

Fortuna: Drawing, Technology, Contingency

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While frequently involving complex cognitive powers, drawing is most often technologically rudimentary, a primary form of visual language that barely requires equipment. In relation to a contemporary world structured by the ever-expanding capacities of new media, to drive a stick of charcoal across a piece of paper seems archaic. The digital computer has its roots in the punch-card operated Jacquard looms, introduced in 1801 to extend the mechanization of labour to weaving, and the Analytical Engine of Ada Lovelace and Charles Babbage. Advancing rapidly in the decades following the Second World War, and prodigiously since the late 1980s, the development of digital media has cast older visual technologies in a new light, and has replaced them in many domains. More recently, smartphones, tablets, and social media platforms have come to organise personal and professional life, encouraging newly accelerated rates of image production and circulation.

Indeed, in places where Internet access is widespread and personal devices are generally affordable, the use of them has become all but compulsory. While the impulses propelling the invention and development of much new media technology have sometimes been utopian, it would be difficult to characterise its dominant forms of social implementation in liberatory terms.¹ As Jonathan Crary has argued in his book, *24/7: Late Capitalism and the Ends of Sleep*, such advanced technologies are now aimed squarely at the penetration of new areas of subjective experience, shaping patterns of habit, attention and desire in the service of capital. Digital media have

¹ Sadie Plant describes the advent of a post-war control society in the following way: ‘This was a brave new equilibrated world of self-guiding stability, pharmaceutical tranquility, white goods, nuclear families, Big Brother screens, and, to keep these new shows on the road, vast new systems of machinery capable of recording, calculating, storing, and processing everything that moved. Fueled by a complex of military goals, corporate interests, solid-state economics, and industrial-strength testosterone, computers were supposed to be a foolproof means to the familiar ends of social security, political organisation, economic order, prediction, and control.’ Plant, S. *Zeros + Ones, Digital Women and the New Technoculture*. London: Fourth Estate, 1997, p. 32-33.

enabled the details of our interests, preferences, communications, movements, and transactions to be monitored, shaped, stored and trafficked. Such fierce powers of quantification, Crary argues, maintain a kind of relentless glare, and represent a new moment of the hegemonic march of instrumental reason:

A 24/7 world is a disenchanted one in its eradication of shadows and obscurity and of alternate temporalities. It is a world identical to itself, a world with the shallowest of pasts, and thus in principle without specters. But the homogeneity of the present is an effect of the fraudulent brightness that presumes to extend everywhere and to preempt any mystery or unknowability. A 24/7 world produces an apparent equivalence between what is immediately available, accessible, or utilizable and what exists.²

The emergence of global mega-corporations such as Apple, Google and Facebook has meant that those domains of human activity that escape such surveillance have radically diminished, while the content to which subjects are exposed online, for example, becomes ever more precisely tailored and pre-packaged. Speaking in Berlin in May 2011, Eric Schmidt, then CEO of Google, declared:

So, what does the digital future look like? Well, you can't forget anything, because your computer remembers it for you... You're never lost... the only way to get lost is to turn off your phone... the reality is that your phone knows where you are already... and furthermore there's research that indicates that even if we know a little bit about you, we can sort of predict where you're going to go... again, with your permission.... We can suggest things that are interesting to you, based on your passions, things that you care about, where

² Crary, J. *24/7: Late Capitalism and the Ends of Sleep*. London and New York: Verso, 2013, p. 19. Crary continues, 'Any questioning or discrediting of what is currently the most efficient means of producing acquiescence and docility, of promoting self-interest as the *raison d'être* of all social activity, is rigorously marginalized. To articulate strategies of living that would delink technology from a logic of greed, accumulation, and environmental despoilation merits sustained forms of institutional prohibition.' (p. 50)

you're going, that sort of thing. Our suggestions will be pretty good. We have figured out a way to generate serendipity.³

A function of contemporary capitalism rather than any inevitable outcome of technological innovation, such an aspiration gives new dimensions to Guy Debord's bleak diagnosis of the 'society of the spectacle', now fifty years old. Even that which is experienced as a chance encounter might merely be the product of the surveillance capacity and processing power of commercial corporations. Schmidt's fantasy hangs on the annihilation of contingency – a concept, as Mary Anne Doane has written, 'used to mean both chance – freedom from necessity, the fortuitous or unplanned – and dependence on something outside itself ("contingent on")'⁴ – a drive to bring the fallible, wayward, unpredictable, self-differing aspects of human experience under control and into economic usefulness. Indeed, digital technology enables the exercise of new powers of manipulation at various registers and scales: from the world-shaping influence of Google, Apple or Amazon, to the way in which Photoshop offers ever-greater means to saturate images with intentions, to shape them to the conscious will of their maker.⁵

Drawing moves between light and darkness, between the exercise of conscious control and its intermittence or abeyance. On the one hand, drawing is firmly allied with reason: the brilliance of the fresh open sheet presents a world geared to bringing forms into visibility; the tenuity of the line renders material at its closest relation to thought; the clarity of the grid organises space and distributes relations; and the levels of concentration involved in the drawing process itself gears the mind to understand and transfigure, and the imagination to design, prospect, project. Inventing, composing, outlining, mapping, diagramming, plotting, modelling, measuring: such

³ Eric Schmidt quoted by Tacita Dean in Cullinan, N. (ed.) *Tacita Dean: FILM*. London: Tate, 2011, p. 23

⁴ Doane, M. A.. Notes from the Field: Contingency. In: *The Art Bulletin*, v.94, n.3, p. 349, September 2012. As Doane explains, the word 'contingent' derives from the Latin *con-* + *tangēre*, meaning 'to touch together,' or 'to come into contact'. Against an idea of self-sufficiency, instead it is linked etymologically to 'words associated with touch: contact, contaminate, contiguous'. Idem.

⁵ I borrow the phrase of 'saturating' artworks with intentions from Michael Fried's account of the work of Thomas Demand, as discussed by Margaret Iversen in Iversen, M. *Photography, Trace, and Trauma*. Chicago and London: University of Chicago Press, 2017, p. 101.

operations associated with different forms of drawing aim at bringing things and their relations into visibility and under conceptual and practical control.

At the same time drawing is dark: in it there is always a moment that is archaic, silent, rudimentary, and inassimilable to conscious purpose or reason. As both a species and as individual subjects we were able to draw before we could write or count, throwing out gestures and marking surfaces. Just as drawing is about visibility, so its basis in tactility, in contact, means that it is also blind.⁶ And it drives fantasies, in which the hand colludes (as Darian Leader has put it, ‘The hand, symbol of human agency and ownership, is also a part of ourselves that escapes us.’)⁷ Drawing’s sophistication is never far from absconding and regressing into disfiguration, baseness and mischief, opening onto a by-turns pleasurable and anxiety-inducing loss of bearings.

