society and individuals. This questioning can arise from a direct engagement with film as an object for theory and can also arise from larger moral and ethical concerns, in the process taking on ideological or political objectives. The questions, debates and assertions that have arisen over the last century on the topic of film realism have invariably sought to ascertain which aspects of reality remain and which aspects are lost in the making and viewing of cinematic objects and how, indeed, this varies amongst individual films.

If one looks over the long historical debate over realism, not just in cinema but also in literature, painting and other arts, it becomes clear that realism is a concept used to describe either a feeling that something is real or to describe something arguably real itself. It has long been a staple of criticism to frequently identify in our arts the points and aspects that reflect how we think the world really is, rather than how it should be or how it could be. In varying forms, art has for thousands of years expressed the vicissitudes of our sensibilities regarding realism, vying for affective power by appealing to the literal, surface notion of reality as well as to the impressions that reality has on us that are more subjective, affective and altered. This can be seen going back more than twenty millennia to artefacts such as the *Venus of Willendorf*, an 11cm limestone statuette of the female form found in lower Austria in 1908 (estimated to have been made between 22,000 and 21,000 B.C.E.).

Tied into our consciousness, and indeed its development, is a feeling for two realities. It is apt to say that we confront two pictures always. We must look at a picture we perceive to be in front of our heads (one projected inwards) and a picture in our heads (one projected outwards). We never see only one. These realities merge and drift, diverge and contradict each other; they present a conundrum that famously inspired both the allegory of Plato's cave and Freud's theory of the unconscious. It is natural that we value both of these realities, yet any individual is always wary of differentiating between the feeling of realism and what may be its root cause or justification. But it is equally the case that any claim we ever make of being able to qualify a sense of realism is inherently done so within a limited 'depth of field,' a small range between two horizons; over one lies the argument that everything is real and over the other that nothing is real.

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In practice we conceive of reality as a level of awareness supported by the fact that it consists of things we would like to agree on rather than debate. So reality in a sense encompasses all that we do not see any use in debating, not just between ourselves but also within ourselves. Reality is practical and essential; questioning it seriously undermines and threatens levels of order that make life straightforward and manageable. Debating and interrogating it is not generally a practical concern and so these pursuits fall into the domain of art and philosophy.

The practice and enjoyment of art in the context of everyday life represents a kind of ‘turning away’ from the hard, rule-based world that we are irrevocably subject to. Art is ‘made-up’ whether it comes in the form of visual art or theatre or music. So why then do we practise this recourse to realism in art? If art chiefly serves as an alternative to reality, what is the purpose of its realism? For one, we can say that realism is the primary language of art; it makes sense of art, rather than nonsense, and moreover realism provides us with both an entry point into artworks as well as functioning as a sturdy handle with which we can repeatedly grasp them. However, we cannot attribute to this function the value that art has for us. Secondary to this, and far more meaningful, the continual search for realism in both making art and appreciating art might intuitively suggest that in identifying a reflection of reality as a marker or beacon in the altered object (artwork), the effect on us of finding that realism displaced is that we are displaced as well. As a consequence, we ideally find that an artwork has repositioned us and we are then provisioned with a new view or understanding. That new aspect hopefully enables us to find, nearby revealed, elements of truth that are unseen or unclear in reality.

Even in the case of music, which appeals to our most inner possible feelings of reality, we are subject to a frequent compulsion to talk about it. With music, our inner and outer realities reach out but can never touch. To talk about music, a habit many musicians consider pointless, is to repel the inexplicable effect music has; an inexplicable effect far from the sort of cold and still objectivity we can point at and agree on. Our talking about music pursues a justification outside our own witness. The where and how of music elude discussion; only the when can at best be agreed on. The inner realism of music is so strong and the outer so weak. Every sound has an origin, but music has none. The inner effect (music) is so rarefied and true, and yet the outer source (sound) so mundane and meaningless. The burden of knowing so keenly this inner reality seems to make us want to talk about music’s effect on us, but words always fail and we descend to discussing the outer realism and quickly say the obvious, then run out of things to say. Music does not survive into our outer reality; it turns to sand and slips through our fingers.

This endless operation around realism directs to a slightly hokey but conceptually resonant way in which art and science can be seen to sit together: art can be understood as an experiment and realism as its subject. This analogy is offered with the awareness that the explanatory power of analogies is very limited and that analogies are in essence rhetorical devices. Nonetheless, much as in a scientific experiment, art takes realism and puts it into a controlled, isolated environment. These notions of control and isolation are integral to the definition of art; they reflect the stringent conditions of reality. When people say ‘art is a world,’ one of the most meaningful interpretations of that aphorism is that, like the world, art can be seen into, but not seen through. Neither art nor the world functions as a link to a destination. They are, as facile as it sounds, destinations themselves. When we are confronted by art, we enter its world through the gateway of realism, but from that on point the effect is opaque, not transparent. It is the effect of looking at, not of looking through. The view is limited and interior. If the world we live in day-to-day is reality, it is not that world we look at through art. In this world of art we want to be and are transformed, whereby our preconceptions are blocked and confounded and turned into something else. If alternatively we attempt to enter the many worlds of art through this gateway of realism and find that the subsequent effects we perceive before us are instead transparent, we should then rightly suspect that we are merely viewing the world of reality. If that is found to be the case, we are in a loop and perceiving only a truism. In venturing into these worlds of art, the course to reality is only ever backwards. No choice presented to us will fail to lead to our returning and, with that, everything is reverted. Following that reversion however, we ideally return with an iota of new understanding and truth.

A grand and yet vaguely motivated desire, which an individual may endure throughout everyday life, is to see completely through the reality she lives in into another world. Struggling, and likely failing to do that, she finds that she inevitably has to turn to art (in all its forms). With art, instead the greatest desire is to see through it into reality. Much like holding one’s breath under water, in the end one is always forced to go back to reality in the direction that one came. And it is a simple fact that they stand opposite each other, these two worlds; it is impossible to see through reality and equally impossible to see through art. These two sit as alternatives and no decision is final as long as we must endlessly choose between them.

Medium progression as regression

All the arts in one way or another work to capture and rearrange the inner, personal reality and the outer, shared reality. All mediums that are used to do this tend to foreground their methods to the user. This foregrounding happens at the expense of a clearer view for fully realising the potential

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gains of the innovations that might develop out of the medium being used. New mediums invariably serve their predecessors for a period. Mediums we have chosen to use have all gone through a set of stages, whereby first they are discovered and used with zeal to express the things we felt we were struggling to express up until that point; then afterwards, we look back upon our work and feel that the product is insufficient or unsatisfactory, that it does not really express what we wanted it to. This generality refers to the experience of individuals and also to societies over the long term. This lack of satisfaction is naturally part and parcel of the act of expression. Once something is expressed, the product of the act often seems redundant and absurd; as the self is transposed from the 'then' to the 'now,' the product is suitably disowned.

Because of this lack of satisfaction, what arises is the needling suspicion that we did not really express what we wanted to express in the first place, that instead it was the medium that was expressed, not us; indeed, a belief arises that we were deceived and that we consequently failed in our task. The chief aim is to say something real and true, yet often the feeling is that this was not achieved, and with this realisation the new mission becomes clear: to readjust the medium in order that we are expressed more and the medium is expressed less. The intention is that, this time the product, our expression, will be real and true, that it will feel just right and that afterwards we will have no more compulsions to repeat ourselves. The trick on us is that the only medium expressed less is the medium that has been replaced, and that we will find the new medium expressed specifically in the manner that we saw to vitiate the previous one. The only problem with this process is the not uncommon feeling that something was as wrong and outmoded even in its own time as it feels now in the present; this invariably leads to a misconception of our past and ourselves, a contempt for old things. This contempt for the past gives rise to an ironic practice and that is a compulsion to repeat the past in new ways. The fact is that cinema has been a victim and tool of this compulsion to an extraordinary extent.

The history of realism in cinema demonstrates these tendencies in many different ways. From the ideological pressures of the Soviet Union in the 1920s to those equivalent pressures exerted over decades in Hollywood, a quantity and quality of realism has always been demanded and yet it has always been diverse and changing. If even in the context of the *Screen* debates over film-ideology that Jean-Louis Comolli was to argue in a 1971 issue of *Cahiers du Cinema*, that cinema in its earliest stages was developed as a means of "accurately reproducing reality," we can safely state that to reproduce reality is to express it (Comolli, 1986). If we wished to develop this medium for this purpose, it is inevitable that the nature of our expressions will encompass and determine the

nature of the realism we reproduce. The issue is one of attaining an ideal, wherein there must be certitude about the objective and the method to an extent that we are conscious of what we are doing with the medium at hand. With the invention and innovation of mediums, especially ones that are relatively new such as cinema and its later digital guises, it can easily become blurred whether the medium is being used regressively, for instance, by serving older mediums in one way or another, or progressively, by being used in innovative capacities in the spirit of the medium's invention.

It is fair to ask what it means to say 'use it in the spirit of the medium's invention.' For one, this means not to bring to bear on the medium the entirety of ideas, methods and values that are already established at its outset. This requires the medium to be seen as it is, as something new. Seeing the medium as something new is specifically to say that the medium should not be seen as something that was, up until its invention, 'missing.' Conceiving of a medium as missing is to imply it had a purpose even when it did not exist. In order to perceive and utilise the new medium in its own context, it is important to sympathise with the medium and not to interfere with it. In the case of cinema, doubtless its power to accurately reproduce reality could be easily circumvented, and it was to a great extent, and still is, in narrative cinema. But just because the history of cinema has, in the mainstream, transpired as such, does not mean that those uses and perceptions have ultimately quashed the arguments in favour of the progressive alternative. In fact, the cinematic medium has coursed its way through the last hundred years in a manner that shows that it has surreptitiously evolved, both technically and in terms of its use, in a progressive direction. Every effort and impulse has striven to involve cinema in itself, to create an involuted industry, an involuted practice and an involuted medium. However, the camera has always referred outwards into the world, into reality.

Dziga Vertov

If one had to pick an individual who, early on in the history of cinema, attempted to engage this notion of 'expressing reality' with the utmost integrity and wilfulness, it should be Dziga Vertov. But more than this, Vertov uniquely represents an early high point for the ideology of film realism, and as a theorist and filmmaker his work will be argued here to form a presentiment of cinema's development into its now digital era.

Vertov was a man enamoured with the moving picture; but he was not enamoured with the world of fiction: "High above this land of make-believe with its mercury lamps and electric suns, high in the

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real sky burns a real sun. The film factory is a miniature island in a tempestuous ocean of life” (Vertov, 1928). For Vertov there was one Sun, one world, one humanity and a simple set of objectives for filming it all; alternatives such as film sets, actors, props and scripts represented a disastrous motive and amounted to immoral and pointless lies; lies that undermined what he saw to be the entire purpose of cinema and its place in the human project.

A little man, armed with a movie camera, leaves the make-believe world at the film factory and heads for real life.... wherever he appears crowds of curiosity-seekers surround like an impenetrable wall, stare into his lens, feel the camera, and peer into the film cans. Obstacles and surprises at every turn (Cha, 1980, p.7).

For Vertov, it is this one and only scenario that places the camera in its most direct and truest state: its state as a camera filming the world, filming reality. Any rebuttal to this could expect to receive these simple questions: ‘if what a movie camera does is film reality, what else would one do with it but this? Is a camera really necessary for anything else?’ Vertov’s general view of how to use a camera and the sort of cinema that he thought should be produced would these days probably arouse in many people who have been brought up with or been long subjected to the dominance of Hollywood’s sensibilities a sense that he is an unimaginative man, severely antiquated, a wowser and perhaps even to some people his rejection of fictive modes of filmmaking make him seem almost like a philistine.

In the final stages of his life and career Vertov was not even a favourite with the Soviet authorities, and his great cinematic vision was quashed as he was relegated to the role he began with, that of making newsreels. His legacy experienced resurgence in the 1960s and 1970s among film scholars and documentary cinephiles, but this never amounted to anything as overt as he might have envisioned as a budding filmmaker and young son of the revolution. Despite the fact that Vertov’s concepts were so universal in scope, the distant behemoth of Hollywood no more likely figured in Vertov’s vision of the future than the Moon did in Napoleon Bonaparte’s, yet the Hollywood we witness today has greatly contributed to forms of technical innovation which have and will continue to enable and enact sentiments behind Vertov’s kino-eye, what might even be called his ‘camera ethics.’ That is obviously not to say that Hollywood produces films of which Vertov would approve, on any level, but in these innovations certain aspects of Vertov’s notion of the camera have continued a sort of ‘self-becoming,’ vindicating Vertov’s arguments about how the camera can and should be used. This has strangely come to pass while the camera has itself been transformed

into something far from the original contraption Vertov knew, which captured reality with the mechanical and chemical tangibility that fascinated and inspired him.

By 1919, Vertov looked at the ‘canon,’ films that people watched and valued as films, and considered it dead; the notion of a film transcending itself into the realm of art was what he perceived to be the objective of film history and he thought it was a meaningless objective (Vertov & Michelson, 1985, p. xxv). Vertov intended to stand outside the canon and begin anew. As will be explored later, there have been many attempts to realise the values Vertov set forth for cinema and to carry the flame for his concept of realism. Many measures and objectives have been specified and many achieved in one way or another since Vertov’s death, but in most cases attempts to follow Vertov’s directives in a headlong and explicit way, such as Jean-Luc Godard and Jean-Pierre Gorin’s Dziga Vertov Group, meant that concerted efforts to “purify cinematic realism” would tend towards self-consciousness and stiflingly tendentious reflexivity, things antithetical to Vertov’s cause.

Vertov was obviously a man of his times and carried certain values and sensibilities of others within his milieu, although it could be argued that his constructivist values and Marxist ideals were demonstrated by him more literally than they were to be by his more celebrated colleagues such as Sergei Eisenstein, Eduard Tissé and Georgy Vasiliev. However, his single-minded interrogation of his medium of choice does stand out, not only for its exactitude and explicitness, but also because it focused on the essentials of the medium at a time long after such concerns had been overtaken and obscured by matters of technical innovation and developments resulting from the pressures of political and financial imperatives. What is meant by those ‘essentials’ will be clarified.

Perhaps nothing sums up the character of his mission more than his own recollection of his debut in cinema, and the obvious meaning it had for him:

It was quite odd. It involved not my filming but my jumping one-and-a-half stories from a summer house...the cameraman was ordered to record my jump in such a way that my entire fall, my facial expression, all my thoughts, etc, would be seen (Vertov & Michelson, 1985, pp.123-126).

Relating this story to an audience, Vertov was obviously frustrated by how his notion of “kino-eye” had been arrogated under the rubric of some type of film, some type of product, which he didn’t want at all. His *Kinopravda* (Film truth) newsreels were films (‘pravda’ after Lenin’s daily

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newspaper); kino-eye was not a film, nor a sort of film, it was a method and a practice for achieving all sorts of ends, all sorts of films.

They [the critics] always distinguished between kino-eye and *Kinopravda*... things continued that way for a long time because critics didn't understand that there was no kino-eye for the sake of kino-eye, no life caught unawares for the sake of life caught unawares, and no hidden filming for the sake of hidden filming. It [kino-eye] wasn't a program; it was a means. *Kinopravda*, which they accepted, was made possible by means of kino-eye (Vertov & Michelson 1985, pp.123-126).

The concept of kino-eye was for Vertov the “conquest of space” and the “conquest of time,” a thing that “plunges into the seeming chaos of life to find in life itself the response to an assigned theme” (Vertov & Michelson, 1985, pp.87–88). Vertov implies a subtle but strict moral here: if what one wants to say is true, kino-eye will say it perfectly. Kino-eye is the cinema-eye, it is the camera-eye, it is the camera lens, it is the camera. Vertov's notion of kino-eye as a means is purposefully analogous to the camera itself; it is not a sort of camera or a sort of film. The term is to a degree tautological and rhetorically so.

The aforementioned ‘essentials’ that Vertov valued above all else in cinema are plain to see in recollections of his first experience making a film. His later utopian visions of a “Mechanical” or “Machine” man at one with a productive well-oiled industrial society indicate the particular nature of his love for cinema. In Vertov's mind cinema was a wonderful machine that reconnected us with our environment and ourselves. In his speech about kino-eye and *Kinopravda* he described the story that was told by the camera when he jumped off the summerhouse one and a half stories up. What struck him as so special about this young medium was that it told a story that had not been told before. Vertov often spoke of how the camera revealed to the human eye things that had never previously been seen, worlds, times and shadows in our life that were hidden from us. The mechanical eye could tell us about the macro-world, the micro-world, the slow-world and the quick-world.

If we take as case in point Vertov's story of his jump off the roof, it perfectly illustrates not only Vertov's joy in cinema, but also an essential concept of cinema as a story-telling machine all by itself. This notion of describing it as a story-telling machine ‘all by itself’ intends an element of automatic functioning; that the camera will provide a document of narrative, perhaps not always in the most humanly meaningful way, but nonetheless a document and a narrative. One can read a narrative into anything; indeed, narrative and meaning go hand in hand, not only in art but also in

life (history). One need only consider the philosophical instability (or subjectivity) of the term 'event' to understand that the undulating series of causes and processes in our lives and in history is conferred upon a timeline of planar significance; we see the world through a lens with a severe barrel distortion. So all things may assume a narrative for us. With a cinematic document, we can be presented with phenomena completely foreign to what we have long been used to forming meaning from. The mechanical eye may 'look' in the same direction as the human eye, but it can see very different things. Vertov's tale of jumping off the summerhouse is a very straightforward story to the human eye. A man jumps off a roof. That is not much of a story for someone to witness there at the very moment, nor is it a great story to be related after the fact. But in Vertov's mind the camera tells a different story. Vertov attests that the film footage of him making the jump documents a series of finely etched events, most of them psychological, which are conveyed through his face, leading up to the jump. The jumper shows apprehension, doubt, gall and zeal, all colluding for a dramatic knock-out. In this case, according to the human eye we have an event of little interest, a mundane action carried through with the appearance that we would expect and have seen in one form or another many times. According to the mechanical eye, however, we have an event of veritable pantomime. The point is that between the human eye and the mechanical eye, a view of the same time and location presents very different events and hence a very different narrative. In Vertov's opinion, this difference and the consequent opportunities this offers mean that the sort of fictive modes of other older mediums and forms are redundant. Instead of impressing upon ourselves, as we have previously in those other mediums and forms, unreal, hypothetical, sensationalised content, we have in cinema a medium where the roots of all our feelings of pain, joy and melodrama are presented straight from the source, ourselves and our world. With the mechanical eye, we can get outside ourselves and see the world and in doing this we no longer need to project our inner worlds in the same way as we did, because with cinema we can stare right back into our eyes with the camera and finally confront ourselves.

It is interesting to look at the course of cinema history that followed Vertov's time and see that this element of his 'cinema ethics' was not as readily taken up as he might have hoped, and certainly not in the focused and pure way that he obviously conceived at the time of his magnum opus *The man with the movie camera*. It is worthwhile looking at some of the reasons behind this and in doing so this will help illuminate the strange course that led to his cinema ethics later being borne out in what might almost be called 'quasi-fictive modes.'

Broad complicating factors around Vertov

Certain aspects of Vertov's art, theory, biography and the times he lived in make him an exceedingly complex man. Before moving to a discussion on Vertov's theoretical linking with Brecht, a few points need to be made regarding Vertov's susceptibility to such a problematic linkage. The response to Vertov's mode of rhetoric seems to have been frequently obtuse, not just in regard to his wordplay, but also unfortunately in regard to his films. While the response to his writing and cinema work during his lifetime became increasingly neglectful, it is likely that much of this is attributable to misapprehension. Moreover, this remained the case even when the view of his work changed in the decades after his death and transformed into one of direct and active engagement, which was particularly strong in France. Vertov's message was a subtle one that he for one reason or another was fond of putting in very plain terms. Vertov's writing, like his films, was very free and since even the late 1920s has been likened to the writing of Walt Whitman (Singer, 1987). His writing is declamatory and purposefully without ornamentation. His manifestos do not second-guess counterarguments and the philosophical undercurrents of his writings avoid refinement. *We: variant of a manifesto*, from 1922, begins: "We call ourselves *kinoks* – as opposed to 'cinematographers,' a herd of junkmen doing rather well peddling their rags." The tone is convinced rather than convincing and intentionally humorous at many points: "We proclaim the old films, based on romance, theatrical films and the like, to be leprous. Keep away from them! Keep your eyes off them! They're mortally dangerous! Contagious!" The revolutionary style naturally gives the effect of a will to dispense with everything of the past, which in a certain aspect is obviously true. From a rhetorical standpoint, to read it one finds that often from the outset the openness of its appeal, its attempt to avoid being esoteric, its frequent mild facetiousness, make it easy to dismiss. Yet this all belies the subtlety that often follows. It is important to be mindful of the fact that in Vertov's time life involved some of the most severe examples of personal, social and state contradiction that one can imagine, and this can be seen in Vertov's work as well as in the Soviet world in general. This was increasingly the case over the course of his lifetime, especially after the great expansion of bureaucratisation under Joseph Stalin.²

There is a conceptual schism in Vertov's work and writings that is demonstrated in the fact that he is not the always or only the "man with the movie camera" but rather or also an editor. This may

² Coercive forces from above were so severe that it was as if a person would be told to immediately turn both left and right. The art of the time wore this as much as anything else; the Soviet composer Dmitri Shostakovich's *Fifth Symphony*, a piece of music written as a direct response to those times, ends with an absurd fanfare of ambiguous irony, which the composer described with the words, "the rejoicing is forced, created under threat... it's as if someone were beating you with a stick and saying, 'Your business is rejoicing, your business is rejoicing,' and you rise, shaky, and go marching off, muttering, 'Our business is rejoicing, our business is rejoicing' (Volkov, 2004, p.183).

seem a trivial observation, but it typifies the difficult to resolve impulses he had towards both the camera's 'I see' freedom and the dialectical opportunities of montage. And moreover, his response to these somewhat oppositional cinematic sympathies, *The man with a movie camera*, became a difficult example for analysis for filmmakers and scholars who followed. Practical, financial, social, political and personal forces demanded that Vertov give purpose to his films and cinema as a whole. In *Kinopravda*, the field of reportage, the kino-eye is easy to describe and justify, but in a feature that is by necessity far more general, 'saying something' becomes a task of itself. Otherwise kino-eye can easily be termed 'footage reporting nothing.'

When the young Vertov got onboard the train October Revolution with President Kalinin in 1920, he was to make on his journey to the south-west battlefronts what were to be called his *Kinopravda* documentaries and it was at this point that a powerful role for the camera and a feeling of freedom and autonomy coincided to crystallise in his mind the idea of kino-eye. In 1924 he made *Kino-glaz*, very much in a 'guerilla' mindset, invoking terms such as "reconnaissance," "weapon" and "attack" to relate the nature of his activities (Vertov & Michelson, 1985, p.39). Following this Vertov left for the Ukraine, beginning what would be his permanent dependence on State commissions. He worked with the All-Ukrainian Photo and Cinema Administration (VUFKU). Three of his more significant films were produced there, *The eleventh year* (1928), *The man with the movie camera* (1929) and *Enthusiasm* (1930), the last of these being his first sound film. It has been suggested that *The man with the movie camera* was perhaps influenced by his younger brother Mikhail Kaufman's earlier film *Moscow*, which was made in 1926 (Vertov & Michelson, 1985, p. xxiv).

Vertov is often compared (and the tradition is, diminutively) with his Soviet colleague Sergei Eisenstein, especially because they were both considered 'theorists' of cinema. Eisenstein is thought of as a theorist, a filmmaker and an artist. His films *Strike* (1924), *Battleship Potemkin* (1925), *October* (1927), *Alexander Nevsky* (1938) and *Ivan the Terrible* (1944) all cemented his reputation as a great cinematic artist, 'the father of montage.' Vertov's oeuvre did not afford him a grandiose moniker; instead Vertov may often be thought of as only a theorist and filmmaker. Most importantly, while Eisenstein's films plainly wore his theories, as narrative cinema they have been able to attain a different type of cultural status separate from the theories themselves. This cannot be equally said of Vertov and further, *The man with the movie camera* is his film that most often gets remembered, scrutinised and celebrated in a way even remotely approaching many of the films of Eisenstein. *The man with the movie camera* is a film-theory film. This film is the emblem of his reputation as 'theorist and filmmaker.'

The man with the movie camera

Vertov wanted his film to be screened across the Soviet Union as a film both for and dedicated to the Russian proletariat. Whereas *The eleventh year* had titles, *The man with the movie camera* did not. Dispensing with these final vestiges of “impure” cinema, Vertov aimed to move into “100 percent cinematography” (Vertov & Michelson 1985, p.84). The film, quite literally, charts the path for what should be the future of cinema. It begins in the theatre, showing the empty audience seats snapping up and down, ‘functioning’ for the great populace as they continually fill and empty the cinema. A central tenet of the film is the dynamism of life and the camera’s role in capturing this; in light of this intention, with the theatre and chairs, Vertov begins the film by stating clearly and directly the notion of our relative stasis in our viewing role (before the camera in the film takes flight). This is the second cinematic statement of the film (after the shot of the man and his camera) and prefaces the essential self-awareness that typifies its message as a ‘first film’ of its kind. After the orchestra begins to play, the mission is clear and the sally begins: the film leaves the theatre as Film must leave the theatre.

As Vertov sends the camera out into the world from the theatre, it becomes apparent immediately that this is a film that endeavours to capture the full (or fuller) picture of things. In the theatre, as in literature, we are generally presented with information that forms the entirety of the world in which that play or book is set; with a level of variability depending on the genre, a set of expectations are brought by the reader or the audience regarding what is plausible in that world that is presented. Because this fictional world is fresh and custom-made, knowledge of it is given to the audience member or reader in a manner that is rhetorically cogent in creating a certain amount of coherence at some level (even in an absurdist work). The theatrical or written works comprise the entirety of the worlds they present. In the case of theatre, which like cinema has a visual element, the view is fixed on one stage (or space) and there is an inherent limitation in the scope of what can be presented. In *The man with the movie camera*, the work is not fictional and the camera is free, and Vertov sees a moral obligation instantly arising from this. While the great impact of the squalor of *Les Misérables*, the heroism of *War and peace*, the vivid psychology and moral fervour of *The brothers Karamazov* conjure impressions of uniquely inspired creator-minds, these nineteenth century novels present singular worlds perceived through only their words and while drawing from the past, they ultimately refer to themselves and are only beholden to themselves. This fact plays into the criticisms that favoured Vertov’s project, as his friend, the poet Vladimir Mayakovsky wrote, “Premature ‘poeticisation’ only emasculates and mangles the material”; of poetic textbooks he affirmed, “[they] are pernicious because they don’t deduce the poetry from the material, that is,

they don't give us the essence of the facts... but simply impose an old form on a new fact" (Hyde, 1990, p.34).

Vertov obliges the camera an openness that is the complete opposite of this. We see a poor boy sleeping on a public bench, a salon for ladies and for gentlemen; the audience then assumes the view of a bustling traveller down the city roads with the public throng (in instances with Mikhail Kaufman in the frame, this view is through the camera, as well as with the camera) and the audience soon becomes aware that this is the time and space of its own world. And most vitally it is in this sense that the motive and pressure to present a coherent world is no longer a qualifier of realism. The freedom of the camera combined with its real-world restrictions abnegates the entire need for coherence in the service of plausibility; a whole level of realism is completely circumvented. There is no fly-on-the-wall view or God-like discretion, there is no other world but this one, and the view is piecemeal and contingent, far from the contrivance, economy and perfection of our knowledge of fictional worlds. Shots taken from a carriage travelling along one of the city roads show another carriage travelling alongside and in it a woman, slightly embarrassed by the camera, mimics the cameraman. Of course, it must be acknowledged that the production circumstances of *The man with the movie camera* are not quite as contingently inspired as their result might suggest. Vertov did plan rather explicitly certain key rhetorical features in the film and this is evidenced by a document he made at the time of production detailing visual aims and set-ups.

Nonetheless, Vertov's aim of presenting a film as something self-aware is in the case of *The man with the movie camera* a misleadingly unique operation. There is an oft-quoted passage in Proust's *Time regained* where he remonstrates purposefully intellectual work with the stricture, "A work in which there are theories is like an object which still has its price-tag on it" (Proust, 1999, p.278). It may seem out of order to posit an opinion of Proust, far removed in sensibility and values as an older, French bourgeois novelist, but his sentiment illuminates a dilemma that confronts all those who wish to take something forthright from Vertov's message in *The man with the movie camera*. Proust's comment intimates that when theories are conspicuous in a piece of art, this represents an overlap of the piece's production (its cost or work) and its use. What is the problem with this? It can be fairly assumed that in Vertov's mind there is nothing wrong with this at all. Indeed, it is obviously exactly what he intended, to show in the film its own cost. But how might problems potentially arise from this later on?

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To show to the audience the acts of production and to foreground the film's affective intent go further than the demonstration of constructivist values alone; to merely say that is to place the film amid an imagined sea of constructivist cinema, as a constructivist film. This would misrepresent Vertov's ambition for the film and it also ignores the reality of the film's historical context. This is the only film that begins in the theatre and then leaves. It is the constructivist film. Aleksandra Ekster's Martian costumes in Yakov Protazanov's *Aelita* (1924) do not count. If one finds Eisenstein's montage redolent of constructivism, he achieves it merely in being more purely 'cinematic' than others. When constructivist pioneer Naum Gabo pleads in his famous *Realistic manifesto*, "Who is the genius who will tell us a legend more ravishing than this prosaic tale which is called life?" he is asking of artists for more than such things as the 'cinematic' cinema of montage, he is asking for something much more straightforward – something pre-dialectical:

The realization of our perceptions of the world in the forms of space and time is the only aim of our pictorial art... we construct our work as the universe constructs its own... we know that everything has its own essential image...that is why we in creating things take away from them the labels of their owners... all accidental and local, leaving only the reality of the constant rhythm of the forces in them (Gabo, 1957).

Vertov's film is more than cinematic, it is purposefully unconstrained by the cinema history that preceded it and in its form of expression seeks to serve and convey exactly what Gabo demands. By beginning it with the shot of the camera and its operator and then in the theatre, he 'steps out of the ring' and makes a statement that need only be made once: that this is the first film of its kind. It is a statement that seeks to reposition film, to re-initiate the medium; it is a sort of birth. It is a rhetorical technique that goes beyond being 'cinematic'; it is reflexive in a way that montage is certainly not. From a certain perspective some might even call it 'un-cinematic.' While montage seeks to embrace notions of grammar, syntax and dialectics in a purely cinematic way and is undoubtedly a method of expression in which the medium itself is wholly acknowledged, its reflexivity is implicit. *The man with the movie camera* is explicitly reflexive. Although it might indeed be the first film of its kind, it is also by definition, and very consciously so, the only first film. This is an aspect of both its conception and its place in cinema history that has eluded many of its critics and admirers because the special kind of reflexivity the film demonstrates is not a type that is meaningfully repeated.

One reason that *The man with the movie camera* is not easily perceived as the only first film of its kind is because the film was unable to exert influence on the films that immediately followed it; had it been viewed in retrospect amongst a set of films that were obviously its kin, especially ones that intentionally attempted to carry on its values and techniques, its 'firstness' would have made it

easier to view and contextualise later on. Instead, the film is viewed alone and its uniqueness left the impression on those who were later to analyse it that it is not only a first film, but unfortunately also the last film of its kind. It is due to this that the film assumes a special sort of category in film history where it takes on an undesired wholeness, which results in a helpless sense of it not only being the beginning but the ending of itself. It is its own legacy. Its use therefore to a later generation of filmmakers is more ambiguous and replaces the film's potential for influence with a susceptibility to cannibalisation. This would be less a problem if the film were not so demonstrative and didactic, but because it strives to show the entirety of its own production, Proust's words can seem portentous and *The man with the movie camera* falls into a critical position where the particulars of what it says and what it is become difficult to discern. The result of this is that some of the films which later attempted to reinstate its values and techniques ended up mimicking aspects of the film that can be attributed to its uniquely inherent role as the first film of its kind, rather than those aspects which Vertov intended to demonstrate and advocate to filmmakers. The efforts of those later films risk being a bit like the man who hurried back to his home and shouted at his family the words of the town crier.

Vertov's film must be redeemed from this 'wholeness' which renders it a one-off experiment, a sort of early and extreme Brechtian example that can only be repeated (aped) or paid homage rather than seriously carried forwards and developed. The film's contributions to film realism can only really be appreciated if it is seen as something 'more than itself,' more than a statement 'about itself.' The film is not about cinema, it is not about *The man with the movie camera*; it is about people and about life.

Brecht and Vertov

Vertov was a pioneer in filmmaking but not only that, he was a pioneer in realism in that he understood that cinema offered new and unique potentials for our engagement with realism and the world. He also knew that it was our natural tendency to shy away from this potential and to implant in it the older forms of art. It is ironic therefore that Vertov came to be viewed through the lens of a German contemporary, a German contemporary younger than him and a contemporary from one of the older forms of art from which Vertov was trying to free cinema: Bertolt Brecht.

How did kino-eye and epic theatre (or 'dialectical theatre') become associated with each other and what is problematic about this? It seems natural with the following words of Brecht to assume a fundamental theoretical affinity between his work and Vertov's: "It is most important that one of

the main features of the ordinary theatre should be excluded from [epic theatre]: the engendering of illusion” (Brecht, 1977, p.122) Indeed, such an affinity is still upheld (Keogh, 2002). However, while the objectives of the two men seem to be one and the same (to reveal their respective mediums fully to an audience and dispel the veil of illusion), the mediums in this sense are so unlike each other that perceiving an equivalence in means and ends would be like doing the same with the boiling of water and the boiling of mercury. A play is a play and a film is a film; the self-awareness of one is completely different from the other, and even analogies present terribly problematic assumptions for cinema, and it is cinema at risk, not theatre, because cinema is the new form and theatre the old. To take the late innovations of an ancient medium like theatre and apply them to a nascent medium like cinema veers towards the sorts of surreptitiously pernicious tendencies Vertov sought to revolt against.

By far the most detrimental aspect of the comparison is that it specifically ignores Vertov’s view of films as essentially a medium of reality. His objective is to fight and discard the influence that fictive modes have not only on viewing films, but on the process of making films as well. It is true that *The man with the movie camera* begins with several techniques of self-revelation that can retrospectively be described as Brechtian, but they are attributable to its first-film status. An entire feature film of an audience in a theatre has in fact been recently made, Abbas Kiarostami’s *Shirin* (2008), and it is a fictional narrative film; however, Vertov in contrast does not spend much time at all in the theatre in his film because it comprises a singular statement and as a continuing formal technique, it would plainly go against the grain of his entire vision of the free camera in the real world. *Shirin* portrays a cinema audience watching another film that is never shown, either as a diegetic element because the camera never turns around towards the fictional screen or as a pseudo document (it is fictional also), with its own shots inserted into the primary text; the fictional screen soundtrack is heard and the close-ups of faces of specific women in the audience convey the weight of the melodrama. *Shirin* is very Brechtian in that it is a formally deconstructed fiction and, moreover, its formal technique of showing the audience is its all-encompassing method, functioning as both a means and an end. The film, like many pieces that can be described as Brechtian, is largely concerned with itself. It is fair to say that Vertov with his film does this also, but not beyond the measure of simply having the film introduce itself, after which it straightens out of its concerted reflexivity and proceeds, confident that its initial declaration is clear to the audience. Brechtian techniques are chiefly concerned with obstructing a spectator’s tendency to view a theatrical performance as more or less than what it is, a theatrical performance, with illusion as the culprit. Brechtian techniques are political; they are meant to question, reveal and challenge the rhetorical

power of fiction. This power naturally resides in theatre because theatre is inherently fictional and is comprised of mostly figural elements; it is an 'other' place, like a sporting field or a political forum, where words and actions convey a unique meaning and are exercised in a special capacity. Those words and actions have to be interpreted from an outside space because the 'here and now' inside the space is isolated from that outside. These sorts of spaces are either completely fictional or at the very least hypothetical and arbitrary, and their essential purpose is that they are observed. These spaces are figural and rhetorical because outside they convey no direct real-world consequences; as isolated 'other' places, their directives must be viewed as analogies for the outside world and these can only be applied by outside observers. The power is indirect and rhetorical; there is no 'hard power' in a sports match, a parliament or a theatre. In each case those participating are really only playing. It is for the observers to make something more of these situations by conferring upon them an agreed and arbitrary significance. All of this is dependent on compliance and this compliance is by consensus. Consensus save for revolution, and Brechtian techniques are no doubt a revolt against theatre.

One cannot revolt in this way against cinema. If there are no observers of a film, it does not cease to exist or become something else. A play without an audience, a sports match without spectators or a parliament without the power of sanction in each case loses the great import it seeks. A film does not need to be watched in order to be a film. It is an object and cannot be denied its own nature. The critical point here is that if one attempts to apply Brechtian techniques or values in cinema, the implication is that cinema inherently shares the values and objectives of theatre. Brecht is an interventionist. But Vertov believes that film is real and he desires a cinema in which nothing is obstructed or curtailed, a cinema that is direct and free. Vertov could only be Brechtian if he believed that film, like theatre, was not essentially real and that it required a form of self-negation, to preface a lie with its confession. Vertov believed the opposite of this.

Making a film is not a performance as the other sorts of activities mentioned above certainly are. For one, the roles of perceiving and performing in those other activities are concurrent (film or television footage of such things is obviously not an example of these categories). If one wants to say that a film involves performance, it is done in a split capacity: a performance in front of the camera and then a performance in front of an audience. So in this sense it can be said the role of perceiving a film is concurrent with only one half of its performance. Therefore the absence of an audience for a film may disqualify only half of its performance. If a filmmaker attempts to be Brechtian, he or she must address both aspects of performance.

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Theatre is a conceptually isolated space, but it is practically continuous with the space in which the audience is positioned and it must convey figural meaning in order to achieve this conceptual isolation. The action and words in theatre gain significance when they are conferred the weight that they might be given in reality. It requires an active indulgence by an audience to enable it to be interpreted like this. This is what theatre asks of an audience. Revolting against this would naturally be a role for an audience member or an entire audience, yet if it is the theatre's role instead (on behalf of the audience e.g. Brechtian modes), it is an endless enterprise and an all-encompassing act in itself. The fight is against a tendency originally desired in the make-up of the medium. Alternatively, no such insurrection is required in cinema, especially not the cinema of reality that Vertov envisaged.

