Genealogies of Digital Light

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Sean Cubitt

The light of the world, casting light on dark places, enlightenment (East and West), the light that goes out of the eyes of the dying: illumination is more than physics. It is a central human metaphor. Those metaphors in turn are not only remnants of ancient paganisms and old beliefs, though they are in that respect ways in which we recall our otherwise anonymous ancestors. They are also tools that shape our thinking, that structure some of the great accounts of light from Grosseteste's *De Luce* (in MacKenzie 1996) to Newton's *Opticks* (1952), Goethe's *Farbenlehre* (1967) to Einstein's General Theory of Relativity and Planck's foundational observations on the principles of quantum dynamics. And of course light is central to the techniques, technologies and discourses of the visual arts, and among them not least of photography. Light is the raw material of photography, in a purer sense than is true of any of the earlier visual arts save perhaps stained glass.

What is light then? For Fox-Talbot, it was 'the pencil of nature', a metaphor that links photography back, not to painting but to drawing, and perhaps to drawing as the artform still most widely deployed in scientific fieldnotes and certain classes of publication, like ornithology handbooks. Drawing has a specific history, once freed of its thralldom to the classics, of the meticulous observation and recording of nature, Equally however, though at that early peak when the Northern Renaissance, and especially Dürer, turned towards the objective recording of reality, it was still true that the great artisans could, even in the presence of life models, make the kind of mistakes now emblematised by Dürer's portrait of a rhinoceros in the collection of the Emperor Maximilian. In Dürer's case, as in the early descriptions of the platypus evinced by Eco (1999), the problem appears to be categorical: not knowing what this creature was – in the sense of where it fit in the order of creation – it was hard to see it, and habits of description took over from powers of observation. In later instances, there would be an effort to make strange, to force the eyes to see with a different gaze. And yet, looking at representations of horses, is it not peculiar that for all those centuries when the horse was truly familiar, artists, the trained eyes of their societies, were apparently incapable of seeing how they galloped; but that at the brink of our long farewell to equine transport, Muybridge could resolve the question photographically, and do so for a bet with Leland Stanford, one of the wealthiest and most scandalous figures of the Gilded Age, someone who, for all his

strings of polo ponies and race-winning fillies, was far less acquainted with his horses than his grooms (but who, as outgoing Governor of California, would endow the university that bears his name) (Ott 2005). The automation of vision which Muybridge's trip-wire construction aimed for was in this sense not an instrumentalisation of vision but its liberation from preconceptions. Without this sense of photography's unique ability to remove the principle of selection from the human author and place it with the machine, there would be no Lartigue, no Cartier-Bresson, no Doisneau.

And then there is the peculiarity of what we have become to ourselves in the light of the expanding spectrum. Thomas Mann's Hans, in *The Magic Mountain*, learns his mortality for the first time when the doctor invites him to view his hand through the fluoroscope, and an entire quasi-necrophiliac eroticism arises over the exchange of X-ray images in the wards. Like the newly open architecture afforded by iron girders and later concrete, the body was open to the winds of unseen forces, no longer the opaque limit of vision but a penetrable veil over an entire new world. X-ray vision became not only a favourite fantasy of pubescent boys but a new key metaphor for the human world: the power to see not simply through but into, and to reveal the skeletal anatomy, the structures that supported apparently whole and self-sufficient appearances. That what was revealed was in some sense macabre, and that in their ignorance of the effects of over-exposure, the craze for X-ray photos would prove fatal in many instances merely added to the supernatural quality of the fatal gaze, an evil eye for the scientifically minded, but still séance-attending bourgeoisie.

