

Dream Machines

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The feelings we have for and in dreams are often mediated by the objects of which we dream (whether asleep or awake, and so taking dreaming in its largest sense), as well as the sorts of objects that dreams themselves may be taken to be. Those objects are sometimes, I think, mechanical in form and function.

A machine is a thing. It is on the object side of things. Yet a machine is an anomalous kind of thing, an object that seems to exceed its objecthood in certain ways, through its quality of being automatic, of moving itself. Through its capacity for motion, a motor is an object that seems to be moving across into the condition of a subject, or quasi-subject. Machines do work for us, a machine is always a kind of substitute for a subject. And yet, as Michel Serres says, subjectivity is already substitution: ‘one must think of the subject as the potential for substitution. What does substitution mean? It is the same word as substance’ (Serres 2014, 88; my translation). A machine stands in vicariously for that which has, and so is the potential for vicariance itself. Subjects are not machines, because machines are objects; but they can imagine themselves as machines, as imaginary machines.

A machine transmits force. It has motion rather than emotion. But what if the force transmitted by a machine is the force of fantasy, or what may come to the same thing, the fantasy of force? What kind of transport does such a machinery effect? The word transport moves between different registers of transmission – the physical movement of objects or energies and the movement of feeling, the feeling, for instance, of being, as we say, moved.

What follows concerns different kinds of dream machines – machines of which we dream, and the machinery we imagine dreaming itself to be. So it is also concerned with the substitutive relationship between fantasy and machinery. This is always a question of feeling, because it is always a question of force. The force in question may be wholly imaginary; but the fantasy of force always exercises a real force, the force of fantasy.

There are many things to which the term ‘dream machine’ has been applied. One of the commonest applications of the term ‘dream machine’ nowadays is to a particularly magnificent kind of car or motorcycle, sometimes a racing car, and

sometimes one that has been modified and elaborated well beyond ordinary specifications. A ‘dream machine’ here may not mean much more than simply the machine of your dreams. But the term ‘dream machine’ is also commonly used for the Hollywood film industry and, by extension, the culture industry more generally. The dream machine of contemporary entertainment is not just what you dream of, it is what you dream with, since it is the machinery of your dreams. In July 2015 Google made available the source code for its *Deep Dream* software, which builds on the company’s face-recognition algorithms to detect patterns in photographs and then enhance and amplify them. As in so many other examples of oneirurgic machines, the result is not so much the production of dreams, as the production of a standardised notion of what a dream is. In the case of the Google software, it looks as though dreams always consist of the fractal repetition of eyes. In M. Mitchell Waldrop’s *The Dream Machine: J.C.R. Licklider and the Revolution That Made Computing Personal* (2002), the phrase is applied to the personal computer, and the role in its development of a psychologist who was absorbed in ‘the challenge of deciphering that ultimate gadget, the brain’ (Waldrop 2002, 12). Waldrop’s usage refers back to Ted Nelson’s *Computer Lib/Dream Machines* (1974), a manifesto for personal computing that took the form of two books bound back to back and printed at 180° to each other. One half of the book, *Computer Lib*, is an attack on the secretiveness and centralisation of computing technology, technologists and technicians. The other, *Dream Machines*, is an evocation of the many uses which the computer would have once it became liberated from centralised technical and bureaucratic control. Nelson sees computers not as apparatus, but as media, of a peculiarly ubiquitous and liquid kind: ‘we live in media, as fish live in water... But today, at this moment, we can and must design the media, design the molecules of our new water’ (Nelson 2003, 306). The two conjoined halves of the book are expressive of the idea that, and the ways in which, the mental and the technical may be fused: ‘To work at a highly responsive computer display screen, for instance, can be deeply exciting, like flying an airplane through a canyon, or talking to somebody brilliant’ (Nelson 2003, 306)

But in the 1960s another kind of dream machine appeared. In his book *The Living Brain* (1953), W. Grey Walter described the operations of the electroencephalograph:

The equipment used today for studying brain activity contains many electronic parts and devices which were developed for radar apparatus during the war. An EEG recorder usually has over a hundred tubes, resistances, condensers and so forth, with many rows of calibrating and operating knobs and switches. Its formidable and intricate appearance not infrequently prompts the uninitiated to ask whether such a display of ingenuity is really necessary. But if we consider the complexity of the object which it is designed and constructed to examine, the most elaborate EEG equipment can only be regarded as comparatively simple in design—and extremely coarse and clumsy in construction. (Walter 1963, 87)