The reality that Brecht wants to reveal is likely one that fits more in the category of the already described 'inner reality'. This reality is one that might be thought of as how things 'really are' as distinct from how they appear. The values of Brechtian theatre are marked by acute scepticism; scepticism of ostensive power, but also of covert powers that attempt less to actively oppress but instead work to distract, mislead, dazzle and enervate. Assorted mediums and even art itself can often be seen as prime culprits of this type of covert power. For Vertov, theatre certainly is a suspect form, but cinema on the other hand represents for him a direct opportunity for revealing truth, and one that can be achieved with less intervention, not more. Cinema as theatre is definitely something Vertov rejects, but he believes that cinema is essentially something very different from this, and to pair Brecht's scepticism of theatre with Vertov's cinema is therefore to present a difficult artistic ideal and a very mixed method, to say the least.

Several pertinent questions that may arise out of this are, 'What happens when cinema is intervened with and subjected to this type of scepticism, especially in the name of Dziga Vertov?' 'If there is something called Brechtian cinema, of what sort is the reality it wishes to reveal?' 'Does this further the cause of Vertov and promote his cinematic values?'

The Dziga Vertov Group

The Dziga Vertov Group (DVG), mainly comprised of two filmmakers, Jean-Luc Godard and Jean-Pierre Gorin, was an openly Brechtian outfit and also very emblematic of its time. In a supportive response to the public revolt that occurred in France in 1968, Jean-Luc Godard, like many artists of his generation, turned very hard to the political left and viewed Brechtian modes as ideal for expressing and enacting the surging scepticism of the powers that were. While it is true that aspects

of his aesthetics wore these sensibilities prior to this turn in the late 1960s, these served a focus on what were much smaller and specific issues of social comment (Lesage, 1983, p.51).

If we take the DVG's 1969 early film *British sounds*, we can see demonstrated all the hallmark traits of Brechtian modes, and while it is also apparent that Vertov's values are referenced, they are strangely undermined. The film immediately announces DVG's gambit: that the camera must be held in check in order to account for its influence over our sense of reality and that if it is allowed to run rampant, we will be hoodwinked and victim to it. *British sounds* begins with a dolly shot, left to right, with the camera moving along a straight line parallel to a production line. The location is the interior of a British Leyland Motor Corporation factory in England. A polemical voiceover in English accompanies this shot. The shot is obviously a reflection of the restrictions of the production lines on the men's labour. This analogy is limited to the extent that the production line does not actually move at a speed that can be visually documented in a meaningful way by the film camera with this kind of shot. The camera moves past each car within seconds and there is little sign of movement let alone progress. This limitation is problematic for several reasons. The analogy of the shot to the production line is singularly rhetorical in that it highlights the monotony and facelessness of the labour. The main impression is that the cars (the products) are of central importance in the factory, not the labour. The aspects of the setting highlighted are those of exploitation and labour being owned and used by the company rather than by the workers. However, the analogy is tendentious to the extent that formal techniques preclude the audience's knowledge of the real setting and it becomes quite obstructive to its own cause.

Whatever the nature of the work in this factory, the camera does not become familiar with it. It imposes a very abstract and *a priori* argument onto a real situation. The power of film realism used for prior purposes. In this instance we almost have a film set. Of course, such is the freedom and idealism of art, but this is not the sort of idealism and freedom that Vertov advocated and it also shows that even though the DVG ostensibly had allegiances to reality, their attempts to create meaning from reality draws on their (namely Godard's) allegiances to fiction. The film gains credence from the outset because of its documentary aesthetics, pared back production values, unconstrained sound and direct tone; but the content is not any of these; it is instead isolated, controlled and pre-conceived. While it can be argued that the labour itself may be being exploited, the nature of the labour and the labourers in this early shot is vague; they assume almost fictive roles that are narrow and symbolic. The notion that the labour being performed in this car factory is owned and exploited by the company is rhetorically reflected in the shot itself, which is affective no

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doubt, but represents the opposite method to Vertov's. Vertov believed in a free camera, let loose in the world, shy of nothing, especially not for the sake of rhetorical coherence. There are only two shots in *The man with the movie camera* which come even close to this kind of figurative rhetoric: one follows a shot of a couple at a marriage office seeking a divorce, and it shows the metaphor of two roads in a double-exposed shot diverging; the other is at the end of the film and shows another double-exposure of the Bolshoi theatre seeming to split in half. Otherwise Vertov very much conveys his figurative meanings in the vein of his friend Mayakovsky, whereby poetic intentions are never superimposed onto material of real-life phenomena, leaving that material conveyed shorthand or diminished in detail. It is likely that DVG's factory shot is intentionally generic. The factory space is no doubt meant to be any factory space, but again this is very different from the variety of Vertov's unspecified multiple locations in his film.

The scepticism behind DVG's work can be, in a formal sense, attributed to Godard's view of television news, particularly in regard to US involvement in the Vietnam War. Already in his 1967 film *La Chinoise*, the Brechtian concept of realism informs his view of news as "reality brought in pictures". Godard's understanding of Vertov's news concept (namely *Kinopravda*) was coupled with his Brechtian values in a practical and straightforward way. In an interview published in the *Evergreen Review* Godard stated: "A movie is not reality, it is only a reflection. Bourgeois filmmakers focus on the reflection of reality. We [DVG] are concerned with the reality of that reflection" (Lesage, 1983). Those sentiments were echoed in the voice-over track of *British sounds* rather speciously with the words: "Photography is not the reflection of reality, it is the reality of that reflection" (what is that "reflection"?) Thus the analogy is plain: as Brecht was concerned with theatre, DVG was concerned with cinema. The tendency of their films therein became one characterised by a drive to 'deconstruct' cinema, the cinematic image and the cinema apparatus. As Derrida worked to reveal the reality of speech and text, so did DVG of cinema. Underlining the political position that informed their cinematic approach was the belief that spontaneous uprising against oppressive powers was short-term, inherently unsustainable and uncoordinated; this was rooted in the previously discussed notion of scepticism of the 'soft power' inherent in art and media. This notion was tied to an assumption that spontaneous uprising played into the hands of existing modes of cultural repression and that such uprisings could not circumvent that type of repression, which meant that the uprising in turn reflected an eventual route to a return to the status quo (Lesage, 1983). On a cinematic level this resulted in a suspicion of anything 'spontaneous', i.e. *cinema vérité*, naturalistic styles. These were deemed to depict 'surface events'.

By the time of DVG's final collaboration *Letter to Jane* (1972), the analysis had been refined to a single 'surface event', a photograph of actress and activist Jane Fonda in Vietnam. There is not a single moving picture in the 52-minute film. Cinema in this instance is paralysed and dissected with words, reduced to its antecedent, photography, posing an example of Deleuze's *time-image* ne plus ultra. *Letter to Jane* is a compelling rumination on its subject but it is also intentionally shackled by scepticism about the cinematic medium and is essentially uncinematic, naturally concluding DVG's cinematic reductive drive.

The fundamental question with regard to whether one is sympathetic to the cinematic values of the DVG is where the responsibility lies for the exercise of scepticism. At the beginning of the chapter, the habit of media replacement and innovation was discussed in terms of a recurring dissatisfaction with media when they are deemed to be improperly depicting reality. This reality, obviously, could be described and valued in assorted ways and most importantly can be emphasised to exist either primarily at an objective, outer, surface level or at a subjective, inner, subliminal level. In either case, the medium is put into question. Ultimately, the response is always that of intervention in the medium. A key qualifier to amend to this fact is that artistic revisionism is a natural practice; however, it occurs only in regard to existing works comprising a complete or near-complete oeuvre. An artist will rarely revision their work positively with the result that they continue a practice or return to a practice which characterised their earlier work, and if an artist does do this, she or he is as often as not revised by critics in kind and dismissed as conservative, regressive or having lost touch with her or his genius/inspiration, rather than having rediscovered it.

The DVG occupies the category of artists who progress to view their medium sceptically. Part and parcel of this position is the belief by the artists that their intended message remains firm and moreover, when artists display in their creative lives these sudden 'turns' in their practice, they espouse a new or consolidated clarity relating to their mission. In the case of Godard this was a set of Maoist dictums regarding the role of artists, not unlikely expounded to him by the contemporary writings of French Marxist authors such as Henri Lefèbvre, André Gorz and Louis Althusser. The alternative to this is a mentality akin to the revisionism that usually only takes place over the long-term. This revisionism accepts that a critical role carries a responsibility of having to relate an artwork to the world. An inherent aspect of this responsibility is to acknowledge and respond to the dynamic nature of this relationship and with that the acknowledgment that an artwork is neither necessarily true nor false and, if ever, necessarily in flux. This critical approach, potentially taken up by artists and non-artists alike, to an extent absolves the use of the medium as determining the

success of an artwork. The medium is seen much more as a part of both the world and the artwork, and therefore the notion that, in a certain application, the medium fails to achieve something is meaningless. The artwork is simply understood as having come into being and therein its role in the world can be debated, but singling out its integral medium as a prior mechanism acting as a polestar for measuring the success of the artwork against what it should or could have been is not a part of the critical engagement. Vertov was sceptical of much, if not all, of the cinema that preceded his own work, but he was sceptical of films, not film. Vertov knew the world was full of lies, but he did not want the camera to lie. His position was an objection to circumventing reality by taking camera-truth into the fictional world whereby it connected one sort of truth to another very different sort. In the make-believe world, everything is true. Camera-truth and fictional-truth (the irrefutable nature of a self-defined and hermetic fictional world) can be viewed as incest of the highest sacrilege. The solution is to put reality in the middle.

If Vertov's methodology were to be held to account as pertaining to any falsehood, this would not be his attention to 'surface events' but instead his belief that he could readily negotiate such events, sifting through what he might believe to be the 'hammy', camera-conscious facets of real life and then discerning the 'real' moments. Boasting of using footage of actors-not-acting (between takes) on a colleague's film and its superiority to the proper alternative, Vertov sought to capture moments when a person was revealed (Enzensberger, 1977, pp.402–403). It was a mistake of him to purport to know reality so well, but a forgivable wont in the context of his campaign against traditions of fiction in cinematic history. Again returning to scientific analogy, the impossibility of witnessing and studying phenomena without affecting it, and further that the testing of a theory or hypothesis cannot help but characterise the nature of the investigation before (*a priori*) it has been conducted, which means that the data is always compiled with discretion and never fully *a posteriori*, has been a central issue of scientific epistemology. This is perhaps most famously outlined in physicist Thomas Kuhn's *The structure of scientific revolutions* (1962). The straightforward point here is that the camera offers us an element of withdrawing us from that discretionary power by way of its autonomy and freedom and therefore to be so certain that one can judge the 'reality' of the pro-filmic event is to somewhat undermine the whole apparatus. This is as stated, forgivable for Vertov, an artist, working within the context that he did, but it therefore should not be surprising that increasing clarity in this matter was achieved by a filmmaker with a background in natural and social sciences, namely anthropology and sociology.

Jean Rouch

Earlier an analogy was given of science by way of the relationship of realism and art being like that of an experiment, whereby art was posited as an experiment and realism its subject. Whether he is called simply a filmmaker and anthropologist or an ethnographer, a visual-anthropologist or a docu-fiction or ethno-fiction filmmaker, Jean Rouch's career very much amounts to a journey from science to art. As a filmmaker who quickly became chiefly associated with African subjects, he arrived in that continent (Niger) in 1941 having just graduated as an engineer with quiet aspirations to poetry, but soon the documentary opportunities presented to him pushed him in the directions of anthropology and then filmmaking.

By the mid-1950s Rouch's reputation had spread outside anthropology and with the support of producer Pierre Braunberger who blew up his films from 16mm to 35mm for a cinematic release, they were to circulate in film festivals. *Moi, un noir* (1957) won the Prix Louis Delluc in 1959. His methods greatly impressed the then avant-garde filmmakers in France. Godard wrote an adulatory piece about the film in *Cahiers du Cinéma* in April 1959. Later that year in August-September Godard made his first full-length feature *À bout de souffle* and his methods had clearly been influenced by those of Rouch. Godard called *Moi, un noir* "the best French film since the liberation" (Henley, 2010, p.xv). Rouch was at the height of his fame in France by the 1960s.

Rouch's reputation for innovation was further consolidated with the release in 1961 of *Chronique d'un été* (*Chronicle of summer*), an 'experiment' in cinéma-vérité which Rouch had shot the previous year with sociologist Edgar Morin. This film was instrumental in introducing the term itself. Rouch still had a minimal reputation in the English-speaking world. He was often discussed in *Cahiers*. The attention he received there and elsewhere declined gradually into the 1970s. However, he gained a major retrospective at the Centre Georges Pompidou in 1979 and in 1981 the Ministry of Foreign Affairs issued 8.5 hours of his films on videotape along with an informative booklet. Strangely, Rouch's reputation as an anthropologist was contested in France, but with the academic rise of visual anthropology, his work was enthusiastically taken up in the English-speaking world (Henley, 2010, p.xvi).

Rouch had several mentors in anthropology who were well established in French academia. Marcel Griaule (Rouch's doctoral supervisor), Paul Rivet, Germaine Dieterlen and Marcel Mauss (originally Griaule's academic mentor) all played a role in his introduction to the field. Mauss was the father of social anthropology and holder of a chair in sociology from 1931 at the Collège de

France. Rouch the anthropologist was to be methodologically influential for Rouch the filmmaker. This can be attributed to Mauss' methodological approach in anthropology, which contrasted greatly with that of Mauss' uncle, the great sociologist Émile Durkheim. Durkheim viewed social and cultural institutions as the foundation and justification for ideas and beliefs, the latter being essentially illusionary, whereas Mauss viewed the relationship between institutions and ideas as the other way around, that ideas and beliefs supported institutions. Mauss consequently emphasised the practice of systematic accumulation of data over the application of systems of thought in the accumulation of that data (Henley, 2010, pp.10–11). The key implication here is that Mauss would advocate a resistance to applying *a priori* methods to an open field where the significance of any data is yet to be established. He believed that ideas and beliefs defined social circumstances and that social enquiry could not simply dismiss them and instead only seek to identify underlying institutional structures (generally extra-cultural and often established as theoretical models in Sociology derived from older work on separate subjects). Under such influence, Rouch's anthropological methodology was to inform his cinematic approach. Thus for him, as with any anthropological document, any cinematic document carried from the outset a sovereign and inherent significance.

Yet the revolutionary methods of the filmmaker that Rouch would become did not have a precedent in the filmmaking work of his mentors; Rouch was to develop both a method for filming and a notion of film documentation that were very different from the practices of his seniors. Rouch recalled Mauss' views thus:

[he] recommended to ethnographers the use of film to record certain modes of behaviour. He had not been able, because of his experience, to detect the specific nature of a filmic orientation; for him the camera was a visual memory which could record the totality of a phenomenon (Eaton 1979, p.2).

By the time of his first short, made with his companions in adventure Jean Sauvy and Pierre Ponty, *Au pays des mages noirs* (*In the land of the black magi*, 1947), a practical urban vestige of filmmaking, the tripod, was dispensed with in order to more closely follow subjects. Rouch was therefore, we can assume, detecting the 'specific nature of a filmic orientation'.

Already by 1952, Rouch was becoming ever more conscious of the strange and foreign aura his films carried for those, mainly back in France, who viewed the films unfamiliar with the environments in which they were made. Initially conceiving of an editor as superfluous, Rouch

came to value that role as a vital and separate operation from his as director (Eaton 1979, p.5). He understood that he, as a witness to the pro-filmic event, did not have the impartial ability to view his footage as standalone documents and he was therefore less able to discern the content of the material he shot. The editor “must tell me what he sees, and if he doesn’t see something, then what I wanted to put in is not there, and if he sees something that I don’t, then I have to take that into account” (Eaton 1979, p.5) (Levin 1971). He recognised the dual-performative capacity of cinema, discussed earlier in the chapter, and he moreover realised that familiarity with both performances in reference to a single film meant that one was apt to merge the two in one’s mind, eroding the importantly distinct qualities of each. This is the first conceptual instance where Rouch takes a great bound beyond Vertov in further realising the capabilities of the realism of cinema. He does not undermine Vertov’s trust in cinema’s realism, but instead goes further to appreciate that this reality which cinema carries from the pro-filmic event to the filmic document is one which surpasses our abilities of discernment, that we cannot easily attest to that realism with our own experiences. Even a filmmaker cannot ‘vouch’ for the content of her or his film. In recognising this, one must, to an extent, move beyond Vertov’s faith in cinematic realism to something in a way ‘higher’ beyond our ken, that in the same sense that Vertov championed the mechanical-eye as a force that revealed to us the visual world previously hidden to the human-eye, we must by the same token appreciate that we cannot decide with great confidence what is ‘real’ in that new visual world and what is not; what is ‘meant to be there’ and what is ‘not meant to be there’. Repeat: not even the filmmaker can do this. It is in accepting this that fiction can no longer be held at the gates.

Preceding this turn to fictive modes, Rouch’s *Les maîtres fous* (1955) depicted a ceremony of the Hauku, a West African religious movement popular in Niger and Ghana from the 1920s to the 1950s. This was a key film in his transition from the more traditional ethno-documentaries that he and others had made before this which aimed to present the ‘subject’ (African people and culture) as discrete and isolated from Western influence, to a new and larger focus that documented the colonial influence as undeniably inseparable from the ‘subject’ as it was preconceived in sociology and anthropology (Eaton 1979, p.7). The Hauku ceremony documented in the film is one in which colonial symbols and rituals are re-enacted in a manner idiomatic to the Haukus’ notions of colonial significance. The ceremony has an equivocal nature, seeming neither a tribute nor satire, nor even a straightforward cultural appropriation by the Hauku of colonial icons and ritual. It is explained in the film as a catharsis by the men and women whom the next day (end of the film) are shown going about their everyday lives working on various industries and infrastructure projects resulting from the dominant pressures of Western modernity. At one point in the film a man holding wooden guns

and then a fire-stick performs alternatively for the people around him and the camera, to and fro, open to and cognisant of the dual roles he is playing as film star and ceremonial participant.

Also in 1954, Rouch began filming a feature that would not be finished until 13 years later, *Jaguar* (1967). A chief interest of Rouch's at this point were the migrations patterns in West Africa, and it was the great challenge of this project, *Jaguar*, to convey this huge event coherently and meaningfully. Rouch came to the conclusion that the limitations of a feature film could not contain the scale of space and time across the expanses traversed and experienced in the series of pro-filmic events he documented. Unable to convey their proper context, these pro-filmic events were deemed by Rouch to be complemented by the assistance of "benevolent actors" (Rouch's migrant friends) who conveyed the significance of these events in more direct human terms (Eaton, 1979, p.7). Rouch described the film as a "pure fiction" and the actors conceived the episodes of the film only at the time of shooting, indeed, "Jaguar" being a West African term for a sophisticated town-boy connotes an urbane little ruse on behalf of the young Songhay actors as covert appropriators of ethno-documentary film. Rouch later said of it: "it's a little like surrealist painting: using the realest possible products of reproduction... in the service of the unreal, putting them in the presence of irrational elements. A post-card in the service of the imaginary" (Eaton, 1979, p.22). The significance of this invocation of the surreal is for visual anthropologist Paul Henley a key to understanding Rouch's entire output:

Rather than depict the surreal directly, Rouch's aim was to exploit the capacity of the filmmaking apparatus to reproduce the world in a literal, indexical manner in order to document the manifestation of the surreal in the forms of the real or, as he put it much more poetically in a 1967 interview, to produce a "postcard at the service of the imaginary." It is in this sense, I suggest, that his life project can be conceived as on long and constantly experimental *Aventure*, one that involved the intrepid exploration not only of the exterior world in Africa but also of the recesses of the imaginary, an evocation of the surreal, but of the surreal as made manifest in the real (Henley 2010, p.xiv).

Perhaps the closest thing to a concise summary that Rouch himself produced of his filmmaking praxis is the essay "The camera and man", first prepared for the 1973 Congress of the International Union of Anthropological and Ethnological Sciences in Chicago, which gave rise to *Principles of visual anthropology*, edited by Paul Hockings, the English language foundation text of visual anthropology. Rouch produced this at the midpoint of his career, aged in his mid-fifties. This turned

out to be the high-watermark of his career producing ethnographic films. By the early 1980s he had stopped making them altogether (Henley, 2010, p.xviii).

By 1977 Edgar Morin's term *cinéma vérité* was generally considered a naïve and outdated term by documentary filmmakers, and yet Rouch still felt perfectly comfortable using it at that time (Eaton, 1979, p.50). The term sat uncomfortably through Morin's own coining between the cinemas of Vertov and Flaherty, and Mike Eaton points out that for Rouch this ambiguity resulted in an uneasy association with Vertov. Eaton accounts for this by pointing to Vertov's predilections for experimental montage and formalist aesthetics. Eaton argues that what Rouch really wanted to do was create a "synthesis" or "marriage" between the kino-eye and the human-eye (Eaton, 1979, p.51). So *cinéma vérité* is not to be rejected as the documentation of 'surface events' but accepted as a unique utilisation of camera-truth, not to capture the truth in the absence of lies, not to thwart the endless insurrection of ideologies, indeed as Rouch says "not to film life as it is, but life as it is provoked," to create documents of cinema-truth, and that aside from all other things "cinema is the creation of a new reality" (Eaton, 1979, pp.51-52).

We are able to see more clearly certain aspects of a particular thing outside of its natural context or amongst other things that are not of its kind. The value of fiction and myth is that particular aspects of truth and reality may be perceived only in a context that is untrue or unreal, which is distant from our own true reality. Any argument that all truth is best perceived, or can only be perceived, in the absence of lies and situated only in reality is unsound. It is the case in all things that some aspects of the truth and reality must be seen up close and some must be seen from afar. In order to achieve this, one must create a distance between oneself and the truth or reality; one must become close to lies and the unreal (and in Rouch's case, particularly the surreal). Similarly, something can be seen from both the outside as well as the inside. In the case of film, some aspects of what we would qualify as real in film (a film realism) can only be demonstrated and perceived in fictive capacities, and so those aspects of film realism become obscured or invisible as fictive capacities recede. For Rouch this was definitely the case.

Of their collaboration, subtitled "An experiment in cinema vérité", *Chronique d'un été*, Rouch said:

for me and Edgar Morin, this lie [the camera and all its situational effects] was more real than the truth. That is to say, there was a certain number of things happening, human facts surrounding us...which people would not have been able to say any other

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way...it's a sort of catalyst which allows us to reveal, with doubts, a fictional part of all of us, but which for me is the most real part of an individual (Eaton 1979, p.51).

It is this notion of a 'new reality', an outside but familiar third voice, neither our own nor that of the world, through which we perceive those two realities, the 'inner' and 'outer', anew. Mysterious and removed from us, they attain a calming tone, as our minds no longer sit between them as burdened mediators. It is a calm we will never again want to do without. While cinema has often been defined by the fact that it reflects physical reality in both form and function, the idea of 'material aesthetics' need not necessarily be tied to the functional element of cinema's relationship to physical reality. The invention of the cinematic apparatus announced not only a new medium but also a new purpose, which was to free ourselves of the burden of witnessing physical reality alone. In the digital era, we are witnessing the end of the original cinematic apparatus as a medium, but the unique purpose of that apparatus subsists in digital aesthetics and continues to define it as well.

Chapter Two – The ideal image: an idea of media and an idea of image

Digital technologies are electronic devices that convert information from one format type to another. The input format for a digital device is universal and is called binary code. A binary code is a coding of primary data using only two digits. Those two digits are 1 and 0. A combination of those two digits in a set called a bit string, which can be of varying length, is used to signify a symbol or command. Digital technologies require that media content is converted into binary-coded information. This form of information can be stored in many forms of media, of which none are required to be understood by a person as anything other than binary code. This means that such information exists in a state that is only latently meaningful to a person. To be meaningful to a person it must be converted from informational code into media content. Therefore in digital technologies, images, whether they are cinematic or otherwise, are derived from an ontological state that is no different from that of digitised sounds, words or numbers. The expression of content that a person would find meaningful in the form of images, sounds, words and such, requires many varying forms of media. Those varying forms of media arguably define all the content that lies latent in binary code. Digital processes in cinematic production and reception represent the incursion of immaterial elements into the cinematic domain. If the materially based medias that define, require and create content disappear, the respective types of content that they define should disappear too. This does not need to be the case, however, if an immaterial element underpins the materially based media in the first place.

Nonetheless, the pressing question that arises from all of the above is: if all the content from different mediums is converted into one medium (binary code) and in the process becomes ontologically identical, does this ultimately require all the different mediums to merge? If it does require this, this would for most people inevitably spell the ‘end of cinema’. By necessity, in order to merge, individual mediums must dispense with all characteristics that cannot be shared by all the others. For cinema there are two obvious questions. 1. Does cinema have to merge with other mediums? 2. If cinema does have to merge to any extent, what characteristics might it concede and what characteristics might it maintain? Drawing on the arguments in the previous chapter, this chapter will argue that cinema is best defined not as a medium but instead as a type of image in our minds. Extending this argument to address the two questions above, the definition of cinema will be

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positioned as far more impervious to the digital tide than if the definition were located in the ontological state of its formative media-apparatus.

The previous chapter argued that the invention of cinema altered the human sense of realism by easing our scepticism of how we viewed the world. This easing of our scepticism was not the result of any clarification of reality offered by cinema; it did not offer any new certainty regarding the interface of subjectivity and objectivity. However, what it did provide was a new counterpart to our own sense of reality, a new view of the world set apart from the human view of the world. The camera-eye, different from and independent of the human-eye, conveyed a sense of realism we could comfortably question. The scepticism was not resolved, but at least the burden was now shared. There was more to doubt than only ourselves. Therefore, it must be said that the cinema-apparatus transfigured the operation of our inner and outer realities. This outcome becomes more lucid if one accepts that images are located in the nexus between these two realities, the inner and outer.

This transfiguration that the cinema-apparatus affected at this nexus represented the creation of a new type of image. In the present chapter that image will be referred to simply as the 'cinema-image'. The chapter will discuss in depth how this transfiguration could happen. To achieve this, the discussion will chiefly involve illustrating the nature of the interface between the inner and outer realities and how they together can constitute an image.

The first aim herein is to provide a more detailed framework for the previous chapter's very basic notion of inner and outer realities. This framework will be built specifically around the term 'image' as something comprised of those two realities. The reason that a term as general and potentially vague as 'image' has been chosen is because an image can be defined as completely, or at least partially, immaterial. If images are defined as immaterial, their appearance in a digital guise is far less exceptional than if they were otherwise defined as completely materially immanent. This notion of an immaterial image offers the prospect of its own potential crossover from one medium to another medium and leads to the second aim of the chapter.

The second aim of this chapter is to describe how a medium can configure a type of image that then configures other mediums. Specifically, this concerns the material-based cinema-apparatus configuring the cinema-image that afterwards configures the information-based digital media increasingly used in cinema up until the present time. The issue of how old mediums can prefigure new mediums but then consequently restrict them was discussed in the previous chapter, and the

argument in this chapter may initially appear to merely describe just another example of that. However, this chapter will posit cinema as a type of image, not a type of medium. By defining cinema as a type of image, specifically, the cinema-image as this thesis defines it, it should be understood that this image prefigures, restricts and informs the information-based digital media. Because this image is immaterial and the information-based digital media are also immaterial, this restriction does not represent the restriction of a new medium by an old one. Cinema is neither conceived of in this sense as a medium, nor does its manifestation in a digital guise qualify as a restriction of digital media. Digital media is immaterial and does not therefore prefigure a form of content in the way that a materially based medium does. Therefore, teleological debates about whether digital media's content is being expressed correctly or incorrectly are redundant. In light of all this, the immaterial cinema-image has been and will continue to be a dominant factor in cinematic practices in an era when information-based digital media are integral to those practices.

The chapter is broken into two parts. The first part discusses the intertwining concepts of media, new media and information. The second part of the chapter discusses how any type of image can be located at the nexus between inner and outer realities – between the mind and the world. It can subsequently be explained how the original cinema-apparatus transfigured these two realities, creating a cinema-image.

Early on there will be frequent reference to the term 'new media', and this term denotes those communication technologies that employ binary coding at various levels. The discussion in this first part is done with a view to characterising information as something entirely derived from and dependent on human meaning. The reasoning is this: Human meaning gives information a use-value. This is to reject arguments that digital technologies convert media-content into information to such an extent that our existing mediums are necessarily at risk. If our existing mediums were at risk, the wider consequence would be that human input in media is being diminished generally. This diminishment, if it were true, would obviously imply a disappearance of the cinematic values that were derived from the original cinematic apparatus. Such a disappearance would refute the notion that there is a cinema-image operating within the use of digital technologies in cinema. Countering this prospect, the chapter rejects information as independent of media and also rejects the notion that information residing in an immaterial form will lead to the diminishment of media diversity. The contention concerning the relationship between media and information is simply one of causality and precedence. The argument that follows is that nothing we can call media could maintain that self-definition without human use. Consequently, there is no such thing as information without media. Moreover, information cannot define media as if information had an inherent

purpose or intent; it is media that defines information. Media is in turn defined by its use-value. This use-value refers to the ability of a medium to convey meaning. A definition of what it is to convey meaning will be given early on in the chapter. In short, a medium conveys meaning by enabling information to have an effect.

The prospect of a complete merging of all media would represent an implausible instance of the cart pushing the horse. The implication for the image is that the understandings of media and information outlined in the first part will inform an understanding of the image as one of effect. The cinema-image is therefore a type of effect. This image, as an effect or described as a use-value, has the authority to determine what sort of media affect it. It logically follows that this image also characterises the information mediated. Repeat: this type of image will prefigure information. So, while cinematic images increasingly reside latently in a meaningless and immaterial form, so does the cinema-image survive in another immaterial form, as effect. Many existing and potential media may therefore strive to create this effect, to create this type of image.

If this study were to instead focus on a case where the information had a material basis and the image had a material basis as well, the consequences of a similar restriction would be arguably unfortunate; indeed, it would represent the exact kind of scenario from which Dziga Vertov wished to free cinema in the first place. But in this case of an immaterial image, there is no longer a pre-defined media to restrict; there is only information requiring mediation. As will be discussed in later chapters, the ontological state of the media utilised in digital cinema has no other purpose but to serve this immaterial cinema-image. Digital cinema must invoke its non-digital origins in order to rise out of its ontological state of non-effect. The information must have an effect and with digital cinema it must be a cinema-image.

Media, new media, and information

In the field of new media studies, there has been a popular trend, which was arguably initiated by Russo-American media and art theorist Lev Manovich, to repeatedly identify new ways to argue that new media is not new. In the face of the perplexing implications of new media in numerous fields of study, not only cinema, scholars have found great satisfaction in slowly chiselling away at the novelty of new media. This has been achieved via a double-step critical approach. The first step is to enumerate, through a systematic and categorical description of new media, the various principles of its own definition that assorted theories have previously deemed to be essential. This is followed by the second step, which involves the process of identifying those very principles in art and media that are outside the techno-historical sphere of new media, often dating back to long

before the cinematic era. This critical approach to new media has achieved two seemingly commendable things from the perspective of theorists and critics alike. Firstly, it has provided a necessary historical framework that all future new media studies can both refer to and contest with, a 'history of new media'. Secondly, it has also reallocated many of the fading elements of new media and re-identified them within the assortment of already defined key questions traditionally posed and explicated. Those key questions draw from the various modes of twentieth century theory and criticism, which have mostly stemmed from the fields of art, media studies, linguistics and philosophy.

One thing that can definitely be said of new media studies, as a scholarly field, is that it is an open and very diverse arena for theorists. There are compelling works on the subject being provided from the fields of literary criticism, such as those by Katherine Hayles and George Landow; art history and criticism, by Rosalind Krauss and Peter Weibel; the media and communications background, Lev Manovich and Friedrich Kittler; and cinema, the likes of Sean Cubitt, Mark B. N. Hansen and Garrett Stewart. However, at the same time that all these disciplines, methodologies and numerous theoretical frameworks converge on the topic of new media, it becomes apparent that in many ways, media in general is anyone's game. Further, that if one canvasses the great amount of work done in the last 20 years that concentrates specifically on questions arising from new media, there is strangely little congruence to be found and few examples of an intentionally novel approach. The overall impression is that the topic of new media is always ripe for the application of existing theories that originally served specific examples of older media.

The struggle to find new ground coupled with the cascade of writings can perhaps be explained by the ambiguity of the concept of media. Whatever might be said of new media itself, it seems that the 'new' has inadvertently questioned the 'media'. There are two giants in the academy of media studies and they are Marshall McLuhan and Friedrich Kittler. Perhaps not surprisingly their respective theories are at loggerheads regarding media and its development alongside humanity's own development in general. McLuhan's view, which is outlined in his 1964 book *Understanding media: the extensions of man*, speculated that media must be understood as something that serves us. He believes that media ultimately represents an extension of ourselves as both individuals and societies. But he also proffers the subtle complexity of humanity's relationship with technology, writing that a technology (a medium) obscures itself from being wholly seen and understood until its use-value reaches a peak of efficiency. It is only then, after this peak, that it wholly reveals itself, having achieved a perfect utility. However, the catch is that by the time this revelation occurs, the medium is obsolete having at the point of its peaking consequently enabled our advancement

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onwards to another, newer technology. A medium is only wholly revealed when it becomes redundant. McLuhan writes that this phenomenon is analogous to the appearance of sound waves on an aeroplane wing an instant before an imminent sonic boom (McLuhan, 2001, p.12).

It is very much on the other hand that Friedrich Kittler views media in his famous 1986 work, *Gramophone, film, typewriter*, which is as an autonomous technology. His view should be, alternatively to McLuhan's notion, understood as characterising media as a type of phenomenon that we chance upon and almost 'slot into', media being, therefore, an already (always) available scientific potential that is in many ways no more ours than the Sun that shines down on us, or the earth we walk upon. The crux of the debate between these two theorists remains difficult to resolve and it ultimately extends to a larger argument that concerns technology in general. When pressed at every level, the debate becomes circular.

The broadest and simplest argument against Kittler would posit that media serves us and that we do not serve media. Further, whether our desires and needs, as media may fulfil them, are noble, evil, real or illusive, any notion of media as technology must assume that we created things such as paper and television because we are alive and want them. This argument implies that media are created and used with an intention. While it may be true that in any particular case, such an intention may be held with an incomplete understanding of the medium being used, the intention is still crucial. It is an argument that projects an anthropocentric future. This is not a future that Kittler envisions, and to those who believe in a servile notion of media, he predicts a future-placed media convergence into total uniformity. This would mean that there is only one type of media. At such an eventuation, whatever media previously did for us, in an absence of its multiplicity we would be robbed of our dominance. We would no longer be defining media or, in other words, the intentions that guided our use and creation of media would be dovetailed; intentions would converge and become uniform. If this happened, media would have determined our future to the extent that we became the permanent and therein completely determined partner in the relationship. In *Gramophone, film, typewriter*, Kittler makes his position clear on the very first page, writing:

The general digitization of channels and information erases the differences among individual media. Sound and image, voice and text are reduced to surface effects, known to consumers as interface. Sense and the sense turn into eyewash. Their media-produced glamour will survive for an interim as a by-product of strategic programs. Inside the computers themselves everything becomes a number: quantity without image, sound, or voice. And once optical fiber networks turn formerly distinct data flows into a standardized series of digitized numbers, any medium can be translated into any other. With numbers, everything goes. Modulation, transformation, synchronization; delay,

storage, transposition; scrambling, scanning, mapping – a total media link on a digital base will erase the very concept of medium. Instead of wiring people and technologies, absolute knowledge will run as an endless loop (Kittler 1999, p.1).

Whatever one makes of this passage, let us take note of the fact that Kittler's conception of media and its future centres on the plight of information, as if media is a secondary component. 'Information' is a word that pervades discussions of every sort on the topic of media, especially when arguments necessitate a nod to technical knowledge. However, information is not as solid a concept as some people may assume.

The Shannon–Weaver theory of information, first developed in 1948, has been described as the mother of all information models (Hollnagel & Woods, 2005). The definition of information in Shannon and Weaver's work is built upon the notion that the information carried by any message or symbol depends on its probability of being selected by the receiver (Lenoir in Hansen, 2006, pp.xvi–xvii). For this model, the key issue does not concern the meaning or significance of any part of a message or even the whole message itself. Instead, the key issue only concerns the aim of optimising the ratio of signal-to-noise in a message transmission (Lenoir in Hansen 2006, pp.xvi–xvii). That aim is the definition of information in the model because it is allegedly the only variable that can be consistently measured across all messages. Shannon measures information as inversely proportional to the probability of a signal reaching its receiver. This recognises that when a message is sent, the probability of it reaching the receiver is always within the spectrum of it being completely received to it not being received at all. Once more: if not received completely, all probability falls on the side of a message being incompletely received or not at all received. Accepting that as a useful measurement, the message's success by this definition is determined by three things: a) the message length (the longer it is, the greater the chance of error); b) the message complexity, a factor representing a measurement of the effect on the message by the absence of any information that is sent but not received; and c) the integrity of the signal used.

The Shannon–Weaver theory is the conceptual foundation of the technology utilising digitisation processes that are to be found in new media. More generally, this theory is the basis for our use of binary coding; this theory illustrates very clearly what new media offers. Binary coding is used with the aim of minimising the noise in a signal-to-noise-ratio. In binary code, the units of which all signals are comprised come in only two forms – zeros and ones. Therefore each unit is at only 50% risk of being misinterpreted. To reaffirm, the meaning of the symbols in a message is utterly irrelevant according to this theory; in the case of binary coding, the choice of a zero or a one being

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used at any point may determine the firing of a nuclear weapon or the life of a Tamagotchi. In simple terms, this theory is about the difference between information and misinformation.

As the arguments in the chapter develop further, a question to keep in mind is, ‘What is the difference between information and symbols, granting that they are not mutually exclusive?’ This question is pertinent because by using the word ‘symbol’ we can allude to a code or language. A code is an existing system of signals used to send messages.

The Shannon–Weaver model greatly informs and justifies Kittler’s ominous view of the future of media, its convergence and our risk of being put ‘out of the loop’. And it is quite apparent why this word ‘information’ is so central to his prognosis. But if we come back to this question of information and symbols, we can see that the latter term is far less meaningful for Kittler because, as opposed to his conception of information, symbols must have meaning. Symbols inherently refer to something and they carry an intending meaning or intended effect. The Shannon–Weaver model discounts the symbolic power of information and Kittler’s viewpoint also ignores the fact that in order for information to be received, there must preparation and work done on the receiver’s end. Conceiving of information as potentially in a ‘loop is to imply that information is self-referential and complete. This is to equate information with its message.