This paper explores the relationship between drawing, technology and contingency in the post-war and contemporary period by examining works by three very different artists: Robert Rauschenberg, William Kentridge, and Susan Morris. Each has brought technological reflection into their practice, hybridizing conventional forms of drawing with (and against) the possibilities presented by other forms of recording and image-making.⁸ One characteristic conventionally associated with drawing is that in it the activity of its maker is registered and presented to view in a more direct way than in other forms of practice. While this is certainly not always or necessarily the case, the works with which I am concerned here – Rauschenberg’s solvent transfer drawings, Kentridge’s ‘Drawings for Projection’ and recent ‘flipbook films’, and the *Plumb*

⁶ On drawing and blindness, see Derrida, J. *Memoirs of the Blind: The Self-Portrait and Other Ruins*. Trans. Pascale-Anne Brault and Michael Naas. Chicago and London: University of Chicago Press, 1993.

⁷ Leader, D. *Hands, What We Do with Them – and Why*. London: Hamish Hamilton, 2016, p. 4-5.

⁸ For a longer genealogy, see, for example, Nesbit, M. *Their Common Sense*. London: Black Dog, 2000, and Trodd, T. *The Art of Mechanical Reproduction: Technology and Aesthetics from Duchamp to the Digital*. Chicago and London: University of Chicago Press, 2015. Margaret Iversen has recently made the connection between the work of Robert Rauschenberg and that of Susan Morris, by way of Leo Steinberg’s concept of the ‘flatbed picture plane’. The ideas I am pursuing here are different but complementary. See Iversen, M. Susan Morris: Marking Time. In: *Susan Morris: Sun Dial: Night Watch_Tapestry Dossier*, 2015, unpaginated. Available at: <https://drawingroom.org.uk/resources/susan-morris-marking-time>

Line Drawings, Motion Capture Drawings and Jacquard tapestries of Susan Morris – each stage the activity of their making with particular precision and insistence.

I will argue that while produced in radically different circumstances, each series of works keeps pace with technological developments while at the same time mobilizing variously archaic, infantile, unpredictable, or otherwise ‘dark’ moments in drawing. These aspects pull against the determinations of both the ego and technologized social forces aiming towards prediction and control. Given each artist’s foregrounding of the *work* involved in producing their art, the question is raised as to the significance of both the internalization *of* or insulation *from* the tempos, rhythms, modes of attention characteristic of the situations in which each artist operates, or operated. This is not least a question of artistic autonomy: not in a sense involving aesthetic distillation or the purification of the medium, but rather framed in terms of how the activity of the artist relates to, or is even mimetic of, forms of activity in the life world more broadly.⁹

Solvent Transfer

I was bombarded with TV sets and magazines, by the refuse, by the excess of the world... I thought that if I could paint or make an honest work, it should incorporate all of these elements, which were and are a reality.¹⁰

In 1952, while on spring break from Black Mountain College, Robert Rauschenberg travelled with Cy Twombly to the southern states of America and to Cuba. There he would discover a new graphic technique that allowed him reconfigure drawing by

⁹ In his *Aesthetic Theory*, Theodor W. Adorno wrote of Beckett’s work, ‘This shabby, damaged world of images is the negative imprint of the administered world. To this extent Beckett is realistic.’ *Aesthetic Theory*. Trans. Robert Hullot-Kentor. London and New York: Continuum, 1997, p. 31.

¹⁰ Robert Rauschenberg in Robert Hughes. *The Shock of the New*. New York: Alfred A. Knopf, 1981, p. 345, cited in Joseph, B. *Random Order: Robert Rauschenberg and the Neo-Avant-Garde*. Cambridge (MA) and London: MIT Press, 2003, p. 180.

aligning it with the procedures of *frottage*, collage and photography. The method is technically rudimentary: images are clipped from the contemporary mass media, soaked in lighter fluid, and rubbed on the back with either the tip or the barrel of an old ballpoint pen to transfer the ink from the printed source to the receptor sheet below. The result is a reversed and spectral trace of its mass-produced original. Depending upon the pressure of the mechanical rubbing, the tightness or waywardness of the hand's scanning, and the level of saturation in the solvent, the resulting transfers can vary in their qualities. At times coherent and legible, at others regressing to a mere smudge or erasure, the degraded and distressed images are eloquent of the contained but relatively indiscriminate action of the hand that inscribes them. These transfers are then accompanied by watercolour, gouache, ink, pencil or oil paint marks, unifying the surface with fluid fields, and enlivening the muted transfers with intense highlights of colour.

One of a small number of drawings that survive from these early experiments is *Mirror* (1952, [fig. 1](#)). Here we see Rauschenberg playing reflexively with his new technique. The most prominent transfer, a Raphaelesque head of a woman, immediately invokes the European academic tradition, while at the same time this haphazardly framed face suggests the mirrored reflection of the work's title. Indeed, the transfer is a reversal of its original, and this action of doubling and inversion becomes the theme of the drawing. Most obviously, Rauschenberg has the letters spelling 'Mirror' reversed at bottom centre. Less obvious but perhaps equally important, however, is the way in which mirrors constitute bounded pictorial surfaces which draw in the external world. This quality of receptivity aligns with Rauschenberg's chief concerns in his *White Paintings* (1951), in their hyper-sensitive registration of the most miniscule events of the external world, and in his *Black Paintings* (1951/53), which make prominent use of newsprint. Indeed, he would soon incorporate actual mirrors into his early Combines, as in the major early works, *Minutiae* and *Charlene* (both 1954). Here, drawing is aligned less with invention than with the reflection, registration, incorporation, distribution and transmutation of what exists.

One of the most prominent things 'mirrored' by the transfer drawings is the increasing pervasiveness of the mass media in post-war America. A rocketing trade in newspaper

and magazine publishing was a hallmark of 1950s New York. Since the 1920s Henry R. Luce had been a driving force behind this boom, founding *Time* in 1923 (with his high school friend Briton Hadden), and purchasing *Life* in 1936. Wildly popular from the outset, *Life* had by 1960 achieved a circulation of around six million copies per week).¹¹ *Esquire* had arrived in 1933, and *Look* in 1937, and Luce began publishing *Sports Illustrated* in 1954. Together with daily newspapers such as the *New York Times*, the *New York Herald Tribune*, and the *New York Daily News*, these magazines provided Rauschenberg with a vast, inexpensive and swiftly renewable repository of readymade images.

As Branden W. Joseph has persuasively argued, the transfer image also makes contact with the flickering rasters of early, low resolution television sets: in its ‘shimmering materiality’, its tendency towards ‘boxlike framing’, and its ‘visual hybridization of flatness and depth’. Moreover, Joseph argues, that the ‘fluid slippage between the transfer drawings’ various images and the different spatial areas in which they are contained echoes television’s ability to subsume and simulate – through entirely different means – distinct historical, dimensional, and perspectival spaces within a continuum where they follow one another without disjunction across the depthless “support surface” of the television screen.¹² Joseph characterizes Rauschenberg’s project in the late 1950s and early 1960s as a challenge to the routinized, banalized and clichéd fodder of 1950s TV, with its standardization of expectation and response, in favour of the production and combination of images that are internally riven, unstable and self-differing.

