Table of contents

The image of civilisation

"The bourgeoisie … compels all nations, on pain of extinction,
to introduce what it calls civilization into their midst,
i.e., to become bourgeois themselves.
In one word, it creates a world after its own image"

—Karl Marx
The Communist Manifesto

This thesis adopts the transition from traditional photography to digital imagery as a privileged site for exploring some epistemological undercurrents that shape our modern relation with images. The question of images in modern visuality covers a vast and complex ground, much of which I leave implicit given the scale of this thesis. Chiefly, modern societal developments affecting our relationship with images, such as industrialisation, commodification and urbanisation, are not my entry point into the question. Taking the century of Descartes as a time of profound shifts in the history of ideas, my focus is on what I identify as certain continuities in the relation between images and thought processes as they have shaped the development of knowledge and indeed modern society. Today's migration to a digital base for the production and circulation of images appears to be an observable symptom of these continuities.

As I understand it, the sharpness and precision that characterise digital photography are indicative of a gentrification of visual aesthetics. The new visual ground, where images emerge made up of sequences of pixels in hexadecimal values, is fundamentally different from that of the chemical processes that result in photography. Digital images are no more than a computer simulation of these processes. Adopting the human scale as a

measure of intelligibility, digital images limit their capture to a certain aspect of photography. The 'total object of photography', as Barthes identified it (1993: 47), has a potentially wider breadth. An integral understanding of photography cannot be divorced from the physical processes surrounding the phenomenon of light. Behind the intelligible surface of traditional photography, hidden in its grain, are the marks of these largely pre-luminous processes, which transcend the controlled scope of the digital capture. In this respect, digital technology's greatest achievement has been to effectively filter out photography's excess charge while retaining its claim to the photographic process. In this thesis, I interrogate the epistemological path that has allowed a computer model to become an improved version of the traditional process of photography.

At its core, the adoption of a digital base for producing and disseminating images appears symptomatic of a flattening of perspective that is generally associated with the idea of 'the modern'. Marshall Berman finds a collective will to erase the past as the trademark of our times. In Berman's words:

> "a collective, impersonal drive … seems to be endemic to modernization: the drive to create a homogeneous environment, a totally modernized space, in which the look and feel of the old world have disappeared without a trace" (1988: 68) .

Marked by a determination to erase the past, the make-up modern culture appears increasingly flat and out of sync with historical continuity. Guy Debord finds a fundamental dissociation with tradition in the modern experience of time. Debord's 'society of the *spectacle*'is founded on a collective deception: "a paralized history, … a paralized memory, … an abandonment of any history founded in historical time, … in effect a *false consciousness of time*" (1999: 114).

Debord's *spectacle* has the character of an ahistorical force. Following the 'transcendent spirit of the commodity' (Debord, 1999: 44), the modern experience of memory and tradition tends towards an illusory plane where historical duration is arrested. Debord

places modern consciousness in an 'estranged present', where the subject of estranged labour is separated in the first place from his own time (1999: 116).

Hastened today by the accelerating tempo of modern communications, the *spectacle*'s drive to steal history away from memory has deeper roots. The timeless world in which mankind asserts its rights over the anarchic elements (Berman, 1988: 65) is not exclusive to the modernist utopia, it has also set the much older agenda of *civilisation.* A master of his time, civilised man emerges in a flattened space where death and decomposition, the marks of historical time, lie hidden away.

This thesis addresses the rise of formalism that changed the nature of scientific enquiry in the seventeenth century as it crosses paths with the broader project of civilisation. Together, these two forces have generated what emerges as a characteristically modern trend: that of shaping up an ahistorical experience of the present that will better accommodate a more closely controlled and administered environment. I will argue that the current transition from analogue to digital images, understood as a simplification of the photographic surface, is a reflection of this civilising trend.

Norbert Elias traces the roots of this rise in formalism through the history of civil comportment in Europe, which he sees as typical of a broader *civilising process*. Elias understands the question of civilisation as an unresolved tension with our animal condition. Essentially an humanist ideal, civilisation seeks deliverance from our vulnerable condition as brutes. Animals appear too exposed to nature and its destructive cycles. Humans can create artificial environments that offer an ideal escape from the unforgiving processes of nature.

Elias finds an expanding threshold of repugnance covering any reference to death. In his words:

> "the curve running from the carving of a large part of the animal or even the whole animal at the table, through the advance in the threshold of repugnance at the sight of dead animals, to the removal of carving to specialized enclaves behind the scenes is a typical civilization-curve" (1978 A: 121).

Debord points at a 'social absence of death' in contemporary society. This, he argues, is at one with a 'social absence of life' in a society whose subjects are reduced to the condition of spectators (1999: 115-116). Deprived of their time, the modern subject is effectively severed from their own life. Posed as a redeeming force, the civilising process effectively carries out this separation. Hiding death away, it offers the spectacle of an artificial environment with no history other than that of its own elaborate set of regulations.

This is the banal world of sameness that is so derisively portrayed in Peter Weir's *The Truman Show* (1998). Truman Burbank, the star of a television show, was the first human to be fully owned by a corporation. He was placed, from birth, in a purpose-built town and surrounded by an army of professional actors and extras under twenty four-hour camera surveillance to produce the ultimate reality television show.

Figure 1.1: White blacks in Peter Weir's *The Truman Show*

Tuman's whole world was a closely choreographed spectacle. His whole life consisted of a series of empty routines mapping down even the precise times he would cross paths with various characters on the street, every day. The all-too-familiar beach town of Sea Haven, Truman Burbank's home town/enclosure, was a hyper-gentrified environment, a civilised haven where even the weather was centrally cued and 'undesirables' were nowhere in sight.

There was, so the storyline goes, no evil intent behind this experiment. Truman Burbank was the brainchild of Christof, an aloof genius figure who designed and directed the show. Christof believed he was acting in Truman's best interest, giving him a chance to lead a noble and truly privileged life. As it turns out, Christof's project failed as Truman became increasingly aware of his estranged condition as a mere spectator of his own empty drama. This launched him on a melancholic search for the 'real world' out there, which he eventually found, and joined.

Truman's melancholy is typically modern in its historical groundlessness. It illustrates what Berman calls the 'tragedy of development' (1988: 37 – 86), or the inexorable loss of ground that occurs as modernity repeatedly destroys human environments to give way to an always *new* present. This thesis looks at the current digitisation of visual culture as an eminently modern situation. The banalising of form that we find today, as images dissolve into maps of bits to facilitate their rapid exchange, is a privileged site to recognise the ahistorical effort of civilisation as it expands its threshold, this time visually.

Debord's *spectacle* highlights the characteristically modern turn whereby civilisation develops a visual strategy. He warns that:

> "any critique capable of apprehending the spectacle's essential character must expose it as a visible negation of life — and as a negation of life that has invented a visual form for itself" (1999: 14).

Indeed, as photography gives way to digital images, what we see today is an incursion into the visual arena of the same drive to replace the past with a formalised present that

inspired Georges Haussmann's remapping of Paris in the nineteenth century, or Robert Moses' expressway vision for New York in the twentieth century (Berman, 1988: 287 – 329). Digital images are equally intent on clearing the way to make room for a civilised aesthetics.

Analogue to digital conversion follows a gentrifying ethos as it flattens the material ground of images to allow for their serialisation. The result is an homogeneous visual economy where images are reduced to their lowest common denominator in order to assist their rapid exchange. Next to photography, which operates on a complex ground of light waves and photo-active chemicals, digital technology appears inescapably clean and inert.

To make historical sense of today's gentrification of visual culture one ought to consider it within the context of the broader epistemic changes that followed the scientific revolution of the seventeenth century. As I will argue in the following chapter, the digitisation of images appears to be linked to a long tradition of iconoclasm which, in its modern guise, dates back to the time of René Descartes. From its onset, modern science distrusted images, which it accused of lacking in objectivity. The little time that is today allowed to appreciate any particular image appears symptomatic of modern science's long distrust of visually-based forms of producing, transmitting and preserving knowledge.

Central to pre-modern mnemonic practises, images were traditionally deployed in support of complex memory systems where content was suggested rather indirectly, through familiarity and association. This was the case, for instance, in the oblique art of alchemy where a calm and imaginative mode of spectatorship was a precondition for images to assist in the generation and poetic association of ideas. The focus, then, was on an always missing element, something hidden to the naked eye that could only be indicated poetically via images. The current saturation of images, as television and the Internet

gather audiences of unprecedented scale, while the mobile phone and the camera are becoming one, makes it increasingly difficult to sustain this level of poetic engagement.

Long regarded as an obstacle to scientific advancement, images now return to memory, only to vanish the moment they appear. The civilising process has generated a flattened epistemic ground where images cancel each other as they compete for three seconds of fame. Digital *memory*, which records the process of elimination that takes place as an image is prepared for rapid consumption, is far removed from the dense poetic ground where images once flourished and kept knowledge alive from one generation to the next.

My aim is to present the transition to digital images as an illustration of changes in perception that are currently under-way, as they affect our understanding and experience of historical memory. My intention is to foreground the reductive nature of the technology that is mediating our encounter with images. This may help us assess the role we ascribe to images today, and, at a deeper level, to poetry as a ground for the creation and preservation of knowledge.

As visual culture turns digital, there is fertile ground for visual theory and practise to reflect on the nature of digital technology as today's favoured medium. There is plenty to be gained, too, from engaging in dialogue with traditional forms of photography as we analyse today's emerging technologies. These opportunities, however, tend to be overshadowed by the pervasive hype that surrounds new media. No doubt a reflection of the flattening effect of modern mnemonics, the virtues of digital technology today enjoy a largely unproblematic appeal. Walter Benjamin had some harsh words to say to those photographers who did not care to consider the attributes of their medium:

> ""The illiteracy of the future", someone has said, "will be ignorance not of reading or writing but of photography." But must not a photographer who cannot read his own pictures be no less accounted an illiterate? (1979: 256)".

This words could well be re-deployed today as we celebrate the passing away of photography.

The decline of content: iconoclasm and scientific memory

The medium in which we naturally conceive our ideas
may restrict them not only to certain forms but to certain fields.
— Susanne Langer [1]
Philosophy in a New Key

Civilisation cannot … entirely cast out the bogy of time.
It can only sublimate our concern with it to the level of rational thinking.
—Andre Bazin [2]
The Ontology of the Photographic Image

In this chapter I trace the roots of the age-old tension between images and memory. I will explore the historical context behind the civilising of images that we are experiencing today as digital technology proceeds to 'clean up' the visual field. I will focus on the rise to hegemony of modern science's attention to precision, and the impact this had on the production and preservation of knowledge. My focus will be on the scientific revolution of the seventeenth century, where objectivity became the benchmark for making sense of the world. This period was dominated by a sustained erosion of the imagination and a growing suspicion of images as receptacles for memory.

My intention is to observe the current digitisation of visual culture against the context of the long-standing tradition of iconoclasm that developed within the sciences, particularly since the time of Descartes. In its simplification and serialisation of form, digital

[1] Quoted by Siegfried Kracauer (1980: 245).
[2] (1980: 238)

technology's disregard of photography's complex ground harks back to the early days of modern science, when we see a strong reaction against the often ambivalent imagery that was used in support of pre-modern European thought.

Long regarded an ideal medium for handing down knowledge, as seen from the classics to the occult fringe of the Renaissance, images became a modern problem with the onset of the scientific revolution. Best suited to the winding ways of allegorical reason, the poetic economy of visual memory became at odds with the emerging focus on logical process and the increasing value of precision as a benchmark of scientific truth. The swift expansion of modern science brought about a systematic erasure of age-old visually-based traditions. Alchemy's dissolution into chemistry illustrates the anti-poetic shift in the sciences whereby memory and the imagination began to drift apart.

Today, photography appears to be the latest casualty in the centuries-old effort to disarticulate the imagistic structure of memory. As digital technology becomes the primary medium for visual culture, photography's quiet departure heralds a radically changed environment. The current climate of fast, serialised consumption seems incongruous with the old art of photography, where every plate results in a unique piece of inexhaustible detail.

Admittedly subtle, the difference between photography and digital images appears to correspond to a changes at the level of knowledge. Less attentive to poetic intimations, modern man moves further away from a carnal base and a temporal disposition for thought, where memory proceeds through the images and sensations that populate the *here and now*. The spectacle of modern culture reflects this trend, as it turns away from a material and temporal sense of depth.

The current migration to digital images can help us understand what appears to be an turn towards a simplified mnemonic landscape. Sameness, process and stability, the operating principles that allow digital technology to reduce images to a sequence of values, are also the ethical imperatives behind a civilising of the mind. Today, as digital technology filters away the material richness of images, greatly accelerating the speed of information exchange, what is regarded as accepted reason is also becoming increasingly predictable, typically instrumental, thin in content and far less imaginative.

2.1
The silencing of the imagination in modern visual culture

European culture made an irrevocably modern turn around the seventeenth century. Radical departures in politics and religion at a time marked by scientific discovery, prompted the emerging modern subject to opt for scientific precision as an enticing avenue to truth and stability. Taking the century of Descartes as a starting point, I want to make some remarks on the tensions that have shaped what we can broadly refer to as modern consciousness. I want to survey the ground of modern subjectivity as it becomes apparent through some defining moments in visual culture since the seventeenth century.

In what follows I suggest a certain continuity in modern image-making. I want to foreground a recurring theme of control running from still life painting's return to the classical object, to the disciplined dissemination of photography by the printing press in the nineteenth century, through to digital images' technical grip on form. What we find at every step is a rising level of technical intervention in the production and consumption of images. Today, the degree of intervention over the image that digital technology has allowed gives the human hand a renewed level of control over the process of creating a resemblance, a responsibility which painting momentarily lost to photography.

2.1.1
From reality to realism: the seventeenth century still life

In a way, nature came to a standstill in the seventeenth century. The birth of modern science also marked the beginning of a new, more rigid manner of looking at the world. As scientific enquiry was fast becoming the main purveyor of truth, it was the disciplined and attentive gaze of the scientist that set the standard for vision, even beyond the laboratory. This new direction was most apparent in the arts, particularly through the work a number of young and talented painters who, across the main cultural centres of Europe, dedicated their art to test the limits of precision.

The sixteen hundreds can also be remembered as the golden age of still life painting. With a long-standing history that spans from the frescoes that adorned the lavish villas of Pompeii to the work of Braque and Dalí in the past century, the painting of still arrangements of objects reached a high period in seventeenth century Europe, most notably in France, Italy, Spain and the Netherlands.

A world away from the vertiginous movement of the Baroque art of its time, the still life paintings of this period define an inert space. The everyday objects that inhabit this space lie in a state of suspension. The clean and emphatic treatment of form in this group of still life paintings suggests a renewed sense of confidence. In a space of its own, and far removed from premodern phantasms, the seventeenth century still life offered, in the words of Michel and Fabrice Faré, "a taste for concrete reality in the face of human fragility" (1978: 14).

Still life with Dead Birds , Fruit and Vegetables (Fig. 2.1) by Juan Sánchez Cotán (1560 – 1627) is representative of a series of Spanish still life paintings known as *bodegones*, referring to the space in a pantry reserved for storing perishables — a predecessor of today's refrigerator. Sánchez Cotán's carefully geometrical treatment of his still objects brings to

mind the controlled and cerebral gaze of a scientist. Framed within a stage-like rectangle, we find a succession of objects in state of suspension.

Fig. 2.1 Sánchez Cotán's *Still Life with Dead Birds, Fruit and Vegetables*, 1602. Oil on canvas, 68.07 x 88.90 cm. Private collection

Standing in isolation, these categories of objects appear not only distant from each other, they also disassociate themselves from the less ideal world of the viewer. In all their studied precision, the objects in this still arrangement invite the viewer into an immaterial region, one where geometry takes precedence over the human body as a source of space. The atmosphere in this painting evokes the secluded space of a laboratory, a space not to consume but to observe, as close as possible, so close that one could almost forget there is a world outside the picture.

As modern science was beginning to crystallise, the sense of excitement amongst the scientific community appears to have been shared by the still life artists of the time, who strove to elevate their craft to equal heights of perfection. Contrary to Baroque art, which captured the viewer's attention only to deflect it from any discernible centre, the seventeenth century still life focused the viewer's attention through its rigid dedication to

accuracy. As Jeannine Baticle has observed, the seventeenth century still life was driven not by dreams, or the imagination, but just a strong concentration (Baticle, 1978: 51).

Such close attention to form led to a foregrounding of painting as a privileged medium for representing, even recreating reality. Indeed, confident in the strength of their craft, this group of painters went on to reinvent reality as it were. As Norman Bryson has observed, the still life painters of the seventeenth century developed a rhetoric of realism. They employed *reality effects* to create scenes that no longer relied on the existence of original models (1990: 80).

Caravaggio's (1573 – 1610) *Basket of Fruit* (Fig. 2.2) attests to the power of painting to produce its own brand or reality. Disarmingly real, a basket containing an assortment of fruit rests on a surface that is hard to locate. All we see is a minimally defined dark surface, a clean horizontal strip that could either be a table or a confident gesture towards the painterly focus of this study. The same quality can be discerned in the background, whose palpable brushstrokes could either suggest a textured wall or, once again, underline the fact that we are looking at a painting. Deceivingly three-dimensional yet resolutely flat, this painting defines a hallucinatory space that is one step removed from the viewer's own material reality.

Fig. 2.2: Caravaggio's *Basket of Fruit*, C. 1597.
Oil on canvas, 31 x 47 cm
Pinacoteca Ambrosiana, Milan

From its onset, the still life served to create a space for simulation. The first still life paintings date back to the Greek art of *skenography*, or stage design. The celebrated story of Zeuxis' grapes and Parrhasios curtain dates back to this early period. According to the Greek historian Pliny, in his *Natural History*, these two painters engaged in a competition over who could produce the most deceivingly real image. Zeuxis' painted a grapevine "so true to nature that birds flew up to the wall of the stage". Parrhasios painted a curtain. Zeuxis had to concede defeat after he realised he himself had been defeated by his contender: he had asked Parrhasios to draw the curtain and show what he had painted.

The seventeenth century still life was a fitting back-drop for the representational apparatus of its time. The accomplished and quiescent quality of its images created a stage for the new theatre of modern science to reinterpret the world of the everyday. This was no longer a stage for, say, the alchemical phantasmagoria of Elias Ashmole's *Theatrum Chemicum Brittannicum* (1652) (Fig. 2.3), where objects readily shed their immediate meanings to give way to various levels of metaphor. The seventeenth century still life brought this poetic movement to a halt. Its often banal objects gained truth out of their own simplicity. Much like the science of its time, the seventeenth century still life enticed the viewer's attention into the austere space of simple reasoning.

Fig. 2.3: Allegorical plate from Elias Ashmole's *Theatrum Chemicum Brittannicum*

2.1.2
Back to reality: the discovery of photography

The modern still life's firm grip on form, through which art reflected the confident expansion of a scientific vision of the world, suffered a disorienting blow in the early nineteenth century with the development of photography. As shapes began to emerge of their own accord on sensitised plates, this time it was nature itself that appeared to be imitating art.