Another theory of information exists, however. This theory stands in great contrast to Shannon and Weaver’s theory. This other theory cannot claim to be the foundation of modern communication technologies and indeed, this can perhaps be explained by its more philosophical or humanist basis. The Shannon–Weaver theory conceived of information as self-referential, in a way decontextualised and separate from meaning, whereas British information theorist Donald McKay developed an alternative theory. McKay’s theory of information, developed at around the same time, while recognising that the probability of selecting a message indicates its informational value, also posits that a structural component exists in every message and that this indicates how the message is to be interpreted (Lenoir in Hansen 2006, pp.xvi–xvii). This model takes into account that a message, in order to be received, carries with it instructions for how this is to be done. These instructions come in the form of structural consistency – a code. Information may be argued to exist no less in the ether than it may in our minds and actions, but all information also carries a code and the code has the express purpose of enabling a correct effect – the message. This is no less the case even if the code is unknown to the receiver. In the case of binary code, it was previously mentioned that each unit of information is at only 50% risk of being incorrectly received, but it is only through the

structural aspects (the code) of a sent message that a receiver can even tell the difference between noise and signal, indeed, to even know there is a signal.

The essential point is that structural information in McKay's view is semantic and can only be calculated through changes brought about in the receiver's mind. This concept of information as 'effect' is profoundly different to Shannon and Weaver's. Shannon and Weaver's theory focuses on what information is and McKay's theory focuses on what information does (Lenoir in Hansen, 2006, pp.xvi–xvii). Undoubtedly, the latter theory, especially in the case of new media, is of little interest to Kittler and in no way serves his convictions about media. Under the Shannon–Weaver model, media is as Kittler supposes (a potential loop), but under McKay's it can be something else. What is information without meaning or, more importantly, what is information without a sender and a receiver? Does information that has not been sent and received have any meaning? If even that information has meaning, you could say that all the materiality of the universe is balanced in equal weight by all its correlative information high up in some ether. But what would be the meaning of that?

In light of McKay's theory of information and the prominence it places on the mind and state of the receiver, this chapter argues firstly that mediation involves an affective component. That is to also say that the mind, inferring that earlier notion of the inner reality, is an essential factor in, even, information theory. At this stage, this affective component can be thought of as many things, such as an act of translation, of creation, or of re-creation on the part of the receiver. Secondly, there is an implication that media is in fact a phenomenological construct, and in taking this notion further, the focus will now move on to the image.

The image and language

Taking into account McKay's concept of information as something operating between two points, a sender and receiver, by means of a common structure that precedes the operation, several issues discussed earlier about media resurface. If there is a structural component in a message that must be reflected in both its source and its destination in order for that message to be deemed 'received', a digital image poses many questions. Certainly a question arises as to how a digital cinematic image, perhaps a completely immaterial one, could reflect its structural components. Such an image could have been created without a camera and could be viewed through a medium such as a liquid crystal display (LCD), which never resolves a complete image at any one time and which no more assumes the physical properties of its appearance than a mirror does.

Where would the structural components be reflected in such a case? The human eye sees this type of image as just that, an image; that is, an image of something, a content. Yet the informational source of a digital image may never have been a physical image of anything. Upon the creation of the information for that image, a structural component exists that must also ultimately be in the mind of the receiver, either from the outset or at least as a result of the image being received. One thing is for sure: The receiver is not going to perceive binary code as the structural component for receiving the image. The receiver requires a structural component that is visual, a component that is appropriate for images.

And so the discussion now moves to the following concern: Is there a common image, a mechanism, a set of mechanisms, many or even one principle by which we conceive of images? To use a very loaded and slippery word, is there a ‘language’ for the image? Such a language, if it is going to be argued to exist, must be so latent and embedded in our practical conceptions of what we see and how we see that the logic that underlies the language would be almost necessarily elusive. If there were not a language of this sort, it would seem that we have either no real shared concept of vision amongst all individuals or that the world we view is entirely fact, beyond interpretation and beyond translation. Perhaps in that case the world would be beyond perception because perception is a qualifier used to account for the supposed multiplicity of views of the world. The truth is obviously somewhere between the two, because if we truly have no commonality to our visions of the world, such a situation would be comparable to the bleakest form of phenomenological blindness, and if on the other hand we view our world with a crystal clear and universal vision, both the joys and pains of subjectivity become difficult to explain.

If we toy with the notion that we see things using some ‘language’, we can ask naively, ‘Is this language some artifice of ours or is it wired into our bodies and minds as a result of evolution?’ Again, between two extremes we could propose some rudimentary hypothesis that any language of a visual kind may not be completely dissimilar to many or at least some of the principles of established linguistics. An example of this could be Universal Grammar. Universal Grammar is a theory of language expounded by linguist Noam Chomsky, which asserts that spoken language is a biologically innate phenomenon. Chomsky argues that language works through a fixed generative grammar, which allows us to construct and invent sentences and articulations without limit. Chomsky’s theory explains language and languages as open-ended phenomena, never complete and essentially demonstrative; they are defined by their use. But to suggest a connection, such as one between Chomsky’s theory and some general explanation of images, is easier than proving a

connection. Any theory of language of a visual kind would be best developed anew than simply lifted from the study of phonemes.

The aim of the chapter is not to illustrate a specific single visual language, but instead to identify a conceptual plateau on which images primarily operate. Images are necessarily of things, even if those things are merely colours and irregular shapes. It is the mind's making of things in images that a visual language would underpin. There is a fair concern that can be raised regarding a person's need to know what any specific image is of, but it is a separate epistemological question. That concern is engaged later in this chapter to an extent, but that images are of things is essential to their operation and definition as images and this should be accepted here as something significant in itself. To describe an image that is not of something is to describe an image that has form but no content. While it may be possible to argue that an image may carry no inherent content, images conceived as being seen must be imbued with content. This is a central tenet of the chapter and is explored in depth later on.

The practical everyday equation of eyes and seeing is not very meaningful to a philosophical enquiry of images. In contrast to the physical world, vision is commonly understood as a reflection or an impression of that physical world. That we achieve that impression through the optical reception of light into our retina (a physical process) obviously does not wholly account for vision and for this study vision is a mainly phenomenological issue.

It is therefore important to state some points before continuing. If we choose to conceive of our individual selves and the world as opposing points and the image as something in between, our eyes very much sit on the worldly side of that interface. Our eyes do not hold a position set between the images we see and ourselves. Our eyes are positioned between the world and images. Of the world, our eyes and images, we are closest to images.

Old questions of philosophy arise. An image is a consciousness, not only of the outside, but of course of the inside as well. As individuals, we can speak of 'our consciousness'. The image is one example of the many modes of mediation, such as sound and touch, between whatever we consider us and what we consider not us. Needless to say, as corporeal beings it is not a straightforward task to decide what constitutes us and what does not constitute us. Asking, 'Is consciousness something or is all consciousness merely consciousness of something?' leads to a further question pertinent to interrogating what images are, and that is, 'What is a consciousness not shared?' That is, to change the first question to 'Are consciousnesses things or is all consciousness merely consciousness of

one thing?’ If our vision is a powerful means by which we all conceive of a common consciousness, a consciousness that is each our own, as well as shared by a subjective view of what we commonly think of as the real world, where does the ‘real’ end and the unreal begin? Moreover, if we accept some defined notion of those types of things that are not real, whether they are termed the imaginary, dreams, subjectivity or even perception, do we comprise the essence of this false reality or are we, along with our consciousness, an extension of reality?

In order to engage the above questions and to present a theoretical framework for conceiving of an image that is ‘common’ enough to call a type, we need to examine the means by which we could all seek to confirm that we are all viewing the same reality and are thus conceiving of images in a similar way, despite the fact that those images draw from a domain of endless multiplicity.

Locating hidden mediums

A theoretical framework will follow in the second half of this chapter and it is based on the previously discussed understandings of media and information. However, the concept of media at this stage is still beset by ambiguity. This is because media can be invariably understood as both an end and a means. Media can be thought of as an effect on the world, a mechanism, something technical, an apparatus, as ultimately something material; but media can also be thought of as an effect on us as users, as something abstract, a signification, a replacement, a meaning.

The general view of Kittler that was outlined earlier manifests symptoms of perhaps the largest pervading misconception about media. That misconception is that media is ultimately an exogenous phenomenon. This misconception probably arises from the fact that most things that are called ‘media’ are not biologically innate. Those types of media only become apparent through the understanding and manipulation of the physical world. This leads to a misconception because it creates a tendency to forget that a biologically innate medium, such as lingual articulation, requires development just like any other medium. Humans are born fully equipped to speak in a manner that their ancestors were once not equipped to.

Many mediums currently used are recently advanced technologies. Due to this fact, mediums are commonly conceived of as very elaborate and complex mechanisms. These advanced technological mediums use internal coding, which is to say that they have many codes that their users do not need to consider, do not understand and may not even be aware of. The fact that most of them currently utilise internal codes means that we incorrectly consider coding to be a method for making meaning where there is no biologically innate ability to perceive analogy. Codes appear to be useful for

sending messages using materials and mechanisms that would otherwise be pretty meaningless things. In other words, if something does not appear to be anything other than what we believe it actually is, we can encode it.

But this is a misconception and stands against the fact that these types of coding are actually acts of re-coding. These types of coding are examples of the ingenious human ability to arbitrarily change the meanings of things, while not having to change their forms. This means that if certain natural phenomena do not tend to convey any particularly useful meaning to us when we perceive them, we can easily encode them. Morse code is a perfect example.

It is easy to think of most technologies as nothing other than the purpose we use them for. Intuition says that all those things that we call ‘technology’ make no sense to us without their codes. Equally, intuition says that all things that make sense without a code are not really examples of ‘technology’. This misleadingly creates a conceptual fault line between mediums and their users; it also incorrectly delineates the difference between code and analogy.

For instance, Morse code is used to convey meaning using phenomena (units of light or sound) that carry little analogous meaning by themselves. Without Morse code, the units have no readily apparent or useful analogous meaning; the timing, succession and duration of those lights or sounds will not seem to intend a message. Therefore we commonly think of ourselves interacting within an environment where there is both a presence and absence of codes. This is erroneous because, as will be elaborated, analogous meaning merely represents crossing from one code to another.

Analogous meaning

To speak of analogous meaning is to refer to meaning that appears to be affected by the importing of a complete, indivisible form. This complete and indivisible form carries its semblance into a context where it imparts connotations from other context where its resemblance already resided. This is otherwise known as a form’s denotation. Analogous forms appear to work singularly in the sense that their meaning is achieved by their wholeness. A code breaks down a form; it divides it. Accepting that this is what a code does, an analogous form would seem to be uncoded. But this would be to accept a very incomplete concept of coding. In fact, analogous meaning is necessarily blind to its coding because analogous meaning affects in the form of a code. This is because meaning is in code. This may seem a dubious argument if left at that, but examples can be illustrated of a level of meaning that is not a part of the intended message and yet is plainly coded.

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If one takes the example of a spoken language, such as French, one can fairly declare it a code. But within the French language, French is not a code. This might seem a moot or even fatuous point in a general context, but psychologically it explains how when working within a code, a code does not appear to be a code. It is meaning itself. It is the code that affects. The code only becomes a code in the visible or perceptible objective sense when it operates outside itself on other things. Those other things are forms. Codes are preconceptions, conscious and intended; a code makes meaning of things, and that is to say it means. If those things do not convey the same meaning without the code, it would be wrong to say that those things are the meaning instead of the code. Something uncoded means nothing.

It is inconceivable that two codes can operate on the same level at the same time. This is to explain why a code is not visible when it is the message itself. To be visible, it would have to have a second code operating at the same level to reveal it. The impossibility of this in several aspects will be explained later.

A simple example is this: If I copy out by hand a passage written in French, I do not need to understand French, I am instead using a separate code to do this. So I do not even understand the message, yet I know that it is a message. As the person copying out the passage, I am seemingly demonstrating a formal analogy between what I am copying and the copy I am producing. The copy and its original will appear visually similar and that will seem to explain the mode by which I created the copy. However, the analogical element obscures or dissolves the appreciation of a code operating in this task. Because I do not understand the message itself, I feel that I do not possess the code required for comprehension of the message. But as a literate English speaker, I recognise the characters and copy out the passage aware that if there is a message, it will be in a language at a level comparable with English. I am aware that I am failing to make sense of the message, and I am therefore not cognisant of the sense I am making not of the message. This awareness blinds me to the coding I am utilising in my task.

The code behind the analogy operates in the following way. My accuracy in doing this task is dependent on my knowing the Latin alphabet. If I did not know the Latin alphabet, the characters I drew would be at increased risk of being incorrectly replicated as forms. The difference between all the letters informs my understanding of what is important in their design, of what defines them. I am more likely to know when each character is meant to be different from another and when a character is meant to be the same as another. I am aware of what must be preserved and what it is less important to preserve; specifically, what is essential for the meaning to be carried in French.

This is despite the fact that I do not understand French. When a literate francophone reads this passage I have copied out, the message is in French and that is the single code of the message: the code that means. This person who reads the message in French in no way repeats the operation of coding that I did prior. That coding which I utilised must recede into analogical forms and the reader is blind to them when she makes meaning of the words she read in French. The analogous meaning of the forms of the characters serves to separate the codes from each other. This enables a final meaning, a single message. If the coding below the French were not invisible, the message would be equally read at the same time as nonsense-English and any other potential interpretation of the characters.

Signs are drawn from immanent, worldly phenomena. Codes divide and define those worldly phenomena. The form of 'b' is not a message by itself. Only when coded does its analogical signification work. Further, without a coding, there is not even a form for 'b' to assume. There is a code operating on top of or following an analogy and there is a code operating below or before that same analogy. There is always a code underpinning analogy. One can take the obvious example of characters being copied out above. It is easy to conceive of analogical signification as the reference/connection between codes. But the structural tension is conferred on the sign (analogical signifiers) by the codes. The relationship between codes and signs is not equal. The codes use the signs in the sense that it takes two levels of coding to operate a sign; signs cannot be said to use codes in an equal way because in the place of what would be the final or highest form in a message is meaning (effect). This means that there is not a form between the highest code and its effect. The steps descending from the meaning-effect are: 1) a code; then 2) a form (sign). A code must always precede the interpretation of signs in a message as well. That is to say that at the bottom level of a message is a code, not a sign. The most elementary signs in a message must still be preceded by a primary code in order to be discerned. A code precedes the sending of a message. If a sign does not require a preceding code, it will not be understood by the receiver and is not a part of the message. Our relationship to binary coding is an example of this: it transmits a computer message, not a human message.

The stick analogy

Consider a medium such as a large, heavy stick with which I intend to break a piece of glass. I want something broken and the stick is my medium. The message I intend to send to the piece of glass is 'break'. I know that the message has been received when the glass breaks. If the glass cracks, the message has been partially received. If I still intend to have success in sending my message, I can send it again. This could involve two alternatives: repeating my first attempt, hitting harder or softer

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depending on how much of the message was unclear; or I could try another medium for sending the same message, using another object or method for breaking the glass. Now an important question with this analogy is: What is the code I am using in this message?

The fact that it is difficult to qualify an argument that the piece of glass ‘knows’ my code and has ‘understood’ my message is irrelevant. Does a computer ‘know and understand’ binary code? What is important is that I have a code and that, using it, I am able to understand that my message has been received. There is a loop, as Kittler believes. But I am the hub in that loop. The hub is not the stick, not the piece of glass and not the method. If the same scenario is viewed objectively, without my code, my breaking of the glass is not understood as a message. It simply happened. There is no connection between the intention to break the glass, the method, the medium and the breaking of the glass; they are just noise. If another person witnesses this scenario and understands that there is a signal being sent and a message received, this means they understand a code. Their code and my code may not be exactly the same, but they are at least similar and operating on the same level.

It is easy for me to assume that my act of breaking the glass with the stick has no code. The reason for this is that I conceive of the medium used in that act as that form which was taken from an index. This means that I had a notion that I possessed no medium for my message and that I had to select one. In other words, in that particular act, I considered all parameters to be set prior to my action: my body and the unbroken glass. I could have used several forms to directly make contact with the glass and break it, and I selected the large, heavy stick. I therefore conceived of that stick as ‘the medium’. But it is not the only medium in the sending of my message. More importantly, if the stick were understood as a singular medium, it certainly would not have broken the glass by itself. The stick is not meant to break the glass and in order for me to use it, it must be codified. My arm, hand, fingers, muscles are all mediums too and they are used equally to break the glass. However, when I conceived of the message I intended to send, the proximity of those mediums to myself meant that I discounted them as variables. Discounted as variables, I did not recognise them as part of the code and I instead believed that the stick was the only medium. I thought of the stick as a single form, and it therefore appeared that there was no code when I used it.

This assumption that the stick had no code is for me to effectively confuse the form for the code. I mistakenly believed that the code must be intrinsic to the stick; that is to believe that a medium carries an intrinsic code. This belief would infer that signals and their units (forms) have an immanent quality that separates them from the indivisible homogeneity of noise surrounding them. But this must be rejected because signs (forms) simply do not have an immanent quality. The stick

is the form, but a form does not explain a code. Instead, a code explains forms. Without the code, the forms signal nothing; they cannot be seen. I can arbitrarily design a new character (a form) and then convey its significance to another person. This form can afterwards be seen in the world in numerous examples of phenomena by that person, yet I did not 'put' it new into the world. The form has always been there no less than it is there now, yet never before seen. The form must be used to be seen. The form must have an effect to be used. McKay's theory of information resurfaces here in the argument.

Needless to say, the coding used in my breaking of the glass involves many forms, many mediums and, indeed, many codes. However, the codes never occupy the same level as each other. It is most important to acknowledge that the media components in the sending of a message are united as well as divided by a single code.

A discussion of the image and of photography will follow below. Key to that discussion is that the act of dividing and defining worldly phenomena into discrete units, the act of coding, involves the selection of immanent aspects and with that, naturally, the rejection of immanent aspects.

What is the content of the photographic message?

The above discussion will shed light on the following example about photography. The invention of the cinema apparatus developed not entirely, but mainly, from photographic technologies. Photography therefore carries essential ontological implications for the cinema apparatus and in the quoted passage below several widely held notions about photography are elucidated. These notions can plausibly inform the view that cinema is simply an exogenous and material medium and further, a medium which is solely contained in the form of its traditional apparatus.

In his book *Image-music-text*, Roland Barthes asks under the heading *The photographic paradox*, "What is the content of the photographic message?":

In order to move from the reality to its photograph it is in no way necessary to divide up this reality into units and to constitute these units as signs, substantially different from the object they communicate; there is no necessity to set up a relay, that is to say a code, between the object and its image. Certainly the image is not the reality but at least it is its perfect analogon and it is exactly this analogical perfection which, to common sense, defines the photograph. Thus can be seen the special status of the photographic image: *it is a message without a code*; from which proposition an important corollary must immediately be drawn: the photographic message is a continuous message (italics original) (Barthes, 1978, p.17).

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While it is important to acknowledge that Barthes has been careful to situate his argument at the level of “common sense,” it is still a mistake to assert that a photographic image is a message. A photograph is not intrinsically a message. A photograph is no more a message than all lights and sounds are broken messages in Morse code. As implied in the previous chapter, it is the very fact that a photograph is not a message that gives a photograph its power in the first place, its independence, and this will of course be explored later in the thesis in depth. The notion that a photograph is an uncoded message carries mystical overtones and Barthes’ interpretation here would likely resonate with a filmmaker such as Wim Wenders, who found a utopian element in this photographic belying of reality’s impermanence (Peucker, 2006 p. 40). The idea of an uncoded message invites questions with a spiritual sentiment, ‘Where/whom is this message from?’

Nonetheless, if a photograph is wholly analogical as Barthes contends, it must convey through analogy a set of forms, which must then be codified for them to carry a message. A photo as a whole is an analogy in the manner that ‘b’ is an analogy. But both are part of a code and are defined by that code. ‘B’ is ‘b’ because of the differences within the Roman alphabet; but a photo is analogous within what code?

Photos operate in this way much as we do also and indeed that is what we see in photos. That is why we can code their content and imbue them with analogical signification. But they do not carry analogical signs immanently. And yet that assumption of immanent signification is a large factor in their mysterious power. No analogical sign is immanent to an object, let alone a photo. It is in this sense that photos and images are both representations of the world.

Contrary to Barthes’ analysis of photography, we should posit instead that a coding does pervade and inform all images; that there is a process of signification in every image conceived and that in for instance, the case of photography, the coding does not work on a photo alone. Barthes’ understanding of photography stipulates that a photographic image is “continuous”. He explains this term as meaning that the photo is “absolutely analogical” to the message which it conveys and that we require no recourse to any sort of code in order to decipher the message (Barthes 1978, p.20). Barthes uses this word ‘continuous’ here in a very flawed sense on two accounts. The first account is his assertion that the photo is an exact representation of its object, or in Barthes’ words “absolutely analogical” to the “denoted message” (‘object’ is an ambiguous term as he uses it). A photo does not represent any object absolutely, nor does it even necessarily provide a representation of an object restrictedly. What the photo does represent, though still not absolutely, is the image of an object and to be more precise, a person’s image of an object. Photographic representation should

therefore be understood better as a representation of our representation of the world, than as a representation of the world itself. This is because we view photos in the world and thus all we see in them is a reflection of other things we see, their images, not those things themselves. The assumption that a photograph provides some sort of affirmation of the representational truth of what we see is mistaken. Photography is corroborative evidence of either our perception of the world or the world itself, but it cannot be both.

As was discussed in the previous chapter with regard to the work of Jean Rouch, the cinematic apparatus, and photography no less, should not be understood to confer any veracity to our perception of the world. Photography and its material apparatus, the camera, function as a mere phenomenological detour in the link between the world and us. Whatever the nature of our perceptions, it colours the image of a photograph no less than any other image in our world.

The second account on which Barthes' word "continuous" can be found flawed is its assumption that in being "absolutely analogical" it is not discrete in its mediation of information. Now, in the vernacular of media studies, discrete information refers to the process of *digitisation* in which information is first *sampled*, often at regular intervals, and then secondly *quantified*, meaning that it is assigned a numerical value within a defined range, for instance 0-255 in the case of an 8-bit greyscale image (Manovich, 2002, p.28). In this sense, Barthes' term is half-right. The photographic process delivers in any photograph, as William Mitchell explains in his key study *The reconfigured eye*, "an indefinite amount of information in a continuous tone photograph, so enlargement usually reveals more detail but yields a fuzzier and grainier picture.... A digital image, on the other hand, has a precisely limited spatial and tonal resolution and contains a fixed amount of information" (Mitchell, 1992, p.6). But as Lev Manovich points out in *The language of new media*, in reality this difference does not matter because:

By the end of the 1990s, even cheap consumer scanners were capable of scanning images at resolutions of 1,200 or 2,400 pixels per inch. So while a digitally stored image is still comprised of a finite number of pixels, at such resolution it can contain much finer detail than [that which] was possible with traditional photography (Manovich 2002, p.53).

The comparison of these two points is to highlight that digital photography can now replicate the continuous-tone of traditional photography. That is to say that at a level of detail where in a digital photograph two pixels visibly sit divided, a photograph would demonstrate no visible difference in

tone. So the digital photograph can effectively be equally as continuous as a traditional photograph, even though it is composed of informational units.

But far more importantly, the concept of information can itself be understood as discrete. Creating information is a discretionary act. Information must always be selected in order to be mediated; this is a form of discretion, because all information has a context and is lifted from that context in the process of mediation. This is true of photography as a medium, as much as our eyes as a medium. As stated earlier, the act of dividing and defining worldly phenomena into discrete units, coding, involves the selection of immanent aspects and with that, naturally, the rejection of immanent aspects. We do this when we see images, and whether photos do this with the world as well is impossible to confirm or deny because when we look at photos, we do it anyway.

Moreover, all information is by its nature contextual. As this chapter is aiming to make clear, information is mediated for the purpose and the ends of meaning itself and without this purpose and ends, no information exists. To recap, information is always contextual, always discrete, it is mediated, and by the cognitive amalgamation of our senses, we have an image, although, between information and our achievement of an image there are codes, and these codes determine the discretion demonstrated in mediation.

The pincer movement

The experience of watching a film and the experience of dreaming have been compared so many times over the last hundred years that the comparison can strike the mind as a clumsily literal and clichéd metaphor. But Eric Schwitzgebel, whose research explores connections between empirical psychology and philosophy of mind, makes a startling point using the examples of cinema and dreams. From the following passage of his, it can be inferred that we are incapable of fully enduring through our closest experience of the world, consciousness. In fact it is perhaps there that, in terms of our memory as a locus of our identity, we endure least:

Black and white movies, novels and dreams may be alike in somehow leaving indeterminate the colors of most of their objects—and that is something that color film cannot (or at least cannot easily) do. Perhaps this is a respect in which dreams are more felicitously compared to black and white than to color movies...After all, it is sometimes difficult to remember which classic movies are in color and which are black and white, and such amnesia doesn't seem to constitute a serious epistemic failure. However, confusion about the coloration of dreams is substantially deeper than the relatively innocuous confusion one might have about a particular Jimmy Stewart film. It is rather more like the confusion of not being able to tell—or, worse, of confidently

persisting in the wrong opinion about—whether all the movies one sees are in color or all are in black and white, or whether there is some mix, despite seeing movies every night...I will conclude by raising the question of whether the phenomenology of dreaming is uniquely elusive or whether our knowledge of other aspects of our conscious experience is equally poor. I am inclined to think the latter, that we are much worse phenomenologists than common sense and philosophy typically allow. Surely we have a powerful tendency to forget dreams. We do not generally forget emotionally powerful events with equal alacrity. Dream reports would thus appear to be particularly good candidates for theory-guided reconstruction. But we probably forget with approximately equal haste most of our phenomenology—our emotional experiences, our bouts of inner speech, our shifting sensory impressions—if we do not, as with dreams, make special note of it shortly after it occurs. What we remember best is the world outside our minds; our stream of experience, I suspect, is mostly unattended, quickly forgotten, and patchily reconstructed (Schwitzgebel 2002).

Objects, facts, and accepted truths marked in time and perceived at arm's length are what we notice and remember most in life, and yet the closer we are to something, the more immediate and constant our presence to it, the less we seem to know it. Our interface with the world is a huge, high-speed blur. Our experience of consciousness is our closest experience to the world; our consciousness is a part of the world and therefore closest to it in size, speed and resolution. Yet our perceptions and representations of the world perceived through that consciousness are only further removed from the world they ostensibly reflect.

As conscious beings we know that we are limited, that we fail to respond to the world in kind, as knowers and doers; as is often said, we are in a state of becoming, we are ever less-what-we-were and yet still less-what-we-will-be. As conscious beings, we are less. The world is continuous and has no centre. A conscious being is thus a centre and that conscious being diminishes away from the centre. We face the world unequal to it. And we can only confront it on our own terms. A good metaphor for consciousness is that of a pincer movement, a military manoeuvre, which was reputedly first successfully executed at the Battle of Marathon by the Athenian army against the Persians (fifth century B.C.E.) The movement involves allowing an advancing army to penetrate the centre of an army executing the manoeuvre and as a consequence effectively become that centre. The defending army having evacuated the centre engages and attacks the advancing army's front and flanks, putting the advancing army in a pinch. The members of the advancing army become trapped and increasingly become a targeted unit themselves, and a small one at that. The army executing the manoeuvre then sends a second pincer movement up the far flanks to prevent the targeted unit being increased. The targeted unit becomes surrounded.

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The manoeuvre is an example of a small force converting a larger force into units of even smaller forces than themselves. The manoeuvre is a tactic of dividing and selecting units. It is a tactic of literally rejecting most of the larger force at any one time; it requires an element of failing to engage the advancing army. To see the world, to hear the world, to know the world and to act on the world, all require discretion. This also means to not see, to not hear, to not know and to not act on the rest of the world. So in this metaphor, representations of the world are those ‘targeted units’, allowed into our minds where they are surrounded and constitute the centre. Obviously there is an epistemological question here because I have spoken of the world and consciousness of the world as two separate things and yet how can I be conscious of something outside my consciousness, namely the world? It is fair to say that what has been described above is in line with eighteenth century Irish philosopher George Berkeley’s theory of ‘immaterialism’. Immaterialism, in this sense, basically propounds the idea that matter or substance does not metaphysically exist. Or better to say that, if matter or substance does exist, we do not metaphysically know it. That is to say that all objects are merely ideas in our minds. For what can we attest to exist outside of what we know in our minds? And indeed, it is implied above that objects are representations and that all representations are due to relative perception. If perception were absolute, the gaps of knowledge between all objects would dissolve and all objects would disappear; black would become white and white would become black. The objects would all connect, become one and continuous; such would be the world. So again, the question arises in another form: How do we know there is a world? We know because objects are unstable. We perceive objects for the very purpose of stability and yet they are unstable. As conscious beings, we know we are contending with something outside of our consciousness. As our objects sit in stasis, they are continually undermined by change. Something is subjecting our consciousness to change. We keep on failing. The world as something defined by change (‘flux’), in the manner once associated with the philosophy of Heraclitus, really should not seem obscure or trivial as an epistemological factor.

The notion of coding as well as issues that often pertain to phenomenology have been invoked, but how can they all constructively converge in this discussion? French philosopher Maurice Merleau-Ponty’s phenomenological writings chart this very convergence. Merleau-Ponty believes that phonemes in the strictest sense are not sounds at all, that they are not the phonetic material that historical speakers produce; they are in fact never actually spoken, but only meant (Edie, 1973). This is to accept the ideal quality of signs in coding. This is due to the ideality of coding itself. In the example of spoken language given by Merleau-Ponty, the code is never perfectly realised in the signs when they are used. The phonetic material is never perfect, so the code and the sign always slightly ‘miss’ each other or fail to ‘touch’. It is in this way that we should understand the image; as

something meant, rather than something of. All images are in the world and therefore obviously of the world, but the specificity of what they are of is not as stable. Highlighting this difference between an image meaning something and an image being of something is to clarify the separation between an image and an object. An object is intended here to mean something three-dimensional, which endures as a conceived perception in a multiplicity of images that are commonly 'of' it. It is vital to clarify this separation because those two things, an object and an image, are not inherently linked; they are not properties of each other. Further, in the case of a photo, its apparent lack of discrete units, its seeming continuity is in fact due to the inherent ideality of the signs we codify in them.

Difference from linguistics to phenomenology

Merleau-Ponty's views on language are based on the work of linguist Ferdinand de Saussure. Saussure's understanding of language is one wherein signs in a language are defined only by internal difference. The fact that signs are defined by internal difference proves and explains how and why signs in language have only an arbitrary link to what they signify. Merleau-Ponty, himself, has perhaps given one of the best summations of Saussure's work on language, when he writes that language:

is not a set of signs corresponding to a set of ideas, but rather it is a unique whole, in which each word gathers its signification through the others as a mass that is progressively differentiating itself (Merleau-Ponty 1979a, p.5).

Merleau-Ponty goes further alone, writing that, "to be precise, there is only one language in a state of becoming" (Merleau-Ponty, 1969).

The influence of Saussure on Merleau-Ponty obviously represents the influence of linguistics on phenomenology. It is not surprising therefore, that any induction from linguistics into phenomenology might be imperfect. This is because in the field of linguistics, the domain of analysis is confined to the signifier and signified. Saussure's notion that signs gain their signifying power by being different from each other depends on the fact that signs are in the world and that their dissimilarity from each other can be attested to by two people. When one asks a linguist, 'What does a signifier signify?' the answer is a signified. The conventional understanding of a signified object is that it is a concept in one's mind. I say 'chair' and it corresponds to the concept of a chair in my mind. In the hermetic domain of linguistics, that is the complete operation, how signs point. The extension onwards from where signs point is not linguistics; in the domain of linguistic signs, they exist and operate through their difference from each other and that is all. That

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signs signify signifieds makes perfect sense, and that signifieds are concepts in our heads is also sensible. However, that is not the end of the ambiguity of signs. We may know how and where signs point when we use them but one might say, 'no one else does'. The reason is this: One cannot speak about the difference between two things in one's head without pointing to particulars in the world or describing those two things and their differences with other terms (other signs). In either case, the concept in my mind is trapped between the arbitrariness of signs and being imperfectly equated with particulars in the world. Therefore, only I know the difference in my mind between a chair and a table as concepts.

So it is obvious that signs do not consistently signify concepts in our heads simply due to their difference within a set, because we do not know the difference between the things they are signifying. We share a language of signs but we do not necessarily share concepts (signifieds). My concept of a chair may be the same as another person's but neither of us will ever know that. The only reason languages and their signs work is because we demonstrably use them. We can ultimately only give them credence with action. And it is only credence we can give them.

To point out the internal difference in signs as separate from the ambiguity of the signified concepts in our minds is to mistake the purpose of signs. The mistake is to think signs are different to objects; it is a mistake to think that an object is not coded and that signs are any more metaphysically removed from the world than objects. It is a flaw in Saussure's linguistic theory and the advantage in Merleau-Ponty's adaptation. If we all shared the same lexicon of signified concepts, we would not need to define signs by their difference from each other. Instead, they would be defined by their corresponding signifieds and the relationship between signifier and signified would no longer be arbitrary. But it would not end there. I would know someone else's concept of a chair and they would know mine, exactly and perfectly. I would see into their mind, they would see into mine; sign and signified would be one and the same. My mind and every other mind would be inside out, touching the world, a part of the world, continuous with the world. The fact is that signs are arbitrary because their signifieds are irremediably disconnected from the world.

Saussure's structural 'linguistics' is now generally viewed as disproved. Chomsky is held to be the linguist who mainly achieved this disproof. The rejection of Saussure's theory as an explanation of language was due to the fact that while the difference between signs explains their ability to signify, it does not explain how endless new meanings can be achieved by combining them (syntax). A combination of any set of signs amounting to the quantity infinity-plus-one has meaning (a) and a combination of signs from the same set amounting to the quantity infinity-minus-one has meaning

(b). This represents the potential endlessness of discourse.³ Tellingly, in the domain of linguistics, Saussure's structural explanation of signs does indeed work to the extent that in the case of phonemes (forms) it is faultless or unable to be disproved. Anyone making arguments for Merleau-Ponty having 'misread' Saussure should take note that it is solely this very aspect of 'differences in form' which Merleau-Ponty ultimately carried through to his phenomenology and that it is only this aspect of Saussure's theory that is still widely accepted in linguistics today.

Consistency and continuity

Structures are consistencies and our minds look for consistencies in the world. That is how we mark time and space. Consistencies are how we equate two things we wish to keep separate; it draws a line between two points (it makes space, it makes time). Analogies and codes are both operations utilising consistency. In relation to each other, one operates paradigmatically (linear) and the other syntagmatically (lateral). These are aspects attributable to how the mind works and they do not appear to be intrinsically evinced in how the entire world works. Structuralism always breaks down when it is taken into the open world. Structuralism applies to representations of the world, not to the world itself. Structuralism breaks down in the world exactly as our representations get broken down in the world. The world is continuous: that is why the signs constituted by internal difference within codes break down in the world; that is why analogies are never perfect; that is why discourse is endless.

If I look at a photo of a tree and then zoom in to delineate its form, my mind increasingly makes concessions to the photograph; the photograph does not instead make concessions to me, as if it were admitting that it were ultimately unsure of where the tree spatially begins and ends. The tree is mine. It is my tree (representation) that breaks down, as I look closer at the photograph. It is not the photo itself, by means of its continuity, breaking down the absent real tree, as I look closer. I am breaking down my own representation. The photo promised nothing and concedes nothing. My codes break down and the tree disappears. The 'message' disappears. It was never 'there'.

So what does Merleau-Ponty mean when he writes, "to be precise, there is only one language in a state of becoming"? It is for him to say that we have coded everything and that in the face of change, language, which is a set of codes, is continually being broken down by us. It was earlier mentioned that one can only work on one level of coding at a time and the consciousness of this fact, and the fact of this consciousness, are well illustrated by Merleau-Ponty when he interrogates

³ The only exception to this would be a single recurring sign, which would be meaningless without recourse outside to another discourse in order to be defined as having 'difference'.

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his notion of ‘flesh’ in his final unfinished work *The visible and the invisible*. The ‘flesh’ in this case refers to any manner of folds along what could be thought of as almost a radius away from consciousness as a centre, to the world; from any such fold I can say how much I concede of myself to the world. That radius is plausibly traced across points of sense on the human body. The body’s parts are all in the world save for me. I am an unnamed namer of things. Merleau-Ponty speaks of a ‘reversibility’ that operates around this notion of flesh:

My left hand is always on the verge of touching my right hand touching the things, but I never reach coincidence; the coincidence eclipses at the moment of realization, and one of two things always occurs: either my right hand really passes over to the rank of touched, but then its hold on the world is interrupted; or it retains its hold on the world, but then I do not really touch *it* – my right hand touching, I palpate with my left hand only its outer covering (*italics original*) (Merleau-Ponty 1969b, pp.147–48).

The right hand touches the world and if the left hand touches the right hand, the right hand no longer touches the world but is the world. Only one code can operate at the one time. If this were not the case, we would not need any ‘reversibility’, which is effectively to move from one code to another. This would instead represent a notion of touching two worlds, which would split in two the being that is touching as well. She would be able to name her being. She would be outside herself, in the world, continuous with it. This would be to split in two the ultimate paradigm, the ultimate language, the ultimate meaning.

In light of this we can begin to promote a comparable analysis of the image in this way, but again Merleau-Ponty has already begun, writing of colours, there is: “less a colour or a thing... than a difference between things and colours” (Merleau-Ponty 1969b, pp.131–33). But perhaps, to quote Merleau-Ponty finally, the best understanding of language with which to reflect on the image comes when he supposes that:

People can speak to us only a language we already understand; each word of a difficult text awakens in us thoughts which were ours beforehand, but these meanings sometimes combine to form new thought which *recasts* them all (*italics original*) (Merleau-Ponty 1969b, pp.131-33).

Form, content, and context

In the same way that Saussure imagined signs as defined by internal difference, we should imagine the composition and achievement of images. Signs as phenomena defined by their internal

difference can be equated to the notion of ‘information as contextual’, mentioned earlier. Indeed at the centre of this chapter are three cornerstone terms and they have been chosen to reflect the idiom already established by the concerns of the chapter. Those three cornerstone terms are *form*, *content* and *context*. These terms and what they mean together, as a simple hypothesis for image-making and perception, should serve as a straightforward way of appreciating how the cinematic apparatus is able to define digital cinematic images, that is, to posit the plausibility of a cinema-image constituting digitally based images long after the original apparatus is gone.

When speaking of the ‘form’ above, it does not refer to Aristotle’s notion of form as counterpart to matter. Matter is a concept already accepted as in doubt or off the table for discussion based on earlier points. The term ‘content’ might also seem comparable to Aristotle’s ‘substance’, but his notion of substance is inherent in the object, whereas ‘content’ as it is used here is very different. Content is imbued upon the form. Content is meaning and significance conferred on form.