Having left his new method aside for some years, Rauschenberg began to make solvent transfer drawings again in early 1958, shortly before embarking upon its most sustained elaboration of the technique’s potential in his *Thirty-Four Illustrations for Dante’s Inferno* (1958/60).¹³ For the latter, Rauschenberg would make one drawing

¹¹ See Doss, E. ‘Introduction’. In: Doss (ed.). *Looking at Life Magazine*. Washington and London: Smithsonian Institution Press, 2001, p. 3.

¹² Joseph, B. *Random Order – Robert Rauschenberg and the Neo-Avant-Garde*. Cambridge (Mass.) and London: MIT Press, 2003, p. 177.

¹³ For a full account of the project, see Krčma, E. *Rauschenberg / Dante: Drawing a Modern Inferno*. New Haven and London: Yale University Press, 2017. Many of the arguments of this section of the present essay were first set out in this book, and in

for each canto of Dante's text, which constituted the first canticle of the great fourteenth-century epic, *The Divine Comedy* (c.1307-21). Here the Pilgrim is lost mid-way through the course of his life when the Roman poet Virgil is sent by a heavenly agent, Beatrice, to help him find the true path. Virgil leads Dante into Hell and instructs him as to the system of divine justice. He bears witness to a terrifying catalogue of punishments, each corresponding precisely to the nature of the sin committed. This necessary education exposes the Pilgrim to the consequences of turning away from God's grace, either by failing to control carnal appetites or through more damnable crimes involving the perversion of the faculties of reason. Dante elected to write the *Commedia* not in learned Latin but in the vernacular Italian of Tuscany, and throughout the poem he stages the encounter between a revered classical tradition, Christian metaphysics, and contemporary events and protagonists.

Not reading Italian, Rauschenberg referred primarily to John Ciardi's popular 1954 translation of the *Inferno*.¹⁴ By his own account he worked on the illustrations one canto at a time, without reading ahead. The challenge of obeying a structure and observing limits was not just set by the project in general, but also in his approach to each drawing. In this, Rauschenberg stressed his desire to avoid the imposition of personal emphasis by staying close to the structure of Dante's text, and not to select the most dramatic highlights or favourite scenes: 'If the most important image on a page took only three words,' he told Calvin Tomkins, exaggerating somewhat, 'I would make it a proportionate size. The concept of an artist isolating his or her favorite event can pull a particular passage into popular distortion.'¹⁵ While Rauschenberg did not have a longstanding scholarly interest in Dante's poetry he took the task of illustrating it seriously, and when the illustrations were first exhibited at Leo Castelli Gallery in December 1960 they were accompanied by summaries of each canto, displayed on text panels beneath each drawing to aid viewers' understanding.

Krčma, E. "To use the very last minute in my life": Dante Drawings and the Classical Past, 1958-60, in Dickerman, L. and Borchartd-Hume, A. (eds.): *Robert Rauschenberg*. New York: Museum of Modern Art, and London: Tate, 2016, pp.162-169.

¹⁴ Dante Alighieri. *The Inferno*. Translated by John Ciardi. New York: Mentor, 1954 (hereafter *Inferno*).

¹⁵ Robert Rauschenberg in an unpublished interview with Calvin Tomkins, Calvin Tomkins Papers, IV.C.19, Museum of Modern Art Archives, New York.

The solvent transfer method itself provided Rauschenberg with a way to make over Dante's vernacular Tuscan poetry into the everyday visual language of the contemporary American mass media. In making correspondences between the protagonists of Dante's Hell and those of contemporary America, Rauschenberg was often extremely precise, a precision that has been revealed by the present author's discovery of dozens of the artist's source images.¹⁶ However, he never declared his source materials, and therefore allowed these specific patterns of correspondence to remain unspoken. To take one example: the illustration for Canto V (Circle 2, [fig. 2](#)). Here the souls of the Lustful are doomed to swirl within a great wind, buffeted by the storm just as in life they had allowed themselves to be overtaken by the force of their desire. Rauschenberg matches Dante's imagery with particular precision. Amongst the sinners is the 'sense-drugged Cleopatra,' and to depict her Rauschenberg came upon an image of the silent screen icon Theda Bara, pictured in her role as the Egyptian pharaoh in the eponymous 1917 film.¹⁷ Virgil also identifies Semiramis, the legendary queen of Assyria, amidst a host of 'great knights and ladies of dim time' (V.71). To represent her Rauschenberg selected from the same issue of *Life* the image of a carved face depicting an Assyrian courtesan, which he places at the left side of the whirlwind.¹⁸

Indeed, there is also an illustrational correspondence between the Shades populating Dante's Hell and the insistently worked but spectral residues produced by the solvent transfer method. The technique has further connotations, however, particularly in relation to powerful claims made for the meaning of the expressive manual mark in 1950s New York art discourse. Reducing the action of drawing to a mechanical rubbing, the transfer technique prioritizes both speed and contact, while at the same time cancelling the connection between drawing and two of its conventional foundations: cognitive abstraction and subjective expression. Rauschenberg's solvent-transfer method is radically de-skilled and the nests of parallel marks do not correspond to the forms of the images they inscribe, which are often partially lost

¹⁶ For a detailed discussion see Krčma, E (2017), *op. cit.*, which includes images of all the sources mentioned below.

¹⁷ See 'Headband's New Heyday,' *Life*, April 28, 1958, p. 103.

¹⁸ See 'Rich Find of Assyrian Ivory,' *Life*, April 28, 1958, p.120B.

amidst the manual scrawl. Any integrated circuitry of eye, mind, and hand is broken, replaced by a blind, repetitive scanning of readymade image fragments.

While academic models of drawing had long been jettisoned by modern artists, the language of expressive gesture, which relied on a perceived continuity between autographic mark and the artist's organization of 'emotional and intellectual energy,' to borrow Harold Rosenberg's phrase, occupied a dominant place within the discourse on action painting in New York in the 1950s. For Rosenberg, an 'action painting' was the result of an attempt to make over the 'metaphysical substance of the artist's existence'. Rosenberg advised that in approaching such a canvas, we should 'think in a vocabulary of action: its inception, duration, direction – psychic state, concentration and relaxation of the will, passivity, alert waiting. [The spectator] must become a connoisseur of the gradations between the automatic, the spontaneous, the evoked.'¹⁹

The solvent transfer method turns drawing in the direction of the unintended and automatic. Talking to Calvin Tomkins in 1964, Rauschenberg declared,

I don't want a painting to be just an expression of my personality... I feel it ought to be much better than that... I've always felt as though, whatever I've used and whatever I've done, the method has always been closer to a *collaboration* with materials than to any kind of conscious manipulation and control.²⁰

Rauschenberg's work, he hoped, would retain its independence from the exercise of his own will, and in his dealings with his materials he courted their capacity to give visibility to aleatory forces and interactions. Indeed, aspects of contingency – both the quality of the unforeseen and that of being dependent upon and responsive to that which is external – run all the way through Rauschenberg's production: had different images arrived in the media that week the drawings would have looked different; at the level of the mark itself, the transfers were made blindly and relatively

¹⁹ Rosenberg, H. 'The American Action Painters' (1952). In: Rosenberg, H. *The Tradition of the New*. New York: Horizon Press, 1959, p. 29

²⁰ Robert Rauschenberg quoted by Calvin Tomkins in Tomkins, C. 'Profiles: Moving Out'. *The New Yorker*, vol. 40, February 29, 1964, p. 59.

indiscriminately; and, in having never declared their complex patterns of iconographical reference, Rauschenberg also left their reception avowedly open, casting references to the winds of the varying knowledge and interests of his audience.