Fig. 2.4: *Landscape in Saint-Loup-de-Varennes* (1827), heliograph by Nicephore Niépce

Nicéphore Niépce's photographic prints are representative of this early period. Niépce's hazy images of Paris rooftops (Fig. 2.4) postulated a radically changed way of understanding visual representation. Sharpness and precision, the marks of the focused mode of attention that produced the modern still life, were no longer a necessary precondition for truthfulness. This time it was light itself, through the photographic process, that dictated the conditions for visual engagement.

From its onset, photography enjoyed the character of an achieved rendition. Even before the photographic image came into sharper focus with the development of daguerreotypy

in the 1830s, the ultimate absence of human intent in the configuration of the photographic surface meant that these dim early prints could already lay stronger claims to objectivity than any still life painting ever could. Photography brought to bear painting's quality as a less than perfect representation of reality.

Photography established a fundamental connection between an object and its representation, adding a new dimension to images. As André Bazin observes, "the photograph as such and the object itself share a common being, after the fashion of a fingerprint". Wherefore, Bazin goes on, "photography actually contributes something to the order of natural creation instead of providing a substitute for it" (1980: 242). More than representing objects, the subtle shapes in Niépce's early photographs were direct effects of the very spaces they portrayed. Grounded on light itself, photography entered the visual arena as an autonomous and categorical process. The human hand could only assist in its delivery.

Fig. 2.5: *A set table (still life)* 1823-1825, heliograph by Nicephore Niépce

Niépce's 1926 *A set Table (still life)* (Fig. 2.5) conveys this sense of achievement. Laid out in the tradition of the still life, a table is set with a white tablecloth, a bowl of soup, bread and wine. A spoon and a knife invite the viewer to sit down and consume. Gone in this

nebulous early photograph is the seventeenth century still life's careful attention to precision, where even the most achieved image remained to be perfected even further. Finally 'touching' its object, this photograph appears to cancel the need to reach reality by way of fine and precise brushstrokes.

A true reverberation of the original, photography set an ultimate benchmark for achievement in similarity. Taking the level of correspondence with its object to where the human eye — and indeed the hand — could no longer follow, photography offered a window into unconscious and ungovernable regions. It was this capacity to proceed of its own accord and with no clear direction or limits that granted photography its 'magical' quality, a defining attribute that has never really been dispelled.

The development of mechanical devices for fixing natural images brought the old question of authorship to the foreground. Unlike paintings or drawings, in which the hand of the artist was ultimately responsible for the effect of resemblance, photographs enjoyed a measure of autonomy traditionally associated with the supernatural. History tells us of 'autonomous images', typically appearing in times of violent change. Celebrated cases are those of the 'spontaneous' portraits of Christ that led the Byzantine army against the Persian enemy in the sixth century (Grabar, 1984:19-37)[3]; the Shroud of Turin, carbon-dated to the fourteenth century; and the Mexican image of Our Lady of Guadalupe, which is believed to have appeared on a coarse piece of fabric five centuries ago. What we find

[3] The sudden emergence of Christ portraits was not uncommon in battlefields across sixth century Europe. The first of these *acheiropoietos*, as these images were called, began to appear around 586 AD, in connection with the war against Persian Zoroastrianism. In amidst the horrors of war, these images re-staged the original drama of divine incarnation. The Logos was once again made flesh, this time in portrait form, to renew God's promise of redemption (Grabar, 1984: 19-37). The earliest reference to the *acheiropoietos*, the icon made without hands, is in connection with a Christian Orthodox tradition going back to the fifth century AD. An icon of the holy face of Christ, known as the Savior Acheiropoietos, is said to have been miraculously caused to appear on a piece of cloth by Jesus himself and sent to the envoys of King Agbar of Edessa so he may be healed of the leprosy that afflicted him. As John Baggley explains, "King Agbar and his leprosy can readily be seen to symbolize man's need for healing and restoration. That restoration is given in Christ, the perfect image of God and Man" (1987: 8).

in every case is a clear will to break away from the perceived limitations of human authorship.

The mechanisation of the process for fixing light's spontaneous images was indeed a wonderful development. The early daguerreotypes were precious curiosities, often kept behind glass cases. In *A Small History of Photography* Walter Benjamin cites a contemporary of this period who recalls the bewilderment that used to take over the observer of these magical plates:

> "We didn't trust ourselves at first", this person admits, "to look long at [these] first pictures. ... We were abashed by the distinctness of these human images and believed that the little tiny faces in the picture could see *us*, so powerfully was everyone affected by the unaccustomed clarity and the unaccustomed truth to nature of the first daguerrotypes" (1997: 244).

But this period of truly magical photography was short-lived. Benjamin refers to the first ninety years of the medium as "the rise and fall of photography" (1997: 240). The intellectual landscape at the time photography was emerging was dominated by cold light of pure reason that had guided scientific enquiry since the seventeenth century. Clarity and precision remained the guiding values for a secular model of reason set on of harnessing the natural order by extolling its ideal form. Photography soon fell prey to this enterprise.

The civilising process, with its strong ethos of order and its aesthetic drive to clarity, became the driving force behind the instrumentalisation of photography. Walter Benjamin identified a regulatory push following the dissemination of photography in the nineteenth century, when illustrated newspapers led the way in accompanying photographs with explanatory captions, so as to control their consumption. As Benjamin points out, once newspapers gained broad circulation photography turned into a journalistic tool (1979: 244). While photographs retained their recognised integrity as indicators of truth, this time 'truth' had a clear direction and intention.

Benjamin declared in 1931 that that the caption would, one day, become "the most important part of the photograph" (1979: 256). As I will argue in the following section, Benjamin's words can be redeployed today to consider the curious twist whereby digital language, as an ultimate caption, is effectively supplanting the images it is made to represent.

2.1.3 The image of modernity: the invention of digital images

Given photography's definitive achievement as a true rendition of its object, it is fair to ask why it was deemed necessary to take the photographic process a step further. As I understand it, this next step comes as an opportune adjustment to a less material understanding of perception. Although digital images may appear just as achieved as traditional photographs, if we consider them at a purely structural level they are still nothing more than a form of computer modelling. Technically speaking, and I will elaborate on this point in chapter four, digital images are a reduction of their object while photographs are, in fact, an expansion of it.

As I understand it, it is the will to bring images under control — which governed both the seventeenth century still life and the development of journalistic photography in the nineteenth century — that is now claiming new territory through the development of digital image technology. My intention is to examine the transition to digital images against the context of the regulation and instrumentalisation of the visual culture has been a trademark of modernity. I argue that in its reductive ethos, digital image technology appears to follow the same logic with which the modern eye is developing an increasingly cursory, and indeed less poetic relation to the environment.

I would like to highlight three interrelated aspects of digital image technology which I believe follow an essentially modernist ethos. Firstly, the fact that digital technology is, at

its core, a system for achieving precision by eliminating *noise*. This makes digital images substantially less complex than photographs. The second aspect relates to speed, and the acceleration in the production, dissemination and consumption of images that digital technology has allowed. The third aspect consists of a progressive disengagement of the imagination which follows the acceleration in the circulation of images.

Regarding the first of these three aspects, namely the elimination of what is generally regarded as noise, it is noteworthy that the process for digitising images is often conceived of as a clean up operation. Software products, like digital cameras, are typically sold as tools for sharpening vision by removing 'excess' information. Kai's *Photosoap* (Fig. 2.6), Apple Computer's version of the popular image software Adobe Photoshop, clearly illustrates this metaphor. Packaged to resemble a box of laundry detergent, *Photosoap* adopts the ideal of cleanliness as the indisputable way forward in imagery.

Fig. 2.6: Kai's Photosoap

Digital images reflect an attempt to flatten the deep and complex disposition of the visual field, which photography so uncompromisingly brings to bear. It is important to recognise that digital technology was developed as a system for conveying data, that is, prearranged bits of information in serialised form. There is a structural limit to what these linear circuits of bits can reflect once they crystallise as images. Free form the *noise* that

accompanies the natural passage of light, digital images suit an objective eye by reducing photography to its intelligible surface.

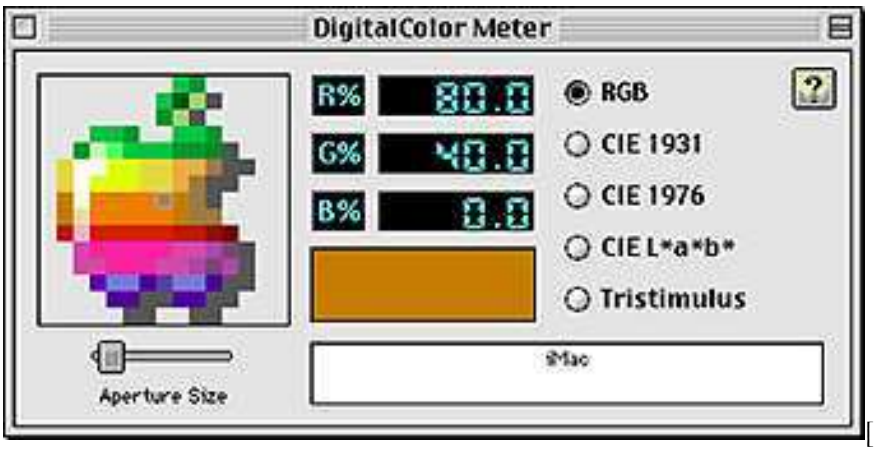

Fig. 2.7: DCM by Apple Computer

It could be argued that the mastery over images that digital technology brings to the desktop has more in common with the seventeenth century still life than it does with photography. Like the still life, digital images inhabit an immaterial space of ideal proportions and stable values. In this sense, digital images return to the serene world of classical detachment, a space familiar to Cartesian enquiry.

The second distinctively modern aspect of digital images relates to the acceleration in the speed of information that they have allowed. Indeed, by turning the camera into a computer peripheral, digital images are the ideal medium for today's fast cultural output. The unprecedented pace at which information now circulates calls for the development of increasingly simpler and more pliable information channels. Indeed, with the Intenet now integral to work practises, and as the camera and the mobile phone begin to merge, digital technology has become instrumental in enabling the rapid succession of optical cues that defines the modern spectacle of contemporary culture.

The third and final aspect of digital images that defines them as a characteristically modern medium relates to the way in which this acceleration of visual output is facilitating a

tendency towards a progressive disengagement with images as the primary vessel for tradition. Vying for attention in the information super-highway, digital images consolidate the modern shift whereby a poetic imagination becomes a second rate vehicle for the dissemination of culture. Digital speed is taking us further away from a culture that once treated images as sites for imaginative consideration.

My main intention in this thesis is to present digital image technology as a product of the modern epistemic shift away from the imagination as a privileged tool for the generation and preservation of knowledge. My aim is to show that what separates digital images from traditional photography, while remaining hidden to the objective eye, is more than a mere aesthetic detail. I want to match the subtle yet fundamental disagreement between these two processes with the long-standing tension that underlies the unfolding of two equally conflicting mnemonic traditions.

2.2
The receding space for of images in modern mnemonics

The rise to hegemony of a Cartesian model of enquiry has deeply transformed the way we record and hand down knowledge. The long tradition of image-based mnemonic practises, which I will revisit in the remainder of this chapter, has been giving way to a model of memory based on the transmission of *data*, or *what is given* as necessary and sufficient. Images are clearly at odds with the benchmark of precision that has come to dominate much of the sciences. The plastic character of images is indeed a hindrance to this safeguarded model of truth. Fluid by nature, images do not *contain* any given information, they are nothing but starting points for thought to proceed.

Western tradition was built upon an intimate bond between images and memory. Perhaps as a reverberation of the way matter reveals its content by means of its form, thought was

largely handed down in connection with recognisable shapes, or images. The sensual base on which memory was transmitted across the generations did of course define a winding path, indeed a great network of intersecting paths. Thought retained a *natural* quality that was commensurate with the complex order of things it depicted.

The emerging episteme that guided modern scientific inquiry moved away from a long standing tradition of knowledge where thought and images shared a close involvement. The kind of knowledge that was beginning to emerge out of the sciences was drawing the modern mind into an increasingly abstract plain. Guided by an ideal of precision, scientific knowledge began to adopt a formulaic disposition as it focused on recording the necessary and sufficient steps that follow from one proven truth to the next. Images were clearly inadequate for this task.

A new emphasis on logical process prompted a renewed conception of memory based on a distrust of sensual appearances, which were dismissed as ambiguous and misleading. Hard to pin down as they follow the shifting meanings and positions that make up the everyday, images were indeed a hindrance to the scientific project of logical investigation. Abstract thought, which relies on the ideal permanence of its object, became modern science's ad hoc tool for constructing a stable model of the world. The development of an abstract model of reason has relied on an growing dependence on notional lines and an equal dissociation from a sensual and indeed material ground for intellection.

The sensual play of images, with the spontaneous flashes of familiarity they can trigger in us, has long been the focus of intellectual preoccupation, being the bone of contention for a series of epistemic battles. Drawing on Frances Yates' canonical study of the *Art of memory* in European tradition (1996), I want to revisit the intellectual moment that produced this modern base to scientific enquiry. Looking at the parallel between the consolidation of this new aspect of science and the falling from grace of images will help

us understand why, below the surface, there remains an unresolved tension between the digital medium and the field of images.

Yates undertakes a survey of the various memory systems that developed from antiquity, as they supported the creation, transmission and preservation of knowledge in Europe. Yates detects a certain continuity regarding the place of images in these systems. She finds a declining curve in the value of images. The successive forms that the *Art of Memory* adopted in the lead up to the birth of modern science were the theatre of a series of epistemic shifts that emptied memory of its imagistic content and turned it into an instrument for logical process.

Today, our encounter with images faces a different challenge, but the results are not dissimilar. This time it is not their absence but their saturation that is hindering our engagement with images as a focus for knowledge. In an increasingly time-poor culture, the current migration to digital media takes us one step further away from a tradition of memory that relies on the careful consideration of visual queues to hand down its content. Thus, it consolidates the centuries-old marriage of convenience between scientific objectivity and iconoclasm, which I will now investigate.

2.3
From the classics to the occult tradition: the moment of images

Aristotle viewed images as a natural part of memory. He saw the imagination as a necessary filter between sense perception and thought. Images — or *phantasmata* — were also recommended as a useful tool in the classic *Art of Memory* of the rhetoric tradition. Deeply attached to the soul, images were invested with a natural appeal that rendered them particularly effective for impressing ideas upon memory.

Moving on from rhetoric to ethics, in the middle ages Albertus Magnus was popularising the classical model of *imagenes agentes* — the images that can move the soul — for impressing didactic thought about salvation and damnation[4]. The Scholastic tradition too, in line with Thomas Aquinas' *nihil potest homo intelligere sine phantasmata* (man cannot understand without images), did not shy away from associating its rather cerebral thought with the visual register.

An important shift, however, was occurring at this point. Magnus' images were charged with metaphorical intent. As opposed to direct images of objects, metaphors were seen by Magnus as capable of "moving the soul more and therefore better help the memory" (in Yates, 1996: 77). This reeked of idolatry to the puritan escolastics, who banned the use of imagistic metaphor, extending their disgust to poetry, which they saw as lowest of all forms.

The connection between imagery and poetry was not accidental. Already the pre-Socratic Simonides is said to have equated methods of poetry with those of painting. Horace later summed up this theory in his famous dictum *ut pictura poesis* (In Yates, 1996: 42). The scholastics understood the unruly powers of metaphor, hence their preoccupation. To prevent thought from going astray, they offered direct access to Truth to those who pointed their understanding towards a fixed and necessary notion. This notion, being true, had only one possible image. What ensued was a general distrust images, as iconoclasm became an hegemonic force, both in the laboratory and the church.

[4] The highly successful advertising campaign by the Victorian Traffic Accidents Commission, with its heart-stopping images of death, draws on the same principle.

2.4
From Lull to Ramus: the systematisation of defacement

An early and greatly influential master of abstraction was the thirteenth century Catalan theologian Ramon Lull (1232–1316?). A contemporary to Thomas Aquinas and Albertus Magnus, Lull spent the best of his life designing and perfecting a memory system that would leave behind the pictorial legacy of the rhetoric tradition.

Living in a time that saw an unprecedented efflorescence of imagery, Lull developed a graphic memory system based on the letters of the Roman alphabet[5]. Following a mystical rapt while meditating on Mount Randa, in his native Majorca, Lull understood that the *dignities*, or attributes of God — his goodness, eternity and so on — could be found infusing the whole of creation. He figured out that an *Art* based on combining these attributes, each represented by a certain letter of the alphabet, would be universally valid given its purported grounding on God's creation.

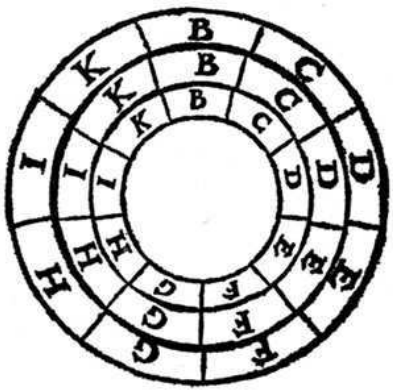

Fig. 2.8: 13th Century pixels:
Raumond Lull's memory wheel

[5] It is not clear whether Lull adopted this treatment of the alphabet from the Jewish Cabala, in which the Hebrew alphabet is said to contain within it the whole universe and the names of God. Yates does not discard this possibility, especially given the ecumenical intent of Lull's project. Lull's ideal was encourage Jews and Muslims alike to use their own cultural references to meditate

Lull's attempt at mapping the universe came in the form of a series of memory wheels (Fig. 2.) in which the Names of God were represented by the letters B to K, or more letters in some cases, then placed around concentric circles. Designed for wood or metal, each of these wheels was to be turned in both directions to carry out the *ars combinatoria,* or the inventory of all possible combinations. In principle, the sum total of these combinations would cover all that is possible, effectively mapping the presence of God as it may be found infusing all levels of creation, up and down the ladder of Being.

Lull's vision of a divinely infused natural order took him down the Platonic path. Operating as the primordial causes of the physical world, God's divine attributes were indeed not far removed from Platonic forms. Much like Plato, and, as we will see in the next chapter, Descartes, Lull's virtual mapping of the universe was premised on an essential underpinning to the world. It is important to note, though, that in spite of its clear abstract ethos, Lull's method was aimed at deciphering the logic behind physical reality. In this respect, the *ars combinatoria* was already presaging what would later crystallise as the modern scientific method.

Indeed, Echoing contemporary currents such as the Neoplatonic system of Scotus Erigena (Yates, 1996: 177), Lull's memory wheels were a guide to the intellect in its ascent to divine wisdom *as well as* its descent back down to the natural order. Lull's focus on finding a *mathesis universalis*, or an ultimate formula that would explain the nature of universe, was a clear departure from the scholastic approach to memory which, as Yates indicates, claimed only to clothe spiritual intentions in corporeal similitudes, and not to base memory on philosophical 'reals' (1996: 177). Despite his mystical bent, Lull's intention was to keep his model firmly anchored in a physical world which, according to his vision, was at every level a clear reflection of God's universal attributes. As Yates

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on the attributes of the trinitarian Christian God. Lullist writers in the Renaissance, however, did

points out, Lull's *ars combinatoria* was an invitation to the mind to work through it "with a logic which is patterned on the universe" (1996: 181).