Form, in the present usage, really refers to a means, that is, a means to perceive difference and relation (at this point in the chapter it should be reasonably clear how this may work, but the term’s usage here will be made clearer once another term, ‘context’, is addressed). The counterpart to this use of the term ‘form’ is obviously the term ‘content’. Content can very easily be thought of as our own creation; it is our rationale of form. The commonly conceived relationship of form and content is difficult to resolve. From one point of view we can say that form carries content, and in another sense we can say that content carries form. When I see a dog, I can rationalise that my perception of it is given purpose, reality and justification by the dog itself and that the dog provides all perception of its own objectivity. This is an example of the common conception of form carrying content: the form carries content, the dog, to our perception.

However, if we conceive of the dog as a perception, more specifically as an image, our image, we can assume a reversal of logic. This reversal of logic would be that any form (in this case an arrangement of colours in the light caused by a reflection of light on the dog-object) could only be perceived through the imbueing of content, that is, the mind’s recognition of content in the form based on prior concepts of form-as-content, which we would otherwise term as our own idea of ‘the dog’ (this ‘idea’ of the dog will be addressed later in terms of the ‘ideal’). For this understanding, it is the content, which is a prior rationalisation, which carries the form and without it, the form is nonsense, nothing or at the least, not a dog. The point is that form and content represent, in regard to perception, not one and the same thing, but instead two diametric expressions that compose an image by means of clash and compromise.

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The relationship between form and content in the image is nonetheless one of give and take, and we can easily revert to the former understanding of the relationship, that of form carrying content. The third term of our previously mentioned triumvirate, 'context', is in every sense the operative term. Context enables an imbued demarcation in form. But the word 'context' is a bizarre noun that paradoxically refers to a surrounding situation by definition of a specified centre from which the word purposefully defers. A 'context' is about something and we can endlessly speak about context, but as it is about 'something', which we must at some point define, perhaps it is better to address this word in another way, save moving from the universal context to a particular context. Thus, instead we can think of context as process; in fact by process we can conceive of it as the necessary moving part in the otherwise static concepts of form and content, which are best conceived certainly not as processes but as instant particulars. Again, 'context' is the operative word.

The process of context is founded on the conception of plurality; that there is more than one, or that in one there are numerous. Numeracy is itself a paradox because in conceiving of the many we must perceive difference in order to multiply, but similarity in order to initially divide and then to group as one number: there are three things, three dogs, three threes. The trick in numeracy is to achieve an object as singular and then maintain it in pulling it apart and destabilising it through multiplication. It is the suspension of difference and sameness, not difference and similarity. It is important to qualify similarity as ideal and the ideal is bound up with context in the manner that form is with content. If we were to say that like content, the ideal is abstract and that like form, context is located or perceived in the world of things, it would be difficult to discern, in truth, which is the subject and which is the object of the relationship; which is 'doing' and which is being 'done to'.

Instead of using the word 'similarity', let's use the word 'resemblance'. Resemblance is the determining principle in the relationship between the ideal and context. In the image, it functions on two levels: time and space: time, in which resemblance determines 'what was there is now here'; space, in which resemblance determines 'this seems to be that and thus they are two, not one, because space (by virtue of context) separates them'.

Before exploring this term 'ideal', it might help to provide a rudimentary case in order to exemplify the point. A key element in the relationship of the ideal and context is the perceiver's potential for recognition; to recognise content in form. Even if we have not seen something before, our understanding of it, our decision about its meaning therein, is a process of recognition whereby we contextualise it amongst all that we have seen before or, more importantly, what we have

understood before. For instance, if the only thing I have ever seen in my existence is the colour black, and I suddenly come across a vision of white for the first time, white is seen by me through the process of recognition. The process in this case involves an initial encounter with the colour white but the colour is merely information and has no form without context. In truth, there is indeed form to the colour white; it attains form through its juxtaposition with my prior encounter with black. A vision of information is both transformed and translated into a vision of colour. I see the colour white because I have seen black. The perception of colour represents the imbueing of content and it is my understanding that white is not black that gives form (courtesy of difference) to each colour. My ability to imbue content will increase if my capacity to recognise is improved. This capacity is increased by new encounters with form and content. Doubtless, white could potentially be imbued with more content if I had seen a white object; if this happens, we witness an increase in context. The process of recognition is always ascending in sophistication, as we build more general modes for recognising things. With the ongoing addition of information to our knowledge by means of both thought and empirical experience, the context of all things increases, resulting in the continual refinement of our universals or, better, our ideals.

Media works under the same principles, in terms of both contextual increase and those of form and content. For example, there are multiple mediums always working at higher and higher levels. If we take a binary code, then decode it into a picture of a person writing about another person being struck in the face, we can see the form of media being broken down or endlessly embedded with content. The medium of a strike to the face is conveyed to the person being struck; this greater message of such an instance is conveyed through writing (the person struck is a fictitious agent for us to vicariously assume the meaning of the strike, anger), which is then conveyed through video, and at each level the spectator is engaging a different medium at play. In this sense, there is form in the content, not just content in the form. It is not until we have imbued content (a person writing, surroundings etc) that we can perceive the form of writing inside the larger form of photography. This logic can lend itself readily to McLuhan's assertion that the "content of any medium is always another medium", but this can easily lead to a misconception when one considers McLuhan's accompanying premise that the "electric light is pure information... a medium without a message" because light mediates light, which is content in our terms and, moreover, as with any medium, when light mediates, any proof of mediation (a result or consequence) bears proof of content: a message (McLuhan, 2001, pp.8–9). And to make a final point on this matter, McLuhan's mantra "the medium is the message", according to him, is reaffirmed by the argument that the light/medium carries content/messages, due to the first assertion of his that was just mentioned. However, our assertion too, that mediums exist within mediums by virtue of the content of each

medium (an example of form in the content), is lent reason by McLuhan when he writes that the “content of any medium blinds us to the character of the medium” (McLuhan, 2001, p.9). This is because every medium we engage in an ongoing descent (as in the scenario of the struck face given earlier) is enabled by the comprehension of the directly higher medium’s form, which can only be achieved through the imbuelement of content at that higher medium’s level.

The ideal

The emergence of representationalism signalled the desire to analyse and explain the directedness of consciousness at the world by proposing ideas as mental tokens whose function it was to describe or depict the outward view (Carman & Hansen, 2004, p.6). The concept of ideas, from an epistemological perspective, was meant to explain the relationship between our consciousness and our world but, in being conceived of as an intermediary entity, ideas became a problematic concept. For ideas do not only represent the world in our minds, but are in turn represented to us in our minds; ideas are a two-step move to conscious awareness. If we were to plainly say that ideas are subjects of awareness of the world, we could then say ideas were objects of our awareness, for we are aware of ideas. Edmund Husserl’s phenomenology was groundbreaking in that it distinguished between the objects and the contents of consciousness, while further distinguishing between normative (ideal) and non-normative (real) aspects of mental phenomena (Carman & Hansen, 2004, p.7). In his 1913 book *Ideas: general introduction to pure phenomenology*, Husserl outlines his conceptions of “the phenomenological reductions”, which he splits into two stages (reductions), the *noema* (ideal) and the *noesis* (real). Carman and Taylor explain the relation of the two reductions:

The first, the “transcendental reduction” consists in directing one’s attention away from the “transcendent” (perspectivally given) world back to the “immanent” (epistemically transparent) contents of consciousness. This reduction takes us from the external world, broadly speaking, to the inner domain of the mental. The second, the “eidetic reduction,” points up, as it were, toward the ideal, normative aspects of mental content, away from its real temporal and causal properties. This reduction moves us away from factual psychological reality toward atemporal conceptual and semantic content, from facts to essences (Carman & Hansen 2004, p.7).

This notion of “facts to essences” well illustrates the process of translation involved in the ongoing development in practice of ideals in regard to images. It might be helpful to compare any immanence behind the identification of form with non-normative (‘real’) phenomena, and content with normative (‘ideal’) phenomena. However, Husserl’s notion of staged reductions is problematic for the previously outlined relationship of form and content, especially in light of the above analogy. Husserl’s phenomenological reductions promote a very unilateral understanding between

the real and the ideal, as if the latter is entirely informed by the former. This is unsatisfactory, because we can safely declare that all that we see does not represent the entirety of that which is before us, neither in detail nor in dimension, but further, the image that we see is different, not less, maybe more, than what is exactly before our eyes.

A problem with Husserl's reductions was revealed by Merleau-Ponty in his *Phenomenology of perception*, when he wrote:

The most important lesson which the reduction teaches us is the impossibility of a complete reduction... If we were [of] absolute mind, the reduction would present no problem... on the contrary, we are in the world...and there is no thought which embraces all thought (Merleau-Ponty, 2002, p.xv).

The give and take of the real and the ideal, of form with content, represents a relationship of reciprocity. Sean Kelly gives a potent example of the inherent ideality in all images when he describes the visual psychology of walking onto a Western movie set: "As you walk down the street, it really seems as though buildings rise up on either side. The bank really looks like it is a bank; the saloon really looks like a saloon..." however, "walking through the saloon doors is nothing like walking into a saloon" (Kelly in Carman & Hansen, 2004, p.77). As the façade is revealed to us in this case, we realise that we had made a fundamental jump in our rationalisation of what we saw. We presumed that the façade of the movie set was the façade of a real Western town; that what we saw indicated what we did not see. Indeed, as Husserl has pointed out, given that information meets our retina in waves of light, each wave coming in only two dimensions, we thus see things in only those two dimensions and yet we experience this two-dimensional vision as representing a three-dimensional world. According to Husserl, the hidden features of any object appear to us in an "improper mode" and "are in no way presented"; we can therefore call those features which are presented "determinate" and those which are not "indeterminate" (Husserl, 2010, p.57).

So how is it that we perceive objects this way? The first conclusive point to be made is that this represents the most core element of ideality in any image: the ideal that what we are seeing is more than we see. When we wander into a paddock and gaze upon a horse, it is an ideality we perceive; our belief that we are not seeing the image of a horse but instead a horse. It is also this ideality that is scrunched up and thrown in one's face by Cubism.

Now, we could argue many things in regard to how exactly such a propensity came about; perhaps it is by now so integral to physiology that it has been assumed into the genetically determined structures of our brain and our eyes; perhaps, but less likely, we each at a certain stage of our natal development come to rely on this practical rationalisation. What we can definitely say, though, is that this ideality is irreducibly confirmed by the juxtaposition of images in the course of our experience. When we compare one image to another, we deduce a logic, or principle, between them which stipulates that they are comparable but different images, telling us by comparison much more than each could tell alone. How can we tell that we have two, not one, images? Because they are different. How can we relate them? Because they are similar. Through the process of recognition, we find that in context they provide significant meaning and without this context, in truth, any image is simply meaningless and representative of nothing: what is the image of a horse to a consciousness that has seen nothing else? This issue has been previously exemplified here with the example of black and white.

Senses and the body

The epistemological term ‘intentionality’ refers generally to the directedness of consciousness. Etymologically, the word can be traced to the issue of ‘tension’, of balance and pull. The philosophical term can be traced back to Franz Brentano in his book, *Psychology from an empirical standpoint* (1874), and though the term was seminal, it is far from fully defined without controversy. Certainly, the term refers to the ‘aboutness’ or ‘of-ness’ in thoughts and it is in this sense a simple working notion of hypothesis, representing the culmination of our reasoning as a motivation to act in the world of things. In this usage, a hypothesis can be understood as an assumption or concession made for the sake of argument. In many senses, this is the nature of thought, especially in light of epistemological doubt. Forever the spectre over inductive inference, David Hume argues that causation is the basis of reasoning and that only experience can provide the appearance of causation. It is in this vein that Hume pronounces, “all probable reasoning is nothing but a species of sensation” (Hume, 2000, p.103). In light of the perennial potential for epistemological doubt, we are all as living beings in some sense living for the sake of an argument and with great pragmatism we carry a hypothesis as our torch and sensation as its fuel. Our hypothesis can always, when pushed, be doubted.

Wilfred Sellars' approach to the development of theories in our minds lightly illustrates the overall nature of any empirical hypothesis:

[the] "correlation" or "identification" of theoretical with observational states of affairs is a tentative one... and amounts, so to speak, to erecting temporary bridges which permit the passage from sentences in observational discourse to sentences in the theory, and vice versa. Thus, for example, in the kinetic theory of gases, empirical statements of the form "Gas *g* at such and such a place and time has such and such a volume, pressure and temperature" are correlated with theoretical statements specifying certain statistical measures of populations of molecules. These temporary bridges are so set up that inductively established laws pertaining to gases, formulated in the language of observable fact, are correlated with derived propositions or theorems in the language of the theory, and that no proposition in the theory is correlated with a falsified empirical generalization. Thus, a good theory "explains" established empirical laws by deriving theoretical counterparts of these laws from a small set of postulates relating to unobserved entities (Sellars, 1997).

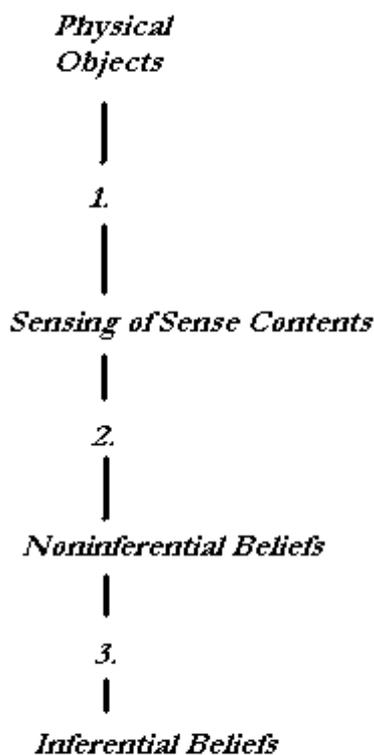
Indeed, Sellars' point here attests to the hypothetical structure of our thoughts, as they are built, applied and amended in both elements of ideas and beliefs. And in light of Hume's empiricist designation of reasoning as, to license elaboration, an extension of sensation, it may be useful to introduce some of Henri Bergson's speculations on images. However, these are only to serve in contradistinction to those already put forward. Bergson would probably reject most, if not all, the ideas discussed above because they are all at root about a confrontation between binaries. Nonetheless, Bergson writes of presence and representation; the former we might offhandedly categorise as real, the latter as unreal. Bergson believes that an "image may be without being perceived" and in this conjecture we can accept that he deems the real or 'presented' as an image (Bergson, 1991). It follows for him that the "distance between these two terms, presence and representation, seems just to measure the interval between matter itself and our conscious perception of matter" (Bergson, 1991). Accepting this Bergson believes it would make more sense:

if the representation of an image were less than its presence; for it would then suffice that the images present should be compelled to abandon something of themselves in order that their mere presence should convert them into representations (Bergson, 1991).

It is here that Bergson fundamentally differs from the basic notions put forward above, because if the distance between presence and representation were the entire distance involved in the conscious perception of matter (or more properly, images) then this would be true. But in its diminution of the present, the representation only fails to be a replica, but this does not necessarily make it any "less".

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The entirety of the representation is also aided by a new addition. The addition is constituted by what has previously been both presented to us in objects as well as represented in images, that is, to comprise our notion of an ‘object’. In any image it might be conceivable that there are in fact two ‘presents’, one occurring in time and one eidetic, which would introduce another theory of antinomies, ensuring Bergson’s vexation. If we consider Robert Brandom’s simple illustration of the process of sense contents as the foundation of knowledge, Bergson accounts for processes 1 and 2, but not 3. Further, we would contend that the image is achieved in process 3, not process 2. Brandom’s diagram is reproduced here from his study guide in the already cited Sellars (1997, p.126).



The fact of this is made apparent by Sellars when in writing of sensations he asserts, “even such ‘simple’ concepts as those of colors are the fruit of a long process of publicly reinforced responses to public objects in public situations” (Sellars, 1997). And as testament to the reciprocal relationship of form and content, Sellars declares that: “we now realize that instead of coming to have a concept of something because we have noticed that sort of thing, to have the ability to notice that sort of thing is already to have the concept of that sort of thing” (Sellars, 1997).

The already

Earlier in the chapter, two questions were put forward: 1. Does cinema have to merge with other mediums? 2. If cinema does have to merge to any extent, what characteristics might it concede and what characteristics might it maintain? It was immediately asserted that cinema should not in fact be purely conceived as a medium and that rather it should be thought of as a type of image. If cinema is thought of as a medium, undoubtedly that thing will disappear, becoming redundant, precisely because of the way in which digital technologies can replicate its effect. Manovich's example of the ever-increasing resolution of digital scanners perfectly demonstrates this ultimate redundancy for the cinematic apparatus, including celluloid, its photographic parent. But then a glaring question arises: As a means to what end has that medium become redundant? It is not as if these 'analogue' devices have suddenly been deemed useless. It is not as if we have dispensed with our desire to take photographs or make films, nor have we dispensed with our desire to look at them or watch them. So what did they do that could not be done before their invention? They gave us a new type of image. So what is this cinema-image? It is an image already given.

When in images we see things, we see objects, but it is we who make of images things and objects. Objects are conferred the virtual quality of being given to us; that is, put before us from outside ourselves. But the basis for our perceiving and conceiving of objects is given incompletely. Any such basis is spatially limited to a single aspect, for one cannot see both sides of a coin in a single instant. And such a basis is temporally limited by change, as aspects and instants multiply and become compounded. We therefore complete objects ourselves. Instead of capitulating to our limitations and the limitless of the world, we reject the endless change and input the past into the present by making phenomena 'already'; we give objects to ourselves. It is only then that they can change, move and endure. It is then their 'alreadiness' that is affected in these ways. The uncanny power of the camera and its film is that it both appears to show things already because they are otherwise absent and yet we also come to know that those things are in fact already because of the technical nature of those mediums. The cinema-image is of something already there, already seen, and when we perceive or conceive of a cinema-image an element of our perception is already done; we cannot see for the camera, only after it. After the invention of photography and then the cinema apparatus, we came to apprehend a way of seeing something that was already there and it was already there in two ways: previously and repeatedly, that is to say, as something that was and is again.

This notion is best exemplified by our ability to 'look twice' at a film or photograph. This is our ability to see it repeatedly 'already'. Our making already of the objects within the frame is

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constricted because we know they are past already; we do not need to stop them and objectify them. Those objects do not call us to doubt like the rest of the world. They are like objects we can see at the bottom of a river: we know they are still and constant even though we only see them move and change. The objects of a film have already been. It is a simple matter of a fixed perspective and an unchangeable change. This alreadiness, in this case, feels strange because the objects we see in cinema are past every time we see them. Our role of making them already is unnecessary.

A great sculpture, painting or drawing of the most ravishing verisimilitude may obviously be viewed or perceived again and again, but what it depicts or represents is always perceived anew. When we look at those objects, they are always waiting to be made already in order to be those objects. Yet if we were to equate them with a photograph or a film as objects already given to us, as final and acted upon, we see only a hand-worked form, brush strokes of paint and marks of a pencil; that is all they might be deemed to be 'already' without our seeing them as objects.

Chapter Three – Towards a virtual language

The previous chapter posited an immaterial cinema-image for the immaterial digital medium. The larger implication is to offer a concept for a cinema-image that is plausibly able to serve as the constituting factor in digitally based images, which may themselves come about long after the original cinematic apparatus is gone or no longer used.

The term ‘already’ in the context of the previous chapter was used to specially describe the state of cinematic and photographic objects. With regard to those objects, the camera confers their particular ‘alreadiness’ in the past and this ‘alreadiness’ should be understood to contrast greatly with the alternative act of a conscious person making an object ‘already’ in the present so that the object can be perceived. These are therefore two different ways that an object can be perceived and in both cases the object is rendered “already.” These two ‘alreadies’ correspond to two types of objects, and those types occupy separate ontological states: on the one hand, objects that are perceived in photographic and cinematic form and on the other hand, objects that are perceived directly and presently in the world.

The question this present chapter seeks to explore is how this cinematic ‘alreadiness’ alters the normal modes of creative expression and reception involved in the use of all other mediums. The chapter’s main argument is that cinematic expression is fundamentally different from other creative forms of expression in that, because of its ‘already’ nature, it is in a certain sense purely interpretive.

Much as there is great variance in the forms and use of all other mediums apart from cinema and photography, so too is there great variance in their modes of expression and reception; however, there is one thing that all these other mediums have in common, which is that they do not provision their own alreadiness. The objects of music, dancing and poetry are intangible and difficult to define; painting, drawing and sculpture can at least be found to convey figures which can arguably constitute some kind of objective status, having as they do elements of tone, shape and scale that can suggest a visual coherence akin to worldly objects. But in their respective forms photography, and even more so cinema, provide objects that have a status not dissimilar to objects in the world. The similarity of those statuses is compelling, at least visually speaking, but far more importantly there is another key factor and that is that photographic and cinematic objects generally correspond

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visually to objects in the world. This corresponding visual nature means that in certain capacities photographs should look worldly and the world should look photographic (for instance, photographs of the surface of Jupiter convey a very different visual significance to photographs taken on a human-visual scale here on Earth; the former are indeed photographs but we do not recognise our worldly objects in them). While cinematic and photographic objects cannot be touched and used in the way that worldly objects can, short of only that they are able to visually convey comparable significance. So there is a troubling similarity between an object I can neither touch nor use and a photograph or film of that object.

The issue of whether cinema has a language of its own may not be answerable, but the issue itself provides a suitable platform for exploring the intricacies of cinematic expression and the ontological parameters around which it is performed. The phrase ‘cinematic expression’ is used in order to specifically refer to the fact that the cinematic apparatus is used in an expressive manner and there is therefore an expressive process involved in this use that is comparable to other expressive modes and practices. The goal of grounding the chapter in this issue is to contrast the wholly interpretive nature of cinema with the roundly opposite nature of written and spoken language.

This assertion that cinema should be defined as an ‘interpretive’ art form and written, and spoken language should be defined as the opposite of that, plainly seems dubious, but the assertion is meant here in a very specific sense: written and spoken language both involve acts of interpretation at almost every level, and photography and cinema involve many levels of creative expression (creation and manipulation of forms, re-use, quotation, repetition, order); yet the forms found in written and spoken language refer only to the intent of the writer and the speaker because they have no intrinsic meaning outside their use, and while the filmmaker’s intent may well be surmised through the viewing of her film, her intent is not the origin of her film’s forms and the cinematic inception of those forms occurred prior to her viewing them. The filmmaker may be present at the pro-filmic event, but the cinematic forms created there on film are ‘already’ before she can see them. The viewfinder may provide a clear indication of what will be found later on film, but the viewfinder does not show the film itself, and indeed any correlation between what is seen through the viewfinder and what appears on film is completely contingent on proper functioning; if the camera does not function properly, the fully-functioning viewfinder will not show what in fact ends up on film. What ends up appearing on film is only known to those who see it and the objects that may be perceived in the film have no origin in the mind of the filmmaker, for they were as mysterious to her as anyone else until she was able to see them on film herself. To look at a

photograph or film is to see objects already rendered. This is an argument of degrees and yes, a speaker must wait to hear their words to really know them and a writer witnesses their words on the page in a capacity no different from that of any other reader, but these written and spoken forms refer to the writer and the speaker, whereas the filmmaker's film is not the same.

Film codes and the language of cinema

Several lingering problems surround the association of language with the concept of film and the broader institution of cinema. Obviously the digital forms of these two staples of media present transformed versions of those older problems, but they remain difficult to resolve nonetheless. One may happen to suspect (or not suspect) that there are linguistic principles underpinning our understanding of film images; however, the issue encapsulates a locus of debate that might still pertain to some of the consequences of the cinematic image's transition into digital territory.

At present very few people still use a film still-camera; digital cameras are the norm. Hipsters, some photographic artists and the odd enthusiast are all who keep film photography from the realm of esotericism. The reason for mentioning this is that still-cameras are still more prolific in their use by members of the public than video cameras (even though they are increasingly merely two options on a single device); their ubiquity is attributable to obvious advantages that they provide the user, particularly the ease with which we can use them. Moreover, the transition from film cameras to digital cameras is technically very similar to the transition that has taken place in moving image camera technologies and thus many issues may draw focus between and across the two mediums of still and moving images. Much as photographs are now mostly viewed on smart phones and computers, many (perhaps even most) of the movies we consumers watch are viewed on the DVD or Bluray format. As media-storage devices, these two formats have a limited lifespan as popular products due to ever-imminent advances in technology and media requirements, but they are the first fully digital formats used for storing moving images to succeed in saturating the general consumer market. But no matter what processes precede the making of these products, and whether they happen to reside in overseas servers streamed to the home or portable device or perhaps on a localized 'cloud' server, the final object is entirely digitised. A smaller but increasingly significant number of theatrical and home-view movies are made using digital capturing technology at some stage or other of production, whether it is through digital cameras, motion-capture or completely digital rendering.

All of this should suggest that at every stage things that are casually referred to as 'photography' and 'filmmaking' are incrementally, at every point, becoming digitally involved practices and in a

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strict sense becoming less photographic.⁴ And yet, as Rodowick contends in his book *The virtual life of film*, the emergence of this technological tendency represents the coming of not a “post-photographic age” but instead an age where “photography and cinema have rapidly become both more than themselves and something else entirely” (Rodowick, 2007 p.147).

The concept of essence is particularly important for anyone who wishes to pin down their understanding of change, to know what was, what is and what will be; speculation on the essence of things soothes the thinker who wishes to tell the tide of change from the waves of flux. In accordance with one of the central tenets of this thesis regarding teleological concerns, Rodowick writes, “All media evolve, but not toward a predetermined essence” (Rodowick, 2007 p.37). In other words, there is no end-point in media evolution; our media is no more complete this year than it was last year. Indeed, according to Rodowick, in the case of cinema we find a “hybrid medium” and in this we can accept that it is undoubtedly a medium comprising many ingredients. It is one of moving pictures, still pictures, sound, silence, words and actions and it is difficult to foreground a leading component by which we are able to define it or describe its essence.

Now, there will always be people who claim to know, or feel they know, that film has an essence. It may even seem reasonable if those people attest that cinema has an essence, even if they do not know exactly what that essence is. But in spite of this, there are good grounds for making a careful case against the existence of any demonstrable concept of the ‘essence’ of film. And while the aim here is not to conflate and confuse, the fact is that the issues of film language and film essence are intertwined. The reader may object that I have at points intercalated somewhat arbitrarily my use of the terms ‘film’ and ‘cinema’, but whatever the extent that the reader can make a case for inconsistency, it is nonetheless between these two terms that I will situate Rodowick’s argument against filmic essentialism.

Metz

In his book *Language and cinema*, Christian Metz, in order to better specify both the object of film theory and the object of film semiology, distinguished between film as a concrete discursive unity and cinema as an ideal or abstract set. So we are meant to think of ‘film’ as that thing which constitutes the actual object of attention and ‘cinema’ as the sum of all the phenomena related but external to it, what might be described as the parameters and means by which we come to engage with this object of attention. Metz provides the very close analogy of “films are to cinema what

⁴ When using the term ‘photographic’, the reference is to the process of photography whereby light emitted through a camera lens chemically marks a strip of film celluloid resulting in an image.

books are to literature” (Rodowick, 2007 p.18). Or better still, film represents the utterance or utterances that we interpret using the language of cinema. Cinema is the abstract code we use to make sense of films. However, this framework obviously qualifies as semiology and in the semiological tradition of establishing a language (in this case of cinema) we must be able to refer back to a specific set of utterances in film. The problem here is that film cannot provide a stable, immutable and specific set of utterances, or rather a specific criterion for substantial self-similarity. By ‘substantial self-similarity’ I mean an essential substance by which one can define a type of thing, and which everything of that type must have. It is obviously this point where the issues of language and essence first converge. In the case of cinema, we find that all films have differing elements of composition and thus we struggle to define a common essence. To be sure, there is no resolute pictorial dictionary of cinema we can handily consult for the express purposes of decoding a film. The cinematic medium is diverse in the manner that an English language book is not, with its 26-letter alphabetic code.

For Metz, the specificity we need to actualise this film language can only be located in the set of all possible films or filmic figures that do exist and will exist in this language. Further, this language, due to the incessant acts of film-creation and film watching, is a language that is subject to continual innovation and change (Andrew, 1984 pp.66–9). Written and spoken language are mutable, and of course there are always new words and new ways of expressing oneself in any language, but such innovations do not fundamentally reconfigure the essence of the language on which they are based. The essence of a language is not constituted by the inclusion of all its examples of use. In Metz’ framework, film specificity would require the inclusion of all examples of its use, because they are all essentially different.

So, in a sense, if there is some kind of cinematic language, it is not in films as individual, isolated objects but in the set of all films combined. This set, when nominated as a single object, enables us to engage with a multitude of films instead of just one and we would call this set ‘cinema’. If we see one film, we are familiar with a film, but if we see two or more, we are increasingly familiar with cinema.

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In this Rodowick identifies a problem:

the notion of codes could not be constructed without the possibility of regrouping... but [in film] only the messages are concrete and singular; the codes are virtual, and the quality of being cinematic in no way derives from the physical nature of the signifier (Rodowick, 2007 pp.18–19).

Almost peremptorily, Metz concludes that a code is:

a constructed rather than inherent unity, and it does not exist prior to analysis.... their homogeneity is not a sensory one, but rather one of logical coherence, of explanatory power, of generative capacity (Metz, 1974 p.28).

Hence, the cinematic code is immanent only in the entirety of all films and it is not immanent in the materiality of the cinematic signifier, which might be for instance a man and a woman on the screen, because this materiality is endlessly heterogeneous⁵. The code is not in the material location where we identify the signifier; if the code exists, we apply it. Such a code would therefore be argued to exist in cinema and each film represents only a part of the code, a contribution. ‘So,’ one might ask, ‘what is the code or language of literature?’

So it is for this reason that Rodowick contends that: “it is useless to want to define the specificity of any medium according to criteria of ontological self-identification or substantial self-similarity”, and that in the case of cinema, its specificity “rests on the analysis and definition of a code or codes immanent to a set of all films.” And so Rodowick conclusively states that any film “is itself a conceptual virtuality” whose objects “vary unceasingly” and that the process of codification is “interminable” (Rodowick, 2007 p.19). Returning to the framework of Metz, the coding in a film is provided from outside by cinema and this coding is as interminable as the production and viewing of films.

So while the concept of coding was extensively addressed in the previous chapter, in the historiographical narrative of film theory we are faced with this dilemma: a code is not ‘in’ something, such as a book or film; it is only really demonstrated in it. If we want to fully decode any single film, we have to familiarise ourselves with cinema. Cinema in reality is represented by thousands, millions maybe, of films and this is obviously problematic. The coding of film, if we

⁵ When a film is made, for instance of a woman, the cinematic signifier is unique; aside from an exact copy, no other footage, even of the same actual woman, will truthfully render the same image of that original ‘woman’ who was on film.

accept that film is coded, is exemplified in the language of cinema. To understand one we must see all, because all films are different and in being different each redefines the code of cinematic language. We would be forced to accept that the last film we see recasts the coding of the very first film we ever saw. All in all, such a language of cinema derives from the difference between all films, yet here is the rub: the language of English does not derive from the difference between all examples of the English literature; in fact, it is the standardised, almost immutable nature of English language which unifies English literature despite all other differences between all the books in this category. To be exact, it is the code that unifies them. But if we look back to cinema again we find that all films that utilise traditional film technology have that technology as their very unifying principle, yet it is the code which is always different, changed, made new in them. In comparing cinema to literature in this case, we have the irony that codes function as a unifying element in literature, a point of substantial self-similarity; while there is no substantial self-similarity in cinema, we rather hopelessly still look for a code. The English language has a code; the language of cinema has, at best, an interminable code and the language of film seems not to have one at all.

If the above points do indeed present a ‘problem’ or ‘dilemma’, they should be reconsidered with the larger argument of Chapter two, because these points are well exemplified there. That the coding of film is exemplified in the language of cinema should in truth seem very fitting and it should structurally reflect the larger domain of visual phenomena discussed in the previous chapter. Its ‘interminableness’ gives weight to the argument that the coding that informs cinematic objects (or ‘film-objects’) ascends far out and over the medium itself, into the realm of the reversibility described by Merleau-Ponty; that realm where “people can speak to us only a language we already understand; each word of a difficult text awakens in us thoughts which were ours beforehand, but these meanings sometimes combine to form new thought which recasts them all.”

Seeing the past

We can now say we have two problems: 1. it is difficult to claim the cinematic signifier is the physical thing we see in the celluloid; and 2. it is difficult to claim that, in light of 1, there is some code we use to conjure up the cinematic signifier from this otherwise physical thing we see in the celluloid. We can wonder then, given that the connection between the ontology of the cinematic signifier and the cinematic code is tenuous or even non-existent, should we take the step and resolve that film language and film ontology are hollow objects of analysis? For Rodowick the former may be discarded without any attempt to redeem any semiology of film; however, the latter issue of film ontology, for him, warrants further analysis. The issue of ontology, the being of film that involves

us believing that it signifies things to us visually, cannot be denied. Rodowick's course herein provides a new and fecund avenue for conceptualising photography and film.

Rodowick turns to Stanley Cavell's *The world viewed: reflections on the ontology of film* (1971). Cavell's notion of a medium asserts that every medium is comprised of a set of "automatisms". Rodowick believes that Cavell's notion of ontology in no way assumes an essentialism or teleology. He quotes Cavell, writing that, "the notion of automatism codes the experience of [a] work of art as 'happening of itself'" (Rodowick, 2007 p.44). Automatisms doubtless provide opportunities for artists, but they also reveal, through themselves, further new automatisms to the artist. Yet it is important to remember that this proliferation of automatisms is always instigated by the artist. Automatisms are created by a mixture of need, luck and foresight, all within circumstantial limits, predominantly provided by our prior use of other automatisms. Perhaps the most important thing to understand about automatisms is that there is a big difference between their existence and their use. Both the existence as well as the potential existence of an automatism is in a strict sense isolated from our intention and use of it. The best definition I can provide of an automatism is that they are things we use because they will do what we can't or don't want to do, and it is our exclusion from what they do that defines them.

Having established this ontological qualification as a framework, Rodowick moves his focus on to photography. He stipulates that photographs, despite appearances, are not "representations". In fact, he ponders, "the more we think about photographs, the more difficult it is to place them ontologically and to understand how they bridge the world and our perception" (Rodowick, 2007 p.55). If we agree that in a painting we do not see a "representation of a physical world referent" but instead "a complex history of hand-directed actions", we may ask 'What is it we see in a photograph?' (Rodowick, 2007 p.57) Strangely enough, it is not a physical world referent. For as Rodowick rightly points out, in a photograph, thanks to the inherent nature of its automatisms, we 'see' a "common duration wherein the camera and [an] event were commonly held" (Rodowick, 2007 p.61). This description by Rodowick is perhaps an ugly way of putting things, but the advantage of it is that it discards a lot of the implied connotations we usually infer when we use the word 'photograph'; many of which we should consider rethinking. Moreover, Rodowick's description applies equally to film as it does to photography because film uses the same photographic automatisms. The connotations of 'purpose' and 'functionality' lead us to conclude that photographs have an eerie perfection, which we either presume to be unproblematic or think of as almost magical and therefore opaque to rigorous attempts at analytical investigation; we believe photographs simply work. But it is their automatistic element that accounts for this.

What is the secret of this automatism? “If mimesis there be in photography, it is not spatial. Rather it is the confounding perception that things absent in time can be present in space” (Rodowick, 2007 p.64). The main point here is that when thinking of the presence/absence dichotomy peculiar to photography, which is in many ways the heart of our photographic ecstasy, the absence is not spatial but instead temporal and the presence is not temporal but instead spatial. It is an obscure truism, because photography and film are most active on the level that they do not so much show things but they are instead of things, and the argument here is that that is what we ultimately recognise in them.

This is a tricky conceptual mind-play on our part, as this thesis has stated this several times and will be compelled to again later. With our eyes we perceive the world as space-in-time; with film and photography, we perceive the world as time-in-space. By this I mean that either we use the present time to perceive and thus conceptualize a space that is in flux (eyes viewing the world), or instead we fixate on a virtual space in order to conceptualise a time that is past (our eyes viewing a photograph or film of the world). In the former, the time must be present and in the latter, the space must be virtual. The latter always naturally subsists in the former, and we are foremost in every case viewing the world, whether it is a photograph or anything else. As a consequence of this, we perceive real space in present time first in order to perceive virtual space and past time in a photograph or a film. In film, we have a further extension: from virtual space we can experience virtual time. But the important thing to remember is that we experience the virtual time through the virtual space; in virtual experience, time very much depends on space. Real equals space-in-time and virtual equals time-in-space. It may be helpful to think of this with the analogy of two cogs in a gear system, whereby the first cog turns the other, but in doing so rotates the other on its axle in the opposite direction to that of the first cog on its own axle: this principle applies as each cog is added to the gear system.

With these two analogical mediums (photography and film), we know that the content of what we see is something before we know what it is and that something is the past. The basis of our recognition, in this case, is not spatial but temporal. Photos do not look at space, although we try to do that through them; in truth, they feel time. My assertion here is that the photographic automatism is only superficially a spatial phenomenon and that its real achievement lies on a temporal front. This assertion is in accord with the arguments of Chapter two.

Returning to the semiological dilemma, it is perhaps worth clarifying that for many commentators and theorists, the notion of a language of cinema is a figurative one, not a literal one. In fact, in light

of Gregory Currie's 1995 book *Image and mind*, which methodically decimates the literal principle of film language and does so with little profit, one can perceive the whole issue of film as a language of linguistics as a veritable straw man. The broader and less technical notion of language is still very useful because it delegates questions to the issues of articulation and interpretation, issues which remain pertinent in film studies.

I will then stick with film language as a figural notion and, maintaining a pursuit of its conceptual description, it figures as the broader background of the arguments that follow. Accepting this, Cavell's concept of "automatism", if I herein combine it with certain theories of interpretation, can suggest new value and relevance for traditional film technology, especially within the context of the digital cinema age.

What signifies...?

The simplest way to justify the invocation of language in film and photography is to say, 'something is done and something is understood'. However, there is and must be considerable translation and transformation in the consequence of something 'done' leading to something 'understood', and in the case of film and photography, this consequentiality relies on phenomena that are very real and on phenomena that are not very real at all. Film and photography have a language based upon the subversion of reality; they are reliant on the will to tell and believe in lies formally based on the truth, a language of paradox. Film and photography have been in various ways often considered 'arts of reality', and the distance between those two terms 'art' and 'reality' has promoted much debate. On one hand there is the 'realist' perspective, of which the two most famous exponents are André Bazin and Siegfried Kracauer,⁶ and on the other the 'formalist'; the former identifies with the world, the latter with the artist. Perhaps the most famous film theorist to conflate these two positions was Jean Mitry, as specifically outlined in volume 2 of his *Esthétique et psychologie du cinéma* (1965). For Mitry, the realist aspects of cinema separated it from the other arts such as painting and literature, whilst the formalist aspects separated it from acts of mere reproduction such as tape recording. The artistry of film, for Mitry, could be accounted for by the distance between cinematic perception and standard perception, which he put down to a visual subjectivity attributable to an explanation broadly akin to Gestalt theory. As a very marked alternative to this, Umberto Eco in his *Theory of semiotics* (1976), placed cinema in the arch-category of semiotics along with painting, poetry etc and emphasised the ultimate disconnectedness

⁶ Kracauer and Bazin find little essential difference between perception in the cinema and perception in the real world. Further reading Andrew, *The major film theories*, 1976 pp.103–115.

of cinematic signs from reality. And thus for Eco, cinema, like painting and poetry, can lie (Andrew, 1984 pp.20–21).