X-rays were merely an extreme example of what photography had already begun to reveal: the absolute proximity of the rational and the irrational that Bataille would celebrate in Atget, that Buñuel would find in *Las Hurdes (Tierra sin pan)*, and Brandt would discover in his social anthropology of England in the 1930s. In some sense, the automated shutter, combined with an increasingly schooled eye for the telling moment would become the privileged route towards the revelation of the structures and mortality underlying everyday life, much as it remains for some social documentarists today. But that very success provided Benjamin (1999) with his powerful critique of the prettification of the real in Renger-Patsch and the Neue Sachlichkeit photographers: the ability to discover beauty in every depressed working class neighbourhood, on behalf of a class with no desire to know more than that all was well with the world. It's at this stage that the real changes begin. It is not so much the move from

analog to digital as the move from location to darkroom that marks the beginning of a new kind of practice.

And yet there is something more definitively new that emerges in digital photography, and to pursue it we need to consider the production processes for photographs, and especially the moment of printing. The ontological claim of photography depends on the congruence between the light reflecting from the scene in front of the lens and the light gathered on the filmstrip in the moment of exposure. That light is what is recorded, and however manipulated, it remains the light that fell just so in front of the lens. That darkroom practice played with that light in a growingly sophisticated art practice and an increasingly commercialised industry does not give the lie to that originary light.

Few artists have left a fuller account of their technique, or a more satisfying account of its creative purpose, than Ansel Adams. "For example," he writes in *The Print,*

> I find that Seagull Grade 4 gives me a better print of my *Frozen Lake and Cliffs* than I was ever able to get on Agfa Brevita Grade 6, and the tone is magnificent. This is one of those significant early negatives (c. 1932) that must be considered quite poor in quality and very difficult to print. The negative contains enough information to yield an acceptable print with great effort, and I continue to improve the 'salvage' printing as best I can (Adams 1983 [1968]: 50)

What is so amazing about this 25-year struggle to find an 'acceptable' realisation of an image is not just the sheer level of work involved, but the way Adams sets his visualisation against that realisation, a constant theme in the three great books on photographic technique. When students are introduced to photographic theory, this is what they find: physics, chemistry and optics. It's hard not to be impressed and refreshed by a theory whose central task is to make it possible to produce new work, or in this case to remake old work in pursuit of a new outcome. At the same time, Adams demonstrates a powerfully moral sensibility. His assessment of the negative is pitiless (it 'must be considered' as of poor quality, regardless of an attachment that has him reprinting it quarter of a century on).

To employ Bolter and Grusin's (1999) terminology, there are three phases of remediation in Adams' photography: his location work, his darkroom practice, and his exhibited prints. The prints have as 'content' the work of the darkroom; the darkroom practice has as 'content' the negatives produced on location; and the negatives have as their 'content' what Adams refers

to consistently as 'visualisation', a process that begins in the confrontation of the photographer with the emotional and spiritual as well as physical experience of his subject.

In another mode, we could also say that Adams' landscape photography remediates the 19th century American sublime in nostalgic mode. It is as if in his location work he seeks out places where the Transcendentalists would have been at home, but when it comes to the exhibition, apart from one early book in the William Morris style, he is making works that would be entirely at home in the company of Norman Bel Geddes and mid-century modernist design.

We have to imagine him in the darkroom working the negative in order to produce a rememoration of the landscape, not only as raw experience (firstness) but as an experience already framed in the knowledge that, for example, Yosemite was already a threatened wilderness (whence the centrality of his photography to the project of the Sierra Club). As printmaker, Adams' commitment to the darkroom is an attempt to establish the artisanal credentials for photography generally and for his prints in particular, as opposed, for example, to the seized moments of life on the wing in Cartier-Bresson's photography. If anything is, Adams' is a graven image. In his nostalgia, Adams is working not only with a memory but with an expectation – whence the many prints he struck from the early negative Cliff with frozen lake. The work he undertakes in the darkroom is to precise: to cut before. Remediation thus occurs not only backwards but forwards. His fieldwork is undertaken in the expectation of finding the landscape that is already there in imagination; his darkroom practice not only restores the vision (and the visions of precursors) he brought as expectation to the landscape – it is itself a pre--vision of the prints which as yet do not exist. So the prints encapsulate excision, incision and precision. Their stilling involves not only the cutting out of the moment from the rest of time but all these past and future orientations. In this sense they are not present at all. They arrest vanishing and becoming not only of the landscapes and their changing light but the vanishing and becoming of the photographer, his experiences, even his darkroom.