Lull's formulaic system, in which even the names of God were further abstracted into symbols, left little room for images. As much as the *Ars* was intended as an investigation into physical reality, its connection to its object of study did not rely on sensual similarity but rather on a metaphysical mode of correspondence. Bearing both a mystical connection to the Names of God and a real connection to his divine creation, the letters of the alphabet emerged as the ultimate medium for expressing the world's divine logic. Clearly, there was no longer a need for images to suggest any further understanding.

Along with his systematisation of abstract knowledge, the other lingering legacy of Lull's *Art* is its focus on logical process. Lull's project of devising a universal map was conceived as a logical method. Indeed, the *dignitatis Dei* were found descending in a precisely calculable manner, somewhat like chemical ingredients, on all levels of creation (Yates, 1996: 181). More than a tool for committing knowledge to memory in the fashion of the classics or the scholastics, the turning wheels of the *Ars* were a method for memorising the *process* to be followed in order to attain truth. Lull's rotating wheels were, in effect, a coaching of the mind into logical investigation. Lull believed that every article of faith could be subject to logical demonstration by following the right steps.

Lull's ordered vision of the world cleared the way for a whole new tradition of thought. His rejection of images along with his stress on logical process paved the way for the emergence of dialectical thought, that is, of a form of enquiry that proceeds through a succession of closures, or partial resolutions. An avid supporter of this new direction was Pierre de la Ramée, or Peter Ramus, the sixteenth century French educator who dedicated his energy to reform the education system (in Yates, 1996: 181). Ramus' aim was to

develop a clear relation with the Cabala (Yates, 1996: 189).

simplify pedagogical strategies. He was responding to the occult side of the Renaissance — namely Ficino, Pico and the self-branded Lullists — who had developed a system of ungraspable complexity in which neo-Platonic Ideals were deployed in support mysterious correspondences, all in the form of a truly fantastic world of images.

Drawing authority from the Old Testament — Ramus quotes the ban on graven images in the book of Deuteronomy — as well as from classics like Quintillian, who recommended the practise of dividing and composing as an aid to memory, Ramus designed an abstract memory system in which the stress was no longer on images or places but on process and order. As Frances Yates puts it, memory was absorbed into logic as the dialectician replaced the idolater (Yates, 199: 271).

In the next chapter I review some key themes in the work of René Descartes. In particular, I look at Descartes' notion of reality as a precision mechanism that is best approximated in mathematical terms. I also foreground Descartes' distrust of images, both mental and physical, as truthful representations of this mechanistic world. Further on in this thesis, I will contrast these aspects of Cartesian theory with their philosophical counterpart, that is, with the Baroque vision of the world as laid out by Gottfried Leibniz and with some related themes present in the work of Walter Benjamin. Foregrounding the contrast between Cartesianism and its Baroque critique, I propose to apply these same philosophical terms to develop a possible comparative phenomenology of photography and digital images.

Descartes' *great mistake*

The progressive erasure of image-based memory systems that accompanied the scientific revolution of the seventeenth century owes much of its method to the work of René Descartes, the great strategist of this revolution. In this chapter I will revisit some central themes present in Descartes' writings. My intention here is to lay a philosophical foundation for chapter four, in which I will be addressing some of the technological aspects involved in the production of digital images. My aim is to foreground the Cartesian elements present in digital technology's approach to photography.

The idea that the world could be explained in simple terms was central to Descartes' philosophical project. Cartesian theory emerged as a reaction against a rich tradition of image-based mnemonic practises that, as we saw in the last chapter, enabled thought to spread itself through various levels of metaphor. Descartes' reaction came in the form of a different kind of metaphor, one that specified the conditions for its own containment. He conceived of the universe as great a precision machine in which every part played a clearly defined role.

Descartes based his epistemology upon a mechanistic ontology that explained the world as a great machine made up of simple parts. These parts were the building blocks of a process-based theory of knowledge in which simple reasonings followed each other in a straight sequence as they crystallised into simple truths. Effectively, Descartes' theory of

knowledge was a coaching of the mind into a series of closures achieved by abiding to clear mathematical precision.

At its base, Descartes' theory operates through an abstraction of the mind from the its physical base. Essentially a system for mathematical reasoning, Cartesian theory remained largely immaterial, hence at odds with the 'fluctuating testimony of the senses' and with images in particular. Stained by their sensual nature, images were dismissed by Descartes as flawed and a source of error.

Focused on avoiding error, Descartes was particularly distrustful of human will, which he saw as imperfect and prone to misjudgment. God alone, declared Descartes, is free from error. Harking back to Lull's vision, Descartes proposed that it is through strict adherence to mathematical principles that man can participate of God's truth. The result was an anti-philosophy in which thought was to stop at every necessary and sufficient step, up the mathematical ladder.

Hiding behind the shield of mathematical precision, Cartesian thought was more of a notional surface than an actual human exercise. Gottfried Leibniz, the early critic of Cartesian theory, identified this outright avoidance of material depth as Descartes' 'great mistake'. Leibniz proposed a deeper and more open understanding of thought, one that included but went beyond that which registers on the surface of consciousness (1995: 180). More akin to physical rather than squarely logical processes, Leibniz's general understanding of thought and perception rests on a phenomenological underpinning that better approximates nature of physical processes than does Descartes escape into dualism. This lost material ground, I believe, is a theme that re-emerges when we examine the difference between traditional photography and its digital simulation.

3.1
Descartes' immaterial machine

The focus on method which, as we saw in chapter two, was central to the memory systems of Lull and Ramus, paved the way for the development of a mechanistic ontology. The stress on predictability that ruled logical investigation gave the necessary support for a new understanding of the world as a great precision machine. Science extolled logical process as the key that would eventually solve every mystery of the always elusive *fabrica mundi*. Descartes believed that science, given its firm mathematical base, could answer, once and for all, the recurrent question about the 'stuff of matter' that had taken philosophers through strange paths for centuries.

Descartes modelled his universal machine on the movement of the heart. In part five of the *Discourse on Method*, Descartes declares:

> "I wish it to be considered that the motion [of the heart] follows as necessarily from the very arrangement of the parts … as does the motion of a clock from the power, the situation, and shape of its counterweights and wheels" (1946 I: 140).

Herein lies Descartes' first mistake. While there is some level of truth in his reasoning, the idea that the 'parts' that make up the human body are themselves indivisible remains a flawed premise. Descartes failed to recognise that, as Gottfried Leibniz would later insist, "nature's machines possess a truly infinite number of organs" (1995 I: 120). Disregarding the successive folding of the physical world, Descartes proposed the existence of a universal machine consisting of finished parts occupying fixed positions. His mechanistic ontology operated with a straight cause-and-effect logic where simple effects could be traced back to their supposedly stable causes.

The Cartesian world-as-machine was indeed constant and permanent, resting on such degree of predictability that not even its movement was indicative of change. As Descartes noted in part two of the *Principles of Philosophy*, movement is only a modal

rearrangement of parts, a local displacement of matter at best. This, Descartes argues, does not in any way alter the overall permanence of the world, which rests in God:

> "who, in the beginning, created matter along with motion and rest, and now … preserves in the whole the same amount of motion and rest that he then placed in it. For although motion is nothing in the matter moved but its mode, it has yet a certain and determinate quantity, which we easily understand may remain always the same in the whole universe, although it changes in each of the parts of it" (1946 II: 254).

Permanence and equilibrium were the founding principles in Descartes' mechanistic idea of the world. His universal machine was introduced as the coveted order in which every element could be found operating according to principle. The stable performance of this machine rested on the sealed environment that housed it. Indeed, according to Descartes' theory of knowledge, a true perception of the world could only crystallise in the empty homogeneous space of the sovereign *cogito*, namely the irreducible intuition of self through which the thinking individual is reminded of the world. Therein, thought Descartes, lies the only possible avenue to true, undisturbed knowledge. The sensual economy of images was to be replaced by a frigid world of mechanical precision.

3.2
The simple surface of pure reason

While the Cartesian model of thought is of undisputed worth as a study of mathematical deduction — Descartes deserves credit for introducing a coherent system across various branches of mathematics — his wider proposal of developing this mathematical system into a general theory of knowledge was at best misleading. Descartes' project of explaining the world through "long chains of easy and simple reasonings" (1946 I: 16) was indeed ambitious, too ambitious.

Descartes' aim was to apply his stable system to all branches of knowledge, down to the metaphysical principles of philosophy. His reliance upon simple reasonings as the sole bearers of true knowledge led him to conceive of the world as a unitary system whose

whole structure would could be found exposed on the surface of consciousness. Descartes imagined a world of pure surface where "nothing [is] so far removed from us as to be beyond our reach, or so hidden that we cannot discover it" (1946 I: 16).

Based on simple reasonings representing simple objects, Descartes theory of knowledge was premised on a presumed capacity of the mind to directly grasp every single element of the world. Towards the end of second part of the *Discourse on Method* (1941 I: 15 – 16) Descartes lays out his strategy for the direction of mind. The formula he prescribed was so simple he even summarised it in four succinct laws, the first of which points at simplicity itself — his words:

> "The *first* was never to accept anything for true which I did not clearly know to be as such … and to comprise nothing more in my judgement than what was presented to my mind so clearly and distinctly as to exclude all ground for doubt" (1946 I: 15).

This strong focus on clarity beyond all doubt led Descartes to break with a tradition of memory based on visual queues. Rather than relying on images, Descartes' simplified model of thought rested on a notional grid. In part two of the *Discourse on Method*, Descartes imagines a mind in which 'units of thought' "subsist between straight lines" (1946 I: 17). Clearly geometrical in its layout, this model of mind sought to confine each particular 'idea' to a fixed position within an imaginary set of coordinates. The aim, it seems, was to prevent ideas from associating with each other in a way that may tarnish each idea's essential simplicity.

At its core, Cartesian doctrine developed as a method for avoiding ambiguity. His attack on Lull, whom he charged with "speaking without judgement of things of which we are ignorant" (1946 I: 15), indicates a clean break with a tradition of inquiry that approached its complex object with equally complex representational models. Descartes' geometrical mapping of the mind was geared at preserving the Platonic purity of ideas, even when it came to combining particular ideas to enable universal judgements. In a clear reversal of the scholastic principle that 'man cannot understand without images', Cartesian thought

did not commit ideas to memory without first reducing them to their lowest common denominator, by expressing them through "certain characters the briefest possible" (1946 I: 17).

Such attention to simplicity resulted in a coherent and efficient instrument for deduction, although one whose clear limits begin to show once applied to concrete material situations. Indeed, while the model's founding simplicity is indeed its greatest strength, it is also its greatest hindrance as it rests on a methodically reduced understanding of the physical world. Therefore, despite the universal intent in Descartes' project, his theory never developed a physics. It failed to interpret the essentially unresolved character of nature's own mechanisms. As modern physics shows, these mechanisms appear forever more complex, and indeed interdependent, the closer we look into them[6].

3.3
The emptying of sense perception

At the core of the epistemic shift that turned our attention away from premodern phantasms there is a profound methodical turn in the direction of knowledge. The pull away from the world in Descartes' transcendental model of consciousness proceeds through a kind of thought that is no longer directed *to* the world. Rather than looking *into* the world to decipher possible connections and meanings, Cartesian thought begins by

[6] The difference between *geometrical* and *physical* optics, a point to which I will return in the next chapter, illustrates the clear limits that govern the application Cartesian deduction. Based on the assumption that a beam of light travels in a straight line and in a homogeneous medium, *geometrical* optics has developed as a coherent system for explaining a variety of optical phenomena, chiefly those related to lenses and mirrors. But there are broader phenomena, namely those associated with the wave properties that define light's trajectory, that geometry alone fails to address. This is the domain of *physical* optics. Here the picture looses its Cartesian clarity. By looking at the beam of light as a network of waves, in movement, physical optics is able to address complex phenomena such as interference and refraction. Geometrical optics, which approaches its object as an immaterial aggregate of fixed and stable components, is not able to address this level of depth.

looking at meanings, as given universals, to then accommodate every particular within the given framework of truth, on the surface of reason.

With ascetic overtones, Descartes invited the reader to follow him into a dark night of the senses, making this a pre-condition for his methodical doubt. At the start of the third of his *Meditations on the First Philosophy*, where he sets out to prove the existence of God, Descartes sets the scene for a total retreat from the evidence of senses. "I will now close my eyes", he writes, "I will stop my ears, I will turn away my senses from their objects, I will even efface from my consciousness all the images of corporeal things" (1946 III: 95). Descartes' pursuit of certainty through simplicity demanded a purification of thought from the unstable evidence of the senses. The instability of physical experience was a clear threat to the founding simplicity of Descartes' method. As a result, Descartes turned his back on the physical world, reducing perception to thought and thought to a series of introspective contemplations of pure ideals.

Descartes never acknowledged the possibility that "those confused thoughts called sensations" (1946 II: 219) may in any way correspond to the actual disposition of the world. He attributed our experience of them to 'the fluctuating testimony of the senses'. It is, he wonders, as if "some malignant demon, who is at once exceedingly potent and deceitful, has employed all its artifice to deceive me" (1946 III: 84). Descartes proposed mathematical truth as the only way out of the deceiving world of appearances. Arguments and functions were better, simpler vehicles for truth than the unsettled texture of extended matter.

To perceive, according to Cartesian doctrine, was to become aware of thoughts as they present themselves to consciousness. With respect to ideas, Descartes wrote, "if these are considered in themselves, and are not referred to any object beyond them, they cannot, properly speaking, be false" (Meditation III: 97). Cartesian perception, thus, developed as

a self-referential process, a purely mental relation with no material referential base. While Descartes duly recognised the centrality of consciousness to the experience of perception, his shortcoming was to reduce the thoughts that come into consciousness to their lowest common denominator, through reference to simple mathematical logic.

By reducing perception to the surface of consciousness, Descartes turned his back on the visual sphere as an avenue into the world. In fact, Descartes argued that there was no need for sensual appearances to be true to the objects they seem to represent. Indeed, Descartes insisted on a fundamental dissociation between the objects of the world — which only God knows well, and only mathematical truth can rightly represent — and their physical form. He made this difference a precondition for truth. As he explains in *Dioptrics*: "in order to the absolute perfection of the image, and the accurate delineation of the object, the former more frequently requires to be unlike the latter" (in 1942: 242)

Following a logic akin to that of the ban on graven images in the Old Testament, Descartes saw visual representation as incapable of honouring the perfection of an ideal object. He proposed that "the perfection of images consists in their not resembling the objects as far as they might" (in Rhys, 1946: 242). This notion that images cannot be accurate depictions of physical objects underscores the eminently abstract gist of Descartes' theory of perception. Indeed, it is only in an abstract plain that two ideas, in this case an object and its image as understood by Descartes, are in danger of becoming indiscernible. Gottfried Leibniz, Descartes' early critic — whose views I will revisit in chapter five — brought perception back into the physical plane by pointing at the impossibility of indiscernibles outside geometry. Adopting Thomas Aquinas' argument that no two separate intelligences may differ in number alone, Leibniz extended this principle to cover the whole of creation. He claimed that

> "two perfectly similar eggs, or two perfectly similar leaves or blades of grass, will never be found. Perfect similarity, therefore, holds only in the case of incomplete and abstract notions, where things are not considered in all respects, but only with respect to a certain mode of consideration — as when we consider shapes only, and neglect the mater which has the shape" (1995 II: 88 – 89).

Descartes' perceived environment was clearly not of this world. Failing to engage with the physical foundation of perception, Descartes locked away the mind behind two successive doors. As pure reason, Cartesian theory of perception rejected physical appearances, whose sensual economy compromised their purity. As pure *idea of thought*, which is what the Cartesian model essentially defines, the ideal realm of pure reason was even empty of mental images. These, Descartes argues, are no different to written or spoken words in their fundamental dissociation from the objects they presumably represent (1946 II: 220).

Twice removed from a world he sought to understand, Descartes reduced the natural process of thought it to its logical underpinning. Thoughts consisted of formal, abstract links in a chain of values that, like those in an equation, are not affected by their content. Untarnished by sensual appearances, Descartes' immaculate consciousness captured the form rather than the content of reasoning. The fruitful exchange that binds together sensation and imagination as thinking proceeds was replaced by an anti-philosophy, a fruitless inventory of what remains when the process of thinking is stalled.

Leibniz singled out Descartes' absolute focus on a superficial understanding of consciousness as the fundamental problem in his doctrine. At the beginning of *Monadology*, Leibniz points at the 'great mistake' of the Cartesians, who reduced perception to that which is apperceived, that is, to that which is experienced in consciousness (1995: 180). Perception, according to Leibniz, was a deeper state with no clear limits. Leibniz brought perception out of its dark night and back into the real world by proposing that the surface of consciousness is not an end but a beginning, a starting point for thought to proceed, the same way a geometrical point marks the intersection of infinite lines and a line the intersection of infinite plains until a *general* picture becomes apparent.

3.4
Trading freedom for necessity: the mastery of human will

Far removed from the unfolding of the physical world, Descartes' world of pure reason defined a most deterministic of orders. Indeed, Descartes' mathematical world of necessary truth left nothing to chance. In a world of predetermined shapes and positions, human judgement, which involves free will and choice, simply lost its purpose.

Focused exclusively on the operations of a hypothetically stable mind, Descartes averted complication by keeping human will out of each act of perception. Interpretation and judgement, which accompany human will, were derided by Descartes as a source of error. Understood as the simplest element that accompanies every presentation of thought, Cartesian perception was a *passive* operation of the mind (1946 II: 178). The 'passivities of the mind' that Descartes imagined took place in a transcendental plain of pure form, where the mind was expected to conform to the prescriptive truth of mathematics.

In Descartes' view, the mathematical truth of the world rested in God. Human understanding, on the other hand, was inescapably limited. Echoing the church's doctrine of Original Sin, Descartes warned that God has given us a capacity to discern truth, but this capacity is not infinite, and it tends to falter. Human will, which is essentially free, makes us vulnerable to error. As Descartes explains, human volition is in itself uninformed. One may will what is understandable, in which case we attain truth, but we may also will what we do not understand, in which case we might fall into error. Descartes argued that our capacity to discern truth could never match God's supreme understanding. In the fourth of his *Meditations on the First Philosophy*, where he explores the nature of truth and error, Descartes claims that we lay "between absolute existence and non-existence" (1946 III: 112), between the truth of God and the eternal damnation of error.

Descartes proposed a mastery of the will had the hallmarks of an ascetic way to truth. Human will was to be restrained, and judgement limited to those objects that are clearly and distinctly represented to mind by pure reason (Descartes, 1946 III: 119). As he put it:

> "I will assuredly reach truth if I only fix my attention sufficiently on all the things I conceive perfectly, and separate these from others which I conceive more confusedly and obscurely" (1946 III: 119).

Only mathematics was consistent enough to support a clear judgement. Principles such as the one that makes the sum of the three angles of any given triangle equivalent to two right angles, are not affected by the vagaries of chance, they possess a solid, necessary truth (Descartes, 1946 III: 121 - 122). These are the building blocks of Cartesian truth, a truth that leaves behind the freedom of the particular, of the unique and concrete.