Both this issue of contingency, and what might be called the ‘infantile’ aspects of the transfer process, are dramatized in Rauschenberg’s illustration for *Inferno* VII.²¹ In this canto Dante and Virgil pass through the fourth and fifth circles of Hell, to which the Hoarders and Wasters and the Wrathful and the Sullen, respectively, are confined. These souls had in their different ways remained blind to the light of God’s grace: the former, very numerous, allowed a mundane preoccupation with material fortunes to obsess them; the latter had let rage and bitterness prevent their appreciation of ‘the air made sweet by the Sun’. The canto opens with the angry, nonsensical babble of Plutus, the Greek God of Wealth: ‘Papa Satán, Papa Satán, aleppy’, he yelps (VII.1). Virgil soon dismisses these incomprehensible stutterings, and the poets then descend to survey the pitiful labours of the Hoarders and Wasters, ‘their souls dimmed past recognition’ (VII.54). These block-headed sinners are condemned to lug apart and crash together great weights of rock: ‘Why do you hoard?’ one faction cries; ‘Why do you waste?’ retorts the other, before they ‘puff and blow’ and heave back their heavy loads, only to turn and smash them together once again (VII.30-31).

After Virgil has tutored Dante in the vagaries of Fortune, whose benign but indiscriminate laws these misers and spendthrifts had negotiated so poorly in life, the two poets look over the Styx, ‘a dreary swampland, vaporous and malignant’ (VII.108). Here the Wrathful thump and butt against one another in fits of rage, and the Sullen, submerged beneath the filthy marsh, gargle a litany, ‘as if they sang,’ Dante remarks, ‘but lacked the words and pitch’ (VII.126). No individual is picked out amidst the crowds of sinners in this canto: all remain without definition in correspondence with the undiscerning way they chose to conduct their life.

Rauschenberg’s illustration is not the most visually striking of the suite, sharing as it does in Dante’s atmosphere of miasmatic obscurity (fig. 3). A series of faint and broken

²¹ This discussion is borrowed from Chapter 3 of my book. See footnote 13.

transfers overlaid with dull watercolour washes is dotted with brief accents of stronger colour. The page is divided into three horizontal sections. In the thin upper band Plutus's nonsensical words are written out backwards; the Pilgrim is represented by the lower legs of a figure transferred from a True Temper golf club advert; and Virgil by a radiant golden glow. The larger second section, taking up most of the upper half of the drawing, depicts the Hoarders and Wasters, whose futile exertions are indicated by pencil drawings of unitary geometric forms and diagrammatic arrows in red and blue. The sinners themselves are represented by an image of state police officers assisting at the site of a fatal crash at the 1958 Indianapolis 500, in part caused by the reckless tactics of driver Ed Elisian, who was under pressure to pay off his gambling debts (Elisian had then been killed in a crash at the Milwaukee Mile in 1959).²² These shadowy figures are joined with '\$' signs, a cluster of coins, and faint green dabs and washes that establish a connection with American banknotes; as Ezra Pound wrote of Dante's poem, 'the whole Hell reeks with money.'²³

To the centre left is the figure of Fortune, The Lady of Permutations, whose radiant presence punctuates the grey murk with a lone burst of colour. Below Rauschenberg represents the Wrathful and the Sullen by way of a series of smudged and riven transfers of babies' heads derived from an advertisement clipped from *Life* magazine.²⁴ Under the striations of Rauschenberg's stylus these images are brought to the very threshold of legibility. To the bottom left there is a row of five or six heads, transferred upside down; those to the far left remain discernible but towards the middle of the sheet they disintegrate into a chaotic scree. Looking closely at the drawing, what had at first appeared a random mark can, when seen at a different scale or orientation, suddenly emerge as the image of a baby's face; and at other times what had promised to cohere into a recognizable figure slips back into mere visual noise. Indeed, the babies' heads draw attention to the de-skilled transfer process, the method requiring little of the hand except pressure and effort, and recalling the varyingly tedious and dumbly pleasurable action of erasure more than the flexible and responsive work of creation.

²² See 'Lessons of Indianapolis,' *Sports Illustrated*, June 9, 1958, p. 31.

²³ Pound, E. 'Hell'. In: Eliot, T.S. (ed.). *Literary Essays of Ezra Pound*. New York: New Directions, 1968, p. 211.

²⁴ Advertisement for America's Rural Electric Systems, *Life*, April 25, 1960, p. 135.

Within this dismal zone of absolute barrenness and constraint – unlike the progressive punishments inflicted upon the saved souls in Purgatory, those of Hell are never-ending and unchanging – Fortune performs what Philip Berk calls a joyful ‘play of difference and dissemination’.²⁵ Her ministrations run counter to the deliberate works of man, embodying an unruly and inscrutable force; her effects are unpreventable and her judgment impenetrable. She does not create the goods she distributes, but only ministers their circulation. This is perhaps the figure with whom Rauschenberg shares closest affinity. ‘The character of the artist has to be responsive and lucky’, he would write in 1963, and unlike Dante’s sinners, his approach was geared to remaining receptive and actively responsive to the wealth of material to which his media-saturated situation delivered him.²⁶ The spectral, striated and degraded transfers themselves then open up this standardized, mass reproduced, readily legible imagery, disrupting it, via material contact and physical pressure, and putting it into circulation within a radically different referential system.

In 1960 Rauschenberg’s transfer method enacted a displacement of the traditional functions of drawing and set it into dialogue with the mass media. From today’s perspective, however, what is at least as insistent about the technique are its material aspects: the turning of magazine pages with a view to finding an image of a size and quality that will fit; the clipping and soaking of the printed fragments; the covering of one sheet of paper by another, followed by the effortful process of blind rubbing; and the small magic of the result: a delicate stain that bears the traces of the care and damage of its physical inscription. Indeed, as everyday habits of reading and looking shift from the printed page to the luminous screens of mobile phones, laptops, and tablets, and as the production, exchange and dissemination of images has accelerated exponentially, we find in Rauschenberg’s solvent transfer method a technique that engages drawing’s technological condition while insisting upon both the critical value and the enabling resistances of its material encounters.

²⁵ See Berk, P. K. ‘The Weal of Fortune’. In: Mandelbaum, A., Oldcorn, A., and Ross, C. (eds). *Lecture Dantis – Inferno, A Canto-by-Canto Commentary*. London and Berkeley: University of California Press, 1998, p. 107.