Dudley Andrew argues that Eco's denunciation of the veracity of cinematic signs very much depends on the intention of the artist (Andrew, 1984 p.21). Andrew points out a further complication: the argument, which might best be expounded by those of the broadly phenomenological persuasion, that underneath the semiotic language of film lies a perceptual "manifold" which is never fully exhausted by a film's message (Andrew, 1984 p.22). Thus we find that the vast room for the interpretation of meaning in any film distances the artist's intention from the ultimate message of her work, and this would presumably only undergird Eco's doubt over the veracity of the cinematic signifier. In short, this suggests the severance of a film's message from any reality that it was initially informed by.

In light of this we may accept that the cinematic signifiers may not carry a message or a meaning direct from the context of their veridical origins, but if we alternatively take Cavell's notion of automatism, specifically filmic automatisms, we can replace our conceptualisation of cinematic signifiers as being about the real world or showing the real world with one that instead understands them as essentially and functionally of the world. So whatever we make of these signs, to an extent we should have minimal mystery about where they come from. And just to be clear, what we 'make' of them is a separate issue.

How can this inform the issue of a language of film? The idea at this point is to view language less as a structural schema that is comprised and defined by its own code. Instead, language can be viewed instead, and valued also, as a process. Language-as-process can be helpful in shedding light on issues of articulation and interpretation as they apply to film. If we return to the filmic principle that the content of what we see is something before we know what it is and that that something is the past, we have a predicate for a film language which ties this film language to an event, totally analogical to the relationship of writing to discourse. Paul Ricoeur's essay "The model of the text: meaningful action considered as a text" illustrates a conceptual framework of discourse as event, and then later as action. Ricoeur recalls Plato's myth of Phaedrus. In this myth: "writing was given to men to 'come to the rescue' of the 'weakness of discourse;' a weakness attributable to the peripheral limits of "the event":

The gift of the grammata – of that "external" thing, of those "external marks", of that materializing alienation – was a "remedy" brought to our memory. The Egyptian king

of Thebes could well respond to the god Thoth that writing was a false remedy in that it replaced true reminiscence by material conservation, and real wisdom by the semblance of knowing (Ricoeur, 1986 p.146).

While, as was made clear earlier, the filmic utterances of film language fail the test of providing a specific criterion for substantial self-similarity, we can instead look further to an analysis of such a discourse in film which would be analogous to the one Ricoeur describes in speech and writing. To better understand spoken and written language, Ricoeur looks back to their natures as 'events', serving as points of origin not only in time, but also causally, treating them as heuristic enterprises. Ricoeur, by invoking the myth of Phaedrus, shows that the mystery of language stems from its recurring genesis in the world; that its purpose is in the world, not in itself. Eco is right to the extent that as isolated concepts the cinematic signs are no truer or real than the spoken or written signs. Conceptually isolated, cinematic images are colours and shapes signifying nothing. As Ricoeur attributes writing and speech to discourse, we see the purpose and foundation of language as something ultimately grounded in instances of time and space, in events. So much the same, we should attribute the purpose and foundation of filmic language. If we are to attribute the discourse of film to an event, it is not the event of viewing; it is instead the event of the past shown. A language of film thus can be thought of as the grammata, as the false remedy which enables us to replace the real wisdom of that which is filmed with the semblance of knowing which we gain through a language of cinema. The key principle stipulates that the arena of film discourse, its locus, is not in the act of viewing but in the act of filming.

Film shows in a way that no other medium shows, in a way especially unlike digital cinema, in that film shows us in its very use; in itself it shows something else. If we were to approach sculpture in the manner we approach film, we would say that a sculpture shows us the countless events of manipulation by an artist's hand. But instead we do not look at what a sculpture shows, we look at what it represents, how it looks like something other than what it is. It is a matter of process in signification. For instance, the markings of a sculpture are metaphorical, but the markings of a film are not. This may seem like a loose or foolish use of the term 'metaphorical', but it is intended to connote the paradigmatic roles these markings have that enable them to transcend what would otherwise be their nature as literal (absolute) and divided things, possessing semblance to little other than themselves. The markings of a film, however, are literal; we perceive them sincerely before we make any judgement about the veracity of the things (objects and events) that we claim we see in the actual presentation-experience of the film in front of us. In short, these things that we claim to see are actually metaphorical and they are perceived in literal markings.

If we locate filmic discourse in the act of filming something, the specific type of thing that we would refer to in language as an ‘utterance’ would be located in the same act. If we listen to the recording of a person speaking or a bird calling, to whom do we attribute the utterances we hear? Is it the recorder or the recorded? A case can be made that in terms of the language we hear, the means by which we identify the sounds, it would be correct to attribute the utterance to the recorded, to the person or the bird we hear making the sound in the recording. The filmic utterances that we search for are analogous to this.

The foremost technical principle of film technology is that we see what the camera sees and in this sense we may realise that the filmic utterance is uttered to the camera, not to us. Undoubtedly we do not see everything uttered to the camera because film, much like sculpture, is an art of relief (editing). It is editing that enables film’s closest equivalent of syntactical articulation and which gives rise to the temporally-based filmic metaphor we understand as key to film’s dialectical potential. In writing, the domain of discourse is typically situated above the sentence, or more properly with the combinatory power of sentence upon sentence. In terms of articulation, it is true that the word comes before the sentence; however, all words are ultimately sentential and fall within the domain of discourse even though they may be more ostensibly informed by the nitty-gritty of coded language. The codes, however, are set within the small bounds of the sentence and beyond that the coded structures (sentences) are simply cumulative. Consistent with the argument in Chapter two, codes are only useful so far as they are consistently utilised across sentences in the larger realm of discourse. So it is outside the sentence where words gain any possible meaning extrinsic to the singular and original intent known only by the speaker or writer. Therefore the foundation of words is not in coding, but instead in discourse, and words are of discourse in this sense. The relationship of filmic utterances to the world is exactly the same.

Words are a means by which we achieve the aim of connecting with each other above the self-descriptive and concrete realm of pure action. To be sure, film utterances do not come from nowhere, nor do we find meaning in them for no reason; they are a means to the world. Words are the means to ideas and filmic utterances are the means to the world (it is worth adding, via the past). The two ends in these cases do not simply justify the means, but produce the means with which they are achieved. Thus invoking the sentiment of the aphorism ‘the end justifies the means’, the analysis will now move from the locus of the ‘means’ in this case over to the locus of the ‘end’. Such a locus at this point will not be in the abstract domain of ideas; rather, it will be in the world, at the meeting of camera and event, the locus of filmic discourse.

Filmic discourse

If we are to derive a conceptual framework, even analogically, from Ricoeur's essay for explicating an understanding of filmic discourse, it is necessary to first assert Ricoeur's own notion of discourse as "language-event or linguistic usage" (Ricoeur, 1986 p145). In filmic discourse the operative words in this definition are "event" and "usage" because it is these two things that are proposed to happen in conjunction with the camera, rather than the screen; the event in front of (and including) the camera and the usage by the camera of the event in its recording.

Ricoeur puts forward the notion of "event" as the central touchstone of his argument. He writes that, "if the sign is the basic unit of language, the sentence is the basic unit of discourse" and that "therefore it is the linguistics of the sentence which supports the theory of speech as an event" (Ricoeur, 1986 p.145). Thus, at this level of analysis, specifically of "event" (and I would also add 'usage'), the focus moves from language to discourse, and in film terms from the screen to the camera. It may seem paradoxical to move the analysis from screen to camera if the intent is to move from the 'means' to the 'end'; however, if films are of the world, that must ultimately represent our end as viewers. A return to the world.

Language and discourse are manifestly different concepts, but it is helpful, especially when extending the analogy to film, to specifically isolate the two. Ricoeur attributes four traits to discourse that particularly juxtapose it to language: 1. that discourse is always realized temporally and in the present, whereas the language system is virtual and outside of time; 2. while language, being outside of time, lacks a subject (never inherently indicating the nature of its user's identity, place, time etc), discourse instead refers to the speaker by means of a complex set of indicators: 'What's in a name?'; 3. whereas the signs in any language refer only to other signs within the same system, and whereas language lacks a world just as it lacks temporality and subjectivity, discourse is always about something: it is most important to understand that the symbolic function of language is actualised in discourse; 4. whereas language is only a condition of communication, it is in discourse that all messages are exchanged, and in this sense discourse alone has not only a world but an other, an interlocutor, to whom it is addressed (Ricoeur, 1986 p.145–6).

In regard to filmic discourse, the following observations can be made of these traits outlined by Ricoeur. The first trait can be understood in filmic discourse as the predicate that film is 'in time' in both the act of filming as well as the act of watching film, much in the same way that speaking and listening are in time but writing and reading are not. There are obvious issues of similarity,

however, between the inscriptive practices of film and of writing, as well as very poignant differences that will be covered shortly.

Ricoeur's second trait of discourse finds its equivalent in filmic discourse by way of the ontological nature of filmic inscription. 'Filmic inscription' in this instance refers to the act of committing the effect of light onto film celluloid (or a functionally comparable substance). The technological reality of film requires the 'event' of filmic inscription. The inscription is an event in time to which a film, when we watch it, by its very nature refers. This event in time is not, in the case of film, so much a 'speaker', but more properly a 'speaking'.

The third trait of discourse posits that while a language can only refer to the signs within it by virtue of their differences, discourse, and hence filmic discourse, refers outwardly. In the sense that discourse is 'about something', filmic discourse is 'about' the speaking-event and, by extension, the world of that event. Despite the distance of both time and space between us, in our viewing, and the world of any filmic event, that world is still our world. This is best understood if we distinguish it from the painterly world that is of a world different to our own.

The fourth trait of discourse is reflected in filmic discourse in the sense that filmic discourse is both of and in the one world. Further, filmic discourse, by its very nature, has its appropriate interlocutor, the viewer, to whom it is addressed via the camera.

Ricoeur observes that there is an obvious differentiation between the discourse that we speak and the discourse that we write. As discourse exists only as a temporal and present instance of itself, in living speech we find the instance of discourse to be fleeting; yet the purpose of writing and filming is to fix this very thing that is fleeting (Ricoeur, 1986 p.146). However, it would be incorrect to assume that either writing or filming truly inscribes the discourse itself (as if it were some object) onto the page or the celluloid. Discourse is the event, including the inscription. In response to the rhetorical question 'What does writing fix?' Ricoeur concludes that it is "not the event of speaking, but the 'said' of speaking" which we commit to page (Ricoeur, 1986 p.146). So in film it is the case that the 'said' of filmic discourse is on the celluloid; that is what constitutes the filmic event, the filmic discourse within the otherwise 'discourse-as-event' of the world at that spatio-temporal point (a film production set, for instance). Filmic discourse locates itself between these two older modes of discursive expression (writing vs. speaking), because while akin to writing, in the sense that it inscribes, it is also akin to speaking because it is temporal (although it remakes an absent time a present time).

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After invoking the notion of the “said”, Ricoeur introduces the three levels of the “speech act” attributed to linguistic theoreticians John R. Searle and John L. Austin. As stipulated by these authors, the act of speaking can be understood as taking place on three different levels. These levels are hierarchical:

1. The locutionary or ‘propositional’ act. This is the act of saying in itself; the ‘said’ act.
2. The illocutionary act. That which we do in saying; i.e. what is said.
3. The perlocutionary act. That which we do by saying; the said as affect, or the act as defined by ‘that thereafter’ (Ricoeur, 1986 p146–7).

Ricoeur uses the term “intentional exteriorization” to define the act of saying and this term can be understood as representing the ‘said’ as something selected from what can be said by way of what is desired to be said. If this “intentional exteriorization” (IE) is fixed in the form of the written word, Ricoeur asserts that the locutionary act exteriorises itself in the sentence. This means that through the notion that a sentence is ‘complete’ we can be sure that something is said and that that something is grammatically sound (or unsound). From there the illocutionary act is exteriorised through “grammatical paradigms”, which are the indicative, imperative and subjunctive modes which convey the formal intention of what is said (Ricoeur, 1986 p.147). But in the act of IE, in writing, we are less certain of our illocutionary act than our locutionary act. This is because we are more certain of our saying than the intention of our saying being conveyed and, more so, it is this lessening degree of certainty which we rely on in order for us to bother writing something down which someone else will read at another time and place who is unable to assume the complete and true nature of the speech act. The less our articulations express the exact intentions of what we want to write at the event of our discourse, the more likely a person reading them later will be able to discern the formal meaning of our words.⁷

If the illocutionary act is less certain in the act of IE than the locutionary, then the perlocutionary act is even less so. By Ricoeur’s judgement, the perlocutionary action “is the least discourse in discourse” and in characterising spoken language it is the least inscribable of the three levels of speech act (Ricoeur, 1986 p.147). As the element of discourse as affect, it is the integral foundation of discourse as event. The perlocutionary act is very much in time and in space and, by any increased distance between interlocutors in time and space, the perlocutionary act is inversely diminished. Thus in inscribing (IE) a given ‘said’, the perlocutionary act is both robbed of its real-time context (as something best spoken), and in being fixed in inscription may never be returned to

⁷ This is why the best poetry invokes the world of the mind, out of time and space, and why the epic genre in literature deals with journey and conflict instead of the seasonal migration of specific bird species.

its originating perlocutionary act, save for some additional contextualising information to simulate it ('it was two hundred years ago, his wife had died, he was Polish and it was raining').

In the sense that we can deconstruct the speech act in this descending order or set of hierarchical levels, the act itself is done in the opposite manner. We speak in order to affect, we then articulate for the sake of this aim and finally we actualise this in the act itself. The hierarchy may depend on whether one takes the 'readerly' or 'writerly' modes of analysis, as Roland Barthes termed them (although in appropriating them here they might be better called the 'filmmakerly' and 'filmwatcherly' modes). Nonetheless, this is true whether this speech act is spoken or inscribed as a written text.

The filmic speech act

The perlocutionary act is the act that lends itself most to any notions of filmic language, filmic expression and filmic art. It is on this landscape that filmmakers take poetic licence. Because unlike in writing where intentional exteriorisation is taken *out* of time and perlocutionary context, film instead takes the time (by means of exposure) and reconfigures it into discrete units of space (frame), which happen to be equidistant from each other. The act of inscription in film determines that the frame, not the shot, is the unit by which a filmic utterance is considered whole. Everything outside the frame is omitted and its exposure time is fixed across a single space. When the frames are replayed in succession in front of us as viewers, the time that was fixed across a single space cannot be retraced into the temporal unit from which it was taken. Instead the present time simply fills in that gap. And therefore when these units are run through a fixed space at a consistent pace in present time, this spatial equidistance results in a verisimilar virtual time. To confirm, through 'virtual space we can experience virtual time' (it might be scientifically specious, but the analogy posits that the process involves time turned into space, and then space turned into time). This is a process of truncation followed by a process of amplification, and it is achieved through the use of discrete units. It is on the perlocutionary level that the discrete units work; they remove their contents from its context.

The three levels of hierarchy in the speech act were previously organised in both readerly and writerly modes, but in the case of the speech act in filmic discourse, or more properly the speaking event of filmic discourse, these readerly and writerly modes are half-reversed.

The speaking act or discourse-event in filmic discourse, while commencing with its inscription, exists not exactly prior but at least concurrently with the act of inscription. This is not the exercise

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of an arbitrary selection from the lexicon of linguistic signs in the manner exemplified in writing. The forms of filmic expression derive from outside film, from the world by means of an automatism, whereas the forms of writing derive from language, inherent and solely exemplified in writing and speech; although it really should be stated that writing and speech are in fact closer to film in their worldly nature than they ostensibly seem. And so, at least in the case of film, it is for this reason that we should speak of film-discourse rather than film language, because these forms are not arbitrarily defined within the (almost) closed system of a language. We may to an extent say that we choose the filmic forms that we utilise, but this comes close to suggesting that we may choose them as we like when in truth they are contingent. They are encountered and caught like fish in a trawl net. And in our inscriptive act of filming, despite our intentions, we interact with forces of indeterminacy, which are varying and manipulated but never totally obviated.

The practical process is broadly simple: first we capture, then we decide or realise what it is we have captured, and then finally we decide our intentions based on our judgement of its affective capability. The first is a locutionary act, the second an illocutionary act and the third a perlocutionary act. The perlocutionary act here functions as a reflexive annotation to the illocutionary act in that what we decide has been filmed (illocutionary) is then accented and contextualised amongst other film shots (more specifically, frames). The capability of film syntax rests on its potential to capitalise on the partial nature of filmic inscription's fidelity to the perlocutionary act. Film being inscribed-in-time is able to split the perlocutionary act in half, retaining in the frame internalised time and space from the original discourse-as-event, while enabling a second perlocutionary act to take place in a new context. In place of the omitted space and the time which is contracted in the frame, film is re-articulated, meaning that the 'what is said' is recast in its new context. It is this step which compels us to allude to some form of film language, because we can feel the powers of articulation, normally confined to the domain of language (specifically grammar, intra-sentence), returning to us as we recast the meaning of images that were previously contingent pieces of the world, but are now being rendered arbitrary fodder for our desires of expression.

All this is from the perspective of a writerly mode. If we analyse these acts from a readerly perspective, we do not work the other way around. The reason for this is that it is the secondary perlocutionary act which quasi-parses whatever content a viewer perceives in filmic inscription; a content that was already self-described in the illocutionary act within film discourse at the time of filming (inscription).

The secondary perlocutionary act is imminent upon inscription because of the truncation that ineluctably takes place. The truncation creates a grammatical vacuum, requiring a secondary articulation.

Perhaps the central factor to note is that the act of inscription happens first, and therein film is primarily and foremost hermeneutical. One could even suggest that it is a hermeneutical mode of expression. Expression and interpretation generally stand as two concepts that sit in a consequential relationship: the former leads to the latter. Yet in film it seems the two concepts involve a process going the other way. Expression is achieved through an interpretation of something already given: set, as if from the kiln. Part and parcel of this is the fact that, unlike writing, which places the writerly and readerly modes as inverse to each other, film seems to characterise both modes, while still being very different, as interpretive.

Interpretation in the writerly mode capitalises on the grammatical vacuum created by the frame; a filmmaker must interpret her footage as an integral aspect of her usage of it (even in discarding it) and with such use she must re-articulate the footage. By the time of the emergence of a film object (ultimately at a screening), which would be the initiation of the readerly mode proper, the writerly process of interpretation should be finalised.

A key element in this writerly mode of interpretation is that, post-inscription and post-truncation, the act of interpretation is re-interpretive of filmic discourse after the first perlocutionary act. This re-interpretive stage is a point of transgression, where truth is elided and fact is repositioned or recast. This is a transgression that does not really take place in the case of writing; there is no inherent truth with words or sentences, only in their meaning (and that can be robustly contended with too). Consider Ricoeur's characterisation of discourse below:

Only discourse, not language, is addressed to someone...but it is one thing for discourse to be addressed to an interlocutor equally present to the discourse situation, and other for it to be addressed, as it is the case in virtually every piece of writing, to whoever knows how to read. The narrowness of the dialogical relation explodes. Instead of being addressed just to you, the second person, what is written is addressed to the audience that it creates itself (Ricoeur, 2007 p.97).

This point of transgression is where fiction is born in film, where an actor becomes a person, where a past film set from our world becomes a present otherworld, where this becomes that. As already stated, this re-interpretive stage is a consequence of the truncating power of the shot and the frame.

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This is all that separates us from the truth that everything on film is mundane. And this is also what separates it from the world and confers upon it object-status. Returning to Plato's myth of Phaedrus, the Theban king's hypothetical response as proposed by Ricoeur would assert that film is the false remedy for a viewer's absence from the filmic event, and that this material conservation is exploited by the filmmaker in order to replace this "real wisdom" with the "semblance of knowing". The frame and the shot are part and parcel of this exploitation.

Chapter Four – Imago/pictura: the material trace over time of the mind's eye (in retrospective)

The main objective of this chapter is to trace the advent of film technologies, not so much as teleological ascendancies but as opportunities for our needs and desires whereby automatism reveal automatism, a phenomenon adumbrated by Stanley Cavell in the earlier part of his book *The world viewed*.

There is a tendency to view the technological path of the image's multiple existences over the last two hundred years (and this is a tendency predominant in the last hundred years) as a sudden, tight and haphazard turn rather than a gentle development; the extent of the media image's transformation and its transformation of us is perhaps in many cases overstated. The purpose of this chapter is to 'flatten' the recent history of the image, to identify not only its changes but its continuities as well. Another aim is to partially relocate aspects of its technological development out of technological history and place them within the broader and longer story of its artistic lineage. The intention of this is not to deny the myriad of obvious and indisputable *a posteriori* observations that can easily be made regarding the development of image media such as photography, film and their later subsistence in digital guises, but instead to highlight the underlying and dominant role of the mind's eye in paving a direction and a motive for technological innovation. The purpose of making this argument is to clarify the larger journey of the image as a phenomenon that has existed in many technological guises while maintaining certain ontological consistencies. This argument should provide a sobering context for our more recent transition from a cinema based on traditional cinematic technology to a cinema that is increasingly of a digital nature. This argument is also meant to clarify what is ultimately at stake in this transition. This should help to demonstrate the ontological value within pictorial, photographic and cinematic images that enables their subsistence in the digital era.

Historicising art and technology

Inasmuch as it is fair to say that technological histories tend to steer away from any inclination to integrate artistic developments into their narrative, this convention is commonly reciprocated in

histories of art. Edward A. Shanken's essay "Historicizing art and technology" directly engages a key objective of this chapter, that being to portray a coherent and broadly conclusive representation of the image's development over a period of time, specifically focusing on what Shanken calls "the nexus of art, science, and technology (AST)". This "nexus of art, science and technology" is an appropriate point at which to orientate this chapter's argument, because it is here that the values of images in pictorial, photographic and cinematic technologies are very much determined. Shanken considers AST to be, even in the twenty-first century, a nascent field and he also acknowledges that it is a broad one and in that sense it faces numerous obstacles in establishing itself as a permanent field.

The three areas for development that constitute the most likely means of expansion for the field are those of canonicity, methodology and historiography. According to Shanken there is in fact no methodology or comprehensive history of AST published anywhere as he terms it, and ultimately he believes AST will remain a marginal field unless this is changed. With this dearth in mind, Shanken regretfully notes that the recent two-volume set *Art since 1900* by Hal Foster, Rosalind Krauss, Yve-Alain Bois and Benjamin Buchloch – what is quickly becoming the staple text on modern art – ignores the history of art and technology, which as a text destined for canonicity in its field (art history) can only prove to be another missed opportunity for the history of AST (Shanken, 2007). Art historians such as Jonathan Crary, James Elkins, Martin Kemp and Barbara Maria Stafford have all written about the history of AST during Renaissance, Baroque and Modern periods. However, in terms of AST in regard to contemporary art, Shanken's survey suggests that most of the work in historical, critical and theoretical studies in English has been done by artists.⁸ Particularly noteworthy is the fact that up until the mid 1990s the well known AST journal *Leonardo* was mainly written by artists and scientists, because art critics and historians produced very little of relevance to the field.

Most of the current literature being produced emerges from the fields of literature, film history, performance studies and cultural studies. Perhaps not surprisingly, rather than arguing for innovative new theoretical positions that are integrated into AST history and exemplified in key works of art, recent criticism (particularly outside art history) has been peppered with citations of well established and foregrounded theorists such as Deleuze, Baudrillard, Derrida, Latour and Virilio. This may represent an obstacle for meaningful progress in both AST criticism and history.

⁸ Such as Roy Ascott, Jack Burnham, Critical Art Ensemble, Douglas Davis, Mary Flanagan, Alex Galloway, Eduardo Kac, Margo Lovejoy, Simon Penny, Peter Weibel and Steve Wilson. The notable exceptions to this rule have been Jonathan Benthall, Margo Bijvoet, Charlie Gere and Frank Popper, the media archaeological scholarship of Oliver Grau and Erkki Huhtamo, as well as the criticism and editorial work of Tim Druckery (Shanken, 2007).

Curatorial practices have perhaps made some of the most significant contributions to AST history, especially exhibitions and exhibition catalogues written by critics and theorists such as Jack Burnham, Pontus Hulten, Frank Popper and Jasia Reichardt. But more recently, others have developed exhibition theory, at least in respect to electronic media, such as Sarah Cook, Steve Dietz, Beryl Graham, John Ippolito, Christiane Paul and Benjamin Weil. Festivals such as SIGGRAPH (Special Interest Group on GRAPHics and Interactive Techniques), ISEA (Inter-Society for the Electronic Arts), Ars Electronica and other major exhibitions like ZKM (Zentrum für Kunst und Medientechnologie) have provided important forums for discourse pertaining to AST, although this has contributed more to criticism, practices and theory than it has to any widely workable history of AST.

What all of this suggests is that the whole concept of AST is, and has been for a long time, a peripheral or unconscious concern for theorists but that even despite this, a meeting on a theoretical level may still be possible at which the parties of art, science and technology may more fittingly synchronise. If this were to happen, this would at least result in a broader shared view, looking both to the past and into the future. The fact that there is a shortage of historically focused writing on the subject might explain why we tend to have a constant retrospective feeling of revolution, a feeling that just beyond the present time there is always an imminent transformative event through which we will be seemingly subjugated by technology in some form of revelation; what might be described as a perennial mirage on modernity's horizon. This feeling presents symptoms in the canon of film theory, in which the history of cinema is most commonly characterised as a thrilling ride that we are only now starting to get over.

Shanken begins his call to arms by critically engaging Jack Burnham's *Beyond modern sculpture: the effects of science and technology on the sculpture of this century* (1968) from both a methodological and a historiographical perspective. Burnham's arguments, particularly in this book, weave in and out of the teleological claim that the history of art had been driven by the underlying goal of becoming ever more lifelike. In his time and thereafter, Burnham was declared to be too general and too deterministic by many art critics, being particularly criticised by heavyweights Rosalind Krauss and Donald Judd. Burnham feared that the cultural obsession and faith in science and technology would lead to the demise of human civilisation. He regarded art in a manner similar to Marshall McLuhan, who himself described art as a "distant early warning system." Burnham wrote that "Art... may be a means for preparing man for physical and mental changes which he will in time make upon himself" and further, that a "desire to transcend ourselves" through technology is "merely a large-scale death wish." Would it not be ironic, he asked, if "organic life and intelligence

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[are]... the same thing?" This rhetorical question anticipated discussions on embodiment, disembodiment and the post-human three decades hence.

It was in his own earlier book *Telematic embrace* (2003) that Shanken attempted to dispel the widely held belief that art emulates the realities of science and technology. Using Roy Ascott's *Change painting* (1959) as an example, he attempted to construct a lucid interpretation of the work based on cybernetic principles. The work obviously predated cybernetic technology.

The teleological debate has been touched upon several times in Chapters one, two, and three, and one of the larger aims of this thesis is not to place itself on either side of this debate. This is mainly because the teleological question brings with it premises which are difficult to resolve, namely that there are productive points of demarcation by which we can define factors of cause and effect in our relationship with mediums (many of which are variably determined to reside either within ourselves or outside ourselves by the assorted arguments for and against teleological explanations). Shanken's treatment of Ascott's *Change painting* clearly inclines towards a subtle teleological persuasion, although it is not always to be expected that aspects of cause and effect be explicated in such arguments. In Shanken's case, it is more in the defence of the artistic vanguard against assertions that the vanguard is reactionary with respect to technological change than Shanken arguing for any strict notion of direct artistic determination in technological innovation (which is hardly a teleological polemic anyway). Even McLuhan's claim about art as an "early warning system" does not necessarily by itself carry any loading in the great debate, because the concurrent developments of art and technology may equally reflect the developments of the human condition, to which they are each conjoined (it should also be accepted that they do not have to be direct reflections of each other as if they comprise some mutual tripartite).

The purpose herein is to trace a narrative of development focused less on art or technology as end products. Instead the purpose is to be focused more on the juncture of these two as derivatives of the enduring interaction between the human condition and automatistic realities; an interaction which is the only true cause of innovative insight for either art or technology (thought of this way, rather than as any problematic concept of a dialogue between those two, in truth, very separate human aspects). Indeed, as a case in point, it is very difficult to think of a category for the two any better than the vague description 'human aspects'.

Having come this far with the foundation principles of a surface and a boundary, in the last two hundred years we are, with both excitement and fear, encroaching into the realm where we will

have come full circle; where those foundation principles of the surface and the boundary will have fulfilled their purpose and disappeared, principles through which we once wished to see unreal and unworldly images in the real world. But soon, no longer needing surface or boundary, we will have images in another world. With the invention of this new world without surface and boundary, the mind's eye will no longer need to rent space in the concrete world of things. And as is the desire of the mind's eye, this new world will be compared to the old real world as functionally or effectively, but not formally, of its kind. This virtual world will be, and would always have been, the domain of the mind's eye. Yet this new domain does not emerge out of the dark, but is in fact a further resolution of the conflict between our mind's eye, our inner world of images, and reality, the external world of images. A virtual world, by any means, should never be viewed as a great surprise, but instead as a long and deeply held human goal, and it is not a goal that until now has been totally unrealised. As an ontological concept, the virtual has long been meaningfully exemplified in the history of image media. Although the digital era is new and its impact in the established medium of cinema is now being keenly felt, there is nothing inherently digital about this ontological concept of the virtual and so it is wrong to think that the virtual is entirely new to cinema.

The virtual

As the beholders of multiscreen “windows”, we now receive images – still and moving, large and small, artistic and commercial – in spatially and temporally fractured frames. This new space of mediated vision is post-Cartesian, post-perspectival, post-cinematic, and post-televisual, and yet remains within the delimited bounds of a frame and seen on a screen (Friedberg, 2006).

Anne Friedberg's *The virtual window* is a book dedicated to the story of the frame and the screen (boundary and surface), and as both a history as well as a theoretical work it clarifies the concomitant threads of technological change and technological permanence sustaining our relationship with images. Indeed, the coupled concepts of frame and screen can appear to be both a fundamentally technological institution but also a technologically indifferent parameter which, having changed little, if at all, over the past few hundred years, has been the least innovatively fecund aspect of imaging materials, methods and apparatuses. So far the only alternative to the frame and screen in media capabilities are those that strive for immersion. These immersive media are defined by their goal of having no perceivable frame or screen. The ubiquitous semantic tie-in with our desires and industries associated with immersion in images is the word ‘virtual’. With the steady rise since the 1980s of digital and electronic media, there is a ‘virtual’ category for almost

everything. Friedberg hopes to reclaim this word by returning to its original meaning, which allows for a clearer understanding of why the word was invoked in the first place and how if today we remove the cliché, we can realise the potency of its definition for revealing ontological fault lines.

The word ‘virtual’ should not have any connotations of ‘digitality’ and electronic media, to which in some minds it directly refers; the actual definition as cited by Friedberg is “of, relating to, or possessing a power without the agency of matter; being functionally or effectively but not formally of its kind” (Friedberg, 2006 p.8). As Friedberg points out:

the term becomes a key marker of a secondary order in the relationship between the real and its copy, the original and its reproduction, the image and its likeness.” Further, “it is necessary to clarify the relation between ‘virtual’ and the Latin term *simulacrum* – where the image has no referent in the real. ‘Virtual’ refers to the register of representation itself – but representation that can be either simulacral or directly mimetic (Friedberg, 2006 p.8).

As the term gained a more technical use, by those writing about the science of optics, it in turn garnered a certain respectability, which undermined the Platonic notion of the image as something that is inherently untrue or a false claimant to the real. Moreover, as scientific research into the physiology of the eye progressed, bringing insights into the nature of the crystalline lens and the retinal screen, people such as Johannes Kepler worked to describe the new scientific underpinnings of images as we see them (Friedberg, 2006). Kepler’s *Ad vitellionem paralipomena*, published in 1604, distinguished between two kinds of images: the first, the *imago*, which could be seen but not measured; and the second, the *pictura*, which could be focused on walls and other surfaces and could be measured. This distinction, while not directly corresponding to that of the ‘virtual’ and the ‘real’, was sustained as defining images which either do or do not have physical substance. In 1831, Sir David Brewster published his *Treatise on optics*, which described the difference between a “real image” as one formed by the convergence of light rays on the eye’s retina (able to be equally displayed on another surface) and a “virtual image”, one perceived in the brain which cannot be displayed on another surface. Friedberg suggests that the meaning of ‘virtual’ in this case can be interpreted as “intangible, uncapturable, ineffable [in] appearance – more *imago* than *pictura*” (Friedberg, 2006 p.9). Whether used as a descriptor for an image produced through the refracting mediation of a lens or for the reflecting mediation of a mirror, these represent optical meanings for the term ‘virtual’ that imply a separate ontological register; this would be an immaterial form that is functionally but not effectively material.

These are of course precedents to the term's use in contemporary vernacular. Ultimately, a subtle semantic slippage has occurred as the term has moved from describing an image on the retina to one that is formed in representation, which indicates an adjustment on what qualifies materially as a 'virtual image'.

As Elizabeth Grosz wrote in her 2001 essay "Cyberspace, virtuality, and the real", "We did not have to wait for the computer screen or the movie projector in order to enter virtual space; we have been living in its shadow more or less continually." Indeed, by the close of the nineteenth century Henri Bergson was writing of the 'virtual', using it to describe the immaterial aspect of memory, and by the time Gilles Deleuze became a great exponent of Bergson's *Matter and memory* (1896) in his own *Cinema* books, the term had developed many abstruse usages. And so by the late twentieth century, the maelstrom of critical theory had pulled the term about terribly, as it was subject to numerous qualifications and modifications with which to specifically relate it to the 'real'. Deleuze, Pierre Lévy, Jean Baudrillard and Paul Virilio, among others of their contemporaries within philosophical discourse, in general placed the notion of virtuality very much in relation to the real, whereas alternatively, in the computer science field, this same root notion was very quickly gaining association with a simulacral world where a digital object exists without reference to any real object. Along with the words 'memory' and 'language', 'virtual' entered the lexicon of metaphors describing the immaterial world of information. But as Friedberg reminds us, we experienced a very certain form of virtuality in painting, mirrors, the camera obscura, photography, cinema and television long before the digital age of information and, as already mentioned, the sensory effects of optical science had already provided numerous examples of 'virtual' images. The term most accurately operates as a marker of an ontological, rather than a media-specific, property (Friedberg, 2006).

Friedberg's aim of re-utilising the 'virtual' is not an end in itself, because by her own definition or chosen understanding of the term, that which is 'virtual' may have a material and real basis, but that basis is of a "second-order" and it is by definition "liminally immaterial". Like the mirror, the category of 'virtual' assumes a quality of transfer from one plane of meaning to another and not implying any notion of direct mimesis, the connotations of original and copy do not apply. Friedberg's definition explicitly alludes to the concept of metaphor as a mode of representation akin to the 'virtual'. This serves her larger argument that the ubiquitous screens of our media world represent a substitute for the architectural window: "the virtual window". But as much as it might be a literal claim (that we have a real substitution, being that screens are windows), she posits a metaphorical claim also, which is that our common understanding of a window provides an apt

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analogy for what our screens ‘virtually’ are. In this sense, she is able to create an antecedent and also continuous ‘virtuality’ from architectural windows through to computer screens, encompassing all mediums in between that fulfill the metaphorical semblance provided by any sort of frame and screen. One of the most important components of Friedberg’s argument is that she does not attribute this to any notion of causality, despite the marked coincidence shown in the developments of the architectural window and its virtual analogues.

In the larger concern of this chapter, Friedberg’s metaphor exemplifies perfectly the understanding of AST history as one of human drive, characterised less by perfunctory technological changes than by fundamental human consistencies involving transfer of meaning, transformation of form and frequent operation on the level of metaphor.

If we reduce our focus on this AST history to the period since the Renaissance, we witness three broad realignments in what comes to be the concurrent development of the pictorial and photographically derived streams:

1. The first realignment describes the pictorial arts veering towards a technically based realism that is later revealed to be the domain of the newly invented photography.
2. The second realignment describes the pictorial arts’ movement back towards a more transcendental symbolism, to which it originally aimed.
3. The third realignment describes the photographically derived technologies’ steady artistic ascendancy, including the invention of cinema and later digital developments, whereby this stream, having emerged as a science in principle, begins to veer increasingly towards pictorial aspirations.

These three realignments demonstrate an over-arching narrative, which this chapter will argue strengthens the case for the determining role of the mind’s eye in this AST history and its future prospects inclusive of digital cinematic forms.

Beginning his essay “The ontology of the photographic image”, André Bazin wrote, “If the plastic arts were put under psychoanalysis, the practice of embalming the dead might turn out to be a fundamental factor in their creation” (Bazin, 2004 p.9). The arts of painting and sculpture are thus, deep down inside, instigated by a will to preserve life, according to Bazin. The ontology of the photographic image is of course another matter, and in acknowledging this Bazin believed that with the relatively recent bounds of human knowledge, we do not so much maintain a hope that the spirit

will endure in an image, but that something transitory, an ideal, like life, can still be preserved: “It is no longer a question of survival after death, but of a larger concept, the creation of an ideal world in the likeness of the real, with its own temporal destiny” (Bazin, 1967 p.10). Indeed, he is convinced “if the history of the plastic arts is less a matter of their aesthetic than of their psychology then it will be seen to be essentially the story of resemblance, or, if you will, of realism” (Bazin, 1967 p.10).

But this is only half the story, even from a psychological perspective. Bazin, similarly to Friedberg, marks the technical innovations throughout the history of the image (especially in painting, such as the perspectival influences of Da Vinci’s camera obscura and the camera of Niepce, Brunelleschi’s mirror etc), and in light of these developments explains that painting was torn between two ambitions:

one, primarily aesthetic, namely the expression of spiritual reality wherein the symbol transcended its model; the other purely psychological, namely the duplication of the world outside (Bazin, 1967 p.11).

In the case of the plastic arts, this second ambition became all encompassing as painting suddenly veered towards the objectives of realism first demonstrated in mirrors and the camera obscura and later in photography. Bazin argued that this tendency towards realism in painting was basically the result of a psychological need that happens to be at the general expense of other aesthetic objectives. This is, in one way, to suggest that there is a primarily aesthetic basis for images that is not naturally informed by any psychological impulse that would require fidelity to reality.