3.5
The divine truth of mathematical objects: the world as pure intention

Essentially, Descartes' understanding of the world as a precision machine defines a model for abstract reason. A contemporary to Galileo, Descartes lived at a time that saw the birth of modern science. Descartes himself played an active role in this process. Unlike Galileo and other scientists of his time, though, Descartes did not give much regard to direct observation. The worldview that Descartes developed was eminently abstract. It was more of a system. The supposed ground of Descartes' model of the world consisted of pure thought about thought. Finding firm ground on mathematical reasoning, Descartes and set out to rebuild all branches of knowledge upon it. In his first Meditation in the *Discourse on Method* Descartes spells out his "desire to establish a firm and abiding superstructure in the sciences" (1946 I: 79)[7].

It is hard to imagine the kind of world Descartes had in mind when he proposed to bring all knowledge to the light of mathematics. As I have indicated above, Descartes' failure to develop a physics frustrated the universalising intent of his general project. By stopping short of engaging with the physical world his model remains purely intentional. It must be pointed out, though, that Descartes did not construe his mathematical ground as transcendental. Quite the contrary, his theory of the world was meant to bear the full ontological density that truth alone is able to reveal. Despite his blind faith in mathematics, and its concomitant ascetic rejection of appearances, Descartes did develop what he understood to be a referential theory of knowledge.

Descartes accepted the existence of a material world. As he explains in the *Principles of Philosophy*, judging by the fact "that a body has an extension in length, breadth and depth we have reason to conclude that it is a substance" (1946 II: 207). This substance, however, was in no way related to the properties and accidents indicated by sense perception. Inescapably mental, Descartes' idea of *extension* really refers to *intension*. It remains notional. As Descartes explains:

> "the nature of matter or body, considered in general, does not consist in its being hard, or ponderous, or coloured, or that which affects our senses in any way, but simply in its being a substance extended in length, breadth and depth" (1946 II: 200).

Clearly, while Descartes nominally addressed the fact that we live in an extended world of substance, he effectively replaced it with an utopian ideal of the world, a mechanistic Garden of Eden where geometrical shapes are faithful only to their precise mathematical truth. Actual sense perception lies deep below this mathematical platitude. It rests precisely on all those attributes that Descartes wanted to guard us against, like texture, colour and indeed impermanence.

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[7] These words were also declaring the birth of specialisation in the sciences, the outcome of which we now witness as the 'superior' exact sciences wage war against *undisciplined* enquiry, mainly from sectors within the humanities.

Descartes' retreat into abstraction was his way into the permanent, undisturbed knowledge that can only emerge in an immaterial plane. As Donald Whitehead explains, abstraction begets permanence. Pondering on the statue of Cleopatra's needle in London's Embankment, Whitehead proposes that if we define the needle in a sufficiently abstract manner, we can say that it never changes. But, in his words:

> "a physicist who looks on that part of the life of nature as a dance of electrons, will tell you that daily it has lost some molecules and gained others, and even the plain man can see that it gets dirtier and is occasionally washed. Thus the question of change in the needle is a mere matter of definition. The more abstract your definition, the more permanent the needle" (1920: 167).

Whitehead points at the fundamental dualism operating in a model such as the Cartesian one, where nature bifurcates into two opposed systems of reality. One of these systems comprises all that is posited to knowledge by the senses. The other one is mind, which looks only at itself, and thinks and speculates about a concrete world it cannot know (Whitehead, 1920: 30). Descartes' model is based on such bifurcation. His proposed link between mind and matter through reference to true knowledge amounted to a purely mental exercise. Abstract mind and actual matter remained discrete and incommensurable regions.

It has been argued that Descartes' dualism has a lot to owe to his seemingly candid devotion to the church. Galileo's bad encounter with the Holy Office in 1633 had a personal impact on Descartes — it clouded his passion for writing for a number of years. As much as Descartes had found it easy to endorse Galileo's theories, he did respect the authority of the church, or, at the very least, chose to stay out of trouble (Lindsay, in Rhys, 1946: xiii). When he did return to publishing, it was only to secure God in the happy position of being the miraculous *vinculum* between the admittedly separate spheres of mind and matter. The God found in the *Discourse on Method* — first published in 1637 — confirms the fundamental bifurcation in the Cartesian model. Here we find is a mathematical God, permanent and immutable, who is alone able to see the world as it is. This is an estranged God that has turned his back on his creation.

What is more, Descartes infers the existence of the physical world from the existence of God. In his goodness and trustworthiness, Descartes' God proves not just the truth of mathematics, but the existence of mathematical objects. In his characteristically simplistic style of reasoning, Descartes declares that all that is true is something, thus being identical with existence. True objects, that is, the objects that make up the *true* mathematical world, are there for a clear mind to perceive. In the words of Descartes:

> "I at least know with certainty that such things may exist, in as far as they constitute the object of pure mathematics, since, regarding them in this aspect, I can conceive them clearly and distinctly (In Rhys, 1946: XXI).

In the sixth of his *Meditations on the First Philosophy* — where Descartes addresses the existence of material things — we find echoes of a Lullian natural order, one in which nature is defined as "God himself, or the order and disposition established by God in created things" (1946 III: 134). To Descartes, God, mathematics and the world are one and the same, since they all proceed with a singular logic and they all share the same abstract space. Imperfect as it is, the human mind must undergo a *via purgativa* — to rid itself from impurity — if it is to approximate the clarity of judgement that is required for the beatific vision of pure intellection.

In the next chapter I look in some detail at the process of analogue-to-digital conversion. However outlandish we may deem Cartesian theory to be, its fundamental parallels with the process of digitisation, which is essentially a system for eliminating error, are worth examining.

Chapter four

The analogue moment and the digital hiatus

With Descartes' theory of knowledge as a backdrop I will now examine some key aspects of the production of digital images. I will look at the electronic process of analogue-to-digital conversion, as it applies to photography and television. I want to draw attention to some basic parallels between the electronic model that enables digital conversion and the Cartesian model of mind.

I believe Cartesian theory and digital technology raise similar issues in relation to their treatment of images. Both share in a degree of dissociation from the world of physical processes as an avenue to stability. Both regard with equal suspicion the unstable material ground where images come to an embodied mind, or crystallise on a sensitised surface. Made up of fixed binary values deployed in linear sequences, digital images are more in line with Cartesian ideals than with the physical world they are made to represent.

Equally, the electronic notion of 'memory' conforms to Descartes' methodical distancing from the material world. Consisting of data, literally *what is given*, computer memory cannot fully reflect the unresolved nature of physical processes. Data has a finished character that limits its capacity to convey light and indeed images. Setting clear limits to observation, data is best suited to an immaterial model of mind. Like Descartes' ideal brain, trapped in its own world of Platonic forms, a digital converter cannot reach beyond its own voltage levels to build a picture of the world. Both perform local, ultimately self-

referential operations relying on a break in continuity with the visible world they purport to convey.

These days it is easy enough to forget that digital images, in all their crafty sharpness, are a form of computer modelling. As such, it is fair to ask to what extend, despite the strong impression of *truth to nature* that these models enjoy today, digital images have really brought world any closer than photography and analogue television already have. Although digital technology *is* bringing the world into a sharper focus, sharpness does not necessarily indicate depth. At its core, digital sharpness results from a process of elimination.

I want to turn my attention to the fuzziness that digital technology is helping us forget. I want to consider the blur that even the sharpest of photographs reveals on close inspection. The true depth of photography issues from this ultimate fuzziness where images coexist with stains and, given the adequate logical tools, any stain may turn into an image.

4.1
Photography and the disturbing character of light

The sensual economy of images that Cartesian doctrine sought to forget shares its dynamism with the very medium that brings us images, i.e., light. There is, indeed, a continuous phenomenology in the way images issue from the physical process of light as it bounces against objects, and the recognition of these images by a mind that occupies a sentient body. As I will explain in this section, this integrated process is not as resolved as it may appear on the surface.

To appreciate the physiology of images I will begin by considering the operations of light, as they produce photography. I want to point at some basic principles of a vast and

complex area still puzzling physicists: wave theory in general and light in particular. The main point to bare in mind is that, as an inscription of light, a photograph is implicated in a broad network of largely invisible processes. The disposition of the photographic grain traces deep stories of unsettled energies, of which light as such represents only a limited spectrum. Being an effect of light, photography's roots extend deep into darkness.

Physics tells us, and Kirlian photography shows us (Fig. 4.1), that all bodies emit electromagnetic radiation as a result of the thermal motion of their molecules. This radiation propagates in waves, whose length is measured by geometrical optics to identify the thresholds at which these waves assume a luminous quality. The visible portion of thermal radiation consists of these luminous waves, defined as light, which is estimated to occur between 400 and 700 nanometers in wavelength, corresponding to the violet and red ends of the colour spectrum (Sears et al., 1982: 716).

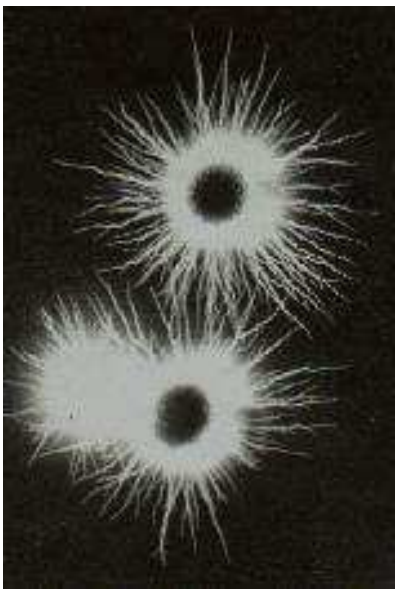

Fig. 4.1: The unconscious of light: a Kirlian image of fingertips

Considered from the perspective of the human eye, light does indeed have a more or less discreet domain. This, however, is no basis to reduce the disposition and the effects of light to that which is immediately observable. The visible spectrum ought not be taken as a disconnected phenomenon. As it branches out into the pre-luminous context that

generates it, light participates of, and hence reflects, its largely invisible yet highly complex physical base. By virtue of its physical make-up, light is implicated in a broader arrangement of mutually impacting energies shaping each other as they interact.

Not only is light greater than it appears, it is also highly unstable and extremely difficult to follow with a clear cause and effect logic. Subject to all manner of interference as it propagates, light travels in different directions and, like all thermal radiation, it does not radiate in all directions with equal intensity. The geometrical idea of the one-directional ray of light, though useful to classical optics, fails to capture the intricate journey of a light beam. In a non-vacuum situation, light is absorbed and scattered in many directions and is indeed one of science's odd ambiguities. A wave in the manner of its propagation and a particle in the disposition of its electromagnetic charge, light remains essentially indeterminate.

Being an undiminished effect of light, the photographic surface adopts light's fundamental ambiguity. The photo-sensitive chemicals on the photographic paper react according to their own situation, independent of the photographer's intentions. One could think of photography as a guided accident. The human hand can only trigger photography under more or less controlled circumstances. The outcome, however, is a matter for autonomous and ultimately elusive physical processes.

A closer look at the photographic process will involve some attention to the physics involved. We can begin, then, by considering photography as part of a physical order that is largely made up of waves. It is at this deeper, largely invisible level that the unsettled character of photography begins to emerge. The wave-like nature that defines light's trajectory disturbs the tension towards equilibrium that prompts us to conceive of images as finished and hence reproducible units. By definition, a wave consists of a disturbance from an equilibrium condition that propagates in time through space. Waves in the ocean,

which also have frequency and longitude, are typical of a general network of unfolding disturbances which are indeed the single most ubiquitous theme in modern physics.

Born out of impacting waves, each photograph is a reflection of a unique and unrepeatable situation. Widespread cultural agreement, however, leads us to believe that photographs may be reproduced without disturbance. The level of difficulty involved in producing a second generation photograph, that is, a photograph of an original photographic print, is a good illustration of the common expectation associated with the idea of photographic reproducibility. Most photographers will agree that to produce an accurate photograph of a photograph will involve a great deal more skill than to photograph any other object. More time and effort is usually spent in producing a satisfactory print that will match an original photograph as there are light levels and indeed an overall texture that need to be recreated. This suggests that what is being produced, at least in intent, is not a new photograph but a supposed reproduction of one that already took place. The new print is expected to re-enact the original.

The idea that physical processes may be re-visited rests on a stalled understanding of time, one that, like Descartes' static model of the world, escapes into transcendental permanence. Indeed, for processes to be repeated, the past would need to rest on a stable region that we could somehow re-enter, as if travelling back in time. This view presupposes an abstract realm of the given where all the pieces that make up a past moment lie in a state of suspension.

The idea that photographs may revisit an undisturbed past does not take into account the phenomenology of the photographic process. Technically speaking, a photograph does not *repeat* a moment. As the event of light interacting with a particular surface, every photograph traces a new trajectory. The disturbing character of light's trajectory marks every photograph with the particular molecular arrangements that enabled it. However

similar two photographic prints may appear on the surface, each one bears the marks of an individual occasion.

Rather than understanding photographs as a method for repeating an abstract intention, it is best to consider their value as an enabling tool to reconstitute the past in a new context, that of our present situation. Peter Osborne refers to a temporal continuum involved in the act of remembering, which he defines as "'the "recurrence" of the possible"' (1995: 169). As we remember the past, it is our present concerns that disturb its permanence, making it fresh and different every time. Benjamin's 'now-time' — *jeztzeit* — refers to this inclusive understanding of temporality that rescues the unsettledness inherent in the duration of each moment.

As we will see in the next section, digital images tend towards an abstract framework of permanence and equilibrium that is substantially removed from the essentially unfinished character of physical processes, where circumstances are always new.

4.2
The prevalence of error in analogue-to-digital conversion

The long tradition of intervention and manipulation that has surrounded photography from its early years has today reached an odd crossroads. Indeed, the *photographic phenomenon*, as Goeffrey Batchen calls it, is on the wane as market forces pave the way for digital technology. As Kodak posts a historical decline in company profit, the darkroom — natural extension to the camera — has largely disappeared from mainstream industry. My aim is to trace the limits surrounding digital technology's engagement with light despite the well-circulated notion that digital images are a 'better', more achieved version of photography.

Today digital technology takes the credit for recalling and repeating that which cannot be repeated. The key to the success of digital images lies in their reliance on finished measurements. The limited reference values that support digital images suggest the possibility of reaching an exact measurement, something photography approximates but does not set out to achieve. Failing to emulate photography in all its depth, digital technology has developed a substitute process that is, to a considerable degree, independent from light. Based on clear limits, the picture put together by the pixels remains a superficial measurement of light's unresolved involvement with its own texture, in time.

The aim of a digital camera is to reduce the operations of light to a closed set of binary values known as a complete measurement. These binary values, also known as *quantised values*, are what remains once a *physical* set of electromagnetic waves has effectively shed its substance to make room for an *ideal* measurement, known as information or data. Much like the Cartesian mind in its geometrical treatment of the world, the digital camera focuses more on its own operating principles than on the material world it sets out to capture.

Analogue-to-digital conversion measures — or quantises — the impact of electromagnetic waves through a process called *progressive approximation.* A digital image starts as an analogue process whereby light hits a set of sensors inside a digital camera. Known as photocell eyes, these sensors vary in number. Each one sends a signal to an analogue-to-digital converter, which samples this signal and matches it to its own pool of possibilities, listed as discreet voltage levels. The progressive approximation of an image concludes once each incoming voltage signal has been narrowed down to its closest equivalent inside the digital converter. A set of binary signals, each standing for a pixel, is then released as a stabilised digital output.

Technically speaking, a digital reproduction's referential engagement with an object is limited to a discrete set of values that remains internal to the camera's circuitry. The fact that digital images are the product of local processes occurring *inside* a converter spells perhaps the most clear parallel with the Cartesian idea of perception as a local operation of the mind, to which I referred in chapter three. Echoing Descartes' epistemology, the ontology of progressive approximation introduces a hiatus in the process of capturing an object, as the world it observes gives way to what is effectively a realm of essential forms.

The limited stock of internal reference voltages in a converter rests on a 'closed set' logic that does not reflect the radical openness of light and of the physical world at large. At its core, the transformation of analogue signals into digital images represents a the transition from an unlimited field into a limited one. If progressive approximation is able to define conclusive measurements, it is precisely because its set of internal reference values is limited, allowing for the process to reach stasis. The point at which this occurs is what analogue-to-digital conversion is effectively measuring. Despite their clear photographic effect, digital images are a limited sample of the physical process of light. In this regard, digital images cannot take full credit for being the writing of light. This remains the exclusive domain of photography.

The temporal disposition of the world remains at odds with digital technology's stable referential structure. Unable capture the depth of the analogue flow, digital conversion remains necessarily inaccurate. This is why, despite the rhetoric of sharpness that adorns digital technology, error— known as quantising error[8] — is inherent in every analogue-to-digital conversion. The missed encounter between analogue disturbance and digital equilibrium makes every digital image an inevitable error disguised in a semblance of accuracy.

[8] Voltage may be broken up to infinity, which is why its measurement may only be an approximation. No matter how large the number of voltage levels in an analogue-to-digital converter may be, there will always be a hypothetical third and smaller measurement between any two reference values in a set.

4.3
A flat screen for a shallow age: Television goes digital

Although we might agree that the digital ideals of evenness and sameness rest on largely insubstantial foundations, the fact remains that the effects of digital technology are more than ever palpable as we enter an increasingly computer-mediated world. The new aesthetics of bits is now supported by a rapidly integrating global network that is fast becoming a serious contender to traditional forms of communication such as radio and television.

Computer-based products prove once again the point that a commodity may be, in broad terms, consumed in ways that may defy their physical make-up. This time we are asked to buy surface under the label of depth. Indeed, the computer industry has enjoyed a vast ideological accord that has allowed it to develop and integrate its products, with no shortage of aspiring consumers ready to buy into digital limits as an opportunity for greater connectivity.

The idea that computers offer an ideal medium to convey the world is relatively new. Computer models have traditionally been understood as simulations. These days, however, since the digitisation of sound and images, the computer seems to reinvent itself as the very face of nature. This is not so much the case within the sciences, where products such as high-powered computer simulators are called by their name, but within the wide range of consumer gadgets, via advertising.

Central to the question of representation, the theme of 'truth to nature' — as depicted in the classical Greek story of Zeuxis' grapes and Parrhasios curtain — has been a recurring motif accompanying the rapid development of new media in the past century. RCA (Radio Corporation of America) depicted its claims to fidelity in the now classic image of

the bewildered dog recognising *his master's voice* coming from a phonograph's horn (Fig. 4.3). Sony Corporation adapted the story in the 1980s to sell television sets. This time the deceived animal was a cat, trying in vain to catch a tweeting canary *trapped* inside a Trinitron television set. Without acknowledging a transition, Sony has drawn on these same analogue allegories to sell its digital products: the catch overloads the small boat of a happy angler whose whole fishing gear consists of a digital playback of a dragon-fly. A wise noble savage, interpreted by a native American elder, stares wryly from afar.