²⁶ Rauschenberg, R. ‘Note on Painting,’ written between October 31 and November 2, 1963, Robert Rauschenberg Foundation Archives, New York.

Drawings for Projection

In this way, Rauschenberg's method makes contact with a number of hybrid forms of drawing that have emerged since the late 1980s and early '90s. That is, during the period that saw the increasing ubiquity of personal computers, the adoption of digital drawing programmes like CAD by industry, and the invention of the World Wide Web. One of the most celebrated of such practices is that of South African artist William Kentridge who, in 1989, produced the first of what would become a series of ten now celebrated works collectively entitled, 'Drawings for Projection'. In what he called a kind of 'stone-age film-making,' Kentridge married drawing with film – in a manner related to but distinct from more conventional forms of animation – while also explicitly invoking the figure of *fortuna* to help describe what is at stake in his studio practice.

The first of the 'Drawings for Projection' was *Johannesburg: 2nd Greatest City after Paris*, 1989, and the latest is *Other Faces*, finished in 2011. The production of the series therefore spans the years from the election of F.W. de Klerk as the State President of South Africa and his public commitment to ending apartheid, to the first democratic elections of 1994, the establishment of the Truth and Reconciliation Commission in 1995, and on into South Africa's ongoing efforts to confront the AIDS epidemic and the country's persistently severe economic and social inequalities. The characters, landscapes and action of Kentridge's films engage explicitly with the realities of his nation's traumatic recent history and conflicted present, although Kentridge has also voiced his skepticism about the viability of an art that attempts to take on the 'Rock' of apartheid too directly and forgetting the specific permissions, potentials, and indeed limitations of its own forms of autonomy.

As has been amply discussed in the scholarship, to make the 'Drawings for Projection' a film camera was stationed opposite a large sheet of paper tacked up on the studio wall.²⁷ Working for the most part with a thick stick of charcoal and a piece of shamois leather, Kentridge draws onto the sheet before walking over to the camera

²⁷ See especially, Krauss, R. 'The Rock: William Kentridge's Drawings for Projection,' *October* 92, Spring 2000, pp. 3-35.

to record the image by exposing one or two frames. He then returns to the wall to make some erasures, before moving back to take a couple more frames, then approaches the sheet again to rework the image, and so on. The resulting sequence of film, projected in the gallery accompanied by a soundtrack, therefore shows the progress of a single drawing, its depicted movements accompanied by a thick trail of erasures.

There is, we might think, something of the interminable to-ing and fro-ing of Dante's Hoarders and Wasters to Kentridge's endless shuttling between tacked-up sheet and film camera. Yet for Kentridge it is within this repetitive back-and-forth that a powerful form of creative agency takes hold. Discussing the production of his 1991 film, *Mine* (fig. 4), which describes a descent into the hellish bowels of a gold mine owned by the character Soho Eckstein, Kentridge has spoken of how the material processes and long duration of studio production give rise to images and ideas that could never have been pre-planned. (Specifically, here, in drawing the descent of the plunger of the cafetière as Soho enjoys his breakfast, the idea arose to continue this downward movement, as an analogue for the descent into the mine itself). To the 'range of agencies' delivering such possibilities, which the artist stresses he did not consciously intend but was very glad not to have overlooked, Kentridge gives the name *fortuna*, which he describes as 'something other than cold statistical chance, and something too outside the range of rational control.'²⁸ Indeed, for Kentridge, 'This reliance on 'fortuna' in the making of images or texts mirrors some of the ways we exist in the world even outside the realm of images and texts.'²⁹

Kentridge distinguishes his method from that of traditional CEL animation in this respect. There a storyline is worked out in advance and executed in stages that leave little room for further creative agency.³⁰ Disney studios stopped using cels in 1990, when the Computer Animation Production System was introduced, and this time-

²⁸ Kentridge, W. 'Fortuna: Neither Program nor Chance in the Making of Images'. In: Christov-Bakargiev, C. et. al. *William Kentridge*. London: Phaidon, 1999, p.118.

²⁹ Ibid. pp. 118-9.

³⁰ First, line drawings are then made on sheets of tracing paper so that the draughtsman can easily reproduce their forms on the next sheet and alter them accordingly. Once the final sequence of individual line drawings are agreed, it is the job of the copyists to transfer the designs onto transparent celluloid sheets, which are then ready for inking.

consuming and costly technique has been all but abandoned in major animated productions. Whereas in CEL animation a studio needs to work out its content fully in advance, Kentridge expresses the desire to work more flexibly and spontaneously, accommodating those ideas arriving by chance during the process of making, visual ideas that were not (and perhaps could not have been) planned ahead of time. In a recent series of lectures he has described this in terms of a kind of ‘stupidity’:

This necessary stupidity is not the same as foolishness, or the innocence of the pure fool made wise through compassion. It is not the fool with license to talk truth to power. It is not a simple naïveté elevated. Rather it is making a space for uncertainty, for giving an impulse, an object, a material, the benefit of the doubt. Following the impulses that feel stupid, without a destination, believing that at some point, we will emerge from our zoetrope. It is more than this. It is a conscious repression of evaluating in advance of action the value of the thought... [I work] [n]ot in celebration of the stupidity of itself, but believing in it more than in a studio of good ideas, of things worked out in advance and then shot and executed.³¹

As well as bearing upon a model of studio practice, the method also produces visual effects that stand in opposition to the characteristic aesthetic modes of digital technology. The movement of Kentridge’s characters and scenes brings with it, as Rosalind Krauss has discussed, a kind of weight, density or drag.³² The process of change takes effort and happens at a cost. In this way, the artist’s formal and technical means resonate powerfully with his thematic concern with history, memory and the weight of the past upon the experience of the present, and oppose the ease and immediacy of digital deletion. Indeed, Kentridge’s comportment towards technological progress is avowedly less enthusiastic than was Rauschenberg’s. Kentridge’s work abounds with a host of obsolete and near-obsolete technological

³¹ Kentridge, W. *Six Drawing Lessons*. Cambridge, Mass. and London: Harvard University Press, 2014, p. 128.

³² Krauss argues: ‘But another condition that equally reigns within these films operates against the principle of anything changing into anything else, or at least works to dilate the time within which the change occurs and to underscore the impossibility of predicting the form it will take, thus investing that change with a kind of weight (emotional? moral? mnemonic?).’ (‘The Rock,’ p. 18)

devices, often bearing personal associations with the artist's childhood, such as Bakelite telephones, mechanical typewriters, model globes, stereoscopes, and film projectors, which stand as a counterweight to the ascendancy of digital media.

This is dramatized in a more recent series of 'flip-book films', which Kentridge has produced by making hundreds of drawings onto the pages of old encyclopedias and other reference volumes, photographing them and sequencing the images to make a 'film'. *Second-Hand Reading* (2013, [fig. 5](#)), for example, is a seven-minute HD video showing a rapid sequence of charcoal, ink and watercolour drawings made upon the pages of a 1936 edition of the *Shorter Oxford English Dictionary*. The works rub the kind of classificatory thinking characteristic of such volumes – designed as instruments of clarity and reason – against the arbitrary poetics of physical dictionary pages, with their strange juxtapositions, and against the more open and ambiguous expressive capacity of the drawings themselves.