Bazin perceives the realism of photographic images as an end point in which an ‘art of itself,’ a new tangent, is born (which can then continue on its own new path), rather than one moderately noteworthy point in the further continuous map of artistic imagery, which has and will endlessly intersect with painting and other visual forms. We would conclude from Bazin’s reckoning that the plastic arts can and are on their way to recovering from this distraction from their aesthetic principles. But these notions of idealism and realism are not perhaps fully divided by aesthetic and psychological forces respectively. In whatever sense Bazin might intend in using the terms ‘psychological’ and ‘aesthetic,’ it is not difficult to invite psychology into the realm of aesthetics and derive aesthetic concepts from the real into the ideal. If the realism of photography and film are seen not as end points but part of a larger development in artistic imagery, we can also perceive how idealism can be drawn into closer and thus stronger contrast with realism by these two related forms of media.

In a way a large aspect of the ideal is a reaction, in the fullest sense of the word, against the oppressive uniformity of realism, with its immutable laws and threats to conceits of free will. This uniformity is at points faint to appreciation, yet to all but the superstitious it is grandly coherent and all encompassing. It is an almost intolerable fact of the world for mortals who cannot help but feel that subjective consciousness leaves them divided and alone. Any ideal, whether an image or not, whether a dream-fantasy or a nightmare, is almost utopian in the sense that it flees from the uniformity of realism.

This sentiment of an ‘almost utopia’ characterises the inspiration and drive behind the main trajectory we are currently experiencing in AST. This qualifier ‘almost’ is redolent of the futures presented frequently in science-fiction cinema, where we are often given a vision of a questionable future; they are the exotic alternatives to our yet to be determined future and things which we view both sensationally as well as allegorically, seeking rather paradoxically to find solutions to our current quandaries in imagined future problems. These ‘almost utopias’ which we currently experience through the textually-based reality presented in the unreal future of science fiction and which we will experience in the technologically-based unreal in the real future are utopian in the sense that we flee to them, but fall to ‘almost’ because in both cases we want to come back; as testimony to the narrative cliché, we always need ‘to go back through the portal’.

In mentioning narrative clichés, it is pertinent to return to issues adumbrated earlier in Chapter one with regard to Vertov’s early filmmaking. As a universal human method for forming, understanding and organising the procession of events under the hegemony of meaning, narrative represents an obvious ambivalence on our part towards reality. Narrative is both a rational method for the benefit of human comprehension as well as an irrational method, in that it determines to exclude alternative but equally valid variants. To perceive a narrative in the technological history of images is not necessarily a view of grand teleological design and destiny. A narrative in this case may be observed as an effect of the human propensity for narrative appreciation. It is not that such a history, or any history for that matter, is in truth a narrative, but that past and future events have and will be partly determined through the conflict of narratives instigated by both those who partake in them and those who observe them. So we may describe a narrative in the technological history of images not because there is a narrative but instead because narratives are a significant factor in such a history, and the only way to perceive and appreciate them is to view them in the narrative mode. An unwillingness to do this denies the human factor in these technological developments. So it is in

that sense that one can, and should, illustrate a narrative without feeling compelled to endorse a teleological position.

Not only in the case of the technological history of images, from what seems to be a dominating idealism to a dominating realism, but also beyond this, in the philosophical history of images, we see a story analogous to that of a certain journey from magic to science. It is not that in the current age our desire for magic has died, but that in science it has become realised. The magical potential of science, whereby many of our ideals are made more real, demonstrates in our images the closest thing to alchemy. If in images the ideal is in any sense a rejection of the real, science is the best avenue for bringing our fragile ideals closer to the inhospitable and deterministic reality where we want to place them. While in magic we submit ourselves to fickle irrationality, alternatively in science we warily commit ourselves to the immutable, repetitive processes of rationality. Hence, it is important to clarify that our plain desire is not to make real all that we imagine; we instead want to take some of the ‘weight’ of truth we have in reality and lend it to our imaginary visions. This is the cautious goal in taking our imaginations across the bridge from magic to science. There is of course the quiet yet irrefutable knowledge that, on the grandest conceivable scale of consequence, we alone are responsible for what we do in our cosmic environment, that indeed, once as humans we knew less, had less, were primitive and even more desperate, and that when we use the technologies we create, we do not make our past limitations somehow untrue. Diachronically viewed, technology users display the silhouettes of all their atavistic limitations. Simply put, we are transforming ourselves, not reality. In a manner similar to how it has transformed so many other aspects of our lives, science is now bestowing upon our imaginary objects a new verisimilitude that less represents reality than the creation of new realities.

As was seen in the realignments that characterised the recent developments in the older pictorial art forms, it is now, as digital technologies are increasingly utilised in filmmaking, that again a new realignment begins. The term ‘photographic realism’ resonates strongly today, but it is very different from the realism that drove the Renaissance pictorial developments, the finesse of tones in a Vermeer or a desire for a scientifically consistent chiaroscuro. Despite the fact that so many of these currents are messy and involuted (how does one place, and facing in what direction, people such as Canadian photographer Gregory Crewdson (1962–) or American painter Alyssa Monks (1977–) in this day and age?), Bazin’s two notions of the transcendent symbol and the duplicated world seem to have been adequately freed of each other. Oskar Barnack’s 35mm camera and abstract art were perhaps the key burgeoning fields accommodating that divorce. And yet a thread of pictorial realism will always exist (McElheny, Lobel & Engberg 2012).

Chapter Five – Illusion, effects and the digital-eye

This chapter has several aims. Firstly, the implications of camera-reality will be characterised as the basis of the current and enduring category of digital cinema, and this category will be placed in the larger art category. The reasons for doing this are justified, because if the arguments given are consistent and are ultimately not justified, there probably is no such thing as digital cinema. Secondly, this chapter will discuss cinematic examples, both generally and specifically, that demonstrate the gradual separation of the cinema-image from its medium as it is lifted into a higher digital realm. To illustrate how this gradual separation has been able to take place while preserving definably cinematic qualities, Chapter five begins its film analysis with a focus on stop-motion, matte box and double exposure. These techniques give clues to how certain photographic principles and, by extension, associated camera, celluloid and general cinematic principles, determine aesthetic regimes in cinema in subliminal or indirect ways. The cinema of Michael Mann is used later in this chapter as a case study for charting the development, within a single oeuvre, of a digital camera-ethics.

Chapter six will also focus on cinematic examples, but more specifically on films that involve digital special effects or are entirely composed of digital images. To qualify them as ‘entirely composed of digital images’ means in this case that they contain no surface image representations of a real-world light input. Such images may, however, contain virtualised light effects. Chapter six will address particular elements in recent and current cinema which, being in digital form, present new aesthetic paradigms that are not formally of a cinematic nature (image dynamics and the rendering of other visual information initially figured using a light source are still included here).

This present chapter, however, because it will deal with films that retain significant and central elements of non-digital cinematic imaging, serves to chart the extent to and manner in which aesthetic elements that are digitally attained (and often plainly digital by definition) build upon precepts lingering from non-digital cinematic aesthetic elements.

Digital + cinema = art

In the first chapter an argument was put forward that cinema was, and perhaps still is, both an art form and a medium that provides a document of reality with a special benefit. The benefit is that it frees us from a specific type of scepticism; a scepticism arising from our anxiety to demarcate two sorts of realities: the inner and the outer. That chapter also presented film as a medium struggling with the technological, cultural and artistic traditions that preceded it. Despite this, it is doubtless the case that cinematic objects have always been generally composed of visual elements drawn directly from those traditions.

The roles played by cinema's artistic antecedents in its own development have been extensively addressed in scholarship, from the time of Alexandre Astruc's *caméra-stylo* through to the recent genealogies of Manovich and Cubitt. That art forms such as painting, sculpture, theatre and dance contribute to and exist in cinematic forms is obvious, but what may not be clear are the implications of their becoming cinematic. That elements of other arts can be rendered cinematic has as much consequence for the survival of cinema as it does for the survival of those art forms, likely much more. The expressive potential of cinema now draws upon an immense formal index that can be accurately described as pan-cultural. It is not a challenge to accept that if the figures and symbols of cinematic expression can be deemed artistic, this demonstrates both that cinema involves art and that cinema can therefore be artistic. This previous statement might be truistic, except that to declare cinema an art form puts it in a category whereby a cinematic thing and an artistic thing can be synonymous with each other. They are synonymous in this sense: they share the same fate, which is simple but important.

Several arguments pertinent to this equation of the cinematic with the artistic were put forward in Chapter one. Vertov and Rouch were filmmakers particularly aware of something that may be adequately described as 'camera-reality'. This awareness meant a welcoming of the difference between the moving pictures that a camera can produce and the various older forms of images that all other mediums produced. And moreover, these two filmmakers were bold in their conservation of the means by which these moving images were produced and bold too in their advocacy of the principles of use underlying those means. The freedom and autonomy of the camera, offered through its mobility, its unique mechanism and uncanny verisimilitude, allowed a form of realism to be constructed that was unprecedented. This form of realism drew its affective power from its subliminal suggestion that at some level the construction of realism was operating independently of the viewer. The realism in this case seemed to be innate to the cinematic mechanism, and at the

same time ‘perfectly true’ to the viewer’s non-cinematic concepts of realism. The camera-reality seemed to construct our reality without us.

In Chapter one the concept of realism was characterised as ‘the primary language of art’; it was that which made sense, instead of non-sense, of fabricated objects and actions that would otherwise be without purpose or use. To feel the effects of the world provoked by objects and actions that are seemingly baseless in the world, that is to say, having no actual impact on circumstances beyond the mental realm, was to put the world itself into question. How else could even things like music and dance arouse feelings and sensations that should only otherwise come from events of actual circumstantial impact, things that should only be attributable to the irrevocable consequences of the changing world? Why weep at the melody of a flute or laugh at the foibles of a person who does not exist? It is to create in the mind a rival reality by engaging the impressions of the original. So in the camera-reality, the concept borne out so vigorously in the work of Vertov and Rouch, one can find the art-category of cinema. For there to be a digital cinema, there must be a subsistence of cinema, and if the medium itself does not subsist, it must be this cinematic effect. The cinematic effect is a type of impression achieved in the art category around precepts of realism; and so, as the camera-reality implies the cinema-image, the cinema-image will resonate as a category of art long after the medium it echoes has faded from common usage.

What are the implications of camera-reality?

Mediums die, but art forms rarely do and, if to be cinematic is to be artistic, then the survival of cinema depends on the maintenance of principles that could be deemed cinematic. Where components of a medium become components of an art form, their alternative use would be no longer pertinent to their value and their ongoing usage no longer vital for survival. Such a great number of art pieces endure from so many corners and eras of human culture, yet their accompanying art practices have often not endured. Indeed, the specifics of the assorted art practices that have been involved in the production of many of the art pieces most celebrated globally today, both in terms of knowledge and practice, remain only as arcane points of interest. The extant art pieces that history has delivered us attain a sovereignty within a lineage and this serves not only to respect and celebrate the past, but also to account for and comment on the present (also as a reference for current persuasions to avoid taking redundant future avenues). However, it is the case that over time the art-‘how’ generally becomes excluded from public value.

It might be helpful then to be reminded of McLuhan’s apt analogy for the circumstances in which a medium is finally revealed in all its aspects of operation; those circumstances he compares to the

appearance of sound waves on an aeroplane wing only an instant before an imminent sonic boom. The meaning of this is that it is only possible to view and comprehend a state of affairs once it is beyond a point of direct bearing on the perceiver. To pre-empt in this study the mechanism underpinning this alteration of perspective, it is useful to reassign the values for analysis. Thus, while it may be spurious to do so in practice, the best definition of a medium in this context should be resolved not through a fuller qualification of what it can do, but instead of what it cannot do. This is because, while many mediums can do the same things, it is the differing limitations of one medium as opposed to another that determines the selection of only one. The 'how' and the 'what' of a medium are dislocated from each other in this sense; it is therefore less meaningful to speak of medium similarity than medium difference. Mediums that are often grouped together share much more in terms of what they do than how they do it. If mediums are grouped together because of how they work, it is alternatively what they do which more meaningfully qualifies the difference between them.

Not all the uses of a medium are ever fully revealed (one can stir a cup of coffee with a can opener), but its defining use relies on the failure of other mediums to do that task as effectively. What is special about every medium is its limitation; the quality stopping it from effectively being another medium. Preference for one medium over another will never be decided by what both can do, nor would a person define a medium because it can do something one other medium in particular cannot do. And if two or more mediums can do a particular task, why choose one over the others? If a medium can do something, why look to define it by comparing it arbitrarily to any other medium that happens not to do that particular thing? One uses a medium because of what it can do, but one does not choose it over another for that reason. What a medium can do is myriad and its invention and use are never based on this untested potential, but based instead on what other mediums have so far been demonstrated not to do. So the definition should never rest on what a medium can do because surely, at some point in time, another can do it too. Furthermore, whenever this happens, the medium cannot be suddenly uninvented just because it is rendered redundant (specifically in relation to the newer medium only). Nor does the redundant medium suddenly fail to work at this point in the context it was originally used. The definition of a medium is brought into relief by all the circumstances when it is not used.

So what is the point of defining a medium in this way? Now that we live in a technological environment where there are new circumstances and reasons not to use traditional cinematic technology for moving image media, the nature of that traditional cinematic technology is clearer. And so too is it clearer what that technology has to offer compared to its new alternatives.

The crux of this argument is that traditional cinematic technology presented its use-potential part and parcel with its inherent limitations. Those limitations therefore defined cinema as much as the more obvious use-potential it presented to its earliest users. Quite plainly, digital technologies enable users to transcend those limitations and, while aspects of economy and ease of use account for much of the proliferation and development of digital technologies in this vein, the main impetus behind these technologies is to achieve certain results that the traditional technology cannot achieve. The key implication here is this: if the impetus behind the use of digital technologies in this particular vein comes from the older technologies' perceived limitations, this means that aspects of the redundant technology inform the value of the new technology. These aspects of the redundant technology can be framed as both use-potentials and limitations. This is because those limitations also define the use-potentials of that medium. The conclusion here should be that the limitations of the older cinematic technology may at points be, both subtly and more obviously, emulated or reformed in the newer technology if only in order to be addressed and surpassed.

Within the framework of Chapter one, the implications of camera-reality can be seen to come to bear on digital cinema in a simple and fundamental way. As Vertov strained to emphasise, the camera-reality that he perceived carries with it an internal and inherent coherence, drawn from the independence of its mechanism and the mechanism's repetitive functionality. This inherent coherence, as discussed in Chapter three, offers both the user and the viewer condensed and similar roles of interpretation. The coherence is of the world and operates outside the intentions of the camera user or the interpretations of the viewer. Otherwise it would be the coherence of such intentions or interpretations that would determine the form of the film object. But it is necessarily the case that the coherences of those two capabilities always occur before or after the fact. The coherence provided by those two capabilities, in the case of camera-reality, is not a qualifier of realism. Compared as it was in Chapter one to the worlds of Dostoevsky and Tolstoy, camera-reality has its own worldly coherence. This coherence is immediately put into question by digital technology, which is far more akin to all the other technologies in this sense, e.g. the pen, the guitar, the paint brush, the typewriter. At any stage that this coherence threatens to recede, the cinema-image begins to disappear as well.

This inherent coherence that cinema traditionally affects, as stated in Chapter one, results in a particular plausibility. That plausibility relates to the pro-filmic event, the incidence of the film object's creation and the nature of the film object itself, including its relationship to the world. Each of these aspects has little to no bearing on any potential for coherence to be achieved in the senses that the camera user or the film viewer might desire. It is specifically the plausibility that the film

object is a film object. The certain knowledge that a viewer is or is not viewing a film object is a factual matter of any case, but the verisimilitude of the key-markers of that certain knowledge, that plausibility, is at the heart of digital cinema. That verisimilitude is conveyed through the engagement of the cinema-image. As stated previously, this image is often described as achieving a 'photographic realism'. That cinema-image is now effectively in the world and has been for a long time; it is a preconstructed reality to the extent that it too is now subject to the laws of the art category whereby art operates around a realism: to create in the mind a rival reality by engaging the impressions of the original.

As a central subject traversed in Chapter four, the frame also has a key bearing on what qualifies and underpins digital cinema. Perhaps the first thing that should be said about the lineage of cinema that endures into the digital age is this: within the boundaries of a frame, and therefore in cinema, we the spectator endure through two temporally differentiated spaces: that within and that outside the frame. Alternatively, in such a thing as a 'virtual-reality', without a frame, we aim to conflate sensorially the two spaces. It is true that the frame many decades ago expanded its domain into computer screens, portable communication devices and other electronic user-interfaces that are housed in all sorts of devices used in practical and analytical activities. In digital cinema, the preservation of the frame represents the virtual presence of a second-time, and it is this that enables a virtual 'already'. Virtualising the 'already' in this case is a key component of what makes digital cinema a type of cinema.

Filmmakers working within digital cinema are able to use many essentially new techniques and also achieve new effects in their burgeoning field, but these new techniques and effects can be argued to draw directly from techniques and effects either intentionally or haphazardly developed without digital means.

Double exposures, matte paintings, rubber and clay

Before analysing digital techniques that fail to be cinematic by this study's criteria, it is important to also look at techniques and effects in traditional cinema technology which might be deemed to be unsuccessful but which yet maintain qualities consistent with the plausibility stipulated above. This can delineate the extent to which a photographic/cinematic coherence can be afforded at the expense of other qualifiers of perceived realism. The extent of this represents the parameters for artifice wherein filmmakers have previously and must in the future navigate concepts of realism under the auspices of the art category.

Willis ‘Obie’ O’Brien (1886–1962) and Ray Harryhausen (1920–2013), part-time collaborators and each a generational stalwart in their field, were two of the most significant special effects artists in cinematic history. With their careers together spanning much of the twentieth century, from 1915 to 1981, their work has been seminal and continues to stand out for representing the heights of ambition that pre-digital cinematic special effects culture maintained in its aim to transcend the realm of puppetry and cartoons. O’Brien’s first film was an animated short called *The dinosaur and the missing link: a prehistoric tragedy* (1915) but his first crowning achievement was the live-action feature directed by Harry O. Hoyt, *The lost world* (1925). Ray Harryhausen met O’Brien in the 1930s and after their collaborations and O’Brien’s death in 1962, he went on to make films for another two decades, culminating with Desmond Davis’ *Clash of the Titans* (1981).

As an aside, it must be with a whiff of irony that a new fascination with stop-motion animation has arisen contemporarily with the widespread emergence of digital technologies. Director Wes Anderson, the cinephilic trendsetter for generation Y, has recently produced a full stop-motion film *Fantastic Mr Fox* (2009) and his earlier film *The life aquatic with Steve Zissou* (2004) also included scenes using stop-motion techniques. Michel Gondry’s *The science of sleep* (2006), Tim Burton’s *The nightmare before Christmas* (1993) and *Corpse bride* (2005), Aardman Animations studio’s *Chicken run* (2000) and *Wallace & Gromit: The curse of the were-rabbit* (2005) are notable mainstream feature successes since the turn of the millennium that have featured stop-motion.

Such a fascination may be mainly due to stop-motion’s curious dependence on filmic principles (frame succession), combined with the technique’s obvious and frequently apparent shortcomings. Those shortcomings are chiefly revealed by the technique’s reliance on photo-realism. To describe any of stop-motion’s inherent characteristics as shortcomings, one refers to the technique’s failure to disguise its own ontological processes. Stop-motion always looks like stop-motion; its verisimilitude is of a cinematic effect. Stop-motion has always looked especially cinematic, tending to draw the attention of a keen eye to the discontinuity of the cinematic image as frame follows frame, while also capitalising on elements of photographic realism. In both senses, the technique relies on foregrounding its cinematic basis, as if to suggest that such a basis carries a valuable measure of realism in itself. The elements of photographic realism in the case of stop-motion usually served to plausibly suggest that some fantastical creature or similar sight was substantially present in the frame in the same capacity as other more everyday objects and people. However, in the mind of any moderately attentive spectator this achievement inevitably resulted in the reassigning of reasonable doubt away from the substance of those fantastical sights and instead to their superficial appearance; that is to say, this photographic realism only highlighted their very

apparent artificiality. But then it must be asked: ‘What was it that motivated people such as O’Brien and Harryhausen to display an ongoing dedication to such a flawed method for creating special effects?’ As a method which each of these men, and many other people, strived to improve and in their own minds ‘perfect’, what was it about stop-motion animation that made them appear to behave as if they were ‘so close’ to making it really work?

There is obviously something about stop-motion as a technique that feels cinematically ‘in-house’ to those using it to manipulate images. Much like its cinematically subsistent cousins double-exposure and the matte box, stop-motion is a technique that utilises the ontological intersections in the cinematic mechanism; this mechanism is designed simply to make photographic images appear to move and in attaining that goal there are naturally many loose ends in the mechanism as a whole. In the cases of double-exposure and matte boxes, filmmakers are able to subvert a practice which demands that an image, specifically a frame, should be whole and photographically coherent in order to convey a cinematic space and time comparable to the impressions of space and time as viewed in everyday non-cinematic scenarios.

Stop-motion, double-exposure and matte boxes, considered as techniques separate from the illustrations and prop-methods used in conjunction with them, create a new regime within the cinematic order, rather than displacing that order with something non-cinematic. The reordering process that these techniques involve does not rely on the exclusion of any cinematic element. They exploit the apparatus but do not contradict it. These techniques do not require the apparatus to function less cinematically or appear less cinematic. A double-exposed film does not re-appropriate the celluloid for a new purpose, it simply repeats the original process, and the assistance of a matte box merely serves to divide and allocate space on the frame for identical purposes. It is not as if one section of the frame remains intact so that a non-filmic process can take place afterwards. When the technique has been sufficiently utilised to the satisfaction of the filmmaker, the film is projected the same way as if it were not subject to a matte box technique. Stop-motion on the other hand looks perhaps the most cinematic of all types of film because it so obviously exploits the temporal gaps between frames, and the viewer is instantly aware when watching a stop-motion film that they are watching a technique completely derived from the strictures of the apparatus.

Clash of the Titans

Clash of the Titans is a fascinating object for analysis, not only because it represents the late apotheosis of Harryhausen’s career, but also because it is the last high-profile example of a cinematic attempt to create bold photographic and manual/mechanical illustrative special effects,

seemingly oblivious to the developing incredulity it was destined to encounter with audiences. And it is also probably true that no other genre has the potential to accommodate the same visual or aesthetic spectrum as the fantasy genre. Later comparable films such as Richard Marquand's *Return of the Jedi* (1983) and Jim Henson's *Labyrinth* (1986) do not display anything like the boldness of Harryhausen's confidence in (or obliviousness to) the likely reception of his film's special effects. Those two other films, for instance, shy aesthetically from a myriad of risks Harryhausen's film doesn't seem to blink at incurring. *Return of the Jedi* aims overall (except for several instances of puppetry) to achieve a type of scientifically appealing aesthetic (sci-fi) in the general discipline of its special effects and *Labyrinth* defers to theatrical modes (much more puppetry) to eschew many measures of scrutiny. With regard to those many measures of scrutiny, *Clash of the Titans* appears to have been produced without a flash of doubt; its glaring artificiality demonstrates some sort of magician's bluff on the part of Harryhausen. It is difficult to watch *Clash of the Titans* now and accurately gauge at what level it either seriously or campily sought to address its audience. In his *New York Times* review at release, Vincent Canby wrote:

Clash of the Titans is profligate in its use of talented people who are not particularly at home in this sort of film, though they all pay serious attention to their work. What can you say about a movie in which Flora Robson plays one of three blind witches under so much rubber masking that the role might as well have been played by Joe Namath? (Canby 1981).

Indeed, what "sort of film" *Clash of the Titans* is is difficult to judge. Nonetheless, it is important to note that Canby does go on to say, "the film is principally concerned with its cataclysms and its monsters – animated puppets – which are less convincing than interesting as examples of the real cinema art of special effects."

An early series of shots in the credits sequence contains a risibly fake bird. The nature of this fake bird makes clear very quickly the bold ambit of the special effects team. Although a very minor item, it is worth analysing because it gives a pretext for Harryhausen's special effects rationale. First a caveat: this study is wary of making instances of bad filmmaking the subject of earnest analysis, and in this sequence there is at least one cut that promotes a clumsy ambiguity over whether the camera has assumed the perspective of the bird. The real bird begins a dive and then there is a cut to a helicopter's view, which is dynamically a continuity match with the bird's dive and must be intentionally so. The subsequent appearance of the fake bird in-shot undermines this match, and this ambiguity is ongoing in the sequence as the bird appears in some shots and not in

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others, even though all are dynamically similar (helicopter shots). The following observations should still be considered at face value.

The majority of this sequence is comprised of a series of aerial mountain shots, presumably taken from a helicopter. From the beginning of the sequence, the camera leaves the scene of a short narrative prologue and climbs up from the sea into the mountains. As the mountains come into view, the fake bird is dropped into shot. It is worth noting that preceding the shots in which the fake bird is inserted, there are alternative shots of what is meant to be the same bird. However, these shots are plainly just footage of a seagull. That footage appears to have been attained by simply pointing a camera at a skyward bird. The bird is shot from a contingent angle and against only a blue sky, as if these particular shots were taken from stock footage. This ‘natural document’ therefore seems slightly out of context, but in the instant could be assumed to be an elegiac visual tangent to bookend the prologue. But it is not a tangent and the sequence continues onwards to the mountain vista with a silhouette of a bird placed in the frame (this at least appears to be of the same type of bird).

The silhouette does not have any colour gradation (it is black to perhaps suggest the bird is in shadow) and dances around the frame disconcertingly. The movement of the bird is an effect to create the verisimilitude necessarily consistent within an image whose movement accounts for the relative steadiness of the camera (and helicopter) compared to the air mobility of a bird on the wind. This dancing effect is dissonant with the preceding shot, which is obviously of an actual bird, where the same effect is patently missing. There is then a cut to the real bird again. (The viewer would fairly estimate that the bird(s) depicted are flying at a rate of several hundred kilometres per hour, based on the movement of scenery in the mountain shots.) In this oscillating manner the sequence continues up into alpine regions, still utilising the footage of a seagull, until finally the bird ascends to Olympus and transforms into an anthropomorphic god. However silly this opening sequence appears, as an early example it is worth speculating on the cinematic conceits of its creators.

Firstly, it is clear that while faintly fulfilling the symbolic motif of the majestic and Olympian ‘eagle on high’ (despite being a seagull), the sequence is not meant to be only graphically illustrative. In saying that, the images in this sequence could be seen to function on both the levels described by Bazin as: “one, primarily aesthetic, namely the expression of spiritual reality wherein the symbol transcended its model; the other purely psychological, namely the duplication of the world outside” (Bazin, 1967 p.11). Thus the sequence is also meant to depict a bird within the narrative world, and indeed it turns out to be a character in the story. The dancing effect of the bird-

silhouette in the mountain shots results from a logic consistent with the fact that these shots are composed using footage taken only of the mountains. Therefore the mountains are the original subjects of the shot. In the other collection of shots, which the sequence alternates between, the subject is only a foregrounded and centrally placed bird. Naturally, the respective subjects spatially justify the compositions of all these shots. Both the mountains and the bird are ensured to not move excessively in the shot. The filmmaker's desire to spatially link them is difficult because of this, as the mountain shots are suddenly required to accommodate a new subject, the bird. This is not going to work due to the comparative dynamic differences inherent in a typical shot of a mountain vista and a shot of a bird flying. Therefore the decision is taken to make the inserted bird-silhouette dynamically consistent with the rest of the shot. Of course, then the implication becomes that the bird, represented by the silhouette, happens to be flying in a pattern, although approximate, always within a frame orientated by its background. This is odd.

Overall these are decisions, based on aesthetic priorities, brought about by practical limitations. The above example is the most rudimentary instance of how these types of cinematic practical realities determine creative decisions in this film. The later scenes utilising stop-motion animation provide much riper objects for analysis. The viewer must accept, however, that these conceits are fitting within the strictures of the medium, and because of this the viewer is expected to extend a paucity of sympathy to the filmmaker. It seems to have been this rationale on which Harryhausen was relying.

This rationale must be elaborated on. The decision to represent the narrative object (bird) in two capacities is an example of a technique not dissimilar to the switch techniques in stage magic. The intention is to correlate in the mind of the spectator two objects that are typically ontologically different or at least separate from each other. Usually this means to compel the spectator to assume one object is another, even when the other may not even exist. The technique practically involves veiling certain information and allowing the spectator to infer plausible facts (incorrectly) which link together to form an impossible conclusion. In general there are two types of disbelief: the type where one does not believe the implied intentions of another person or the accuracy of what they say, that is, 'they lied/deceived', 'they're wrong'; and then the type where one does not believe the accuracy of apparently true information because our own conclusions seem unsound, that is, 'I can't believe what appears to be the case'/'I must be wrong'. The latter comes about from oversight due to logical assumptions based on limited information, specifically a person's compulsion to come to a conclusion no matter how little information they have about a circumstance. Stage magic and cinematic special effects aim to combine these two types of disbelief. The spectator knows that the

Chapter Five

magician or filmmaker intends to deceive them but the spectator also wants to experience the amazement that comes with self-doubt. A chief effective component of the filmmaker's ability to facilitate this self-doubt in the spectator draws on the ontological properties of film and the aesthetic principles with which those properties cohere. In everyday parlance these aesthetic principles are referred to altogether as 'photographic realism'.

Cinematic special effects, while also involving all sorts of other techniques and aesthetic regimes (puppetry, clay, artificial sets, make-up etc), generally rely on appealing to the spectator by means of effecting photographic realism. Aware of the basis of traditional film technology, the spectator would have expected films in 1981 to be photographic in both appearance and substance. With respect to the simple example of the bird, Harryhausen uses unexceptional footage of a real bird to establish the existence of the narrative-object. The footage is so plain and banal that the viewer is likely to apply no critical faculties to its presence at all. By choosing to then insert the fake bird into the following shot, Harryhausen might aim to promote an ontological connection between the two objects (actual and fake) in the mind of the spectator, although this is unlikely. What can undoubtedly be deduced from the technique is that the viewer is expected to acknowledge the effect; the effect being that the fake bird is meant to be the same bird as the actual one and that it therefore has in some capacity at some point been depicted by an actual bird. It is less important that all aspects of the special effect are successful than that they can all be linked to one or several photographically coherent bases. The extensive flaws in the whole sequence of effects here, which at first subtly bemuse and become only more apparent with increased critical attention, need only be placed within a coherent photographic hierarchy in order to fulfil their purpose. The problems in the shot outlined above do not negate the viewer's awareness of the photographic values and methods informing the film's aesthetic. The clumsiness of the concessions to artificiality (like the lack of colour in the silhouette or the incoherent dynamics and composition) never dissuades the viewer's confidence that the film is attempting to be photographic. Added to this consistency in the filmmaker's intentions, for the most part, and at every possible opportunity, the film is photographic. Ultimately, the flaws only affirm the viewer's sense of this. It is a strange case of the magician asking only that the spectator acknowledge that magic is the aim and that the spectator can sufficiently grant this, not with either form of disbelief mentioned above, but instead with the sober belief in the whole charade; pretending that the filmmaker tried to deceive and pretending that what appears to be the case is not the case. It is magic in all but effect, like a joke that is not funny or a boat that will not float. It is enough in this case to be able to say something equivalent to 'this *joke* is not funny' or 'this *boat* does not float'.

A sequence not much later in the film depicts the city of Argos being attacked by the Kraken, a sea monster. The Kraken has been sent there by the god Poseidon (Jack Gwillim) to seek revenge on behalf of the incensed Zeus (Laurence Olivier). Again the reigning principle is, if shots promote their photographic aesthetic they can only, at worst, admirably fail to assemble aspects of that aesthetic coherently and at the same time still acquire photographic status. The fundamental rule is to not undermine the array of photographic effects through anything other than conflict between those effects. These are a strange type of image, where the flinty ontological edges shimmer in the photographic bricolage and in which the viewer finds often comical but highly intelligible representations. The sequence at Argos makes ample use of double-exposure, matte-box technique and stop-motion. The city of Argos itself is plainly a small-scale model and naturally it is the photographic properties of the shots of the city that evince this. Properties of scale and perspective, as well as the speed and consistency of movement, are regulated by photographic principles constantly provoked in the mind of the viewer. As they form a composite, those properties reveal their own special photographic fault lines.

Poseidon is shown underwater summoning the Kraken and needless to say, his hair is not wet (but wind-affected, to appear as if the water currents were coursing past him). As the Kraken then rises out of the water, the three exposures involved in creating the shot almost suggest in the mind of the viewer a third, z-axis. This axis, while only abstract, creates the effect of a second kind of depth, where each exposure's opacity (or lack thereof) falls in line with the regime of perspective in the shot. First, at the bottom from where the creature rises, there is splashing water, filmed with lighting, focus and scale all incompatible with the perspective. Second, there is the creature itself behind. And third, behind the creature is the city, exactly as presented in its establishing shot. Following this shot, the creature moves right to left, with three exposures used for water (transparent splashes across the entire frame, the water at the bottom of the frame and the background sea). These various sources all provide their own inherent dynamic parameters, which are for the viewer naturally also consistent with their focal depth etc. Coming together, these sources make for a messy composite, which Harryhausen has haphazardly combined so that all measures of scale, colour, movement and general physical principles are rendered completely out of order by the photographic fidelity to each source. The effect of the shot overall is of only the most figurative sort of representation for what the shot purports to depict.

A better shot, which follows, provides an alternative view of the city with a matte box separating the city from an incoming wave in the right field, matched very well in depth. However, by the time the wave hits the city, the series of shots showing the city's destruction reliably display incidences

of multiple exposures on diverging planes, making for images where, again, events depicted can really only take on a figurative meaning.

The assemblage of various photographic materials into these fantastical collage shots within a single frame already places photography in a meta-state of extra extension. But on a cinematic level, where images change and shots connect and dialectically configure each other in time, this meta-state is difficult to apprehend and this is something artists will be tempted to exploit in different ways. On the cinematic level, Harryhausen parlays photographic principles into a larger artifice. Put in motion, the sum of that artifice is at heart completely unphotographic because while it is a photographic construction, it is very apparently not a photograph. This missing singularity is specifically analogous to whatever makes a boat float or a joke funny. Exceeding this singularity, Harryhausen's artifice is therefore what Canby puckishly calls the "real cinema art of special effects." Images that formally refer to photographic origins, where a camera has been present at an event, take on a further role, which is more level with clay or marble in a sculpture. Hard, haptic and present, clay provides an ontological capacity suitable for furnishing the form desired by the artist, and that ontological capacity is vital and everpresent in the conjuring of verisimilar form. And yet that capacity (everything which makes the substance clay) is at an instant blinked away in the moment of verisimilitude. The sum of artifice requires a final transgression across everything the hard, haptic and present clay entails. It is facilitated by the reversibility Merleau-Ponty identifies when he writes, "my left hand is always on the verge of touching my right hand touching the things, but I never reach coincidence." Harryhausen founders on this inability to reach coincidence, where his photographic material cannot be photographically operative on both its own levels and on the level of his artifice. However, he is emboldened because when his cinematic artifice puts this photographic material into motion, the event of reversibility is never stable for the viewer. A photographic collage or a sculpture both present a stasis that allows the viewer every opportunity to explore the ontological landscape with this activity of reversibility. In cinema, this reversibility is applied to a moving surface.

Put so closely together, the photographic fault lines Harryhausen cannot help but chronically emphasise serve only to create a very limited fantastical artifice. But, as will be discussed at length in the following chapter, when not placed so closely together, the same photographic properties can be given an effect of verisimilitude much more successfully. However, it will be argued that when films aim to achieve an artifice where photographic principles are less closely put into conflict and the photographic effect overall becomes more subtle and integrated into non-photographic pictorial regimes, the cinema-image has to tolerate less conflict between photographic sources. This is a case

of cinematic artifice moving to and fro between Bazin's categories of symbolic transcendence and the alternative and purely psychological duplication of the outside world. Along this line of fantastical representation, the photographic principles are employed more tenuously in the latter category and the photographic basis is far more subliminal in the artifice.

While filmmakers widely celebrated for their artistic merit have used these categories of special effect, it has not featured prominently beyond circumstances where there is an apparent lack of alternatives and the effect takes place in a fleeting or playful textual context. The use of these techniques carries a prescriptive limit in terms of the scope of tones achievable in the text. It seems fair to surmise that the limitations of these special effects might often dissuade the 'serious filmmaker' (desiring to make a serious cinematic statement) from using them. There is of course a fine line between the implied requests by the filmmaker for the spectator to believe in the spatial and temporal coherence of the actual content of a film and for a spectator to appreciate the textual intentions of the filmmaker. In many cases there is a division between the believability and comprehensibility of a film's content. It is this line that film special effects have traditionally skirted. No doubt a film generally does not need to be textually comprehensible to be visually believable, and in turn it does not have to be visually believable to be textually comprehensible. If one takes an example such as Carl Dreyer's *Vampyr* (1932), the types of shortcomings in Harryhausen's last feature would naturally attract completely different receptive treatments. In *Vampyr*, it seems that cinema itself is inherently haunting and that therefore, cinematic features that draw attention to themselves, ontologically, work only to amplify the uncanniness, surreality and horror of what are, by the film's time, well-worn effects of legerdemain. Effects that seem so masked, limited and opaque, instead of failing because they are primarily signifiers of technique, bear out the film's quite literal reflection of the title of its literary basis, Sheridan Le Fanu's short-story collection *In a glass darkly* (1872). Most of the special effects work done in the digital era reflects a continuation of Harryhausen's aims, rather than Dreyer's, but as will be discussed later in the chapter, digital special effects are in fact used frequently outside mainstream and B-cinema in a more piecemeal and discreet manner.

Tracing the evolution of a digital-eye

The cinema of Michael Mann presents a fascinating example for this study, not only because it has recently culminated in a series of visually rich digitally produced films, but also because of the features of a handful of earlier films. Those features in the earlier films can be seen to signal a kind of creative prelude to the digitally produced films. Mann's films from the mid-1990s demonstrate a style that embryonically invokes a kind of modern camera-ethics in some ways comparable to

Vertovian values. Those camera-ethics can be seen to emerge into a heightened and developing awareness of the potential for a new digital cinematic aesthetics.