Fig. 4.3: *His Master's Voice*, 1898, by Mark Barraud

The rhetorics of the 'digital era' dominates the current expansion and consolidation of the media industry, as shown in the area of digital broadcasting. It is official: the television set as we know it will be faced out. Remote keyboards are already available and web television now comes with multiple feeds. It is already possible sit back and watch the big game, choosing angles and instant replays, even sending instant messages to friends. There is no doubt as to the future of information travel: it will be in compressed, buffered, corrected and digitally filtered bits. The screen will no longer be visited in real-time by the immediate shower of electrons of analogue transmission. Instead, we will be supplied with a controlled stream of quantised measurements, coming to view at the computer's own pace.

It is true, as Louis Bloomfield explains it in his article *Television Goes Digital*, "despite its elegance and maturity, analog TV is too limited to survive in this digital age" (1999: 46). The at once peaceful and aggressive migration from analogue to digital broadcasting is set to succeed. Bloomfield paints a dispassionately dark picture:

> "though essential at present, the NTSC comb filtering [which allows digital broadcasting to share the same portion of the precious electromagnetic field with its essentially incompatible analogue contendor] will be switched off and abandoned when analog TV disappears" (1999: 46).

It is only a matter of time before the inordinate waves of analogue broadcasting cease to litter the airwaves with 'redundant' information. The electromagnetic spectrum has become hot real estate in the information age and is fast being gentrified. A sharp surface is what matters most as digital television increases it presence with the aid of ever larger plasma screens.

Little is made of the fact that this new sharpness results from a disengagement with the very physical world that digital images are meant to convey. Limited in their involvement with real-time and continuous space, digital television brings a reduced surface when compared to analogue television. As is the case with so called digital photography, high-resolution television (HRTV) has been made possible through a new approach to electromagnetic transmission whereby images are no longer formed *as* they are transmitted. Indeed, the electronic charge that is fed into a digital television screen is not only the result of progressive approximation, it is also released according to a computerised formula-driven pace.

An a-synchronous process, digital broadcasting rests on a clear hiatus. Through the process of buffering, the computer component in the digital receptor makes the most of its capacity for storage by piling up incoming information. The computer's own sampling of this information is then released in small pockets, one at a time, in linear sequence, as quantised data: prolonged silent deaths bearing no trace of their noisy past. As Bloomfield puts it, "digital TV decouples transmission from presentation" (1999: 47). Transmission

and reception loose simultaneity as the flow of information is cut into pre-packaged noise-free bits, to be released according to pre-established mathematical correlations. Essentially, digital television inhabits an eternal present.

Digital television's loss of continuity in time and space confirms digital images' status as greatly reduced simulations. Depth can only be conveyed when two shapes share some level of correspondence, when one is *according to* the other and not just a rendition of certain geometrical aspects. In this sense, we can say that analogue broadcasting is inherently deep and ultimately unfathomable. Analogue broadcasting's direct involvement with its own materiality, in time, demands that noise and chosen content flow together and indeed shape each other along the way. The real-life quality of analogue broadcasting bears the marks of this temporal engagement, where things are not always *right*. Snow, tick marks, ghost images, unresolved video freeze-frames, all bear witness to the process of transmission, through time, in space.

Digital broadcasting keeps no log of this trajectory. Ironically, the capacity of digital technology to store bits is now defined as memory and extolled as the new technology's greatest advantage. Bloomfield is clear on this: "Analog TV's *resolution problem* stems from its absence of memory: It squanders bandwidth by transmitting redundant information" (1999: 44, my emphasis).

Gary Hume's pop take on contemporary Britain comes to mind when considering the pervasive gloss of corporate aesthetics as it entices the popular imaginary with its clean, uncomplicated shallowness. Using household gloss in industrially pre-mixed colours, Hume paints inescapably flat renditions of his environment. His objects can be broadly defined as contemporary images — whatever is around, even reproductions of the old Masters — which he photographs, traces on acetate, then projects onto aluminium sheet, his favoured surface. Hume's images foreground a certain void, pushing all content to the

background. The flat aluminium sheet that supports these images absorbs nothing, allowing the paint to settle into thick, glossy pools where the deepest content we might find could well be the reflection of our own image.

Fig. 4.4: Gary Hume's *Michael*, 2001.
Gloss paint on aluminium, 121.92cm
diameter; /White Cube/IMMA

Hume's work documents the shallow landscape of Britain's post-political time of affluence. HRTV, with its suitably flat screen, appears symptomatic of this drift towards uncomplicated gratification. The absence of physical depth in computerised broadcasting befits a model of knowledge that rests on uncompromised clarity. As I understand it, digital television once again expands the civilising process' threshold, this time to clean up the electromagnetic spectrum from the waste that accompanies real-time broadcasting.

It seems likely that we will be celebrating the new century's rapidly changing visual landscape for the foreseeable future. We do indeed have a sharper medium for looking at and even probing into a world that, at least on the surface, comes into view with at times hypnotic clarity. My point, though, is that these new developments in visual representation can also offer a distinct space for a critique of epistemology. Indeed, what is it about the dominant model of perception that makes us so oblivious to the inherent richness of analogue images? How focused are we on the surface of appearances that we

can no longer find any relevance in this richness, even if we may agree with the fact that it is there? How far have we strayed from a material benchmark for perception and intellection that a blurry photograph appears less faithful to nature than a sharp digital image?

Due credit, however, must be given to contemporary research in computer technology. The field of quantum computer research is particularly encouraging, as it is currently devising organically based ways of computing more that one bit at a time through what has become known as *qubits*, or quantum bits[9]. There is a real possibility that we may be reverting to an analogue base for computation and transmission within a couple of decades, thus turning the much revered 'digital era' into an odd hiatus in the history of representation.

Today, though, even quantum computing sets clarity as its goal. One of the highlights at the fourth annual gathering of experts in quantum computing consisted of 'cold computers' that freeze atoms so these may be manipulated to perform the exact same computations time and time again. Developed at MIT by a team led by Edward Farhi, these computing systems use liquid helium to operate in near zero temperature. The freezing conditions allow for groups of atoms to remain shielded from noise that could potentially lead them to 'stray' from their algorithmic tasks.

While cold computing's endorsement of the old Cartesian ideals of sameness and repetition is anything but new, it seems the scientific community would have no trouble in welcoming the new achievement as groundbreaking. Fahri heralds new directions as he

[9] According to projections by the Semiconductor Industry Association, it will be possible by 2010 to turn the individual transistors in a circuit on or off by adding or removing just eight electrons, compared to about 1000 electrons today. The figure will probably reach its absolute limit of one electron by 2020. At this point, given the reduced dimension, it will become necessary to replace artificially drawn structures with self-assembling chemical ones. Research in quantum physics is looking for ways of dealing with the inherent parallelism of the superposition of quantum states at the nanometer scale (Birnbaum and Williams, 2000: 39-40).

introduces the findings to a panel of close to one hundred and fifty leading computer scientists and physicists:

> "I think this offers a new paradigm for quantum. The reason I say that is that if you imagine building a quantum computer based on these principles, you would build a very cold quantum computer and start in the ground state. You would slowly change the parameters of the quantum computer ... but always stay in the ground state. This gives you a (wider) gap protecting you from error" (In Anderson, 2001).

These are early days, of course. Quantum computers are not expected to reach the market before well into the 2020s. The relationship between images, technology and memory may well be a different one by then. My project highlights the importance of an on-going critique of the ontology of computer-based image technology, a historically informed critique that will keep pace with developments in aesthetics and epistemology.

My thesis also highlights the main difficulty that this level of critique needs to overcome, namely the tendency in contemporary analysis to proceed within a single epistemological perspective. If, as I argue, it is possible to see the transition to digital images as a strengthening of one epistemic model over another, I believe we also need to have a clear idea of the receding model. Accordingly, having identified the Cartesian principles operating behind the ontology of digital image technology, in the next chapter I will venture out of the comfort zone of simple reasoning. With the help of Baroque aesthetic theory, I explore a most unusual documented case of how meaning can emerge even in the darkest regions. The amalgamation of myth and historical fact that surrounds the Mexican icon of the Madonna of Guadalupe speaks of allegorical reason's capacity to draw meaning out of an oblique observation of reality. By putting poetry before objective reason, the kind of meaning that this type of observation yields is unsettled by nature, referring to specific situations rather than to closed sets of facts. It is through this type of observation that photography's poetic ontology starts to become apparent.

Chapter five

The infinite materiality of images

The image sphere is inflated,
commodified and betrayed, but still a site of struggle.
— Akbar Abbas,
On Fascinaion: Walter Benjamin's Images

La matière qui révèle sa texture devient matériau,
comme la forme qui révele ses plis devient force[10].
— Gilles Deleuze,
Le Pli: Leibniz et le Baroque

The enticing discourses of sharpness and truth-to-nature that surround digital image technology echo the process of elimination that gives rise to Cartesian truth, where less is considered best. I now want to turn my attention to the field of possibilities that this model of knowledge discards in order to stabilise its own truth. To this effect, in this chapter I make a Baroque turn. This is a strategic exercise to point at the value of crossing the limits of conventional reason as a possible avenue to truth. My intention here is to foreground the blur of unreason that lies within photography, making it somewhat *more* than digital images.

5.1
Index of an absent light: the sacred image of Our Lady of Guadalupe

Andre Bazin speaks of *irrational power of the photograph* (1980: 241) in reference to the medium's self-assembling nature. Comparing photography to painting, Bazin highlights

[10] Matter that reveals its texture becomes raw material, just as form that reveals its folds becomes force.

photography's ultimate independence from the mind of the artist. As he puts it, "all the arts are based on the presence of man, only photography derives an advantage from his absence" (1980: 241). In order to unpack photography's radical autonomy, as it transcends the scope of objective reason, I will proceed obliquely, by way of allegory.

Buci-Glucksmann reminds us that allegories are always about oblivion, as they bring back what reason tries to forget. (1994: 46). It is through allegory, she adds, that reason as domination gives way to feeling as excavation of absence, clearing the way for "the rising up of a misunderstood past" (1994: 46 and 71). There is an image in popular culture that, in my view, can work as an allegory for the 'misunderstood past' that digital images erase from photography. This image is not a photograph. There is no agreement, in fact, as to what exactly this image is. I am referring to the sacred image of Our Lady of Guadalupe, believed by many to be a miraculous apparition in the form of a religious icon of a pregnant Madonna of Indian complexion (Fig. 5.1).

Fig. 5.1: Sacred image of *Our Lady of Guadalupe*

As far as the history of Marian apparitions goes, this image has the privileged status of having lingered. Indeed, the image we can see today at the basilica of Guadalupe in Mexico City is not believed to be a copy. It is, we are told, the very same image as it

appeared five centuries ago. Harking back to Byzantine iconographic tradition, Pope Pious XII remarked that the image of Guadalupe was 'painted by brushes that are not of this world'.

The image of our Lady of Guadalupe dates back to a critical juncture in Mexican history. Legend has it that it flashed into view as the last in a series of apparitions to a Mexican peasant, just a decade after the total destruction of the Aztec city of Tenochtitlán by the Spanish imperial army in 1521. By way of background, as we head outside the confines of objective reason, I must first highlight the Aztecs' proclivity to excess. This may help appreciate the depth of the abyss into which this image invites the viewer to fall. The Aztecs, we can all agree, may well have been the most excess-driven culture in history. Human sacrifice of an epic scale was at the centre of their spectacular ceremonial cycle. The pyramids we see today are but dry skeletons of monuments that were literally covered in blood at various points during the Aztec ceremonial calendar. On one occasion alone — to mark the consecration of the temple of Huitzilipotzli — it is estimated that some twenty to eighty thousand men, women and children were sacrificed in just one week (Clendinen, 1991). The Aztecs believed that if they stopped their holocaust the sun would cease to come out, bringing life to an end (Georges Bataille, 1988).

No degree of anthropological sensibility can prepare us to accept the terms of a culture so dramatically at odds with modern civilisation. Perhaps it is not 'their' but 'our' cultural foundations that we need to elucidate before we can begin to understand where the Aztecs were coming from. In this respect, rather than finding some justification for the Aztecs' excesses, we could approach them as a reference point for everything that modern civilisation stands against. Indeed, if capitalist society rests on production and accumulation, the Aztecs thrived on consumption, wasteful consumption. Waste was the primary imperative of a people with a most refined understanding of the art of letting the destructive character of nature run amok. If civilised society rests on hiding death and

decomposition away from view, the Aztecs' response to the course of nature was to remain one step ahead of it by mimicking and indeed exaggerating its power.

Georges Bataille refers to the epistemic clash that marked the European colonial intervention in Mexico. He tells us of how the conquistador Cortéz, on approaching the imperial city of Tenochtitlán, received a 'humiliating' welcome from Emperor Moctezuma in the form of gold and precious exotic plumes (19). Cortéz's response, it seems, was expected to follow this same logic of humiliating the opponent by exposing their inability to give with equal excess. Cortéz was meant to retaliate with a greater display of power by returning even more extravagant gifts. An exchange of excessive gestures would then ensue until the side with the greatest power to squander would emerge as the clear victor. Cortéz did not follow this logic. Intent on gathering his loot, he ordered his troops to march through Tenochtitlán and reduce it to rubble. The sun did after all cease to come out for the old Aztecs who were pushed away from history.

The destruction of Tenochtitlán early in the sixteenth century is testimony to the rising ethics of accumulation that led emerging capitalism to transcended its European borders. The narrative of Guadalupe coincides with this period of profound social and cultural realignment dictated by the colonial power. Reminiscent of Benjamin's *angel of history,* at whose feet progress piles up the wreckage if its pillaging, this Madonna of Indian complexion wants to "stay, awaken the dead, and make whole what has been smashed" (Benjamin, 1992: 249).

Early accounts[11] tell a story of dejection and disbelief, with a happy ending of redemption and new light. The image that appeared on the *tilma* — a cactus-fibre swag — of the peasant Juan Diego, was intended as proof to the bishop of Mexico that indeed the

[11] The practise of writing down the story of Guadalupe started relatively early. The oldest account was apparently rendered in the native Nahuatl by the Indian scholar Antonio Valeriano. Unfortunately this manuscript has not been recovered. The oldest surviving text was first

Mother of God had spoken to an 'Indian of pitiable poverty' and asked for a temple to be erected in her memory. What becomes clear from this early narrative is the character of this image as a memorial for the dispossessed.

The portent was deemed sufficient to convince the authority. The image was admitted as evidence and a church was soon erected at the site of the apparition. Today the basilica of Our Lady of Guadalupe is the focus of a massive ceremonial cult. Not surprisingly, it is a favoured spot for many of those pushed away by progress.

But this is not the end of the story, if indeed there is an end to the story of Guadalupe. Throughout the centuries this image of a pregnant Indian virgin has been at the centre of a mnemonic tug of war. Not only does the woman stand in triumphant defeat of the Aztecs and their demonic practises, she is also the very face of this people. The image of Guadalupe has been instrument of oppression and resistance and of a host of ideas, from the more conservative — she is the patron saint of pro-lifers — to the truly esoteric.

Exploring the manner in which meaning is folded into the image of Our Lady of Guadalupe, I want to identify parallels to what Akbar Abbas, in his denunciation of endangered culture, calls 'traces of imminent disappearance' (1989: 59). I want to engage with the popular understanding of this image to explore what may lie hidden to the rational eye when facing it. There is certainly a subversive tenor in the way this image refuses to settle its appearance. In a way, the image of Guadalupe appears to be *growing*. Following perhaps on the old visual tradition of the Aztecs, where pictograms were used in support of oral recitations, the image of Guadalupe has acquired a rich emblematic character. In true Baroque excess, allegory has found its way into every detail of the image. Not unlike palmistry, every line in the image has been entrusted with memories.

published, also in Nahuatl, by Luis Lasso de la Vega in 1649 — over a century after the narrated events — under the title of Nican Mopohua.

Prophets and kings from the old testament share the space with gospel heroes. Even the word LUZ, Spanish for light, appears at the feet of the virgin, inscribed in the pleats of her gown. Guadalupe, incidentally, means 'river of light'[12].

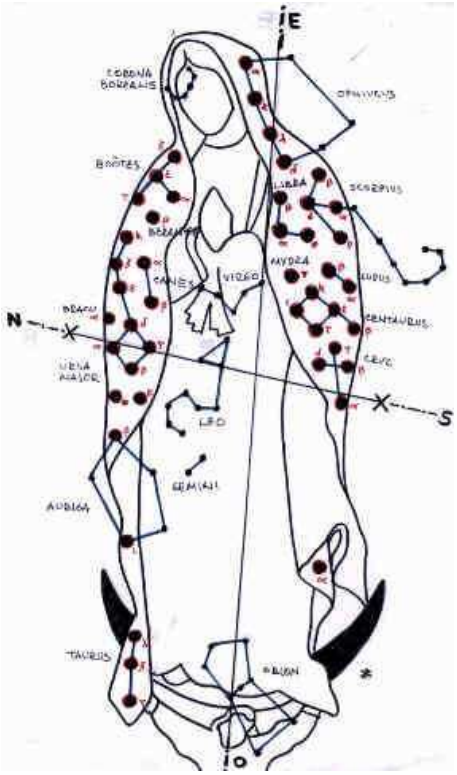

Fig. 5.2

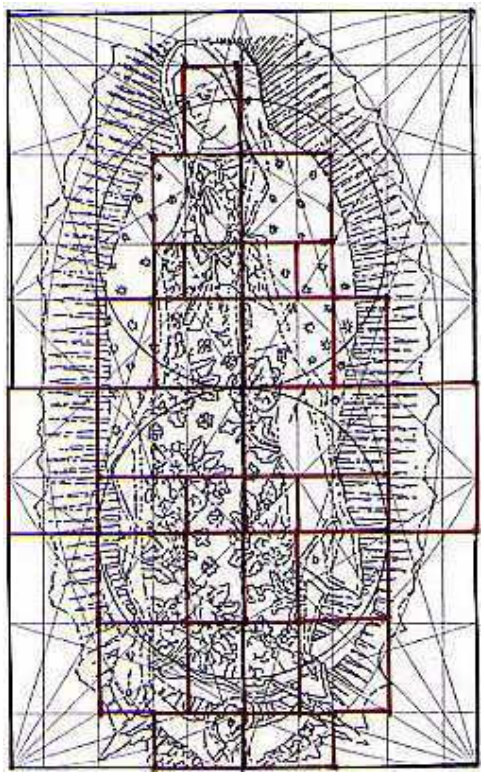

Fig. 5.3

If anything, what the Madonna of Guadalupe demonstrates is that the less defined an image may be the greater the memories that may be invested in it. The ambivalent quality of the image of Guadalupe is there to stir our imagination with its lack of resolution. Indeed, the list of possible meanings attributed to this sacred image is extensive. Figure 5.2 proposes cosmic correspondences as the stars on the cape of the virgin are shown to match the position of certain constellations the morning of the apparition. In figure 5.3 the image conspires in a cosmic plot as its composition mysteriously follows the *golden ratio*, the ubiquitous proportion of 1.6181 present in the arrangement of everything, from atoms to galaxies.