In the final prints, there is an obvious lean towards the articulation of human vision with physis, the natural world. But in this process there is a transformation of the light, a transformation which conforms the light of nature to the expectations of the photographer in the field, and attempts to reconfigure the negative and the print to approximate that vision, a vision in which the approach towards the ecological consciousness of the American Transcendentalists is integrated with the artisanship of a skilled craftsman at work with his materials, materials

he wields, in the remediated form of photograph as art, with the ingrained experiential expertise that the painter brings to paint, or the draughtsman to drawing. That he never engaged with colour indicates perhaps that he shares with the ancient guilds of drawing the belief in the superiority of line over shade, disegno over colore (Batchelor 2002).

I cannot help thinking of one of the titles for Duchamp's *Large Glass*: Delay in Glass. What is photography, in that supreme moment of glass plate technology, if not light that has been slowed down, entering in one instant, but departing only over a period of decades, and who knows how much longer? As Duchamp punned on the physics of light with his dust-gathering, toy cannons and actual photographs of curtains blowing in the wind, he also made some pretty profound indications about the properties of light in the world and in photography, their vicissitudes, their relative temporalities, their implication in regimes of desire. Perhaps the blown curtain is the most esoteric, yet the most empirical demonstration. What is it that stirs the cloth? Imagine our first forebears confronted with the movement of leave sin the wind. They have no conception of cause and effect. They do not necessarily separate the wind from the leaf, until some critical moment at which the distinction dawns, and they look at the world suddenly robbed of innocence and wholeness, the wind and the leaf split forever into symptom and cause, after and prior, agent and object. The light of photography, including the light so manipulated and yet so faithfully served by Adams, is a product of a deep desire to heal that rift, to suture the torn halves of the universe back together into a whole to which, however, to paraphrase Adorno, they do not add up.

How then to consider digital light? The difficulty here is that while we have the great tradition to call up in photography, we have little enough to agree on among the handful of artists to have taken up digital photography, and so we generalise, and take advertising and commercial photography as the emblematic digital image. We say the light is cold, the precision technically perfect beyond the natural or authentic, the parts discrete and unblended, the very principle of montage defeated by the vacuity of juxtaposition. So much so that artists like Paul Pfeiffer generate images like this image from *24 Landscapes* (2000), a reprocessed photographic image, in this case from a series of publicity shots of Marilyn Monroe at the beach, now vacated, the background forced into the foreground, mysteriously empty, the trace of footprints signs of some ominous event that has left this vanishing traces in the sand. Other landscape artists who have taken up digital tools like Benjamin Edwards, the construction of whose *Immersion* (2004) is documented as animation on his website

(http://www.benjaminedwards.net/), revel in this anaesthetic. As Whitney Davis points out in a recent, strenuous, not to say strained attempt to defend the analog against the digital,

> Edwards's point seems to be that in the digitally constructed world of office parks and shopping malls nothing does exist between the digital units: there is no (other) world (left) there to be recognized and represented. Analog density and repleteness, in other words, have disappeared. This might well be true; however, the technology of digital replication guarantees this conclusion in advance, even if the mode of inscription analogizes the objective correlate pseudodigitally.

Edwards' process includes digital location photography, scanning, 3D modeling, and in the instance of *Cobblestone Palms* (2005) digital printing of the final product. Most of all, it involves layers, the characteristic mode of digital postproduction. What's fascinating about layers in terms of light is the way some commands replicate the analog world Davis is trying to distinguish from the digital not as a matter of technique but in terms of an aesthetic. Pfeiffer, you might say, literalises the vanishing of the continuum; Edwards plays in it; but for me the fascinating quality of layers derives from the 'global light' command in Photoshop's Layer Styles menu: the application of a generalised lighting regime for all layers in the composition; underwritten, as in so many cases in Photoshop, by a numerical calibration as aide-mémoire.