In the last decade Michael Mann has received increasing amounts of scholarly critical attention. He is frequently acknowledged as working within a tradition associated with Vertov, Eisenstein and Kubrick. In reference to Mann's own declared identification with this tradition, he described it as comprising "structural, formal, abstract and humanist" values, choosing also to include "kino-eye" in that same statement (Dzenis, 2002). Given that Mann has a vocational background in journalism, it is not altogether surprising that kino-eye figures in his aesthetic ideology. The feature films, especially the later ones, within Mann's oeuvre are particularly receptive to textual and formal analysis (auterist) because they display consistent and developing structural features both of style and of content. He has therefore attained the merited status of a mainstream auteur. Several of Mann's films can strike some viewers as artificial and contrived (susceptible to the sometimes euphemistic term 'stylised'), containing characters and storylines drawn using some of the most jarringly archaic tropes of genre and mainstream cultural convention. Many of his films centre on the plights of hardened and dedicated policemen and women, the stuff redolent of the 'compelling drama' often promised to those in front of the television on a Saturday night; images of door kick-downs and car explosions. Fittingly, for a period of time Mann was known foremost for his prime-time television success *Miami vice*, which ran from 1984 to 1989. The series hyper-realised the sensibilities and ostensive values of its era and setting, portraying the rather absurd and garish duties (and pleasures) of two undercover detectives working in the Metro-Dade Police Department in Miami. Because of its flashiness and limited textual depth, the series furnished Mann with a reputation reflective of this. For perhaps a period of many years after it entered worldwide syndication, the project would have been fairly attributed to Mann's background in advertising. However his filmography, beginning with *Thief* (1981), propelled a sterner set of aesthetic and textual concerns. By 2002, these concerns could be summarised thus:

A number of elements characterise a Michael Mann film. To begin with, Mann is recognized as a director of genre films -- specifically crime stories, and also action/adventure films. Secondly, his films are complex and elaborate investigations into character and personality -- primarily focused on the relationships between men. Third, his work exhibits a continuing quest for a more epic, monumental form of storytelling, for the ever-longer story arc. And fourth, there is a realist impulse that is realized in the stories he tells and the actors he chooses to work with. However, what is most distinctive about the cinema of Michael Mann, what is most remarkable and most problematic for some, is his style and stylization. What makes his films more than just

genre films is his experimental audio-visual palette -- the way that images and sounds function poetically, materially, sensually and affectively (Dzenis 2002).

In 1995, Mann refashioned much of the super-macho material found in *Miami vice* (TV series) into a visually less tinselled but more epically proportioned text of moral conflict. That text, the film *Heat*, presented a conflict of opposing ideological structures within a single society. The film is a crescendo of crime scenarios framing the existential mirror between policeman Vincent Hanna and thief Neil McCauley, played respectively by Al Pacino and Robert De Niro. *Heat* is a violent, sombre, kinetic film that positions its two main protagonists in a game prism, within which the law pits the two against each other. The law in this case is a diaphanous impasse through which the two characters gaze at each other, mutually transfixed and sympathetic. Each man's unwillingness to yield to the other is the central tension of the film, and it is only after the ultimately fatal resolution of the end game that the legal impasse dissolves. It is then that the two men are able to maintain their roles while finally and silently clasping hands, acknowledging their kinship.

The plotting and formal elements in *Heat* are complex, but the core text is relatively simple. The film can appear to simply profess the necessarily tragic nature inherent in those circumstances where personal moralities are subjugated and divided by overarching social constructs, such as 'the law'. The two men have their opposing roles conferred on them by these constructs and those roles represent structures that deliver fatalistic outcomes. The film's visual manner and formal index conjure surfaces of Kevlar and cement, perimeters, radio waves and incendiary steel. *Heat* is indeed composed of images and sounds that "function poetically, materially, sensually and affectively". It is suggestive of a creative persuasion that places the cinematic apparatus within a structural rubric specific to and inclusive of that apparatus. Characteristics of form dominate and relay textual material, rather than vice versa. Mann chose to make a film based textually on well-worn generic tropes, which he had already handled in other projects, and they are obviously being offered up to the camera in this case as modular objects. At a basic level these tropes are bric-a-brac within a larger structure drawn by a single agency, the camera. In some ways this is still a very different camera-ethics to kino-eye, but in many ways it is not.

Heat begins very typically with a fixed opening shot. It is typical to the extent that it is wide-angled, deep in focus and, not surprisingly, depicts a mundane urban perspective: a night train approaching the camera in the left field, passing through a railroad switch. The shot is silent and rather Melvillian. Clean, bold, sometimes painterly hues are most commonly used in these cases; period-style colour palettes, sometimes sepia, generally afford such films an initial impact to signal a

narrative style. Most of all in these types of opening shots, the composition is always tidy and clear. This shot in *Heat*, however, despite its grand aspect and dignified stillness, is dark and messy. Power cables criss-cross and indistinct lights glow the cool blue so favoured in the cinema and television of the 1990s (think *Jurassic Park* (1993) or *The X-Files* (1993–2002)). The shot is decidedly and, slightly vexingly, unable to be compositionally centred no matter where one's eyes choose to orient the picture. It is then succeeded by another fixed reverse shot of the passing train with the train matched in the right field, the illuminated station barrier providing a strange and unexpected axis of symmetry. Moments later, after McCauley steps off the train, a handheld shot hurriedly paces up behind him as he descends an escalator. In terms of cinematographic sensibility, with only a handful of shots Mann appears quite multifarious in style.

Of the entirety of shots in *Heat*, a great number compile long series of action medium close-ups. In many cases these shots are set in large (often public) spaces, and what is most unusual about this is that these shot series generally carry significant narrative purpose. Often the camera tracks a character moving from a narratively significant location A to B, while somewhat obfuscating the kinds of visual certainty the viewer will usually desire in order for her to easily and comprehensively grasp a narrative. Perhaps what is most noteworthy about this tendency is that it seems to intentionally hinder the viewer's construction of space. Unchained in this sense, the camera is able to attain an alternative priority for its tendentious eye, as visual clues are elegantly but conventionally intercalated into scenes, such as when Hanna's wife Justine in an early scene is given a furtive hand close-up as she quickly deals herself some Prozac. It is obviously not the case that the camera suggests its own presence in the scene, but altogether it certainly co-opts many modes of seeing in order to possess a speedy agency that effects a catching of incidence rather than a sense of planned witness. The Prozac shot is a good example because it suggests a sentiment of rewarded prurience, as if the camera chose to linger after McCauley had left.

During a scene depicting a deal gone wrong, involving two vehicles and the lethal oversight of McCauley's associates, space is instead rigorously constructed to the extent that the scene begins with a nearly inanimate establishing long shot, delimiting the scene's arena. From this point the scene is edited in a manner that benefits significantly from the initial shot. As Chris Shiherlis (Val Kilmer) provides McCauley with sniper cover from afar, the frequent cuts to his aspect on the action spatially register more and more as the action eventually draws closer and closer to his position. As their foe approaches the perimeter of the arena, he is finally stopped by several blasts of shot through his vehicle windows and the scene ends. There is therefore a coincidence of the scene's spatial and temporal boundaries; a rare and dizzying symmetry.

Nonetheless, with the exception of a few domestic scenes, characters and events are not based in any visually well-established or recognisable locations. Inline with many features in the film, the locations are, like a pair of Aviator sunglasses, suitably ‘cool’ but generic. The most recognisable locale in the whole film is probably Justine’s ex-husband’s chi-chi house, stocked with modern art, where Hanna resides irregularly. Thus, primacy is instead generally given to movement and the camera really does aspire in most cases to reflect the dynamic of the action it beholds. When Hanna enters a criminal’s car repair yard, after passing through the corner door, he has to walk around a square-shaped animal pen inside a shed of the same shape. The camera takes one side of the pen and tracks him taking the other, as they then, in symmetry (again) both turn back towards each other at respective right angles. Heading towards each other, Hanna and the camera cross paths and the aspect swings to the reverse angle of his profile. How this choreographic flourish strikes one viewer compared to the next is a matter of taste, but it does typify a larger stylistic consistency in the film: many scenes, most involving Hanna, begin with a darting introduction, giving the viewer less a sense of constructed space than a sense of how narrative time is being used by the characters.

The structural elements are strikingly displayed, yet they are etched in the shapes, angularity and general dynamic of the camera and not as is more conventional, in the conveyance of fixed or concrete space. And indeed this structural rationale brings with it temporal implications of similar distinction. It gives the viewer, perhaps, more a sense of camera-time than a world-time; the camera chases, and so traces, only a ‘live’ plot-time, and cues for narrative timelines seem to be hardly given a thought. The composition of the shots renders characters at times difficult to identify, but this equally renders another effect: it very lithely composes dynamic silhouettes and this gives the camera a less perfunctory role. Much as it is with the effect of a 21mm or 28mm lens (versus an often default 35mm or 50mm lens), the scale of the frame and its flatness become more dominant factors in determining how the viewer resolves the hierarchy of forms. One is less able to discern or employ what might be called ‘privileged systems’ for understanding the significance of an image (moving or still). That is to say that forms may more readily appear to move across the frame, rather than to say that the frame moves across forms. One thinks of ‘the things in the picture’, rather than ‘a picture of...’ Forms, especially of people, become a part of a more ‘egalitarian’ compositional regime, able to be traced within a space.

If one conceives of a spectrum along these lines, where at one end there is the Bayeux Tapestry, then a typical piece of Renaissance perspective such as Pietro Perugino’s *The delivery of the keys* fresco (1482), the Sistine Chapel, Rome and further then, examples of heliography and its photographic extensions, there is therefore a steady development across such a spectrum in several

senses. Firstly, there is the introduction of perspective and then an elaboration on its principles and an increasing acuity in its applications. Secondly there is an inevitable regulation of spatial features, entailing an increasingly geometrical hierarchy in which forms may be resolved by the eye and mind. With this comes a lessened opportunity for tendentiousness, as the requirements of proportion limit options for emphasis and the arrogation of space for continuity limits the options for composition. Mann's camera, in this regard should be placed even further along the spectrum, past the other examples of its photographic category. This is because the agency Mann affords the camera has a quality of freedom to such an extent that its discretionary powers, while enabling an increased field of worldly sampling, render everything viewed more uniformly than if the camera's agency were more restricted. As the frame and its duration are less governed by the aims of an effective conveyance of worldly space and duration, the frame becomes less tendentious, more uniform, more independent, and more itself. In this way and at this stage, Mann is heading towards not only Vertov, but Rouch as well. Mann's subsequent stages of digital adoption should be partly understood along these lines.

The type of agency Mann affords the camera, being arguably highly cinematic in many ways, has ironically been adopted widely by large-budget mainstream US television series such as *CSI (Crime Scene Investigation)* and its spin-offs. In their attempts to gain an extravagance to match their budgets and the immense size of their viewers' televisions, these programs have endeavoured to emulate Mann's aesthetic brand. But it is fair to ask what really qualifies this type of soft assertion whereby Mann is described as highly cinematic.

Steven Rybin situates Mann within Adrian Martin's aesthetic framework of *mise-en-scène* categories outlined in the article "Mise-en-scène is dead, or the expressive, the excessive, the technical, and the stylish" (Martin, 1990 pp.87–140). Rybin intends to parry assumptions that Mann's increasingly "mannerist" style facilitates a skin-deep expressive purpose:

Mann's later films, beginning with *Heat* but essentially prevalent in *The insider* and *Ali*, have retained a broadly expressive *mise-en-scène* style while at the same time inflecting that approach more overtly with moments of mannerism... expressive *mise-en-scène* loosely retains the idea of the image as the vehicle for narrative, but this style is no longer solely the self-effacing communicator of narrative, and instead becomes an approach which generates its meanings broadly, across many shots and sequences. The mannerist images in *Ali*, meanwhile, unlike the stylistically expressive moments in the film, are not vehicles for narrative at all: they are instead, as Dzenis has suggested, impressions, visual renderings of the contingent and the ephemeral moment which do not yield any particular or overt conceptual meaning... critics of cinematic mannerism

or excessiveness are quick to label it as a self-indulgent style concerned only with itself, as a kind of self-reflexivity that ultimately goes nowhere (Rybin, 2007 p.155).

That mannerist images in *Ali* (2001) “do not yield any particular or overt conceptual meaning” is moot or at least requires further qualification, but the statement can be endorsed to the extent that such images are at least narratively indistinct. As Dzenis points out, *Ali* in particular has good basis for diverting from formal narrative structures at points:

the story it is telling about the famous boxer Muhammad Ali already exists as a well-known visual record in the world, in the historical memory of photographs, newspaper stories, television reports, biographical films and documentaries (Dzenis, 2002).

Bringing those visual records to life can be argued to be one of the primary aims of the film. The idea of re-animating images and anecdotes, and giving them depth and duration, renewing their feel and context, is befitting of a filmmaker of Mann’s journalistic background. It is a task of re-creating facts, to promote that sense of having ‘been there’, one that typifies the journalistic role: to report to those who were not there. Nothing may so acutely achieve this as the ‘alreadiness’ the camera suggests to the viewer holding its absent forms. The irrefutable sense the camera most bestows upon its forms is that ‘they were’. If those forms can play upon others, which already linger and float in the consciousness of the viewer, even better the collective consciousness of viewers, classical narrative can become a clumsy expressive mode. Writing history is most commonly a practice in the narrative mode, and therefore to readily use that mode in engaging historical matters is to effectively partake in the practice of (re-)writing history. This may not always be desired in the engagement of historical matters.

Of course, *Ali* does not only seek to provide an audience with a feel for historical events; it also seeks to provide meaningful characterisations of historical persons, their motivations, conflicts and emotions. Much as those characterisations need to take on an adequate measure of articulacy, narrative modes also need to sort through and collate rhetorically coherent perspectives on the subject matter in order to create the level of dramatic tension expected of this type of film. Therefore there is a task for the filmmaker of managing two main formal objectives (and consequently modes): one, to promote in the viewer a recognition of images, feelings and preconceptions latent in the mind prior to their viewing the film; second, to provide a course of developing insight whereby the viewer feels they have learnt something about the historical material (namely on a dramatic, human level). Rybin describes the nature of the division in this way:

The expressive in *Ali* insures [sic] a structural backbone to the film – a thematic and aesthetic narrative consistency that allows the film to cohere as a meaningful story and which throws into relief those moments of style which are presented in a different manner – while the mannerist draws us into the film not through an organization of analyzable meaning but through the image of a contingent, fleeting moment of perception. This approach is supported, in part, through *Ali*'s handheld camera work, which often allows the camera to function as something close to an independent sense-agent (Rybin, 2007 pp.155–6).

In *Ali* several shots were produced using a high-definition digital camera (Duncan & Feeney 2006 p.170). This is interesting because it means that a digital aesthetic apparent in some segments is potentially valued in a way that is intended to be contrasted by the viewer with non-digital segments. Furthermore, the values that might be made apparent to the viewer in each type of segment will be understood as directly tied to the content and narrative modes they depict and employ. So the viewer can gain an understanding of both what she and Mann may see as the values of each type, as well as how the division of those types expressively serves assorted narrative content.

The use of high-definition digital cameras in these short sequences upholds Bazin's statement that "realism does not at all mean a renunciation of style" (Bazin 1992 p. 106). Indeed, here it is that expressive basis, realism, which founds both the use of innovative technology and new roads in Mann's style. The first shot in *Ali* is one of these high-definition digital camera shots. It only lasts for 6 seconds before there is a cut to a non-digital shot. What follows is an introductory sequence involving two events: the first, a nightclub performer rousing a crowd; the second, Cassius Clay (later a.k.a. Muhammad Ali) (Will Smith) going for a training run through the streets at night. The former is shot on film, the latter shot digitally. The nightclub setting is shot in a glamorous style, with stage lights flaring across the lens and a general display of classical narrative conventions. The training setting is just the opposite; camera placements are haphazard and in this manner convey camera presence in a nondescript streetscape. Two elements stand out here: the effect that night lighting has on the digital sensor and the inception of actor Will Smith's portrayal of the iconic boxer. The effect of the night lighting in its highly distinct digital aesthetic is one that is utterly different from not only most of the rest of the film, but also the vast visual-historical record of the period and the setting. Extricated in that way, the digital footage here takes on an intimacy and an immediacy. This serves the introduction of Smith's portrayal as well, as it circumvents that typical sense of charade that accompanies any actor when they first appear on the screen purporting to be an historical figure (especially a living one, already abundantly captured on film). The digital

footage gives a new and very different sense of ‘witness-to-the-fact’ because it is both so immediate and so unprecedented.

Collateral

In 2002 Mann made a television series, ultimately not very successful with audiences, called *Robbery Homicide Division*. It was Mann’s first television project in a decade and it was shot on high-definition cameras (Rybin 2007 p.169). Mann’s experience with this project influenced his decision to produce even more of his following feature film *Collateral* (2004) in high-definition digital than he had *Ali*. As Rybin notes, “Mann [has] stressed that the technological choices behind *Collateral* were not made for purposes of economy” (Rybin, 2007 p.170). By this point in his career, Mann was realising that high-definition digital video offered him not only technological opportunities on a practical level, but also new avenues for developing his own auteur style. In his increasing familiarity with specific technology, namely the Viper FilmStream camera, Mann was more able to sense that certain aesthetic artefacts were present in his production results, which could be fairly understood to be features of medium-specificity. Much as the Viper FilmStream is a digital camera, it is very much still a camera in many aspects and offers to a user who is already accustomed to traditional camera technology a feeling that the new contraption offers an extension, an innovation and alteration to the older one, instead of essentially terminating it. In the case of the production of *Collateral*, the two technologies were used in tandem, each defining the other, and suddenly their respective merits in different situations and aims were being subtly appraised. At this juncture, the traditional technology was being defined anew in a changed production landscape, where what it offered was more specifically understood and perhaps even more intensely valued:

Digital video created images of a nighttime Los Angeles with a greater sensitivity to available source light than was possible with 35mm equipment; the twinkling, hazy lights in the background of many shots and the dark outlines of palm trees that figure against the night sky throughout *Collateral* are two of the aesthetic effects generated by the technology. For controlled lighting situations in the filming of interior sequences, the crew reverted to 35mm film; according to [Dion] Beebe [Director of Photography], the digital video was a little too sensitive to light in such environments and as a result the color became oversaturated (Duncan & Feeney, 2006 p.170).

It must not be forgotten that the judgement of colour saturation, in this case, is emphasised as one involving subtle discretion. The hues created during inside-set shooting using the digital cameras were deemed by Beebe to be too saturated relative to those that were created using 35mm film. In this particular instance, within the context of a very quickly developing camera-ethics of the twenty-first century, the example of a digital medium did not represent a Kittlerian formlessness

taking over or consuming the medium it might replace, but instead a very specific tool: a new camera. This camera brought with it medium-specific implications and most importantly, aesthetic artefacts visible in its rendering of light information. Any value or appreciation that Mann might have found in this new visual format was less informed by its superiority to the alternative and older technology than simply by its difference. There are doubtless many advantages that the Viper FilmStream offered over 35mm film, but it seems that for Mann, what was more important was its aesthetic additions to filmmaking results. In choosing the word ‘addition’, the intention here is to differentiate between: a) advantages that the Viper FilmStream may present over 35mm in its ability to provide aesthetic and practical benefits that film was not felt to offer and/or provide an absence of features or aspects deemed undesirable in film; and b) unforeseen features or aspects that the Viper FilmStream offers, desirable or undesirable, which may in part be only apparent due to their difference to features and aspects of 35mm.

How Mann felt about the aesthetic significance and larger impact of his decision to use digital in this way was made clear in an October 2004 interview with *Sight and Sound*, in which Mann said:

I like the truth-telling feeling I receive when there’s very little light on the actor’s faces – I think this is the first serious major motion picture done in digital video that is photoreal, rather than using it for effects. DV is also a more painterly medium: you can see what you’ve done as soon as you shoot because you have the end product sitting in front of you on a Sony high-def monitor, so I could change the contrast to affect the mood, add color, do all kinds of things you can’t do on film (Olsen, 2004 p.16).

It might seem slightly equivocal for Mann to claim to value digital photorealism over “effects” while emphasising his use of digital instruments to adjust contrast, colour and other things that would otherwise be more intrinsically set in 35mm. Mann also describes digital video as “more painterly” than 35mm, which implies a very certain step away from photorealism, yet really Mann is only affirming his desire to enhance an existent photorealism he senses is permanently cast in his mind’s eye. *Collateral* is set at night and immediacy, the sense of ‘being there’, of ‘witness’, that defines the very particular capacity of those short sequences in *Ali* is expanded, in this case, into almost an entire feature. The film is set over the course of the early evening of one day through to the daybreak of the next, and Mann’s style merges the temporal and spatial treatment in *Heat* with the inherent qualities of digital video utilised to a limited extent in *Ali*. Because this applies to the majority of *Collateral*, the film is therefore markedly different from those two other films while synthesising core qualities of his style evident in each.

Miami vice

Miami vice (2006) has been described as “an inspired synthesis of impressionism and hyper-realism” (Thoret 2007). The film very much represents a significant expansion on those qualities of digital video described by Mann as “painterly”. The film’s cinematographer Dion Beebe has said:

We went back down the digital path, but we weren’t looking to reproduce the look of *Collateral*. We used the experience we gained shooting nights on *Collateral* to develop the night look on *Miami vice*, but... we went for more contrast with hard light, as opposed to the soft, wraparound look we did on *Collateral*. We also had to deal with daylight, which was a new challenge for me in HD (Holben, 2006 p.53).

What the viewer finds in this new expansion, both into daylight and into the showcasing of the more overt qualities that digital video brings, is a full extension of Mann’s stylistic repertoire in digital form.

It is apparent in *Miami vice* that the development of Mann’s camera-ethics turns out to carefully synthesise the subtle rationales that inspired digital video usage in his very different earlier projects. Where in *Ali* Mann sought to contrast and then grip the historical dilemmas inherent in the images he dealt with, in *Miami vice* the images of reportage and of historical documentation already indelibly cast in the public consciousness are not circumvented through digital video, but instead invoked and engaged. As Jean-Baptiste Thoret explains:

the film’s big shoot-out does not invert – as does *Heat* – the codes of a precise cinematographic genre (the Western), but rather is inspired directly by the imagery of war reportage: deafening and ultra-realist sound of weapons, moments captured live, discontinuity and partial illegibility of the action, proliferation of points of view (= suppression of a point of view), snipers in ambush (Thoret, 2007).

In the sense that this aims to flip or reverse the role of digital video in *Ali*, suddenly conjuring footage of the Iraq War, historical documents facilitate a new visceral impact in a fictional context from which they are far removed. *Miami vice* therefore gains a confronting and contemporary urgency on an aesthetic level, when the film almost attempts to capture the bygone era of the ‘War on Drugs’ implemented by several federal administrations in the United States between the late 1970s and early 1990s.

What *Miami vice* most significantly heralds, however, is the full expression of Mann’s digitally based camera-ethics. *Heat* attained a structurally configured spatial and temporal rationale and this

affected a specific sense of camera-time. This sense of camera-time, which gives the impression of a temporal duration calibrated by or tied to the camera more than the objects and events that the camera witnesses and conveys to the viewer, can be described as a quality that is intrinsic in nature rather than extrinsic. It re-asserts, from a historical perspective, the camera's presence in the world and how that agency informs the viewer's feeling of presence with the images of the world captured by the camera. Much as montage in the full Eisensteinian sense involved the shot being conferred a rightful possession of wholeness and independence (an intrinsic status) in the dialectical messages to which each shot might contribute, this emphasis on the intrinsic nature of the cinema-image through this sense of camera-time also gives weight to the ontological status of the camera-apparatus. As Thoret conflates the narrative experience and the viewer's experience below, the camera and the world are pulled together, indicative of a new sensorial order extending from and using the cinema-image:

Filming with the camera on the shoulder gives the feeling, new in Mann, of a constant fragility of shots and, therefore, of what they show. It is as if each shot were thinking of two things at once – the event taking place (a deal, an arrest) and the event to come (the same over again) – and that the best way to not collapse consists of never staying still. In *Miami vice*, it's to be physically there, here and now, because mentally one is always and already elsewhere (Thoret, 2007).

In *Miami vice*, the artefacts of light that typify the representation of nighttime in *Collateral* are allowed to blossom into a fully formed representation of the world. With the Sun at points up or down, a more open agency in place and time is achieved and, with that, a more general lack of spatial and temporal specificity beyond the cosmographic and circadian cycles. In *Miami vice*, the state of the world is that of the camera, and the state of the camera is that of the world; always something is changing and something else is fixed, but to attribute each state, in any capacity, to the world or the camera is seemingly impossible or invalid. Composition within the frame is so fleeting and textures and forms are continuous and yet flickering, that constancy and passing are relativistic. Whether it is the camera that is present to the world or the world that is present to the camera becomes a strangely misty afterthought. Thoret provides an apt description:

The use of HD [digital] allows Mann to forge a dense image, often opaque and viscous, which deepens the backgrounds and engulf the foregrounds. Thus, the characters gain in definition what they lose in contour, and thus in identity – visually, they free themselves with difficulty from the background and seem ceaselessly threatened with dissolution. This loss provokes an increased weight of the bodies (watch how they fall in the final shoot out), a constant swaying of space and, for the spectators, the feeling of a hypnotic pitching of shots (Thoret, 2007).

In *Miami vice*, one can see the camera not only through a specifically digital means, gaining a heightened freedom and agency a la Vertov and his *Man with a movie camera*, but also an intrinsic power and a visual surface where a sublime elision of world and representation takes place; an apparatus that now offers, as Rouch desired, “not to film life as it is, but life as it is provoked” and to create documents of cinema-truth and ensure that “cinema is the creation of a new reality” (Eaton, 1979, pp.51–52).

Medium as noise

Physical and informational artefacts that are visibly rendered by the Viper Filmstream camera and other digital cameras can be characterised as noise, even though they may be inseparable from the functional basis of their underlying technology and its ability to render images. They are noise in that they evince the presence of the medium, whereas with other technologies, or the naked eye, the same purported images of the world would look essentially different. In this sense, they are all instances of the “medium made visible”. The presence of these artefacts in the image, while in many cases not physical (often instead algorithmic) stands in lieu of things such as film grain. This is not to say that all technologies will or must offer these kinds of visual artefacts, but that their presence maintains a conscious presence of the medium, whatever its exact nature might be, in the mind of the viewer.

The cinema-image is facilitated greatly by the presence of this ‘noise’ capacity. The visibility of the medium in these new digital technologies allows a functional replacement of characteristics unique to traditional cinematic technology, and this replacement at the same time represents continuity.

Chapter Six – The new surface of the cinema-image

After all, can we really use technician terms to describe camera movements in animated or CGI films that have become metaphorical? In a live-action film it sort of makes sense to talk of a tracking shot, because that was what was used to achieve the movement we observe. But in a CGI-driven film, where the whole visual enactment was computer-generated, it might look like a tracking shot to us as we view it, but has nothing to do with a tracking shot in actuality. Can we still use film language that has become metaphorical – where a shot is *like* a tracking shot? Perhaps we can, but only if we accept that technical language no longer belongs to the practitioners, and the critic merely borrows it, but that the language is affective as well as technical (McKibbin, 2007).

Magic-realism on the big screen

The previous chapter spoke of an ‘inherent coherence’ in traditional cinema technology. This coherence is of the world and operates outside the intentions of the camera user or the interpretations of the viewer, and it was asserted that if, at any stage, this coherence threatens to recede, the cinema-image begins to disappear as well. This chapter is devoted to an analysis of feature films that provide clear examples of instances where digital special effects are used and the results demonstrate the cinema-image either disappearing per above or instead preserved through a fine and selective manipulation of formal principles. In each case, the films analysed, sometimes subtly, sometimes to a great extent and sometimes completely, break from the ontological parameters that bring the ‘inherent coherence’ of traditional cinematic technology.

The critical analyses of films that follow in this chapter, which may appear to place those films into a negative category, do not aim to capitalise on the ways in which those films simply fail to be cinematic on technical grounds (failure attributable simply to the limitations of the technology employed in those films’ creation). Instead, the aim is to bring into relief the specific ways in which creative impulses, instigated by the desire to achieve greater freedom and render a perceived realism, frequently lead to techniques and aesthetic choices that fundamentally stray from the cinema-image. In such a case, the cinematic power to affect the viewer is undermined. This is to assert that the cinema-image described in this study is currently at work and holds great influence in our minds and culture. In the many widely varying forms it can take, the digital cinematic apparatus

may waver fundamentally from engaging the cinema-image and therefore easily fail to be cinematic. In the process of this happening, it loses the power to affect on this level.

As was raised in Chapter four, magic and science have a shifting and tenuous web of visual and conceptual cross-references. In cinema this web draws on both the scientific nature of filmic automatism and the more verisimilar capacities akin to magic. The newer verisimilar capacity that digital cinema offers in relation to traditional cinematic technology offers an equally new extension into what can be made to look ‘cinematic’ and therefore ‘scientific’.

Subtler errors

Michael Haneke’s *Caché* (2005) and *Das weiße Band, Eine deutsche Kindergeschichte* (*The white ribbon*) (2009) serve as typical and recent examples of how digital special effects are utilised in feature art house cinema. In the example cited earlier, Carl Dreyer’s *Vampyr*, the sensibilities of pre-digital art cinema aimed to do two things: draw attention to their ontological states as disturbingly incongruous, strange and perhaps ‘meta-real’; and/or serve more figurative ends, departing from the base-precepts of representation that film normally fulfils. In the current technological era, equivalent films tend away from utilising digital special effects in the way their precursors utilised traditional cinematic special effects.

These two examples of Haneke’s each display minor digital effects that in most cases are only meant to adequately convey plausible and temperately represented incidents that happen to be difficult or expensive to present cinematically by alternate means. While *Caché* presents examples of middlingly erroneous digital special effects, the film’s textual references to and inclusions of contemporary digital video technology and culture mean that these effects are far less intrusive compared to the seemingly anachronistic instances that can be found in *Das weiße Band*.

Das weiße Band is a ghostly and stolid village mystery that seems to serve as a sermon on the evil crimes committed on a mass scale in central Europe during the twentieth century. Set in the early part of that century in Germany, the film’s main antagonists represent the social hegemonies of Christendom, feudalism and patriarchy, which all appear to mix with modernity into a perverse and lethal concoction: a social pressure-cooker of the most intense hypocrisy, repression and self-hatred which, in Haneke’s inimitable style of po-faced elision, forms the embryonic presentiment of fascism, war and genocide.

The digital effects in *Das weiße Band* are in general discreetly placed and utilised. But one of the more obvious examples tests key logical elements in the constitution of the cinema-image. This digital effect is used when the doctor (Rainer Bock) experiences a horse-riding accident early in the film. The accident is contained within a single shot, wherein the rider is approaching perspective and an unseen metal wire trips the horse, leading to the doctor's fall. However, Haneke has a habit of using these incidents in his films to gain a *punctum* effect with his 'complacent bourgeois' audience, who are well acclimatised to the sensationalist modes of representation. These are key cinematic markers in Haneke's oeuvre exemplifying what Peter Brunette calls the "Hanekean signature" (Brunette 2010 p. 125). What is incongruous about the very apparent digital effects in the falling of the doctor from the horse is that they are placed in a film that is black and white. Haneke claims that he chose to shoot the film in black and white because, set in the circa 1913 period, the film would represent a period that people had the habit of imagining in black and white. The general public consciousness of earlier times, such as the eighteenth century, was informed by colour painting and was therefore readily portrayed in colours and appropriately redolent imagery; an example is Stanley Kubrick's *Barry Lyndon* (1975). And given that later eras were documented by colour photography and film, so by Haneke's reckoning, the early twentieth century was to be most potently presented in black and white; colour, he thought, would have lessened the ability of the audience to respond to the depicted reality in an abstract way (Brunette, 2010 p. 131). In this sense, it seems Haneke wanted to preserve the distance of time and of history, to keep the tale at arm's length, more dispassionately in the manner of a moral fable. Yet in trying to extract so much from the cultural, historical and psychological roots of cinema in this sense, and having tailored his film in both form and content to these aims, his use of handy computer generated imagery at moments of shock is problematic. To conjure the past in such a literal way seems astute and it cleverly keeps the past past, yet the application of digital special effects in this way undermines his rationale terribly.

An incident like this is expensive and difficult to shoot in general and the most logical attempts at verisimilitude (because a person falling off a horse is a relatively mundane and plausible event) require increased risk for an actor or stunt double. Thus the shot is only digitally rendered at the point at which the filmed horse and rider are no longer comfortably riding along. The incident is simply conveyed and short, but there is a sense, as a viewer, that the simplicity of the shot (including its suddenness and singular perspective) is passed off as being in line with its mundane nature. Normally these types of things are represented in a sensationalist manner, mostly because they are the kind of banalities that ideally fulfil the need for prime narrative junctures in more mainstream feature films and television. Multiple shots are often used to emphasise and capture the minutiae of a significant or calamitous event, but of course, while this is the case, the astute viewer

will be aware that the portrayed incident would be more difficult to put on film in a simpler way and would require a more actual reproduction of the represented circumstances. Haneke therefore offends on two levels here: one, for the sake of achieving his *punctum*, he opts for a slight tilt towards a *vérité* mode, which in the case of representing this kind of event makes a shot or scene vulnerable to the viewer's scepticism and makes the viewer uncomfortable and less tolerant of the kinds of artefacts that undermine verisimilitude still lingering in current digital special effects; and two, he opts to shoot the film in black and white which, when combined with his overall style and intended purposes, strike the viewer as discernibly anachronistic.

Painting in photoshop

A far more elaborate film within the same broad genre as *Das weiße Band* is Lars von Trier's *Melancholia* (2011). It is an example of the rare film that aims to capture values associated with both art cinema and science-fiction cinema. In this sense it may be interesting to compare it to Andrei Tarkovsky's *Solaris* (1972), which had a similar balancing act to achieve, except that it was, naturally because of its time, entirely without digital production elements (both films also feature references to Pieter Bruegel's painting *Jagers in de Sneeuw* (1565), perhaps a concrete cinematic link intended by Trier). Whereas *Solaris* is set in perhaps an even post-digital age when natural phenomena possessing psychokinetic forces are encountered, *Melancholia* is very much set in a world almost identical to ours in time, if not place. Trier's film emulates the appearance of some of Annie Leibovitz's more recent photographic work, particularly her Louis Vuitton "Core values" advertising campaign, and very much captures the current type of aesthetic that conjures the association of art and glamour.

Set almost entirely on a luxurious and rather nondescript estate, *Melancholia* impresses the feeling of a closed set, chosen and controlled for the purpose of collating a series of cross-referencing tableaux vivants and general screen murals. The portentous MacGuffin of a sister planet to Earth, called Melancholia, that will either pass by closely or collide with Earth, is used severely yet nonchalantly by Trier (a MacGuffin that is almost identical to those in Wylie and Balmer's 1933 science-fiction novel *When worlds collide* and the Doctor Who episode *The tenth planet* (broadcast 1966)). A single piece of music, the prelude to act 1 of Richard Wagner's *Tristan und Isolde*, is used repeatedly in grand but thematically vague⁹ sequences. (Surely the opera's final *Liebestod*

⁹ The vagueness in this case arises from the ambiguity over whether the repetition of a piece of music, which is in this case not even a simple theme, represents the repetition of a single sentiment. There is a tendency for music to configure the affective role of an image and this means that the repetition of the former over several different couplings with the latter will make it increasingly difficult for the viewer to confidently bind music and image into a more widely coherent meaning. Another comparable example would be Nino Rota's adaptation of the Adagio from Anton Bruckner's Seventh Symphony in Luchino Visconti's *Senso* (1954), which accompanies all manner of plot vagaries.

would have been more fitting for a story potentially ending in obliteration). Wagner's prelude accompanies most, if not all, of the sequences analysed in the following paragraphs.

What stands out about *Melancholia* is the aesthetic match between the film's romantic overall appearance and the sequences involving the film's MacGuffin, a visible Earth-sized planet in near orbit. The charge of visually rendering these latter sequences would in most circumstances be an issue of successfully combining photorealism with scientific plausibility, but in *Melancholia* this was not the road that Trier chose. Instead there is a unique match between the Leibovitzian aesthetic, which to differing degrees permeates all of the film, and the object of Armageddon, which is broadly explained in a scientifically plausible way.

This congruity throughout the Leibovitzian, 'photoshopped' colour palette and the cosmic realm of planetary bodies suggests a subtle intersection of photography and science on the one hand, and the pictorial and fantastical on the other. In a featurette on the film's visuals, *Special effects*, effects supervisor Peter Hjorth explains how he integrated photographic footage from the far northern hemisphere (including of the aurora borealis), computer-generated imagery and old-fashioned photographic trickery. For a series of shots in the film, Hjorth used such simple techniques as putting two coloured lights on cranes and elevating them into the sky in order to give the impression of two tracking sky markers: the Moon and Melancholia (transc. *Special effects*, DVD 2012). In many shots, filters and overlays congeal into what the eye would accept to be large photographic canvasses. Yet if these purported visions were actually photographic, they would not look like this at all. Never has the material world ever looked anything like the world of *Melancholia*. It would be like shooting in black and white oblivious to its inherently altered visual schema, as if the world were in fact black and white; colours not absent or invisible, but instead non-existent. The colour filters, which work to imbue the entire film with supple shadows and outlines as well as a glazed patina, function more like the application of a pigment in a watercolour wash. Overall, *Melancholia* gives the impression of a world lingering in formaldehyde.

All the scenes that fall within *Melancholia*'s more conventional dramatic mode are split into two subtle and consecutive tonal inclinations. As director of photography Manuel Alberto Claro states, the first part of the film, titled "*Justine*," is "yellow, warm, trying to make the feeling of happiness – a party," and "in the second part [titled "*Claire*"] we've gone more blue, more melancholic" (transc. *The visual style*, DVD 2012). The very first shot of the film is a close up of the protagonist, Justine (Kirsten Dunst), almost unmoving and left of centre. Her hair is wet but half-dried – the exact texture and weight as if she is in the middle of having her hair retouched with peroxide at a salon

Chapter Six

and her face wears a wan expression as she stares rather blankly at the camera. She is nearly matched with the sky behind her; both are a morbid, twilight-bronze pallor. Then begins a varying but thematically consistent motif found throughout the film, as dead birds start dropping from the top of the frame against the sky background. This motif, which is expressed in the film variously as fire, ashes, burnt things and other general classical images of romantic melancholy, is reminiscent of Kelly Richardson's 30-minute loop high-definition digital video *Exiles of the shattered star* (2006), in terms of colour tone, general theme, specific motif, length and almost everything except sound.