In my opinion, the most curious of these aspects is one that looks into the very materiality of the image, via photography. As was the case with the shroud of Turin, whose hidden face was revealed through photographic study, the image of Guadalupe also had a hidden aspect awaiting photographic inspection. In 1929 Alfonso Marcue, official photographer at the basilica of Guadalupe, took a series of photographs of the *tilma* for subsequent study. Looking closely into the right eye of the virgin he detected the resemblance of a human figure, a bearded man in fact (Fig. 5.4 and 5.5). A series of studies followed, the last one of which was conducted in 1979 by José Aste Tonsmann from an infra-red reproduction. His magnified images revealed what appeared to be a group of people (Fig. 5.6 and 5.7). Tonsmann's study has led many to believe that this 'group scene' in the eye of the virgin is a reflection of those who witnessed the original apparition. Even the curvature of the image is alleged to follow the Samson-Purkinje effect, mimicking the human cornea.

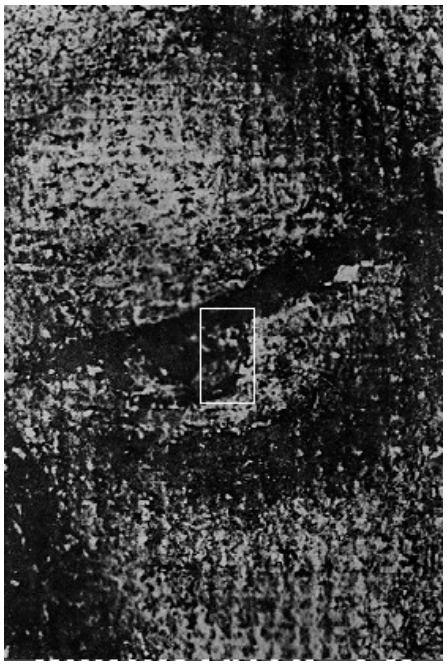

Fig. 5.4

Fig. 5.5

[12] The word *quatlasupe*, in the native Nahuatl, is also taken to mean 'she who steps on the snake'.

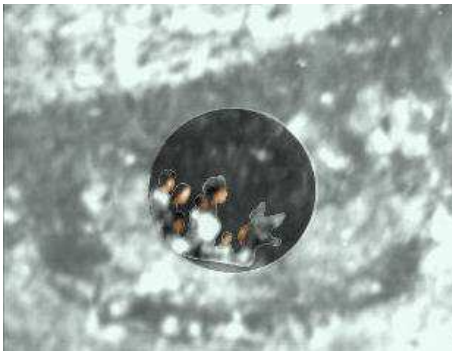

Fig. 5.6

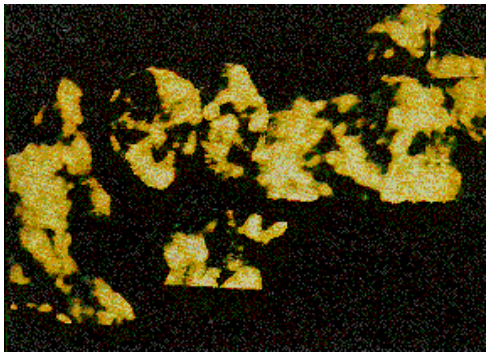

Fig. 5.7

I should reiterate here that my engagement with this popular image focuses on its allegorical value. In this light, what this curious series of photographs reveals is a strong poetic commitment to memory and tradition. It is this kind of perspective that I seek to foreground for the purpose of this thesis. Marcue's and Tonsmann's images have been recognised obliquely, as if reaching out for an object but never quite grasping it, never exhausting it. With figuration keeping pace with an ever receding level of photographic detail, what becomes apparent is a strong desire to capture a fleeting memory, as if to save it from oblivion.

There is a strong sense of melancholy both in the photographic study of Guadalupe and in the way its findings have so easily found an accommodating space in the broader history of memories, and indeed manners of remembering, that this sacred image brings to bare. Akbar Abbas refers to 'the unconscious of a culture' as the collection of this culture's endangered memories. He maintains that these 'traces of imminent disappearance' become more legible in critical times, when historical meaning is at risk (1989: 54 and 59). Seen under this light, the vivid inventory of memories attached to the image of Guadalupe would suggest a culture under crisis, resisting oblivion by restaging its own imaginary. The extraordinary history of the image of Guadalupe is testimony to the will of a people to

As to who the snake may represent, this will depend on which side of history we may be observing.

find and reclaim its own historical meaning. It is an image of redemption, as it supplies the stage for the dramatisation of a collective will to remember.

At a deeper level — as we investigate the migration from analogue to digital images — the centuries-old history of passionate claims and contestations that surrounds the image of Guadalupe, speaks of the struggle for survival of what G Didi-Huberman, in her classic essay on the shroud of Turin, identifies as a 'desire to see'. Placing this unfettered desire to see, and to see more, at the very core of our visual capacity, Didi-Huberman describes this natural disposition as a 'baptism of sight' that knows no clear limits (1984: 63). This will to see is able to traverse conventional borders of signification as it invites the imagination to assemble and reassemble the visible world. Considered in this context, the fact that we no longer find truth in the imperfections of analogue photography, could instead suggest a desire not to see.

Unlike photography, which, by virtue of its self-assembling physical make-up, is able to sustain a deep and palpable connection with its object even when out of focus, digital image technology is designed to emulate the focussed image, the defined object. On close inspection, by zooming in, digital images pixellate. They dissolve into impenetrable squares of colour that are devoid of history, and where no further signification is possible. What comes into view is digital technology's eminently abstract base. Far removed from the unfathomable depth of sensory experience, digital technology fails to register the fact that matter has its own way of creating similarities, enabling various possible semantic landscapes.

My intention is to place the migration to digital image technology in the context of the centuries-old epistemological battles looming since the days of Descartes and his contemporary critic Gottfied Leibniz, whose views I will review the next section of this chapter. Chiefly, digital image technology operates on the premise of a clearly demarcated

boundary between meaning and non-meaning. Echoing the Cartesian mind, it restricts the validity of truth to a direct and objective model of signification.

In this respect, while the veritable flight of fantasy that surrounds the image of Guadalupe may well be dismissed as an excess of the imagination, one can always interrogate the legitimacy of the absolute line that separates true meaning from unreason. Thus considered, the redemptive quality of the image of Guadalupe can extend beyond the people it memorialises. As an overt rehearsal of mimetic understanding, that is, one that remains in dialogue with its object in search for new connections and correspondences, the photographic studies that started in the 1930s seem to suggest a will to save mimesis itself from fading away.

Seen in this context, the odd sequence of nebulous photographs in Tonsmann's study appears symptomatic of deeper realignments in the practice of signification. Indeed, as an objective model of knowledge gradually displaces previous, less focused ways of making sense of the world, our relationship with images is also affected. The fact that a modern eye can make little sense of these grainy photographic surfaces could suggest, if anything, the progressive retreat of the necessary epistemic framework. Paralysed by an uninterrupted flow of images, modern man seems less inclined utilise his capacity to engage in dialogue with the objects that make up the visual world.

It seems to be the case, however, that despite a generalised trend towards a less mimetic, and more stable understanding of truth, the level of complexity that issues from the material world in which we live and think has inflected the human brain with a hard-wired capacity to draw meaning out of increasing levels of apparent disorder. The colourful history of the image of Guadalupe shows that the old mimetic will to draw meaning out of unreason remains a commanding force in some quarters. What Bucy-Glucksman, commenting on Baroque aesthetics, calls the 'infinite materiality of images and bodies'

(1994: 139) continues to inform the way a culture perceives and records its understanding of the world as it develops its own sense of identity[13].

What becomes evident, in the end, is the thin referential ground of a theory of knowledge which, following Descartes' model of mind, seeks to disregard the material foundation of cognitive processes. Knowledge, indeed, needs to be informed by its own carnal foundation or it remains an empty self-referential model. The way the image of Guadalupe has not ceased to expand its repertoire suggests an on-going dialogue between mind — and by implication culture — and matter, driven by a desire to see that knows no closure. The *mis en abîme* that takes places in the eye of the Madonna of Guadalupe

[13] While I do appreciate the fact that the Baroque sense of fascination may also be staged as an ideological smokescreen, a point developed by José Antonio Maravall in his influential *La Cultura del Barroco*, I believe this line of argument must be treted with care. It should not shift our attention away from the context in which Leibniz, and Baroque culture in general, were responding to the emerging epistemic fashion that dominated the cultural landscape of the seventeenth century, when modern scientific ennquiry was emerging a victor in an increasing number of fronts.
Maravall's strategy is clearly one-directional, basing his critique of the Baroque on a rigidly vertical delineation of culture. Maravall interprets the Baroque as a set of cultural media deployed by a threatened nobility to resist the expansive forces of the Rennaisance, namely the individual and incipient capitalism (1975: 77). The Baroque, Maravall argues, emerges as a careful plot by an angst-ridden monarchy seeking "the blind, perplexed and *irresponsible* support of the masses" (1975: 486, my emphasis).
With more than a touch of determinism, Maravall paints an image of the Baroque as "an effort to contain, like an engineer would design a canal to contain a river" (1975: 143). Behind the Baroque effort, Maravall finds an almost conspiratorial network of concerted forces mounting a "great campaign of direction and integration to which Baroque artists, politicians and writers collaborated" (1975: 127). Maravall finds a single, universal and indeed obvert direction in the Baroque. He finds nothing but a "a set of psychologically studied devices, handled with artifice, to impress the lines of a mentality that serves the interests of powerful groups upon the urban population and, eventually, the rural population" (1975: 153).
While there is merit in Maravall's view of the Baroque as the aesthetics of a centralising culture, his analysis stops short of considering possible ways in which this culture may have actually been consumed. Maravall assumes a rigid mode of cultural consumption by the *mass*, which he sees as made up of "heterogeneous groups brought together by *the identity of their response* according to factors of configuration acting upon them" (1975: 222, my emphasis).
Not even kitsch, in Maravall's scheme of things, is allowed to claim the marks of its popular consumption. He despises kitsch as a mediocre product caused by an 'increased' demand for culture (1975: 186). Clearly Maravall envisages a growing group of people, with no cultural tradition of their own, willingly coinciding at some centre from where all culture emanates. This assumes a universal accord in the terms of both the production of culture and its consumption: both sides equally keen on glorifying the establishment.
Maravall's model is right in pointing at some clearly universalising intensions: those of a nervous nobility. His analysis, however, fails to convince when applied to the temporal, extended world in which consumption takes place. In proposing *universal* limits, Maravall fails to address the eminently *particular* nature consumption.
Locked in a top-to-bottom cause and effect political analysis, Maravall looses sight of the subversive intent that nurtured the Baroque spirit. One cannot help but hearing echoes of Descarte' voice as Maravall derides the Baroque as an antirational force deployed "to awaken the affective forces" (1975: 168).

belongs in a carnal economy, where the mind mimics the essentially unfulfilled nature of physical and indeed historical processes.

5.2
Baroque infinity and the photographic image

As digital technocrats are busy devising new and improved mechanisms for erasing the 'excess information' that accompanies the transmission of light, categorising it as *noise* and dismissing it as redundant, the largely unrecognised effect of this ongoing development is a disregard for the inherent depth of the photographic medium. Being an inscription of light, photography is intimately connected with the excess charge that pervades the unfolding of the physical world. By virtue of this material connection, photography can hint at mysterious regions that can never be directly perceived in full.

It is to this vastly unsignified territory that I turn my attention as I compare analogue photography with its digital simulation. Indeed, what separates these two forms of representation lies in the depths of the photographic medium, and it extends to infinity, well beyond the resolution-based limits of any digital capture. It is within this seemingly insignificant scale that we may follow light's winding path to its dark and pre-luminous foundations. While this may appear to be a largely mental exercise, my intention is to point at the real material ground that remains hidden to the naked eye. To perceive and engage with this ground requires a different type of perspective, one that is able to proceed below the conscious surface of the simple act of perception.

In this section, I want to point out the strategic value that a Baroque-style openness to infinity may report as a strategy for appreciating the hidden depth that underlies the seemingly subtle transition to digital image technology. It takes a Baroque sensibility, that is, one that engages with infinity, to invite darkness to be part of our encounter with

reality. Indeed, contrary to the clarity and proximity that govern the Cartesian model of understanding, the Baroque is premised on approaching its object from a certain distance, with an oblique rather than objective awareness.

Finding infinity at every turn, a Baroque sense of perspective breaks through the prescriptive limits of conscious understanding to find poetic manners of meaning permeating the visual world. Allowing for our *desire to see* to proceed unhindered, a Baroque way of seeing heads towards a more grounded sense of the world at large. It can, therefore, grant us the necessary perspective to appreciate the chasm that separates the rich and largely mysterious medium of photography from its sharp digital simulation.

I follow Gilles Deleuze's lead in approaching the Baroque as a trait, not a period in the history of art but rather an operating function, creating countless folds throughout history (1988: 5). This is the Baroque of Leibniz's forever unresolved investigation, his at once archaeological and teleological probe into matter with which he set out to break the iron cage of Cartesianism.

The key to Baroque epistemology is a unified conception of mind and matter. Contrary to the dualism implicit in Descartes' theory of knowledge, where material appearance is derided as an obstacle to truth, the Baroque mind remains firmly grounded on its own materiality. Leibniz stages this mind/matter dialectic in his image of the Baroque house, which Deleuze revisits in *Le Pli* (1988). This house has two levels: the lower level, which broadly speaking corresponds to the senses, has many windows looking into the 'textures of matter' (1988: 35). The upper level, or the mind, consists of a room with no windows. In this upper chamber, we find a stretched canvass, whose fibres extend into the lower level of the house, which they reach through "some little openings". This communion of levels makes the images on the mental canvass resonate with the "vibrations and oscillations" of matter that are triggered down below (Deleuze, 1988: 6).

This open channel between physical observation and mental reflection accounts for the restless character of Baroque truth, whose certainty remains relative at every stage. Indeed, contrary to the absolute character of Cartesian truth, Baroque reason treats meaning as an avenue into transformation. The images on the upper level canvas in the Baroque house reflect this founding instability. They are the semantic landscapes of a Baroque imaginary that is as complex and open-ended as the material base it connects with. The various semblances that these landscapes assume correspond to styles, or manners of meaning through which an open mind makes sense of the equally open physical world that hosts it.

Baroque reason finds an uninterrupted flow in the way matter, as unfolding substance, and mind, as a further fold of nature, are intimately related. Indeed, mind and matter, the high and the low, are two labyrinths that, according to Leibniz, cross paths in a harmony that extends to the indiscernible. Leibniz finds an 'infinite fold' running across this meeting of levels, folding in two directions: the pleats of matter below and the folds of the soul above. According to this model, mind and matter, — and, we could say by implication, culture and matter — are the two necessary pillars of any undiminished theory of knowledge.

Looking back at the sacred image of the Madonna of Guadalupe, we can see the Baroque model in operation in the truly unrestrained fashion in which this image keeps transcending its apparent form to allow for a succession of possible semantic landscapes. With Deleuze, we could say that the image of Guadalupe is closer to abstraction than to figuration, not in its negation of form but in its presentation of form as folded (1988: 49 – 50). When looking at the constitution of digital images through this Baroque vision of a folded order of things, what becomes apparent is their inability to capture the deeper folds of matter. Instead, as if the Baroque house had shut its windows in the lower level, a

digital representation treats its object as a set of final principles, or, as Descartes would have it, a colourless, straightforward "substance extended in length, breadth and depth" (1946 II: 200).

In reducing images to their intelligible surface, digital technology repeats what Leibniz saw as the 'great mistake' of the Cartesians, who reduced perception to that which is apperceived, that is, to that which is experienced in consciousness (1995: 180). Matter, in its various states, reflects the natural processes with which it is directly implicated. These processes extend beyond even the most probing regime of signification, which is why consciousness remains a fundamentally incomplete state.

Leibniz approached intellection as a potentially inexhaustible exercise. He followed the mind's attention to the changing faces of matter through time. Leibniz identified a link between these temporal succession of surfaces, a natural link that bears the memory of its own unfolding. Natural processes, according to Leibniz, unfold *gradually*. In *Monadology*, Leibniz explains how: "every natural change takes place by degrees, something changes and something remains" (1995: 180). Change, as Leibniz understood it, is a process of gradual permutation that never reaches completion. Leibniz looked at current states in matter as the remains of previous ones, marking the uninterrupted unfolding of natural tendencies.

Essentially, the Baroque re-contextualises the human capacity for memory as all but an added fold in a general memory structure that is immanent in nature's constitution. Everything, in the largely unexplained field of natural processes, has the potential of *speaking* of something else in ways that may not necessarily be manifest. Indeed, if one is to understand matter as a continuum it follows that everything in nature has the potential to speak of everything else: of what was and what is to follow, if all particulars be given due consideration. As Deleuze explains, "it behoves the *event* to be subdivided endlessly,

and also to be reassembled in one and the same Event" (1990: 113). As the familiar analogy goes, the hope is that if we look closely enough we might guess the caterpillar somehow still present in a fully-grown butterfly (Deleuze, 1988: 13).

I should stress, however, that this Baroque perception of the present as an intersection of past and future states ought not to be mistaken for a deterministic model of causality, in which clear effects are the result of clearly defined causes. This is precisely what Leibniz criticised of Descartes. One must keep in mind, in this respect, the relative certainty of Baroque truth. Dwelling in a present that is always variable, the Baroque notion of causality is never fully realised. This is where Baroque truth departs from the Cartesian model of causality, whose resolved cause and effect logic supports the verifiable character of objective truth.

Baroque truth cannot be objectively verified because it never stays the same. In the Baroque order of things, states do not issue from one another following a repeatable model that could allow us to revisit the past. To investigate the past, if we follow Leibniz's model, is to look at the present with a forensic intent. This involves an understanding of the present as the result of natural tendencies which can only be assessed retrospectively. As Deleuze explains, the way a Baroque God reads into the future

> "does not consist in concluding from the idea of a preceding condition the idea of the following condition, but in grasping the effort or tendency by which the following condition itself ensues from the preceding "by means of natural force"" (1994: 72).

Baroque epistemology sees natural force as an inherent quality of form. As Deleuze puts it: "matter that reveals its texture becomes raw material, just as form that reveals its folds becomes force. In the Baroque the coupling of material-force is what replaces matter and form" (1994: 35). To understand the texture of nature as folded, the way Leibniz proposes, is to follow a unified path between matter and mind in which form branches out into force, and is thus never complete. To perceive form, with a Baroque sensibility,

is to acknowledge the mystery inherent in natural force, whose folds extend to the indiscernible.

We can appreciate, then, the narrowing base of digital image technology as it seeks to emulate photography. Geared towards the ideal of completeness, a digital capture is not designed to reflect the full impact of natural forces, the way photography does. Digital images, therefore, can only offer a limited capture of the 'infra-knowledge' that Roland Barthes' finds in photography, a knowledge beyond convention that places every photograph in the indeterminate position of being a 'message without a code' (1993: 30 and 51).

The photographic surface, on the other hand, remains an undiminished repository of residual traces, pointing at the real impact of natural forces. Photographs, thus, are directly implicated in the gradual chain of analogies that account for matter's unresolved unfolding in time. And it is by virtue of this material revelation of force through form that photography shares in nature's poetic ontology.