Like the palette of effects in the Filters / Render submenu, the Layer Styles menu works with digital light: light that has no reference in the outside world, working instead on algorithmic definitions (of 'edge' for example) and algorithmic transformations of pixels in a defined range on one side or another of the edge. This light is solid and tangible, like the digital 'fog' used in 3D modeling to emulate the diffusion of light in the natural atmosphere and give the chiaroscuro effect of paling colours in ostensibly distant objects. Unlike toning in analog darkrooms (or indeed the Variations palette in Photoshop), the Render menu differentiates according to the numerical values of colours and approximate groupings of colours. Light in this instance is not an innocently ambient quality of air but nigglingly detailed yet, within its defined spheres and parameters of action, universal. This I think is the quality that annoys Davis so. The digital shadow, for example, is a Platonic eidolon, the imitation of an imitation. We can see something of its power in Mitra Tabrizian's image *The Perfect Crime*, whose title may well come from Baudrillard's book of the same name, in which the perfect crime is the murder of reality, which, perversely enough, for Baudrillard has no victim. The graffiti in the mirror, the words "white nights", by rights should appear on the wall behind the model, the wall with the urinals (some reference to Duchamp's Fountain perhaps?), but does not, and

the discomfort is more than ontological, or rather imbues the intolerant racism of contemporary London with an ontological basis of uncertain existence, the non-space, gendered but transient, with the anonymous sexuality of the cottage, a place to embrace anonymity, but a place in which the markers of skin are all the more visible, yet all the more re-marked with other values, other threats, than those that come from within, generated by subjectivity or identity. Tabrizian's practice for some years has been in the fictional photography (and more recently film) that she developed alongside Victor Burgin and the group around the Westminster Photographic Department, characterised by an abiding concern with racism and cultural racism, and characterised by a fascination with the gap between representation and inwardness, expressed in a stilted mismatch between situation and expression. This very brief analysis, tickling the surface of a work which denies depth while proliferating meanings, might help qualify something about the digital image as a practice: that unlike Ansel Adams it is concise.

The idea of concision I got while considering a practice which seems to me very much the immediate precursor of Photoshop as an artist's tool, the silkscreen work of Tim Mara, who died tragically in 1997 after his appointment as professor of printmaking at the Royal College. My brother has a number of Mara's prints – they were great friends – among them *Alan's Room*, a technical tour de force which this reproduction cannot do justice to. The repeated geometrical motif reappears in the hands of the child playing outside the window. The two male figures on the right and the two female figures on the left depict the same models. The drama of silences and cryptically unmotivated emotion, the colourisation of the black and white photographic sources, the hidden faces, the row of monochrome TV screens peeping from beneath the bedspread, the science fiction comic, styles of the fifties, sixties and seventies mixing in the way they always do, despite the efforts of stylists and nostalgia buffs, the displaced unity, the flatness of the inks even where they are mapped over the contoured photo sources, perhaps most of all the slightly mismatched shadows and the fact that all of them ignore the only visible light source at the window all suggest to me a quality of serigraphy which makes it an immediate precursor to the digital image. Unlike precision, which originates in a vision before the event captured, a vision maintained during the processing of the image, concision occurs after the event, a compilation and orchestration of elements, not necessarily as montage, but always an assembling and articulation, one that in this instance establishes taxonomies of gesture and post, of relation to the viewer, and perhaps most of all of the worn-out, shabby, rumpled, trampled world of reference, and the flush, flash colours of

ink. The carpet most of all, its 'true' colours as object in the world now faded, supplies the diagrammatic backdrop on which can be applied not the colours it now has, nor the colours of the dyer's art, but the imagination of those colours, as one might entrust to a computer the task of recognising Red, Green, Blue. Like Warhol's *Marilyn*, with its restricted palette of yellow hair, blue eyes, red lips, pink skin, white teeth, which strips the stereotype to its signifiers, so Mara's *Alan's Room*, which while less celebratory of the artifice of celebrity and sex. still compiles, as Warhol does, the thing and its ascriptions into a concise statement of relations. I would go so far as to argue that, unlike analog montage, the proto-digital concise is an image of relations, as opposed to the composition of elements into a unity that rules Adams' precision.