The above-mentioned shot begins the film's prologue, which features a series of extended fixed shots exhibiting what soon becomes evidently the film's key thematic and aesthetic *raison d'être*: tinted, slowed, romantic visions of stately destruction. The second shot is long and very elevated, overlooking a sort of grand lawn allée within a formal garden with two tree belts, each leading in from the side of the frame. Behind, at the top of the frame, is what appears to be a sea or lake, and in the lower centre of the foreground is a sundial, far nearer to perspective. All this being in focus seems implausible and gives the impression, photographically, of the very tightest possible aperture. In the pin-centre of this fixed shot is a faintly moving speck, a just discernible human figure in robes that flail in slow motion. The shot overall is wrought with bold, emotive hues, yet it is layered with a sallow filter and appears to negate all rules of light. The texture is strangely uniform and makes this melancholic vista appear digitally rendered, looking like an image from one of the popular computer puzzle games available on CD-ROM circa the mid-1990s, such as *Myst* (1993) or *Lighthouse: the dark being* (1996). This kind of texture can often be attributed to high micro-contrast and limited dynamic range. The shot is eerie and most likely intentionally so, but it also strikes the eye as a flat and excessively artificial picture. The manner of this artificiality provokes the eye to suspect specific technological limitations reminiscent of those aforementioned puzzle games, and as this combines with the shot's uncanny depth of field, the shot's sum effect amounts to something like a weird and dated digital attempt at a *trompe l'oeil*. Capping off this shot is the tendentious addition of a second set of shadows (both noticeably on the sundial and also on each tree along either side of the allée) supposedly provided by the immense light reflected by the surface of *Melancholia* above.

A spreadsheet breakdown for the pre-production shows that scene 53, which is at the end of the film's "part 1," was to utilise 60 layers (a particularly Leibovitzian/Crewdsonian image of a naked Justine reclining supine on a creek bank at night). The final shot of the film, which depicts the impact of *Melancholia* as it hits Earth, is a 9-piece composite, with the hill, forest (left and right),

characters and *Melancholia* all separate compositional elements, layered over each other at parts and then blended (transc. *The visual style*, DVD 2012). While this is an extreme example of the post-production efforts involved in creating the film's appearance, it is to lesser degrees, but still on the same spectrum, that the rest of the film is produced.

Contrasting with these pictorially styled, slow-moving and perspectively fixed images are the film's extensive dialogue-rich scenes of drama, driven mostly by the manic energy of the main protagonist, Justine. These scenes are all marked by the witness-effect of arbitrary and delayed camera attention and shaky handheld framing. Director Trier, referring to these scenes and their style, explained that, "we wanted to make a film that looked like a documentary" (ibid.). To hear this intention stated in such a matter-of-fact way can seem absurd, given that so much of the film does not display any characteristics usually associated with 'documentary realism', yet it begins to seem rather shrewd on reflection when one considers the larger context of what Trier is attempting to present on film: a fishbowl view of the end of the world with an ostensibly scientific basis. Trier's tendency to be conscious of this element of realism is not surprisingly, and by his own admission, traceable to his Dogme 95 years, but what is surprising is that in this digital age and in this partially science-fiction film enterprise, Trier is compelled to extend elements of his old radical principles into the realm of fantasy. He explains an example of this:

Some of the shots in the film are [made] with a lot of special effects, even though you don't see it so much – the special effects – but when you do that [use SFX], you normally put the camera on a stand and do it as a fixed shot...and then after that, when you have done the work, you would put a little movement to it – and it lifts the scene so much! (transc. *The visual style*, DVD 2012).

The deft addition of dynamic framing, as described above, is of course less a digital effect than a camera effect. Whichever it happens to be, in actuality, does not change the fact that it is a simple, ontologically inspired effect of the camera apparatus. Trier uses it to "lift the scene" but these types of effects can be abused; one need only look at J. J. Abram's *Cloverfield* (2008) where a shaky camera forms the basis for verisimilitude for an entire film about a huge monster attacking New York City. The effect fits within the larger sensibility of documentary witness, and the key structural flaw in the film's reliance on the effect is made apparent as the viewer gradually becomes aware that the monster almost constantly accompanies the supposedly stochastic and insignificant journey of the camera through the city.

Hjorth explains that by his reckoning the film's special effects are "mostly physical stuff, on-set effects, in-camera effects – few of the shots have computer-generated images" (transc. *Special Effects*, 2012). It can only be assumed that what Hjorth means in referring to computer-generated images are images that contain no surface image representations of a real-world light input. The type of alternative to a real-world light input that Hjorth specifically is thinking of is one he defines by the use of the term 'simulation'.

We have of course been using some computer generated images, but most of that is what we call 'simulation-based' images, which means that it's a simulation of real physical processes, that are then rendered into an image. And that's what we've been using for the most complicated parts of the film (transc. *Special Effects*, DVD 2012).

This notion of 'simulating physical processes' refers away from pictorial, expressive visual regimes towards not only physical or scientific plausibility but, moreover, photographic representations that implicitly carry such plausibility. Given the film's wider aesthetic orientation, which is quite affected, this need to take recourse to "simulation" is intriguing. It gives clue to the fact that there is plainly a level at which, amongst representations of the fantastical, amazing, expressive et al. the photographic and the cinematic bind the viewer to a sense of belief in the image. Without any accountability to this level, a film risks becoming or does become something else; something less cinematic, at least.

Invisible film

A scanner darkly (2006) was writer/director Richard Linklater's second feature using rotoscope techniques and computer software, after *Waking life* (2001). *A Scanner darkly* is based on the Philip K. Dick novel of the same name. Both films were produced using digital video cameras and a custom-designed digital rotoscoping software package called Rotoshop designed by Bob Sabiston, who was based at the MIT Media Lab, USA. The versions of Rotoshop used in the two features were different and the later version was far more sophisticated than the earlier one, and this is quite apparent in the results. Linklater assembled two key animators from *Waking life* to head up his new project in 2004, Jason Archer and Paul Beck. He told them he wanted a "painterly version of reality" and of the final product, Linklater declared, "we've created an alternate universe" (Archer, transc. *The weight of the line*, 2006).

The project was broken into two parts: first, the principle photography and editing; second, the animation. The film's cinematographer, Shane F. Kelly, described the key juncture between these two phases as the moment when the editing was finalised and the film was therefore "locked"

(Kelly, *ibid.*). This notion of the film being “locked” is interesting because the implication is that, while nothing of the film at this point was ever going to be seen in its original photographic form (in terms of light-rendered images transmitted through a camera lens), the editing itself of this never-to-be-seen visual document was already a determined factor for the final product. So while the film would never be seen in this capacity, the film’s editing at this point would configure everything that came afterwards in terms of shots and their length. While the stages of animation would be at best approximate in their conveying the image content created using the cameras, the shots themselves, as temporal entities, were to be exactly replicated.

In the initial stage of photography, Kelly explained that he was “definitely shooting and composing with a view to what the animators [were] going to do, and [he was] also giving them colours that they [would] use, because they [would] basically sample those colours” (*ibid.*).

After the film had been “locked,” an extensive “style guide” was created by the animation team. In the style guide, profiles were compiled of all the different actors in the film from various angles, e.g. close up, mid-shot, from below etc. Archer described the main rationale behind the varying ways in which profiles were rendered in the style guide as being informed by the need to “create a style based on the distance the camera was from the character” (*ibid.*). This simple rationale is concise and yet one can infer a complex visual ideology underpinning it. While on an ontological level the film’s assorted medium fault lines are reasonably clear (photography and animation, which happen to be digitally facilitated), it is when one considers Archer’s description of his tasks in the following way that the human roles start to muddy the waters: “close-ups are like doing a portrait, and from mid-shot, you’re trying to grab the essence of a character” (*ibid.*). Archer’s description shows that in practice, the animator looks at one of the actor’s faces on film and responds to it much as they would if they were attempting to render a person in real life who is sitting for a portrait. In the case of a mid-shot, Archer says that a response to the film object is entirely different, citing his own desire to capture a larger and perhaps more dynamic essence of the character as a whole. What is noteworthy here is that on film these two different types of shots are identically achieved and merely different in scale. That the animator feels provoked in this role to focus on entirely different aspects of ‘content’ is quite contrary to the filmic visual regime; its so-called ‘continuity’. And yet everything the animator renders is singularly responding to what is put on film. In trying to sum up this complex visual ideology at work in the film, lead animator Nick Derrington said: “it’s a new form of motion capture, where we’re stealing our actors’ movements, motions, and performances, and translating it through our own eye and the flip of our pen” (*ibid.*).

While the style guide was subject to many amendments in the 18 months that the animation team took to fully render the entire film, it served two purposes: the first, more obvious purpose was to provide ideal forms on which to base the illustrations of the various content, mostly actors, in the “locked” film product; the second, which might seem implicit, was to serve as a tool for consistency, so that the ongoing processes of responding to characters in new scenes, new shots and contexts did not promote an excessively diverse range of representations, let alone trends, which might very well have evinced production timelines, roles and procedures more than any trend that would be parallel to or representative of the content’s narrative direction. In this sense of consistency, the cinematic basis of the film was still dominant.

Rotoscoping can appeal to filmmakers and viewers in various ways, but for members of the production team on *A scanner darkly* there appeared to be a key element that underpinned their ambitions for the technique. There are obvious elements of physical form which, when replicated by means of a camera, portray shapes of movement, speed etc. In a rotoscoped shot of a person gesticulating or moving about, even though the animator may render the lines, textures and tones of the shot in a uniquely interpretive or expressive way, these elements of physical form provide a physical credence. It is not simply to say that there is co-presence of physical and expressive elements, but instead there is a synthesis. The result, generally, is that the expressive elements of line, texture and tone, broadly underlined by a physical basis, gain a physical verisimilitude. Even though photographic factors of light, detail and such are absent in the surface image and have been replaced, as Linklater stated his desire, by a potentially very “alternate universe-” appearance, a substantial element is still at play. The substance, solidity, softness, mechanistic, biological factors in a purportedly physical representation of a world can still be conveyed in this way. Weight, inertia and the subtleties of physical processes can all be present in the image, even though the surface of the image is entirely pictorial. Yet deeper than this, the key element in rotoscoping that appealed to members of the production team in *A scanner darkly* was at play on a dramatic and psychological level. Obviously there is an underlying value in the fact that a rotoscope feature may portray film images that are significant because they are of actors giving performances of characters in a dramatic setting, which of course brings all kinds of issues involved with fictive representation. What a rotoscoped image offers a filmmaker, over a purely animated image, is an essential *animus* in all *dramatis personae*. The film’s producer Tommy Palotta attests that, “the good thing about rotoscoping is it really gives you a realistic sense of the people who are doing the acting” (ibid.). Members of the animation team also held this sentiment, as lead animator Lance Myers says of the actors, “their performances need to be captured because, I think, a lot of thought was given to how

they're reacting to one another" (ibid.). Plainly, the photographic essences of event and the physical extend into the more abstract realm of the psychological and psychological cause.

A scanner darkly is a visually complex film and much of this complexity, compared both with its forerunner *Waking life* and with older traditional rotoscope films, can be put down to digital technology and its increasing sophistication. That it nonetheless relies heavily on such a simple and longstanding cinematic technique as rotoscoping suggests not only that elements of camera-reality are vital to a dramatic representation along these lines but also that the "locked" nature of filmic discourse and the filmic event are also vital. This is the inherently hermeneutical nature of traditional cinematic technology, which offers to then inform the pictorial, expressive roles later in production. What rotoscoping demonstrates is that pictorial expressive modes in cinema can draw extensively from camera-reality even though they do not replicate qualitatively or quantitatively any light-values. Rotoscoping is a technique and obviously not a technique used at all in the great majority of digitally animated films of the last decade. The closest technique, in an ontological sense, that is currently used is motion-capture. However, the kinds of ends that rotoscoping delivers to filmmakers are indicative of the kinds of ends that digital animators also desire, whether they choose to use motion-capture or any other means of animation that seeks to render any sort of physical verisimilitude.

Ontological barriers

Star Wars: Episode 1 The phantom menace (1999) represents one of the most culturally high-profile attempts to combine live-action sets and actors with comprehensively rendered digital backdrop canvases and characters, using a top-tier special effects firm, Industrial Light and Magic. The film industrially follows and narratively precedes three films of wide cultural significance, *Star Wars: a new hope* (1977), *The Empire strikes back* (1980) and *Return of the Jedi* (1983). None of those three films featured any computer-generated imagery.

The phantom menace was an attempt to use new technology in an established fictional film world to increase and/or enhance what may be called the 'capabilities of magic' achieved in the previous films, which depicted that same world. That is to say that an aesthetic bridge between the new film and the existing ones was both expected by an existing audience and also required by narrative coherence. In many aspects and instances the results in fact worked to lessen the new films' capability of capturing what many people, especially those comprising the fan base of the original films, considered the magic already established in that existing film world. The reasons for this are myriad. The older films prefigure a 'type of magic' which may not necessarily be superior to the

new films' potential magic character, but this addition is unlikely from the outset to be able to deliver the same type of magic, or perhaps even one of near-kinship.

Much of *The phantom menace* is set on a planet called Naboo. It is most apparent in the scenes set here that much of the aesthetic options afforded to the film's creators by the latest technology enabled some very overripe results. The buildings on this planet, which typify a general overabundance of colour and forms, are a bizarre blend of Baroque-revival and nineteenth century Orientalism (what appears to be a garbled tribute by George Lucas and his design team to the natural affinity between civility and multiculturalism). Underwater in an unspecified lake or sea on Naboo lives a race called the Gungans. When two Jedi characters descend there, they plead for the case of an exiled Gungan, soon to be their friend, Jar Jar Binks. In this scene, there is a character named Boss Nassa, a tribal chief of the Gungans, and like many characters in the film he is digitally rendered but his movement and spatial orientation is guided by the motion-capture of an actor's pantomime. Boss Nassa is a fat and grand example of his race, a race which in general could be described as looking like reptilian versions of frogfish. Boss Nassa delivers his dialogue to his live-action interlocutors, the Jedi (Liam Neeson and Ewan McGregor), in a manner that gives the impression of spatial and temporal isolation, specifically appearing to be completely pre-set (which of course, he actually is). It can be guessed that overexpressive characteristics are intended, on behalf of both the actor and the animators, to distract from the very actual spatio-temporal dislocation and fantasticality of his visual make-up.

The filmmaker's eagerness to *blend* ontological states is at work here. The problem with the character is due to features associated with his being conceived, designed and performed concurrently; obviously not a phenomenon that is common in the cosmos outside the realm of human artifice. Boss Nassa is entirely that, a moving, speaking object of human artifice. If the character were represented by an actor, whatever the make-up or costume, dialogue or setting, the performance of the role would happen in a contingent time and space, even if it was not the same time and space as other parts or aspects in the scene. If this is contrasted with a traditionally rendered 'cartoon' character, the problems cited above do not come into play because there is not a comprehensive requirement for the character to fit into the setting if it is ontologically different from the character. Were one to take as an example a film like *Who framed Roger Rabbit* (1988), where a cartoon character is in a live-action scene and vice versa, a live-action actor is placed in a cartoon world, both the viewer and the filmmakers will acknowledge the co-presence of two or more different visual domains. But in most of the scenes in *The phantom menace*, and most obviously in those set on Naboo (rather than on spacecraft or in other mechanised environments),

the setting requires an ontological homogeneity. This ontological homogeneity is a key criterion in computer-generated imagery and a significant inspiration behind its use. Yet the contingent aspect of camera-reality is frequently undermined in many cinematic examples because this kind of digital imagery has not ever happened in such a sense, and therefore either subtly or blatantly ruins the appearance of the desired homogeneity.

In a shot that follows and concludes the above scene, the camera establishes a space before the central object is revealed in that space. This shot is an early example of a filmmaker's intent to manipulate the cinema-image by configuring the dynamics of an entirely computer-generated shot through verisimilar techniques that imply the existence of a 'virtual camera'. The virtual camera is a camera that is implied to exist by the composition, dynamics and effects in a shot that does not actually utilise a camera. This later shot in *The phantom menace*, which is entirely computer generated, subtly implies that the viewer is able to perceive a space that might be, or risks being, outside of the narrative space, and this implication foregrounds the visual sense of contingent space being captured on camera; the implication here specifically being that there is a momentary ambiguity about the narrative significance of the space. (This shot presents flaws not too unlike the scenario of the egregious bird at the beginning of *Clash of the Titans*). Within half a second the underwater vehicle leaves the city and the camera moves in a motion anticipating the exit speed of the vehicle. In the second half of the shot, the vehicle moves very close to the virtual-camera and then passes, nearly grazing its 'lens', as if the camera and vehicle were unsure of each other's course. The overall effect is meant to give both the sensation of contingency as well as viewing optimality; these two do not logically go together. The existence of the virtual camera is both exploited and negated. The animators' aim is both to capture the excitement of the contingency that camera-reality creates, while also surpassing the very logical constraints camera-reality implies. In this shot, no two factors sit more jarringly than the fact that the camera is moving in a narratively ambiguous space at a speed that anticipates the entry of the underwater vehicle into the shot and that the vehicle then nearly crashes into the camera, creating a 'live-effect', evoking the tumbles of camera-operators sitting on the boundary line at basketball matches.

The effect of having to move endlessly between shots of photographically coherent images to shots of digitally rendered images which are presented as if they are photographically coherent (in the same narrative space) creates disjunctions that are deleterious to the viewer's engagement of the digitally rendered shots. The underlying lesson in this is that the rules and implications of camera-reality, both subtle and overt, which operate on new, ostensibly cinematic images through their engagement with the cinema-image tend to dominate the spatial and temporal orientation of shots

and even entire scenes. This means that the computer-generated imagery used in such scenes is oriented, and often undermined, by the predominant aspects of camera-reality that might come to bear on the images and therefore the sequences they take place in. It is simply a matter of the hierarchy of the visual regimes in these types of images and any aspect of camera-reality that can be discerned by the viewer will function as a polestar or baseline for the aesthetic regime.

It is interesting to note that by the 2002 release of *Star Wars: attack of the clones*, *The phantom menace* sequel, computer-rendered backgrounds were starting to display a far more painterly and consistent aesthetic, wherein colour schemes and the general quantum of realism was more discrete and idiomatic to the film's fictional world. This is closer to the more comprehensive and immersive internal consistency found in a film such as *Melancholia*. One need only look at a scene near the end of *Attack of the clones*, where the Jedi Obi-Wan Kenobi is on the planet of his nemesis Count Dooku, standing against many rendered backgrounds. While these shots in no way garner a photographic coherence, much like older films that had painted backdrops etc, a more figurative element comes in to play, much as in theatre.

Motion capture

In the last decade, motion-capture technology has become central in digital animation films. Robert Zemeckis is an example of an established director who has been particularly taken with motion-capture technology, having made three films that are all entirely digitally animated, with no light-value informed images: *The Polar Express* (2004), *Beowulf* (2007) and *A Christmas carol* (2009). Yet these films were all criticised for having a slew of characters, including protagonists, who possessed what were called “dead eyes” (Heritage, 2011). The limits of motion capture technology point to the finely delineated needs the technology caters to. Limited examples have been produced for well over a decade. Films such as Ang Lee's *Hulk* (2003) attempted to somewhat seriously utilise the technology for serious dramatic application, but forays into motion-capture have mainly been in children's genres. Keeping in mind that Hollywood has for a long time been accused of having stopped making ‘adult’ cinema somewhere around the end of the last century, it may be fair to say that the first major attempt to engage an adult audience with full motion-capture technology is James Cameron's *Avatar* (2009).

The merits of the technology as a broad technique for dramatic representation are more controversial than might be assumed. Pixar Studio's *Ratatouille* (2007), directed by Brad Bird, boasted in its credits “100 per cent pure animation—no motion capture!” as if to imply that motion-capture was a betrayal of classical animation values, a shortcut or cheat. An un-by-lined op-ed in

The Economist magazine in 2011 sought to address perceived essential flaws in the recent and relatively advanced motion-capture release, Steven Spielberg's *The adventures of Tintin* (2011). The author felt compelled to protest:

Tintin, Captain Haddock and the others exist in settings that are almost photo-realistic, and nearly all of their features are those of flesh-and-blood people. And yet they still have the sausage fingers and distended noses of comic-strip characters. It's not so much "The Secret of the Unicorn" as "The Invasion of the Body Snatchers."... So why do directors insist on inflicting performance capture on us? One argument is that it produces more naturalistic movements than traditional animation, but this spurious claim is an insult to animators everywhere. How many people have ever watched a classic Disney cartoon and thought that the characters were moving awkwardly? ("Tintin and the Dead-eyed Zombies" 2013).

The "dead eyes" in Zemeckis' films and the perplexed critical voices that have greeted motion-capture in general demonstrate key ontological implications in the cinema-image. In some ways motion-capture may appear to merely be a more sophisticated extension of the rotoscoping technique that was applied with virtuosity in *A scanner darkly*. However, in the case of *The adventures of Tintin* and other recent quasi-photorealistic features, the dual goals of creating an image that appears photorealistic on the surface and creating an image that appears to have substantial verisimilitude result in an incongruous visual regime. It is true that many filmmakers and audience members suspect that motion-capture readily "produces more naturalistic movements", but this rather literal and obtuse understanding of naturalism is misleading. Both the cinematographer and animators behind *A scanner darkly* were conscious that what was being achieved foremost in their project was the pictorial rendering of human expressions and psychological states, namely in the form of dramatic acting. This was characterised earlier as the capturing of *animus*. The dead eyes in Zemeckis' animated films were so disconcerting because, while the motion-capture technology facilitated a substantial verisimilitude, the key detail of any actors' eyes (inadequately rendered in motion) failed to convey a character's *animus*. The realism in this case was not simply a substantial element, whereby a physical and visible reality had to be adequately rendered. Instead, thoughts and emotions, while rudimentarily signalled by the raising of an eyebrow or lip, were negated in the image. These things are in a sense invisible. Moreover, it is less that the eyes had to possess the exact kind of verisimilitude in other aspects of a character's physical capacities, which motion-capture can clearly furnish, than that the eyes need only suggest some kind of *animus* consistent with the larger visual regime. As said above, animated films have never had great difficulty conveying effective rendering of emotive and psychological states on behalf of *dramatis personae*. *A scanner darkly* does not suffer this problem because it does not

attempt to be photorealistic on a surface level. On the other hand, it does preserve the cinema-image because it is visually cinematic. That is to say that the substantial verisimilitude the film affects is based on camera-reality, and camera-reality carries a consistent visual regime. Motion-capture does not see. A person's eyes cannot see motion, they can only see images change; this is a human, visual phenomenon. Motion-capture simply registers spatial alteration on geometric schema, which causally or functionally can be attributed to physical movement or motion. Motion has no colours or shades, only points. Motion-capture does not see anything, and for a myriad of complex but associated reasons, no animator could attain the results from motion-capture that they could from rotoscoping. Rotoscoping is based on the crucial photographic elements that draw on the human ability to see: it is visual. In its essence, motion-capture has no visual content and therefore no form. The more sophisticated its packaging, the more eerie and uncanny motion-capture will be.

The uncanny Hobbit

The theatre release of Peter Jackson's *The Hobbit: an unexpected journey* (2012) has been controversial because Jackson chose to shoot the entire film at 48 frames per second, instead of the normal 24 frames per second. In test screenings before release there were reports of dissatisfaction with this visual 'upgrade', but these concerns were compounded for the filmmaker by the time critics were able to publish their thoughts ("What the critics are saying about *The Hobbit's* high frame rate", 2013). The film could be viewed only at 24fps in some theatres, but in theatres that offered 3D projection, people who chose to see the film in that format were also treated to the 48fps frame rate. Amongst critics there seemed to be a feeling that a cardinal sin had been committed on Jackson's part; the medium of film had been betrayed. "At first, in the Smaug battle, I thought I was watching a video game: pellucid pictures of indistinct creatures", wrote Richard Corliss (Corliss, 2013). For a film to give the impression of a video game is a sacrilegious error in the eyes of many cinephiles. To them it connotes textual and rhetorical vacuity, and no final statement or result. In video games the means to full participation is immersion and immersion is most advantaged by a certain visual absolutism, where a participatory world is best served by internal coherence. This is not the kind of internal coherence which this thesis has referred to in relation to camera-reality, but instead a generally arbitrary internal coherence within a game's visual make-up that re-presents its technological limitations not as limitations themselves, but as parameters for a consistent visual style. The visual appearance and the kinds of participatory roles afforded to the gamer in the history of video games in the last 30 years has changed frequently and dramatically, in a manner incomparable to cinema. The logic behind this re-presentation of a game's technological limitations as an innate, and therefore consistent, visual style works in reverse as well. As the technology develops, games, even within a continuing series, such as Nintendo's *Legend of Zelda* series, are

subject to complete stylistic overhauls in their visual make-up. This has almost always been expected and accepted by gaming consumers. However, in the case of *The Hobbit*, Jackson attempted to see out this logic in the cinematic realm. As critic Robbie Collins deduced:

The intention [on behalf of Jackson] is to make the digital special effects and swoopy landscape shots look smoother, which they do. The unintended side effect is that the extra visual detail gives the entire film a sickly sheen of fakeness: the props look embarrassingly proppy and the rubber noses look a great deal more rubbery than nosey. I was reminded of the BBC's 1988 production of *The lion, the witch and the wardrobe*, and not in a good way (Collin, 2012).

In this case, what the critic appears to witness most keenly is the confounding logic behind moves to 'upgrade' cinema for the purpose of better representing the visual credentials of the digitally rendered fictional world. That is to say that the medium's fidelity is aiming to align with the digital content (very advanced by this time) instead of with the filmed (camera-captured) content.

In response to seeing the film in both formats of 24 and 48fps, Pulitzer Prize-winning photographer and critic Vincent Laforet felt the need to protest that:

In my opinion, film is not necessarily about WHAT you see—but it's almost more an exercise in what you DON'T or CAN'T see. The best directors and DPs show you only what is relevant to the story and never introduce a random shot or character if they can at all avoid it. I've always preached that a director or photographer should INCLUDE elements in a frame or shots that add to the story, and EXCLUDE elements or shots that detract from it (Laforet, 2013).

To an extent it is logical to assume that, even along Laforet's line of argument, the increased detail revealed by the new technology can be accommodated by new conventions in the developing public consciousness of audience sensibility. It would not seem absurd to put much of this down to an incomplete reorientation of what to 'include' and 'exclude' on Jackson's part. Kevin Kelly, famed founder of *Wired* magazine, saw fit, having seen the film at 48fps, to consult John Knoll, who is the co-creator of the image software program Photoshop and an American Academy Award-winning visual effects director. Kelly summed up Knoll's theory thus:

Imagine you had the lucky privilege to be invited by Peter Jackson onto the set of *The Hobbit*. You were standing right off to the side while they filmed Bilbo Baggins in his cute hobbit home. Standing there on the set you would notice the incredibly harsh lighting pouring down on Bilbo's figure. It would be obviously fake. And you would see the make-up on Bilbo's [sic] in the harsh light. The text-book reason filmmakers

add make-up to actors and then light them brightly is that film is not as sensitive as the human eye, so these aids compensated for the film's deficiencies of being insensitive to low light and needing the extra contrast provided by make-up. These fakeries were added to 'correct' film so it seemed more like we saw. But now that 48HFR and hi-definition video mimic our eyes better, it's like we are standing on the set, and we suddenly notice the artifice of the previously needed aids. When we view the video in 'standard' format, the lighting correctly compensates, but when we see it in high frame rate, we see the artifice of the lighting as if we were standing there on the set (Kelly, 2013).

It seems, given this, that filmmakers will gather over time that they must simply do away with certain *modus operandi* when it comes to lighting, prop details etc. If they do away with certain practices and values that have long been standard in film production, they can potentially find a more appropriate set of conventions of artifice for creating worlds (like the Tolkien literary world) that match their new tools. A better set for a better camera. Yet *The Hobbit's* viewer effect has been likened to the concept of the 'uncanny valley', a concept that arose and was popularised in robotics. The concept describes the sudden revulsion a person feels when they encounter something artificial that too closely resembles the real thing it simulates, as filmmaker James Kerwin explains in detail:

Studies seem to show that most humans see about 66 frames per second — that's how we see reality through our eyes, and our brains. So you would think that 48 frames per second is sufficiently below that — that it would look very different from reality. But what people aren't taking into account is the fact that although we see 66 frames per second, neuroscientists and consciousness researchers are starting to realize that we're only consciously aware of 40 moments per second... There are all sorts of conventions in film that are not found in reality. People talk to each other in ways that they don't in reality. Things are lit in ways that they're not lit in reality. The make-up, the hair, the props, everything is fake. If you stand on a film set and you watch the actors performing, you don't for a second think that it's real. There are acting conventions that we have chosen to accept... It's psychological: we need suspension of disbelief, and suspension of disbelief comes from the lower frame rate. The lower frame rate allows our brains to say, Okay — I'm not perceiving 40 conscious moments per second anymore; I'm only perceiving 24, or 30, and therefore this is not real and I can accept the artificial conventions of the acting and the lighting and the props. It's an inherent part of the way our brain perceives things. Twenty-four or 30 frames per second is an inherent part of the cinematic experience. It's the way we accept cinema. It's the way we suspend our disbelief... Those high frame rates are great for reality television, and we accept them because we know these things are real. We're always going to associate high frame rates with something that's not acted, and our brains are always going to associate low frame rates with something that is not. It's not a learned behavior; [Some say] you watch it long enough and you won't associate it with cheap soap operas

anymore. That's nonsense. The science does not say that. It's not learned behavior. It's an inherent part of the way our brains see things (Kerwin, 2013).

Kerwin's position implies that this issue of 'verisimilar revulsion' will not be something humans simply get used to in the sense that what is currently deemed un-cinematic will eventually become enveloped under the rubric of 'cinema'. The key inference this thesis takes from Kerwin's position is that part of the cinema-image's potency lies in a quantum of 'unrealism' or to put it alternatively, a limit in its realism. A specific limit is obvious in the case above, that is, that frame rates must be under a certain speed in order for the cinematic object not to look too much like normal reality as the eyes see it. If it did look too much like normal reality, it would look unlike a cinematic object.

Chapter five ended with the assertion that noise was an important factor in the cinema-image. Noise plays a role in medium recognition on the part of the viewer, and therefore a role in medium function. In the case of cinema, it is a matter of ensuring a measure of visibility of the medium. With the example of Michael Mann's latest digitally shot feature films, there is evidence that new digital technologies benefit in certain affective capacities through the provision of a functional replacement of some/any characteristics unique to traditional cinematic technology. In Chapter five, this point was made chiefly to argue for a plausible notion of continuity in cinema, from cinematic inception through to cinema's current guises. But the point also stands to argue that, at least in the context of actual historical development, there is a precedent for medium visibility as a marker for affective success, especially with regard to media operating in concert with values or ideologies of realism.

Conclusion – The digital apparatus or ‘something else’

It is as difficult to apply a theory of essentialism to the notion of noise as it is to apply one to media. As Chapter two explored at length, a message is distinct from noise only according to the sender and receiver, each inhabiting a subjective state fundamentally unknowable to the other. And by that logic, noise too is distinct only in this regard. When cast a role within the cinema-image, film grain has become emblematic of cinematic truth, realism, ‘material essence’ etc and yet it can readily be considered noise. It is simply a matter of where one chooses to place the boundaries of form and content in the cinematic image. Given this, the coherence of camera-reality addressed in Chapter five can conceivably be considered no less noise than the more obvious and definable phenomenon of film grain. It was earlier asserted that this coherence is put into question by digital technology, in the sense that digital technology does not inherently deliver this coherence (although of course it can be made to simulate it). Further, it was also asserted that at any stage that this coherence threatens to recede, the cinema-image begins to disappear as well. In the case of Mann’s *Miami vice* and Jackson’s *The Hobbit*, it is possible to compare examples of digital cinema where the cinema-image is engaged and renewed in one case and dangerously at risk of disappearing in the other.

It is obviously not the issue that *The Hobbit* fails to offer some phenomenon in lieu of film grain, such as that rendered by the Viper Filmstream in Mann’s films, but instead that in the crystal-clear resolution of digitally rendered backgrounds and film sets, the cinema-image in one way or another is not visible enough. It is therefore less an issue of essence than a requisite opacity; a need to see the film, not the film set.

This thesis has not offered, nor has it sought to offer, an essential definition of cinema. While aiming to describe certain phenomena characteristic of the mediums with which it is concerned, such as with the terms camera-reality, cinema-image, coherence et al. the thesis has sought to offer as an alternative the simple assertion that the cinematic apparatus cannot be replaced with nothing because, as it is argued, the digital element in any technology does not intrinsically offer any prefiguration of form. What has been argued in the case of cinema in this thesis can readily be applied to many, if not all, existing non-digital media. However, what can be said of the special case of cinema is that the traditional cinematic technology, the apparatus of camera and film stock,

sets the parameters for a capacity and sense of mediation (chiefly involving moving images resulting from automatic recording of worldly phenomena), which set no essential (material or not) requirements for their fulfilment, but nonetheless created a capacity for their fulfilment.

Overall, this thesis has sought to interrogate the application of the word 'cinema' in the term 'digital cinema' with the hope that, if the word is found justifiably applied, there is no current or impending 'death of cinema' due to digital technology. This interrogation has required that the thesis not only examine the application of the word 'cinema' in the digital era but also to re-examine the application of the word in the pre-digital era, when it referred only to objects and practices involving traditional cinematic technology. If the term 'cinema' refers to a material essence then it is apparent that, with the dissolution of the cinema apparatus and the disuse of its materially based functions, it should no longer be used to refer to objects and practices which do not use and preserve that material essence.

However, while this thesis has aimed to argue that the word 'cinema' can be, to an extent, historically attributed to the invention of a materially based apparatus, the overarching argument is that no essence can be located in that apparatus with which to define the word 'cinema'.

Chapter one represents the initial endeavour to re-examine 'cinema' by looking at the woulds, shoulds and coulds of cinematic practice, chiefly oriented by camera-reality. Vertov and Rouch provide cinematic examples that clearly delineate the ways in which the cinema apparatus afforded new and unforeseen perspectives on the world.

Chapter two argued for a way of understanding the reciprocity between the material and immaterial domains. This was done in order to show that it was conceivable that an immaterial status for cinema could still work to furnish form in the material world while also being categorically immune from 'de-essence' when it assumed an immaterial (digital) basis at inception or in various possible stages of alteration and mediation.

Chapter three firstly set out the reasons why an essence of cinema is problematic and secondly posited a way in which the cinema apparatus presented a uniquely hermeneutical task to both filmmaker and viewer, which went to explain why the cinema-image was configured differently to other images.

Chapter four aimed to convey that cinema was not necessarily any more historically significant than digital cinema and that if the material basis of cinema were dispensed with this would not undo its historical role in the history of images. The chapter did not argue for inevitability in cinema's invention and development but instead contextualised cinema within a larger pictorial framework and history in order to show that neither the emergence of cinema nor digital cinema should be understood as watershed moments signifying teleological evidence. As the material and immaterial domains were argued to have reciprocity with each other, the concept of 'automatism' explained how it was possible for a material apparatus to give rise to an image such as the cinema-image and for that specific image to then lead to the creation or modification of other apparatuses and media in general. It was argued that the history of images presents examples of larger currents of development in which cinema and digital cinema played significant but limited roles. Considered in such a vast historical context, cinema and digital cinema were moot examples for debates over teleology. Ultimately, this chapter aimed to refute arguments that cinema represents an historical endgame, especially arguments that cite its material basis as proof of this.

Chapter five built upon the ideology of camera-reality discussed in Chapter one and demonstrated how it comes to bear on percepts of illusion. The purpose of this was to delineate the different ways in which the cinema-image reached across the pictorial domains discussed in Chapter four, engaging elements of realism, illusion and fantasy. The oeuvre of director Michael Mann was used to trace a development of camera-reality into the digital realm with the aim of acutely showing how the cinema-image can survive its material basis, while presenting new effects that specifically negate and replace effects associated with the material basis of the disused apparatus.

Chapter six looked at how the effects seen in digital cinematic technology overlap, replace, reconfigure, negate and complement the traditional cinematic technology. This chapter aimed to investigate how and why some aspects of digital technology engage or repel the cinema-image.

It has sometimes been said that the word 'culture' is only used to describe and account for circumstances where the state of affairs cannot be sufficiently defined and causally understood. Perhaps this sceptical sentiment applies to 'cinema' as well. Yet this scepticism might well have missed the point because 'culture' is most likely intended to refer to states of affairs where definitions and causal relationships are unresolved or unresolvable. Again, the same thing can be said for 'cinema'. There is a tradition in the use of the word 'culture' and so too of the word 'cinema' and this thesis has sought to isolate and trace the tradition of 'cinema'. That tradition has been argued to follow an immaterial course identified by the rationale of seeking 'what we use for cinema' rather than 'what cinema is used for'. The commonality is a usage, not an essence and the usage is transformative, not permanent.

A purely synchronic taxonomy of species will fail to reveal the work of evolution in any specimen and while every organism has a material basis, transformations have taken place over more than an eon giving rise to consciousness, ideas and words. Essences do not comprehensively span the ascendancies of these evolutionary outcomes. While words and ideas are attributable to material organisms, they are not material things themselves. Yet one can imagine the speaker of words and the thinker of ideas when only words and ideas remain.

When people are either compelled not to use the word 'cinema' or everyone compelled to do so is dead, then cinema will be dead. But the word and the idea signify a transformative presence. Digital cinema is cinema digitally transformed and cinema is the origin of that transformation. Digital cinema is the word spoken by cinema.

This thesis concludes, not altogether surprisingly, that cinema is not dead. The popular reflections on the future of cinema, such as those expressed by Scott and Dargis in their *New York Times* article, view cinema as an immediate experience and suitably judge its health, state and course as it appears close-up. These types of reflections are not beholden to conceptual coherence, rigid frameworks or logical accountability, yet they are bellwethers nonetheless. The reflections of scholars, both recent and long past, take a longer, more objective and rigorous task of investigating and debating for merit the same future. In each case the risk is that the debates are conventional and the problems are received rather than questioned. This thesis has endeavoured to re-imagine cinema

outside of the debates of teleology or how to define the material essence of cinema. It has avoided the former and rejected the latter.

At least in the field of scholarship it is hoped that this thesis could direct inquiry away from continuing the debate over the fate of cinema and instead towards thinking about how cinema has changed. It is a simple distinction but it avoids the need for the insistence on absolutist, dismissive, overreaching arguments that often require scholars adopt existing positions in order to support or refute such arguments. The debate over the fate of cinema is much like the debate over what qualifies as art. These debates obscure the immediate issues, ignore well-known truisms and ensure that each side plays into the other's hands. The older of these debates has often forced its participants to imply that anything that is art is good and anything that is bad is not art. The more productive debate, which acknowledges the true position of opposing sides, is the debate over what is good art and what is bad art.

If taking up the question of how cinema, specifically in the digital era, has changed and is changing, the most fecund road for analysis follows the new ways that digital cinema is redefining medium visibility, or noise as it characterised above. This thesis has directed its attention to obvious examples and it has fallen well short of adequately analysing the intricacies of the ontological and visual modes at work in even those examples. It remains to be seen whether audiences will acclimatise to the experience of watching a film in 48 frames per second, such as *The Hobbit*, which if they did would represent a further transformation of the cinema-image, or whether that technology will have to be permanently considered either un-cinematic or simply 'something else'.

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