In the next chapter, which concludes this thesis, I draw on Benjamin's aesthetic theory as a set of tools to help us grasp this hidden aspect of the photographic image. My intension is to underscore digital technology's inability to tune into what Benjamin saw as a nature that creates similarities. My aim is to foreground the fact that, to paraphrase Bazin, it is photography's "capacity to affect us like a phenomenon in nature" (1980: 241) that digital technology is unable to replicate in its entirety. I conclude by pointing out that the very difficulty in perceiving this basic difference is indicative of the epistemic push that has guided modern understanding in the direction of objective knowledge, to the detriment of other more poetic manners of meaning.

Chapter six

The poetic ontology of the photographic image

"The desire of contemporary masses to bring things 'closer' spatially and humanly,
… is just as ardent as their bent toward overcoming the uniqueness of every reality by accepting its reproduction"

— Walter Benjamin
The Work of Art in the Age of Mechanical Reproduction

As I have been arguing in this thesis, it is by investigating the epistemic grounds of the migration away from analogue media that we can best appreciate the extent and nature of the loss that this transition brings. Considered at this deeper level, the enhanced sharpness that distinguishes digital photography from its analogue predecessor emerges as a the product of dual loss, in material depth and in the distance required to perceive it.

I begin this final chapter by looking at the current difficulty in perceiving the inherent depth of photography as a result of a the prevailing principles of proximity and clarity as preconditions for truth. By considering the operational principles of a pre-scientific perspective, that is, a poetic sensibility and a careful regard for distance and indeterminacy as attributes of truth, I propose that the phenomenon of traditional photography can be best understood through the prism of an epistemic model that, like photography itself, is now loosing currency. I propose that, in its service to objectivity, digital images are best suited to an aesthetic climate that values proximity and surface over depth and distance.

My critique of this aesthetics of proximity is based on a fresh reading of Walter Benjamin's theories on *aura* and the loss of the *mimetic faculty*. It seems to me that these central pillars of Benjamin's thought can be best deployed today not as metaphysical categories, but rather as conceptual tools to proceed below the surface of a physical world

whose real depth seems almost lost. With Benjamin, we can venture below the surface of photography into a world just as material as the poetic ontology that brings it together.

To conclude this thesis, I draw on the work of Paul Virilio and Lev Manovich, with particular reference to their treatment of distance. Far from questioning the merit of these two influential authors' insights, I propose an alternative epistemic perspective that could add an important dimension to our understanding of a transition whose real depth we can only intuit.

6.1
Modern perspective and the loss of poetic distance

The general transition towards an objective base for scientific investigation has been questioning the extent to which pre-modern modes of observation may gather enough ontological density to furnish a valid a representation of the world. A salient aspect of this modern perspective on knowledge is its treatment of distance. Modern scientific enquiry has been a questioning of the amount of distance, and indeed the type of perspective, required in order to perceive the truth of an object.

The objective model of enquiry has brought a change of perspective and indeed a new direction in observation. Central to this new perspective is an a priori need to look far and deep into the physical world in order to bring it closer to conscious understanding. Microscopes and telescopes, which never seem to yield a sufficiently close picture, are testimony to this modern direction. In this respect, science remains concerned with the amount of distance we can take from an object before meaning begins to fall apart. Framed by an objective approach to truth, whereby meaning may only crystallise under sharply focused and verifiable conditions, the modern quest for objectivity is premised on the existence of closely observable limits to understanding.

The difficulty in perceiving the difference between traditional forms of photography and digital images is largely due to this shortening of perspective. The uncompromising literalism[14] that sustains this style of understanding, whereby everything is exposed on the surface of consciousness, precludes the emergence of some distance between the subject who perceives and a physical world so unlimited it is bound to remain for the most part distant.

Digital images have something of the Cartesian will to bring the world closer, both physically and conceptually, that has guided scientific enquiry since the seventeenth century. The emphasis on dispelling mystery by way of simple reasoning has been the force behind the development of visual technologies that have brought the world closer to conscious understanding. While it is true that this modern direction in science has successfully identified many of the causes and effects that govern the natural world, it is less clear whether the proximity afforded by conscious understanding can be the only measure for truth when the object in question is a physical world whose limits are never clear.

The way traditional photography is generally perceived today illustrates the impact of this bent towards bringing the world closer to conscious understanding. Indeed, it is easy to forget the fact that the signs of correspondence between an object and its photographic image are not always discernible. Long derided by the sciences, that 'certain distance' from conscious understanding that is required to perceive the depth of the photographic medium has largely lost its relevance. Bringing the elusive photographic process under the sharp and controlled focus of simple reason, digital technology's mapping of light signals an attempt to foreclose this distance.

[14] This eminently Cartesian fixation with explaining it all may help us understand the strong tendency towards literalism that has informed much of modern art in the last thirty years. As Daniel Kunitz puts it: "Reality, not art. Truth rather than imagination. Those are current art world

6.2
Barthes' *total object of photography*

What, then, lies behind the objective limits of knowledge? In our case, what is the nature, and indeed the possible import, of the *excess noise* that we are willing to sacrifice to digital sharpness? Although predating the development of digital images, Roland Barthes' comments on photography as summarised in *Camera Lucida* (1993) can help us explore this terrain. Barthes' understanding of photography as an event without limits crosses the barrier of simple reasoning to reveal a vast expanse of possible directions and associations. The key to this openness is the autonomous dynamics of the photographic process, to which the photographer remains a somewhat distant witness.

Barthes wants to stress the unadulterated nature of the photographic process. Detecting a 'total object' as the capture of photography, Barthes perceives the photographic process as a phenomenon whose broader reaches will always remain one step removed from human intentions and understanding. This 'total object', Barthes argues, is an 'involuntary feature' of photography that comes and meets the photographer. It constitutes a "second sight" that is over and beyond intentionality. Barthes identifies a detail that

> "occurs in the field of the photographed thing like a supplement that is at once inevitable and delightful; it does not necessarily attest to the photographer's art, it says only that the photographer was there, or else, still more simply, that he could not *not* photograph the partial object at the same time as the total object" (1993: 47).

One can only speculate as to how deep Barthes intended his argument to extend. Indeed, judging by appearances alone, it could be said that digital images are no different from photography in transcending the photographer's intentions. Both forms equally appear to bring him into 'the field of the photographed thing'. While there is truth in this claim, I believe Barthes' idea of the total object of photography may have a further reach, especially when reconsidered against the context of digital images, whose difference with

mantras, and if we chant them long enough we might eventually forget the pleasure and (dare I say it?) edification that once drew us to galleries and museums" (2002: 73).

traditional photography is one of limits as well as direction. Unlike traditional forms of photography, digital images stop short of extending beyond the images' apparent surface.

Barthes' argument lends itself to this deeper phenomenological reading. In taking photography beyond the sphere of the human will, even beyond 'seeing', Barthes is foregrounding the autonomous character of the photographic process, as an event in and of itself. It is this autonomy that keeps the photographic phenomenon at a certain distance from conscious understanding. And, I will argue, it is this *certain distanc*e that separates photography from digital images, which are designed to bring the world closer by filtering away the mystery inherent in photography's autonomous and radically open constitution. We can therefore understand traditional photography as best suited to a model of knowledge that remains open and receptive, one in which the will to conceptualise the world has not yet surrendered to a will to obscure what may lie beyond its immediate surface.

The point I have been stressing in this thesis is that the kind of perspective required to fully appreciate the mysterious quality of photography was once the domain of the natural sciences, through a poetic form of knowledge that is gradually becoming irrelevant. As I have explained, what we find prior to the scientific revolution of the seventeenth century is a system of ideas that did not shy away from metaphor to emulate what was perceived as a poetically structured universe. The displacement of this manner of reason dates back to the days of Descartes, when the poetic art of alchemy began to give way to the evidence-based discipline of chemistry.

The difficulty in appreciating the richness of photography, vis-à-vis digital images, follows the retreat of this oblique approach to knowledge. Contemporary visuality is ill equipped to appreciate the rich poetic ontology that marks the gradual unfolding of the photographic process, in which every state is an indirect marker of a preceding state, the

final image being a composite document of the 'total object' of photography. A *certain distance*, along with a poetic imagination, is required to follow photography down to its yet to be deciphered regions. This sense of perspective, along with the poetic sensibility required to follow it through, is all but absent in the immediate and direct world of digital image technology.

6.3
The world as text: Benjamin's aesthetic theory

In this section, I foreground what in my view are the two pillars of Benjamin's aesthetic theory, his views on the loss of *aura* and on the retreat of the mimetic faculty. These two notions point at the passing of a manner of relating to the world which Benjamin's places at the core of his critique of knowledge. To sum up the general direction of this critique, I bring together Benjamin's *Destructive Character* and his *Theses on the Philosophy of History*. These two pieces round up Benjamin's call for a hermeneutic approach to the natural world, a world he approached as an unfolding series of encrypted texts, speaking of its own change through time. Adopting Leibniz's perspective on the interconnection of mind and matter, I draw on Benjamin's aesthetics as a alternative base for a material understanding of the physical world. With Benjamin, I believe, it is possible to transcend the boundaries of Descartes' simple reason without escaping into metaphysical speculation. Benjamin, I believe, can offer us concrete set of tools that will help us understand the context in which traditional photography is now receding.

6.3.1
Benjamin's *aura* in a different light

Benjamin's thesis on the *loss of aura* deals with the shortening of distance and the general dispelling of mystery that surrounded the development of mechanical techniques for

reproducing images, namely photography and cinema. Benjamin was encouraged by what he perceived as a 'decay of the *aura*' (1991: 216), which he extolled as a liberating development. In the *Work of Art in the Age of Mechanical Reproduction*, he argued that the broad dissemination of mechanically reproduced works of art would rid these works from the unnecessary burden of *uniqueness* and *authenticity* that is tied to their real presence (1992 I: 223). Benjamin was suspicious of this uniqueness, which he saw as the source of an absorbing appeal – a certain *aura* — that could easily be appropriated by an outmoded religious function, or, in a more contemporary vein, turned into an instrument of domination of the masses by fascism. Devoid of uniqueness, mechanically reproduced prints would enable a close and direct encounter between the spectator and a work of art.

Firmly political in its intent, Benjamin's aesthetic theory saw fascism as part of a long tradition of cooptation of art. As Richard Wolin explains, Benjamin claimed "that [the] changes in the technical conditions for the production and reception of art constitute a world-historical break with tradition that effectively abolishes the previous ritual or cultic basis of art and paves the way for the predominance of the political function of art" (1994: 189). Free from the potentially alienating sense of distance that is attached to an original piece, a purified form of art would reach the masses without mediation, granting them the political clout to reclaim an aesthetic function for the advancement of their cause.

One must consider the context in which Benjamin formulated his critique of aesthetics. The political and intellectual climate at the time when Benjamin wrote the *Work of Art* essay was galvanised by the threat of the fascist right, following the collapse of the Weimar republic and the onset of the Great Depression. Along with his contemporaries Bertold Brecht and Theodore Adorno, Benjamin sought refuge in radical communism, and hence a radical form of materialism, as a redeeming moral imperative. Benjamin's project, as laid out in the *Work of Art* essay, was to counter the aesthetic spectacle of fascist politics with a politicisation of aesthetics (1992 I: 235). This political turn to historical materialism

explains Benjamin's vision of a redeemed and redeeming artistic function, one in which art and reality would be reunited in the concrete struggle of the masses.

Benjamin was particularly interested in the way the emerging mass audiences were shaping up a new form of spectatorship. He believed in the mass' potential to develop a collectively based model of perception and understanding that would facilitate an immediate engagement with reality. Benjamin was keen to study, understand and disseminate this new direction in perception. What he found, as explained in the *Work of Art essay*, was a strong collective will to come closer to reality, to the point of internalising it. Benjamin commended the "desire of contemporary masses to bring things 'closer' spatially and humanly" (1992 I: 216 – 217). He believed the masses were in a privileged position to attain this proximity given the carefree mode of attention with which they are able to absorb the world. The masses' 'state of distraction', Benjamin argued, favours a direct and receptive encounter with art, effectively reversing the traditional role of the viewer. Paradoxically, Benjamin found a sense of agency in this 'state of distraction'. As he explains: "a man who concentrates before a work of art is absorbed by it … in contrast, the distracted mass absorbs the work of art" (1992 I: 232).

Benjamin proposed that modern man would be reunited with his environment not by observing it carefully, but, rather, by surrendering to its flow. The modern spectator would feel at home in the world through a sense of familiarity engendered by habit. Modern man would become a distracted observer of reality, a wonderer, noticing the objects of the world "in incidental fashion" (Benjamin, 1992 I: 233), thus free from the rapt mode of attention that makes him stop and ponder the mystery associated with uniqueness and real presence.

In Benjamin's view, it is this careless surrender to the world of appearances that facilitates the masses' engagement with mechanically reproduced works of art. Benjamin argues that

the masses' desire for proximity "is just as ardent as their bent toward overcoming the uniqueness of every reality by accepting its reproduction" (1992 I: 216 - 217). In this context, photography and cinema would issue modern man with the mechanical tools to "pry an object from its shell [and] to destroy its aura", bringing forth a new mode of perception, one that is in tune with a "sense of the universal equality of things" (1992 I: 217).

Benjamin's project had a clear pedagogical intent. Animated by the ideal of progress that galvanised the communist ideology of his time, Benjamin proposed in the *Work of Art* essay that "an adjustment of reality to the masses and of the masses to reality is a project of unlimited scope, as much for thinking as for perception" (1992 I: 217). As Rodolphe Gasché points out, Benjamin praised the revolutionary character of the new techniques of mechanical reproducibility, which were posed to become didactic tools to train the masses to survive in contemporary society (Gasché, 1994: 197).

It is well documented, and understandable, that Benjamin's views on *aura* failed to convince Brecht, who derided them as "all mysticism in the guise of anti-mysticism" (in Wolin, 1994: 141). Richard Wolin reminds us of the misunderstanding that arouse between Benjamin and Brecht around the *Work of Art* essay, which, as Benjamin told Adorno, he wrote in order to outdo Brecht, whom he feared in radicalism (Wolin, 1994: 141). As Wolin sees it, Benjamin's "materialist world view unquestionably remained opposed to the innermost tendencies of [his] thinking". He adds:

> "It was a method with which he never seemed entirely comfortable; often materialist observations seem awkwardly grafted on metaphysical insights — with the zeal characteristic of a new convert" (Wolin 164).

I have to agree with Wolin's assessment of the contradictions apparent in Benjamin's work. Benjamin's brand of historical materialism, as laid out in the *Work of Art* essay, does indeed reduce his deep-seated desire to come closer to reality to its absurd limits. I do, however, take Joel Snyder's point in highlighting the content-specific character of

Benjamin's notions. As he puts it, these notions tend to be "inherently universal in application and indeterminate in sense" (1989: 158). In the case of the *loss of aura*, one could carry this view a step further to propose that Benjamin himself fell prey to this indeterminacy, as his forays into historical materialism ended up outlining, however negatively, his own metaphysical intuitions. *The Work of Art in the Age of Mechanical Reproduction* is indeed an experimental essay, one in which Benjamin takes a few bold risks in a politically charged context. He does so to the point of crossing the boundaries of his own worldview. The result is an accurate, though strangely ironic picture of the kind or aesthetics that emerges out of a Cartesian model of perception, one that values universally equal ideals over individual differences at the level of substance.

6.3.2
Benjamin's darker side: a physics of the hidden

To better understand the nature of Brecht's problem with the *Work of Art* essay we need to take a step back and consider Benjamin's more mysterious side, the intellectual journey into the occult nurtured by his close friendship with Jewish theologian Gerhard Scholem. Benjamin's desire to come closer to reality had indeed a messianic intent. His aesthetic theory shows this, as it invites all hidden aspects of the world at large to find a redeeming space in a form of consciousness capable of approaching difference as an avenue into greater understanding.

This unreserved invitation for the unknown to be part of our understanding of the world is evident in Benjamin's views on the *mimetic faculty*. Here Benjamin identifies a decline in a seemingly organic human capacity to tune into the world of non-sensuous similarities, or analogies, that accompanies the gradual unfolding of nature. In his essay *On the Mimetic Faculty*, Benjamin proposes that man has a "gift of seeing resemblances" in a world of nature that "creates similarities" (1986: 333). Following nature as it unfolds in time, these

'non sensuous similarities' are not immediately apparent, they only become evident after some level of correspondence has been established between one state and the next. Non sensuous similarities speak of change, they are the traces of nature's temporal unfolding in which every state contains the memory of what was and the potential to foreshadow what is to follow.

Benjamin locates the *mimetic faculty* as part of human evolution, explaining it as "nothing other than a rudiment of the powerful compulsion in former times to become and behave like something else" (333). Benjamin places this 'powerful compulsion' to find indirect meaning at the core man's capacity for intellection. He declares that "perhaps there is none of [man's] higher functions in which his mimetic faculty does not play a decisive role" (1986: 333). It is this mimetic capacity that allows us to perceive dead root systems underneath a sudden profusion of mushrooms on a wet Winter morning. And, it is this coming together of difference that makes language possible, which Benjamin sees as "the highest level of mimetic behavior and the most complete archive of nonsensuous similarity" (1986: 336).

Pointing at the capacity to find similarity in what looks different, Benjamin wants to distance himself from an objective theory of knowledge. Indeed, harking back to Leibniz's critique, Benjamin's views on the *mimetic faculty* can be read as an indictment of the clear and straightforward direction of Cartesian thought. Against the affirmative nature of Descartes' ideal truth, Benjamin puts forth a negative ontology, one in which truth is permanently receding, vacating space, always pointing at the missing context that surrounds any given state. In this framework, distance from immediate appearances emerges as a precondition for greater understanding.

Benjamin's views on the mimetic faculty postulate a theory of knowledge with a clear centrifugal push. By guiding knowledge beyond immediate appearances, the mimetic

faculty disengages the mind from the stabilising pull of objective intellection. As I see it, though, this outward direction in Benjamin's thinking should not be mistaken for an open door into metaphysics. Quite the contrary, Benjamin's admittedly evolutionary model locates the *mimetic faculty* within a naturalistic model of thought in which knowledge, as it mimics nature, is engaged in constant change, cancelling itself out at every step. Knowledge, in this model, becomes an empty point of inflection where the mind finds a way into the vast and restless network of partial truths that shapes the natural world as it changes through time. The *mimetic faculty* emerges as an opening of the mind and a vinculum with a physical world of all pervasive natural correspondences.

This negative ontology of fleeting truths could well be an underlying motif behind Benjamin' dark and elusive 1931 essay on *The Destructive Character* (1986 I). Admittedly a document of Benjamin's desperate predicament in the face of the impending rise of National Socialism, the 'Destructive Character' shows Benjamin once again crossing the boundaries of his own understanding, this time in an act of defensive mimeticism, to destroy before being destroyed. As Irving Wohlfarth explains, in *The Destructive Character* Banjamin wants "to make himself a medium for antagonisms between which there could be neither choice nor mediation, and to do so without sitting on the fence" (1994: 157).