In ways that I am still trying to find an adequate expression for, I believe that there is some relation between Photoshopped images and the tradition of artists' printmaking which is clearer than that between Photoshop and photography. Whistler's etchings of the Thames (here *Thames Police* of 1859) will serve here. The light in the print is a matter of texture. and the fascination derives from the doubled seeing of these textures as at once representations and textures in their own right. Without wishing to promote some new teleological itinerary for what is in any case a wildly varied field of practices and techniques, it seems worth suggesting that this fascination with the minutiae of the technical reproduction makes as convincing a pre-digital form as photography, whose automatic quality suggests one route into the digital, but only by ignoring something immensely important about the paradoxical materiality of the digital image.

Perhaps, to stretch and already elastic wordgame a little further, we could describe the etching style as incisive. It's work with the needle can be, as in Whistler's case, both meticulous and fluid, lisse and striée perhaps; but at some point the acid must be poured over the plate where the resin has been scratched back to metal, and the incision made. Everything in the preparation awaits this moment of incision, the autonomous chemical action. Without it the damp paper in the press would never enter those incisions, and swell with the ink they hold. The press itself, the kind of cast-iron press most art schools still have lurking in basements waiting for that one student in each generation who rediscovers it, is the technology which makes the fine art print distinctive; and that in some way definitively distinguishes it from both photographic and digital printing, in which the issue is never pressure. Digital concision, then, seems to me a derivation from and a new-made contradiction of both photo-

graphic precision and print-making incision. The indexicality of the photograph concerns the impression of light, that of print the impression of weight. The indexicality of the digital concerns the impression of relations, as if relationships and networks preceded the objects between which they are relations; so that light is not a matter, as in both predecessor media, of negating the negative, but of establishing the confusion of light neither filling nor evacuating the space between, but of constituting the spaces between as what matters.

In this page from Richard Davies' *Falling of the Monumental*, the fruitfulness of this kind of thinking, between concision, precision and incision, begins to become apparent. Drawing on Whistler's Thames series, Davies responds to 9/11 with geometries which are at once construction lines and deconstructive analyses, with proliferating perspectives evoking the urban uprisings of 1981, the Blitz of 1942, the Fire and Plague that opened the ground for Wren and Hawksmoor, the older Thames and its Blairite postmodern bridges, a history of fears and defenses, military and divine, the page an invitation to immersion and a command to keep out, of the city, of the demolition zone, of London. The central area, distinctively toned, twists as you try to make the top and bottom boundaries be parallel, a surface that is not planar. That unpleasantly unreality, both back-projection screen and screen-wall, divides not just the image but the viewer in the image, so that a relationship emerges between the will that suspends belief and the won't that is articulated with the surface. More than this, the layers of the image, and the concise relationships between its elements, suggest an even older sense of light as time. Each medium, precise, incise, concise, has its appropriate temporality: the previous, the present and the layering of pasts that constitutes the network present of relations.

There is still another potentiality of the digital to discriminate, however. To clarify: I read the concise as the result of a dialectical relation between precision, typically photographic and subjectivity-derived, and incision, typically print-derived and object-oriented. Typically digital and to risk another word-game project-driven, the concise resolves its predecessors without however eliminating either their specificity or their effectivity. But there is too a less medium-specific, less annealing or utopian other to this process, which we might call excision. The upshot of the downside of modernist montage (as concision is its upside), excision rehearses Flusser's misgivings about eh mathesis of photography. As you'll recall, Flusser imagines the photographic apparatus, constituted of every camera, darkroom, printing establishment and photographer, as a vast ensemble dedicated to completing every possible photograph, from the pitch-black to the all-white. The notion of seriality, which is integral to