Second Hand Reading begins with the closed leather-bound volume sitting on a work surface; it is soon opened to reveal an adapted title page borrowed from *Cassell's Cyclopaedia of Mechanics: Memoranda for Workshop Use Based on Personal Experience and Expert Knowledge* (1900), onto which has been collaged the subtitle, 'On Historical Principles'. The opening piano bars of a song by the Soweto-born composer Neo Muyanga sound and the pages of the dictionary start to flit by. Poetic phrases and fragments are drawn in bold typography. Then arrives the image of the artist himself, wearing his characteristic white shirt and black trousers and drawn in energetic charcoal lines. This animated avatar paces along within the right-hand page, getting nowhere, then halts to confront the viewer/reader, before beginning his pensive walk again. This figure is then accompanied by more drawings on the facing page: a rolling landscape, more text fragments, a woman signing in semaphore, a cascade of coloured shapes.³³

Together with the appearance of a loudspeaker, we then hear the voice of Muyanga himself, singing deeply and resonantly in Sesotho. The words he sings come from an old traditional hymn often sung in churches and funerals in Soweto and other

³³ See Garb, T. and Bradley, F. (eds). *William Kentridge and Vivienne Koorland: Conversations in Letters and Lines*. Edinburgh: Fruitmarket Gallery, 2016.

townships during the 1980s, set to music composed by Muyanga in response to the 2012 massacre of protesting miners at Marikana. The song unfolds slowly, but translates into English as follows:

When the rain comes again / in torrents
When it rains / please remember me
See how thirsty / and wretched I am
Please permit some drops / to fall
And wet me / a little too.³⁴

A flurry of ink drawings hurries past in time with the quickening melody of the piano, each arriving for only a fraction of a second. The image repertoire is varied but nevertheless fairly limited. There are drawings of human subjects: male and female, black and white, naked and clothed, moving and still, alive and dead. There are objects associated with language and communication: globes, loudspeakers, typewriters. There are landscape scenes evocative of the *veld* around Johannesburg. And there are different kinds of abstract forms and marks: geometric coloured shapes in the tradition of utopian abstraction, and fields of inky signs reminiscent of Henri Michaux's unruly ideograms, for example. Kentridge also draws a number of everyday objects that, he has said, call out for Indian ink (the jet black enamel of an old typewriter, for example). At several moments such bold graphic forms are animated, revolving slowly to reveal the silhouettes of other objects as they turn.

Second Hand Reading is one of a number of works using the same method that Kentridge has made in recent years. Others include *The Anatomy of Melancholy* and *Tango for Page Turning* (both 2012). The latter takes as its ground a Dictionary of Applied Chemistry, in which blocks of text are interspersed with diagrams, tables and charts; and to make *The Anatomy of Melancholy*, Kentridge drew over the pages of a 1920 edition of Robert Burton's celebrated 17th century treatise. These 'flip-book films' (the name itself refers to a rudimentary proto-cinematic device) involve a

³⁴ This is a translation of the following Sesotho lyrics: 'Pula tsa lehlohonolo / Ha di na ka medupi / Le nna hle o nkgopole / Bona ke omeletse / Rothisetsa marothodi / Le nna hle ke kolobe.' My thanks to Neo Muyanga for providing me with this translation (email to the author, 27th November 2016).

salvaging and repurposing of the kind of printed reference volumes that are swiftly falling out of use. Given the ease, power, and speed of Internet search engines, such slow and bulky physical repositories are no longer the go-to resource, and increasingly struggle to justify the library shelf space that their storage requires. Alongside model globes and typewriters, this is a communications technology that is swiftly becoming obsolete.

In using the pages of such reference volumes Kentridge is both literally and figuratively drawing upon a field of existing historical meanings. Drawing is not proposed as a gesture in the open field of the white page, a beginning from a *tabula rasa*, but rather as a modification of a surface already explicitly inscribed with ink, with signs, and with a certain style of thinking. This is consistent with Kentridge's drawing practice more broadly: the famous method employed in the *Drawings for Projection* series proposed a model of drawing as palimpsest, in which new marks arrive on surfaces already densely worked and reworked, and Kentridge has also used maps and historical ledgers eloquent of South Africa's colonial history and economic exploitation, as the ground of his work. For example, while at work on the flipbook films he also engaged in a sustained exploration of the brutal history of exploited human labour in South Africa in his series of forty drawings made over an *East Rand Proprietary Mines Cash Book* from 1906 (2011-13).³⁵ These drawings depict an unspectacular landscape that bears the traces of its industrial usage: pipelines, pylons and poles abound, and Kentridge reinforces the printed pink lines of the accounts ledger with other coloured pencil lines that chart, map and highlight sections of the depicted terrain.

In *Second Hand Reading*, what relationship do Kentridge's drawings have to their printed support? When watching the video itself the images most often flit by far too quickly to enable such exploration, but its presentation has also been accompanied by pages framed on the wall or vitrines containing some of the constituent drawings, and is supplemented too by a monumental book of around 800 pages, published by

³⁵ See Morris, R. C. and Kentridge, W. *Accounts and Drawings from Underground: East Rand Proprietary Mines Cash Book, 1906*. Chicago: University of Chicago Press, 2015.

Fourthwall, which reproduces the drawings in a different sequence.³⁶ This more distributed form of the work then offers opportunities for closer and slower examination of image / text correspondences.

As mentioned, in one sequence a flurry of pages bearing geometric shapes of pure colour recalls the utopian language of the historical avant-garde. The sheets also bring to mind the Belgian artist Marcel Broodthaers' modification of the pages of some remaining copies of *Pense-Bête* (1963-4), covering over the text with coloured papers, before burying the rest in a wodge of plaster. Kentridge's forms overlay the columns of dictionary definitions; that is, the kind of down-to-earth clarification of established meanings that prepare our verbal signs for clear, unambiguous and consistent usage. In one such sheet, an aqueous brown rectangle covers the central section of a page offering the definitions of words from 'Realism' to 'Rear' (fig. 6). As they are read, the listed terms start to take on a specific relationship with Kentridge's own practice: 'Realism,' 'Realization,' 'Re-ally,' 'Realm,' 'Realty,' 'Reanimate': the connotations and connections spin outwards. While the weight of the brown watercolour field sometimes obscures the printed text beneath, the meeting of abstract forms with the arbitrary poetry of dictionary entries is an invitation for the mind to entertain its associative impulses, reanimating the words in excess of their classified definitions.

In another drawing, a luminous magenta circle overlays a page that offers the definition of words from Radio-Active to Rag. Orbiting this circle are words such as Radius and Radish. Such conjunctions of shapes, colours, words and their definitions tempts a playful exploration of correspondences and resonances, the artist enjoying the chance finds and contingent poetics of dictionary entries. In yet another a deep blue watercolour rectangle covers an entire page of text. The uniform blocks and columns of printed type are rendered largely illegible, although tellingly the word 'Reasoning' peers through the dark wash in the header.