But just as Benjamin's forays into historical materialism never really betrayed his alleged metaphysical insights, so too does this most un-Hegelian drive to destruction ends up reiterating some of his most deep-seated intuitions. Indeed, it could be argued that a strong undercurrent driving the 'destructive character' is that of a temporally informed understanding of nature where nothing appears to settle. Indeed, as he fleshes out the 'destructive character', Benjamin appears to reiterate his theme of the obliteration of self as a way of re-engaging with the temporal flow of nature. As is the case with the *mimetic faculty*, it seems Benjamin would want to escape the objectifying pull of Cartesian understanding to embrace the unforgiving flux of temporal change. "The destructive

character is always blithely at work", Benjamin writes, "it is nature that dictates his tempo" (1986: 301).

It follows from this embrace of nature's unforgiving force that man will ultimately have to assume the responsibility of destroying his own creation. As Benjamin puts it: "everything cleared away means to the destroyer a complete reduction, indeed eradication, of his own condition" (1986: 301). If it is to remain consistent, the negative ontology of the *destructive character* will have to take the ultimate step of dissolving understanding. Benjamin declares that "the destructive character has no interest in being understood" (1986: 302). In fact, Benjamin argues, the destructive character provokes misunderstanding (1986: 302). As he puts it: "the destructive character knows only one watchword: make room; only one activity: clearing away" (1986: 301). Ironically, though, this world that thrives on destroying its own understanding is seen by Benjamin as constituting "a spectacle of the deepest harmony" (1986: 301). Benjamin upholds this general unsettledness as "the great bond embracing and unifying all that exists" (1986: 301).

This incongruous encounter of destruction and existence leads me to believe that one could read the 'destructive character' as operating with equal consistency in two seemingly opposing yet complementary levels: as a path of unforgiving destruction and as a redeeming call to integrate temporality and change in our understanding of memory. In a crucial passage of the essay, Benjamin makes it clear that what he is calling for is a transition from a static to a temporal model of memory. He proposes a fleeting base to memory that will enable a temporal engagement with *situations*. As Benjamin explains:

> "some pass *things* down to posterity, by making them untouchable and thus conserving them, others pass on *situations*, by making them practicable and thus liquidating them. The latter are called the destructive" (1986: 302 my emphasis).

Benjamin's understanding of time, as explained in his *Theses on the Philosophy of History*, can help us elucidate the confluence of memory and time, through a situation-specific model

of tradition, that the 'destructive character' appears to be calling for. Benjamin is clearly opposed to a notion of time as an abstract, mental category that will not reflect the specificity of every situation. Instead, in *Thesis XIV* Benjamin sees time as the concrete ground where history gains 'traction' as it engages with the present. As he puts it: "history is subject to a structure whose site is not homogeneous, empty time, but time filled by the presence of the now [*Jetztzeit*]" (1992: 252 – 253).

Grounded on the specifics of every situation, Benjamin's now-time turns memory into an act of material redemption. The task of remembrance is about bringing tradition to life by inviting it to be part of our present concerns. Here Benjamin is moving away from an immutable understanding of history as an inert collection of established facts. Instead, he proposes a broader, more general view of history where all hidden aspects of the past may come to life in the redemptive space of the present. In *Thesis V*, Benjamin declares that "every image of the past that is not recognised by the present as one of its own concerns threatens to disappear irretrievably" (1992: 247).

This redemptive ethos, where all aspects of matter come together to assemble a general history of an unfinished present, is a unifying thread across Benjamin's thoughts on *aura*, the *mimetic faculty* and the 'destructive character'. Benjamin's redemptive aesthetics, in which all present situations come to meet their deeper historical and material contexts, ties these three notions together: *Aura* results from the mystery implicit in the hidden aspects that add context to every situation, the 'destructive character' is the operational force that opens up into this mystery by unsettling objective understanding, leading the way into an unresolved region wherein the *mimetic faculty* emerges as a navigational tool. Essentially, Benjamin wants to destroy Descartes' world of free-standing ideals, to give way to a poetic engagement with matter's own history of natural correspondences generated through time. By approaching its subject obliquely, keeping a certain distance from objectivity, a mimetic

understanding sees below the surface of things to find the past and indeed the future history of an object poetically encrypted on its surface.

At its core, Benjamin's theory of the mimetic seeks to recapture a perceived lost ground for a hermeneutical approach to the physical world. Like Barthes, Benjamin wants to find a message even where there is no apparent code. He wants to reclaim an old capacity to read texts which have not, strictly speaking, been written. In the concluding paragraph of *On the Mimetic Faculty*, Benjamin invites us "to read what was never written". He adds: "such reading is the most ancient: reading before all languages, from the entrails, the stars or dances" (1986: 336).

Benjamin's foregrounding of perceived poetic narratives in the unfolding of the physical world is once again topical, as the fundamental difference between traditional photography and digital images appears tenuous. A Benjaminian reading of the question can add the necessary perspective to perceive this difference by finding a poetic ontology deep in the very make-up of traditional photography. Issuing from a nature that produces similarities, photography's correspondence with its object extends beyond immediate appearances. Digital images do not follow this poetic thread. Designed to replicate what is objectively similar, they fail to capture the total object of photography.

This reading of the transition to digital images can also help us assess the extent to which a contemporary eye remains capable of relating in any meaningful way to the traces of material activity encrypted on the photographic paper. It can also explain why aura of mystery and indeterminacy that surrounds the autonomous configuration of photography is today put aside as nothing but excess *noise*. In this context, digital images can be seen as a direct result of the objectifying push that has guided the sciences away from poetry as a ground for reasoning. A comparative understanding of the different operating principles that guide analogue and digital representation can help us assess the extent to which the

conceptual distance from objectivity required by a mimetic understanding is today becoming irrelevant.

6.4
Below the surface of new media theory

My redeployment of Benjamin's themes, I believe, can furnish a set of tools that can help us examine what remains a largely hidden aspect of the transition to digital technology. Notions such as *aura* and the mimetic faculty, when contrasted against the sharp objectivity that typifies the digital capture, can add a sense of perspective to our understanding of photography. The basic difference between these two technologies can be found in the way each one articulates with the aim of controlling the object under observation. Photography's largely autonomous constitution, where blur is not an obstacle to photographic quality per se, renders it unsuitable for the goal of objective sharpness that defines digital image technology.

The main difficulty I find in clarifying this difference is that conventional understanding, in general, takes objectivity as both its point of departure as well as its goal. Geared at identifying forms and matching them with recognisable ideas, an objective eye will come to the logical conclusion that digital media are bringing out more information faster. On the other hand, a mimetic eye that looks to make sense out of regions that are blurred by the aura of distance from objective understanding will be led to conclude that what we are facing today is indeed a diminishing landscape. It is this subtle, yet fundamental view of the transition from analogue to digital technology that I believe has gone largely unrecognised in the analysis of new media.

Without adopting either mimesis or objectivity as a yardstick for truth, my aim is to look at these two opposing epistemic directions as they articulate with analogue and digital

technologies respectively. To this effect, I take my focus away from the effects of the increase in the quantity images, or those of their accelerated speed of circulation, as both these aspects already assume an unqualified understanding of digital technology as an enabling tool. Without denying these merits, my analysis takes a step back to examine the principles that guide the formation of images and their general acceptance as visually-based knowledge. From this perspective, I argue that digital images reinforce an ontological line beyond which reality is judged not sharp enough to cohere as objective knowledge. In this respect, digital image technology appears to reiterate some old Cartesian habits of understanding whereby a notional objectivity takes precedence over the real complexity of the physical world.

Digital technology enhances an s objective grasp of form through its defining sharpness, and is driven by an almost melancholic longing for proximity. Indeed, applied to just about every field of observation from molecular biology to astronomy, digital image technology is fuelled by a promise of bringing every corner of the physical world to the unequivocal light of reason. The way digital technology adopts control, sharpness and proximity as its operational principles leads me to believe that what is at stake today, as we move away from analogue photography, is the decommissioning of a certain manner of making sense of the physical world, one in which distance from objective understanding is not only not an obstacle but indeed a precondition for greater understanding.

This other way of making sense of the world, which in premodern times was at the centre of a sophisticated understanding of the relation between images and memory, can better explain the material breadth of traditional forms of photography, of which digital images are only a limited rendition. Quite removed from the controlled deployment of pixels and hexadecimal colour values, photography never fully surrendered its autonomy to the probing gaze of scientific observation. Indeed, to this day photography still maintains a veil over its autonomous, self-assembling nature. As I understand it, this unperturbed

degree of autonomy, at a time of surpassing scientific reach, has rendered traditional photography a technology past its use by date.

6.4.1 Virilio's problem with light

Paul Virilio's influential analysis of information flows through electronic media presents an interesting case in point of how an exclusive focus on the immediate surface of appearances may result in a lack of conceptual balance. Not unlike Descrtes, Virilio makes a dualist turn as he discards the physical nature of the processes involved in the formation of images, chiefly, those of the trajectory of light as it informs the electronic transmission of analogue images. Virilio's argument about a lost dimension in today's media landscape rests on the premise that the televised image defines a purely mental space, a disembodied surface that facilitates a collapse of physical distance. Operating on a different register to that of direct observation, the televised image is said to produce an "agglomeration without agglomeration" through which we enter an "era of telematic non-separability" (1991: 94 and 100).

Virilio is right in pointing at the dematerialising effect of information flows through "new instantaneous communications media", in particular as they progressively replace direct observation as a primary avenue into the world. This is, indeed, a central point to be raising in a contemporary world where instant access to information has reached a state of overexposure[15]. However, if it is true, as I argue, that it is in the physical make-up of light that the difference between analogue and digital images becomes apparent, then Virilio's postmodern turn needs some unpacking. In particular, I would argue that a lack of physical distance need not, of itself, imply an escape into the all but metaphysical world that Virilio labels as *post-reality* (1991: 84). Indeed, Virilio places the viewer of televised

images right outside the sphere of physical observation. As he puts it: we live today in an ever-growing fault between the promptness of the broadcasts and our own capacity to grasp and measure the present moment" (1991: 84).

Given the fundamentally different approach that Virilio adopts in trying to flesh out the immaterial gist of contemporary information, our conclusions do not share the same breadth. The difference between our arguments is most apparent in our treatment of light. While Virilio places light in opposition to matter, I base my observations precisely on the presence of a physical foundation to light shaping the continuous-tone structure of analogue images. Virilio's light/matter dichotomy is unequivocal as he proposes that the mediated reception of images is facilitating a "recuperated supremacy of light over matter", resulting in "the architectural nullity of all buildings" (1991: 100). Hence Virilio writes of a "ground zero of architecture" (1991: 100), where "matter is replaced by retinal retention" (1991: 35) and surfaces become "volume without volume" (1991: 17).

My main concern in this thesis is with foregrounding the disengagement with the broader material context of images that digital technology is enabling. To me, it is clear that analogue images remain firmly anchored on a physical base which extends beyond light's luminous properties. Firmly centred on the objective surface of appearances, Virilio's perspective does not accommodate this underlying difference. This is why I find only limited originality in Virilio's observations. The origins of today's information flood may well be traced back in an unbroken line to the development of mechanical reproducibility in the nineteenth century. All that is new, perhaps, is the pervasive scale and indeed the speed that these developments have assumed since the advent of electronic media, and this includes analogue television.

[15] The central role of video footage on the judgements by the AFL Tribunal being a case in point. Big screens in football stadiums play a similar though less official role.

Our analyses, in fact, head in opposite directions. While I argue for a strategic stepping back from intelligible appearances that will help us identify that which is lost to digital sampling, Virilio remains firmly centred on the human scale of objectively recognisable form. He cannot, therefore, perceive the material contrast between analogue and digital images. This, I argue, starts to become apparent the moment we move away from the centre of objective appearances and start to consider light in its own right, as it informs the development and transmission of analogue images. As I explained in chapter four, analogue images rest on pre-luminous foundations that remain hidden to the eye and hence escape the scope of the digital capture.

Introspective in its direction, Virilio's analysis adopts the moment of objective intellection as the absolute limit to perception. The televisual image emerges as it flashes into recognition the moment the lines in the cathode tube screen reach the optimal speed to meld together in the retina. Effectively detaching the cause from its effect, Virilio leaves behind the physical trajectory that leads to the formation of an image. He, therefore, looses sight of the material bond that makes analogue images a direct reflection of an object, a level of correspondence that is not shared by digital images. To grasp this difference one ought to turn perception inside out, as it were, away from its mental centre and out into the physical world. For it is down at the level of extended matter that photography exceeds the objective limits of the digital capture.

A more balanced conceptual underpinning to the comparison between analogue and digital images will need to broaden its understanding of perception. It is here that Benjamin's theories on the mimetic come to the fore as a set of guiding tools to lead us into the open world of non-sensual — indeed non-objective — similarities that extend beyond the objective limits of a Cartesian-style of intellection. As it stands, though, Virilio's rather cerebral take on perception poses the unresolved irony of pointing at a material loss while noting that we are better equipped to see the world than ever before in

history. In other words, as we fall for what he sees as an 'illusion of proximity' supported by the screen, it is through this apparent illusion that we are able to apprehend the furthest reaches of the physical world.

Indeed, the illusory ground zero that Virilio identifies not only remains the theatre of the physical world, but in fact becomes an infinitely expanded source of knowledge. In absolute terms, Virilio notes that new technologies such as "the endoscope and the scanner allow us to see the farthest reaches of life" (1991: 32). Virilio goes as far as crediting new technologies for having breached the barrier of conscious perception, bringing to light every hidden aspect of the physical world. He confidently declares that

> "suddenly, we possess this ease of passing without transition or delay from the perception of the infinitesimally small to the perception of the infinitely large, from the immediate proximity of the visible to the visibility of all that lingers beyond our field of vision" (1991: 32).

6.4.2 The limits of continuous-tone photography: Manovich's pragmatic view of the transition

Similar claims of absolute visibility are present in the work of Lev Manovich, although the latter is perhaps less at fault than Virilio in that he does identify a substantial difference between analogue and digital image technologies. Indeed, Manovich gives due credit to analogue photography's 'continuous-tone' base as a factor enabling 'more' content to be supported. However, much like Virilio, Manovich makes little of this difference as he proceeds to limit his observations to what the conscious eye can see and identify. In his words: "while a digitally stored image is still comprised of a finite number of pixels, at such resolution it can contain much finer detail than was ever possible with traditional photography. This nullifies the whole distinction between "an indefinite amount of information in a continuous-tone photograph" and a fixed amount of detail in a digital image" "(2001: 52).

Manovich points at the difference between analogue and digital images only to collapse it. The result is a merger of fields that is only possible in the abstract, if we rest on the surface of appearance as an ideal limit to understanding. This is, essentially, what my analysis wants to avoid. Indeed, I argue that it is by probing beyond the structurally limited and limiting human scale of objective, conscious perception that the broader difference between of analogue and digital images begins to emerge. This difference is resolutely material, and it lies, precisely, in photography's capacity to carry an 'indefinite amount of information'. It is this unresolved and hence unmeasurable material excess that digital technology's objective mould is designed to eliminate.

Manovich's singular focus on the surface of appearances looses sight this fundamental difference. Echoing a Cartesian view of what is necessary and sufficient for objective understanding, he proposes that "the more relevant question is how much information in an image can be useful to the viewer" (2001: 52). Indeed, it is this rather utilitarian view that leads Manovich to recall that:

> "by the end of the new media's first decade, technology had already reached the point where a digital image could easily contain much more information than anyone could ever want" (2001: 52).

It is not my intention, of course, to reject Manovich, or Virilio, or indeed anyone's argument on the grounds of their resort to the human scale as an epistemological reference point. That is not the point of my thesis. Such line of inquiry does, indeed, open up some central areas of investigation that I am not addressing here. My concern, though, is with the difficulty posed by this singular reference point as I seek to address the repercussions of the transition to digital media as an index of a deeper set of realignments occurring at the level of perception and intellection, within the framework of an evolving theory of knowledge.

As the seventeenth century debates over the place of the imagination in the production and maintenance of knowledge show, there can be more than one valid way of

understanding truth. Accordingly, a rigorous comparative assessment of the transition to digital images will need to test its assertions against the two clashing epistemic models that, I argue, are the force behind this transition. This means following Descartes' straight path from surface appearances to objective meanings as well as Leibniz's Baroque labyrinth of intersecting paths and fleeting meanings.

What I want to stress here is that both paths may lead us in the direction of truth. The arrival point, however, will differ. The character of the ensuing truth will depend on the degree to which it clings to a material base as an epistemic reference point. The closer this truth gets to matter, the more it will disengage with objective limits to understanding, and the more complex it will develop. The central point to keep in mind is that we are yet to find the right balance so that these two directions of truth may begin to coexist and indeed benefit from each other. As we stand, Descartes' legacy of dualism, with its in-built distrust of material appearance, has put us in a position where we can no longer find any relevance in probing into the detritus that remains in front of us after matter is mentally compartmentalised. We loose sight of the unsignified excess that is the stuff of extended matter, for which there can never be a definite map.

Digital images are tailored to accommodate this singular focus on objective truth. Their overwhelming photographic quality operates at this level. Indeed, the real merit of digital image technology can be gauged by its success in masking its status as computer simulation with a very believable photographic quality. The fact that it is easier today to affirm than to problematise this photographic quality is a measure of how much we have lost sight of digital images' abstract base.

At its core, digital images' overwhelming photographic quality amounts to little more than a 'reality effect'. It is at this fundamental level that I find an illusion of proximity in operation. The rapid dissemination of digital images rests on a powerful rhetorics of

realism through which advertising, academic and popular discourses all agree on accepting them as photography, leaving aside their status as a necessarily incomplete computer simulation. From this perspective, if we care to look below the realism of digital images, the alleged new "architecture of light" that Virilio announces (Virilio 1991: 94) starts to appear more like a disassembling of light.

As I see it, the easy disengagement from the physical foundations of light that digital images facilitate may not be new, but it does mark a significant point in the old Cartesian project of intervening in the relation between images and memory. In this context, we could say that digital images achieve what the seventeenth century still life could only gesture towards. Indeed, what we see today is more than a subtle endorsement of a Cartesian aesthetics, the way the seventeenth century still life relied on a geometrical reference point to compose its subdued scenes of deceiving harmony. Today's digital images take this rhetorics of realism to new heights. Through an enticing aesthetics of sharpness and proximity, digital image technology is tightening its noose around the photographic image, preserving its intelligible surface but discarding its material depth. This ultimate control over the photographic image, through a deceiving computer simulation, should add new meaning to Benjamin's prophetic words of 1931, when he warned that the photographic caption would, one day, become "the most important part of the photograph" (1979: 256). Indeed, today's digital code has become the ultimate photographic caption, not just explaining but effectively supplanting the photographic image.

With Benjamin, we could argue that the fundamental difference between photography and its digital simulation is non-sensual, it evades the naked eye. It relates to photography's deep poetic underpinning, which inhabit a similar space to that in which the devotees of the Madonna of Guadalupe, throughout the centuries, have found their own history mirrored in the eye of an icon painted not by human hands. In this light, the passing away

of photography can be seen as today's strongest marker of the retreat of the mimetic faculty. For it is only by seeing nature as a producer of non-sensuous similarities that we can begin to appreciate the poetic ontology of the photographic image.

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