print, to photography and to the digital, is reconceived in Flusser's dystopian prognosis as a process on its way to totality, and which therefore excludes the obverse of the total, infinity. The excised presents itself as total, and to that extent as sublime: atemporal, exclusive of human concerns, external to human communication or judgement. Excision expresses the isolation of elements, the absence of relation. To that extent is an aesthetic (or anaesthetic). But excision, which is a typical form of both advertising pack shots and a certain mode of portrait photography exemplified by the style of Yousuf Karsh, might also be understood as a formally appropriate response to actually existing conditions, especially in the triumph of the commodity form and commodity relations, themselves premised on the objectification of objects and the severance from the human relations of which, as Marx says, they are the 'fantastic guise'. To this extent, excision is the dystopian counter-statement to the ecological utopianism of concision. I take the term 'excise' from the surgical isolation and removal from its context of a discrete element of the body. The discretion of the element is such that it can be hypostasised as an object. Objected, it is relieved of all relations except objectality, and in this is exemplary of the contemporary commodity forms, from sign -value to attention-value and latterly as automated information-value. Whence the sense that excise involves some kind of tariff: a reduction by means of severance and discretion to the last remaining relation commodities may enter, their exchange.

What makes the praise of excision dangerous to me is the refuge it offers in an older conception of art. Art was once a means to immortality: the speeches of the Homeric heroes, Achilles most of all, were acts designed to reverberate for eternity. In secular modernity, eternity had shrunk to the scale of posterity, the posterity that would judge the art, justify the revolutions, and which Benjamin pointed out so forcefully is now us. It becomes increasingly clear that monumentalising the sublime is an attempt to circumvent the shrinking dimensions of futurity. For the majority of digital artists, in music for example, and in net.art, the works they make are intrinsically ephemeral, as bounded in time as a sculpture, or even more so a site-specific work, are bounded in space. The spatial ubiquity made possible by the increasing seriality of production from print to photography to digital proliferations is purchased at the price of temporal specificity: the opposite of Benjamin's traditional auratic objects. In this sense, the concise digital print draws into its assemblage a typical quality of printmaking, the erasure of the greased marks in lithography, the resanding of plates in etching, the limit on the number of prints struck, and perhaps most of all the multiple "states" of the print.

Print has a curious language of light. In Picasso's *Minotauromachia* (here in its 7th state), the candle flame is a brief interlude of quiet in a burlesque of lines that covers, with increasing density, the rest of the surface. Cast shadows like that on the back of the minotaur's outstretched hand indicate the continuity of light across space. Five hundred years earlier, Dürer was still able to figure light rays with lines, although in late prints like the famous *Jerome* he too would leave a space free from marks to indicate the halo of sanctity about the sage's head as well as, more obviously, lessening the density of marks where the sunlight through the bottle-glass window illuminates the textures of wall, bench and floor. Light moves here towards the status of absence.

In Susan Collins' *Fenlandia* the pixels arrive at one a second from a remote webcam. With a resolution of 320 x 240, it takes 76,800 seconds to complete an image, which in turn is 21.33 hours, just under a day. The light areas record daylight and the dark night (though Collins reports instances of a smear of moon across a night-time sky, and inexplicable artefacts, pixels of intense and unexpected colours apearing day or night, perhaps when some unwitting creature has flitted across the field of view). On the one hand, the work suggest Monet's landscape painting practice; on the other, it suggests the seriality of printmaking, the 'states' of a given print as the artist works on it and takes various types of impression. That these 'photographs' accumulate their light at this stately pace, lying somewhere between still and moving images, is perhaps no stranger than the kind of earth-observation satellite imagery that depends on multiple passes or the Hubble images deriving from the photon counter. Time has always been integral to photography and print. That Collins has been producing prints from the project only makes the point more clearly. The self-erasing image, paradigm of the televisual, inheriting and recoding the printmakers' absent marks as the emblems of light, writes time ever more deeply into the media arts. This is the quality of light that Duchamp's slow light strains towards, and the more locked form of the Karsh portrait refuses. I begin to feel that what makes digital light so specific is not its loss of reference to objects, but its gain of reference to time.

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