The 'flip-book films' in part constitute hymns to the aesthetic, historical, and conceptual resonances of such otherwise largely redundant objects. At least as forcefully, however, they also stage and celebrate Kentridge's own studio production,

³⁶ Kentridge, W. *2nd Hand Reading*. Johannesburg: Fourthwall Books, 2014.

which absconds from such forms of conceptual control and classificatory rigour. In these films (and many other works throughout the artist's oeuvre), Kentridge figures his own perambulations and includes phrases he had written down in notebooks as kinds of watchwords for his method – 'thinking on ones feet,' 'performing the meaning's absence,' 'tear and repair,' 'the sympathetic paper' – and the range of his interests across art, history, politics, science and philosophy. Kentridge has consistently stressed the role of a kind of blind, childish aspect of art making, one that is grounded in an open, exploratory manipulation of materials, in which disbelief and analytic reflection are willingly suspended, and which is characterised by a kind of open and flexible play. In this way Kentridge's studio work seems both insulated from and in contrasting relationship to the forms of labour to which his work frequently makes reference.

In a sense, then, this also conforms to a fairly familiar idea of the artist finding freedom and autonomy in the studio, which becomes the incubator for creative inventions then placed before the audience, with all the attendant institutional and discursive framing, not to mention more commercially directed marketing. Indeed, the near-universal embrace of Kentridge's practice might constitute a reason to pause and reflect more critically here too. As the artist's reputation, levels of exposure, and market value have increased, the frequency and insistence with which he stages the image of his own body and studio activity have also increased (this was notably the case in Kentridge's recent exhibition at London's Whitechapel Gallery³⁷). At considerable distance from the Bartleby-like opacity of Broodthaers' self-stagings, for example, Kentridge's dramatization of his own creative process offers up a consoling image of the continuing availability and purchase of autonomous, studio-bound acts of creation. Arguably, this has also been at the expense of structural reflection upon the role of the internationally-renowned artist within cultural circuits structured by the priorities of late capitalism. Ultimately Kentridge offers us a confident vision of the artist's role, even while foregrounding the doubts and struggles involved in the process of creation itself. His repeated self-stagings, however, might also point to a more anxious need to keep affirming that idea, in spite of it all.

³⁷ The exhibition, *William Kentridge: Thick Time*, was on view at the Whitechapel Gallery, London, 21st September 2016 – 15th January 2017.

Motion Capture Drawing

The kind of subject at stake in the work of British artist Susan Morris is at once both more constrained and less graspable. Morris's work over the last ten years has combined a concern with advanced forms of digital technology and the most rudimentary procedures of drawing, to evoke a contemporary subject caught up in the feverish rhythms of our 24/7 society. Here, the working artist's body is again central, but, bucking the trend of contemporary self-presentations on social media, Morris foregoes the production of images of the self in favour of more apparently neutral strategies of recording, diagramming and tabulating, strategies informed by the conventions of conceptual art, amongst other things.

In a series of works from 2008-9 collectively entitled *Plumb Line Drawings*, Morris produced another kind of 'cinematic' drawing to negotiate the relationship between abstract art, the *work* of art, and an idea of time characterised by repetition, compulsion and constraint (fig. 7).³⁸ Using a spirit level, a horizontal line three metres long was drawn a few inches below the uppermost edge of a large sheet of paper pinned to the wall. It is from this line that the others would fall: beginning at the left-hand side, the artist bangs in a nail, and from there hangs a plumb line. As the reel is pulled down to the floor, the device coats the string with vine ash. The taut cord is then pulled away from the paper surface and released to snap back against the sheet, leaving a fragile, powdery vertical line. The nail is then pulled from the wall and another hit in a few millimetres to the right; the cord is again lowered, pinched and plucked, and a new impression appears. This process is repeated hundreds of times, sometimes over many months, until the paper is adequately scanned.

The individual lines are materially fragile, degraded at their upper and lower extremities, and vary in both length and density. What finally results from this repetitive de-skilled work is a wide screen of closely woven vertical lines, an accumulation of moments that responds to the history of abstract picture making whilst also giving visibility to time: an extended discontinuous cinematic time of

³⁸ See O'Dwyer, D. (ed.) *Susan Morris: Sontag/Montag*. London: Five Years, 2009.

sequenced traces and gaps. The fine texture of marks fall like rain, subject to gravity rather than to the will of the artist. As the vine ash holds to the paper the lines seem weighless, a great ‘thinglike nothingness’, as Eric Santer described dust.³⁹

The precipitation of Morris’s marks points to a bodily performance which is in stark contrast to an idea of creative improvisation or expressive fluency: here we really do seem to make contact with the Hoarders and Wasters, and their interminable and pointless labours. The unintentionally produced yet consciously preserved smudges, heaviest above the puckered line of small holes where the hammer has scuffed the paper when removing nails, evidence a struggling, protesting body behind the visible marks. The amount of work necessary to complete these drawings is not only very substantial, but also mechanical and repetitious, absurd in its combination of doggedness and futility. Recognising this, the drawings change aspect and appear as if made under duress, and the paper takes on a new quality: instead of an optical surface to be gazed into, it becomes a kind of wall that is hit against – an obdurate, resistant surface to be covered over, struggled with, blanked out. Morris’s process is eloquent of both compulsion and constraint, a kind of hysterical performance redolent of what Santner, in his discussion of ‘creaturely life,’ has described as a ‘paradoxical mixture of deadness and excitation, stuckness and agitation’.⁴⁰

In her path-breaking book, *Zeros + Ones, Digital Women and the New Technoculture*, Sadie Plant explores the way in which women’s labour, both in its conventional forms such as weaving and its less sanctioned ones such as mathematics, have intersected with the development of digital technology and with psychoanalysis at crucial junctures. Plant quotes Breuer’s and Freud’s *Studies in Hysteria* when writing that ‘Indeed there are a “whole number of activities, from mechanical ones such as knitting or playing scales, to some requiring at least a small degree of mental functioning, all of which are performed by many people with only half their mind on them.” The “other half” is “busy elsewhere.”’⁴¹ Morris’ method has about it just such

³⁹ Santner, E. *On Creaturely Life – Rilke, Benjamin, Sebald*. Chicago and London: University of Chicago Press, 2006, p. 100.

⁴⁰ Ibid. p. 81.

⁴¹ Plant. *Zeros + Ones*, pp. 111-112. Plant writes, ‘Hysterical women were characterized as oversensitive, self-obsessed, antisocial loners whose symptoms were extreme versions of behaviour patterns common to all women. They were mutable,

a combination of outward repetition and inward waywardness, a form of activity that might shield or screen the subject from insistent thoughts, or might fully engage the body and minimally absorb the mind, allowing it to wander.

In 2009, Morris began work on a related series of *Motion Capture Drawings* (completed 2012, [fig. 8](#)), which use high-tech forms of digital data capture to isolate and diagram the involuntary movements of the working body, in a contemporary form of surrealist automatism. While engaged in making a Plumb Line Drawing, this time in a motion capture studio at Newcastle University, the artist wore sensors on different parts of her body. The activity was captured as data files, transcoded into line and printed like a photograph onto archive inkjet paper. The web of fine white lines is formed negatively by printing a matte black ground, so that it is the accumulation of black ink that produces a line by surrounding an absence. Organized into sets of three, the *Motion Capture Drawings* diagram Morris's movements as 'seen' from the front, from the side and from above. The resulting spidery skeins are the mysterious product of involuntary bodily dynamics, sampled and materialized by way of digital data conversion and image production. The matrices of white lines, endlessly looping back and forth, up and down, to and fro, hang within an impenetrable black field, unanchored from any secure spatial or temporal coordinates.

Margaret Iversen has suggestively analyzed Morris' work in relation to what she calls the 'indexical diagram'. This term designates a hybrid form of representation, one which combines the direct tracing of the movements of the body with the linear abstraction of the diagram. Examples are provided by such recording instruments as cardiographs, seismographs, and, with the most pertinence in this instance, the famous chronophotographic experiments of Étienne-Jules Marey, in which the body was abstracted and made legible by being covered in black clothing, all except for white reflective strips attached to the limbs.⁴²

capricious, unpredictable, temperamental, moody. They were nervous weather systems fluctuating between stormy energy and catatonic calm.' (p. 110)

⁴² Iversen, M. 'Index, Diagram, Graphic Trace'. In: *Photography, Trace, and Trauma*, pp. 67-82.

Recalling Marey's *homme squelette*, the *Motion Capture Drawings* offer a kind of zero degree of visibility to a body taken up in its compulsive, creaturely dimension. Indeed, these works can be thought of as constituting a contemporary form of automatic drawing, which André Breton described as 'a true photography of thought', the spidery lines falling outside intentionality, language or imaginary presentation. Arguably, these intricate linear webs are indeed *indexical*, not in the sense of being an imprint of physical contact, but rather by being the result of an automatic transcription of the data deriving directly from the body. These skeins of lines have a truth in relation to the thing they trace (they are not 'made-up'), but they are also not straightforwardly imprints. In this way, Morris's use of digital as opposed to analogue technology is crucial. Using language that also reveals her longstanding interest in Lacanian psychoanalysis, she explains:

I would argue that digitization [...] provides a more direct version of the mark I am interested in, in that it can give form to – make manifest – phenomena that are invisible or appear to come from nowhere. Digital recording produces 'Real' marks, not imaginary constructions or representations. Rather than encoding reality I can imprint it.⁴³

At the same time as she was making the *Motion Capture Drawings*, Morris extended her appeal to the recording capacities of digital technology in a series of tapestry works. While seeming to depart from my central concern with drawing – it is central to Morris's work that it moves between different interchangeable outputs – the tapestries can, however, again be related to the visualization of the unconscious life of the body, while at the same time making even more explicit the relationships between labour, technology and the conditions of subjectivity (fig. 9).

For five years, Morris wore an Actiwatch biometric device designed to provide accurate data regarding levels of bodily activity and light exposure. To make her series of tapestries, this data was sent to Jacquard looms in Belgium, which converted the values into a sequence of colour-coded thread patterns, with different colours

⁴³ Morris, S. 'Drawing in the Dark'. *Tate Papers*, no. 18, Autumn 2012 (<http://www.tate.org.uk/research/publications/tate-papers/18/drawing-in-the-dark>), accessed 2 May 2017.

corresponding to different levels of activity. The Jacquard loom was first presented in 1801, its major innovation being the introduction of a chain of punch cards laced together to provide a fully automated mechanical ‘score’ for the weave. These punch cards were also of great interest to Charles Babbage when he was designing his Difference Engine, the precursor to the Analytical Engine, and therefore have an important place at the birth of the modern computer.

In *SunDial:NightWatch_Sleep/Wake 2010–2014* (2015) the minute-by-minute numerical values are converted into coloured threads of pre-assigned value: red for high levels of activity, black for little or none, with a gradient of colours between. Large amounts of the colour blue, for example, may indicate ‘awake but not very active’ – i.e. Morris was probably working on her computer. Each day is represented by one vertical line, the intermittence of which corresponds to higher or lower levels of activity, with the dark of the night at the centre displaying sleep patterns interrupted by all manner of contemporary ennervations. Here, then, Morris combines the most up-to-date digital technologies with those deriving from an early moment in the Industrial Revolution and the mechanization of labour, as human life became more thoroughly governed by clock and calendrical time.

The temporal register shifts again as the slower undulations of the tapestries’ patterns come into focus, however. In those works which indicate the levels of light to which Morris’s body was exposed, the viewer can track more gradual movements on a planetary scale, with the coloured threads becoming warmer earlier as the evenings get lighter, and the black threads reasserting themselves and they darken again, as the Earth orbits the Sun. The human becomes that creature caught between the cyclical movements of the planets and stars, and the accelerated tempo of life under advanced capitalism.

Digital technology enables new forms of what Walter Benjamin famously described as an ‘unconscious optics’, allowing the artist to figure that which is otherwise invisible to the human eye, and indeed to signal the structural formations to which life is subject. Indeed, in the process of the transposition of the motion capture data into lines, certain knots and glitches occur and are visible in the works, a fact dramatized in a series of works made from details of the *Motion Capture Drawings*, printed on a

one-to-one scale. The origin of these strange nodes and linear coagulations is uncertain: is it something in the body, in the digital apparatus, or at the interface between the two? In one sense, Morris's involuntary body is both the subject and object here, yet what her work gives visibility to is in fact the subject beneath the 'I', away from conventional forms of symbolization and imaginary projection.

Elaborating on the ideas that drive her practice, Morris describes her feeling that

There should be some sort of logic or rule to produce, engineer or generate this mark and at the same time there should be some sort of break with this rule, a kind of rebelliousness; what Breton would call a 'diseducation'. Following Breton, I believe that there should be a necessary, wordless pleasure involved in drawing, a convulsive blindness, which can only occur in a mark that is laid down involuntarily. In this way these rather dry and diagrammatic works are also always saturated with those aspects of the self that are most incomprehensible, such as laughter or tears, paroxysms that are spontaneous, unpredictable and impossible to control or measure.⁴⁴

Here we can recall Rauschenberg's illustration for Canto V of Dante's *Inferno*, which depicts the Carnal, those sinners imprisoned in Hell's second circle for the failure to control their bodily hungers. The willingness of these souls – Paolo and Francesca, Cleopatra, and Tristan amongst them – to allow the forces of desire to overpower their reason has condemned them to eternal punishment, thrown by a cruel wind. For Dante these souls had betrayed their reason to their appetite; but today, when the power and pervasiveness of technologically enhanced controls is now so developed, the task of maintaining contact with the forces of contingency, with the unpredictability of material encounters, and with the inassimilable rhythms and pleasures of the body, itself seems an urgent one.

⁴⁴ Morris, 'Drawing in the Dark'.