The most striking discovery of EEG investigation, invented by Hans Berger in 1924, was the existence of regular rhythms of electrical discharge in the brain, with epilepsy being the most characteristic signature of disturbed rhythms. In the chapter of his book entitled 'Revelation by Flicker', Walter described the ways in which the movement from brain to detecting apparatus might be reversed, through the subjection of the brain to rhythmic stimulus through various kinds of flicker apparatus, of which the most familiar was a spinning wheel, perforated to produce pulses of light at regular intervals. Walter's purpose was to create a kind of interchange, or flicker effect between two kinds of flicker, that of the machine and the brain that might be induced to respond to it, in what he described as an 'instance of investigation by the communication engineer's method of the Black Box: without ever looking into the box a good deal can be learned about what is going on inside by checking incoming signals against outgoing signals' (Walter 1963, 104). Walter speculated explicitly about the interchange between the external and the internal machines:

When flicker is used, the display given by the toposcope comes near to being a moving picture of a mind possessed in quite another way. The correspondence between the extent and complexity of the evoked responses on the one hand, and the hallucinations of the subject on the other, is striking. The more vivid and bizarre the experience of the subject, the farther from the visual areas are the evoked responses, and the more peculiar their form and geometry. (Walter 1963, 111)

In 1970, Walter had a motor-scooter accident which caused him extensive brain damage and following which he was unconscious for two weeks. In an essay entitled 'My Miracle', he details his efforts to develop a learning programme to enable him to learn to think again, in a remarkable exercise of imaginary self-reconstruction. Walter is known not just for neurological research but also for research in robotics and artificial intelligence. Indeed, the contributions he made to neurology during the 1930s arose largely from his expertise in electronics. As he says in the essay he wrote about the extremely unlucky accident, his electronic skill 'was a very lucky accident since the study of brain dynamics started as a combination of electro-technology and physiology' (Walter 1972, 49). 'My Miracle' joins the act of writing to technical and mechanical processes, as Walter describes his work on himself, in cooperation with his colleagues at the Burden Institute, in order to facilitate his own recovery to the point (which unfortunately seems never to have been reached) where he could take up his work again:

I was regaining my original mentality but my remaining difficulty in finding an easy way to solutions alarmed me — I couldn't at that time see my way to cultivate creativity. So I decided to make myself accessible to my professional friends so that they could confide in me and share their dreams as well as their problems. That is what I enjoy most and I don't think of it as "work",

although it needs training and practice like an elaborate game or sport. (Walter 1972, 49)

Meanwhile, Walter's work had been taken in other directions. While on a bus travelling through a long avenue of trees in the South of France, the artist Bryon Gysin had an experience of flicker-induced hallucinations, as he records in a diary entry of 21st December, 1958:

We ran through a long avenue of trees and I closed my eyes against the setting sun. An overwhelming flood of intensely bright patterns in supernatural colours exploded behind my eyelids: a multi-dimensional kaleidoscope whirling out through space. I was swept out of time. I was out in a world of infinite number. The vision stopped abruptly as we left the trees. Was that a vision? What happened to me? (quoted Cecil 1996, 5)

Ian Sommerville, a young computer technician who lived and worked closely with Gysin and William Burroughs wrote to Gysin from Cambridge on 15th February 1960 explaining that he had been encouraged by what he read in Walter's *The Living Brain* to construct a device which could be used to induce the intense visual sensations Gysin had experienced. It consisted simply of a cylinder of card with perforations cut in it mounted on the turntable of a record player. A 100-watt light bulb was suspended in the middle of the cylinder, which, when rotated at 45 or 78 rpm, produced a regular pattern of flickers. Gysin modified it by adding his own paintings to the cylinder and took out a patent for his 'Procedure and apparatus for the production of active visual sensations' to which he gave the compressed name 'Dreamachine' (Cecil 1996, 6). This device reproduced the flicker effect of the stroboscope used in the laboratory, though it also reproduced a problem which was not overcome until the development of electronic stroboscopes after the Second World War, namely that as flicker speeds increased, the duration of the flashes decreased (ter Meulen et. al. 2009, 317). One of the principal uses of the stroboscope had been to test the regularity of movement in conveyor-belts and record turntables, as well as to 'freeze' the vibrating folds of the larynx to allow inspection (Woo 2010, 4).

The belief is that this device induces and amplifies neural oscillations, in the range 7.5-12.5hz, in the brain of somebody sitting in front of it with their eyes closed, inducing visual hallucinations. Alpha waves are associated with experiences of relaxation or meditation when eyes are closed, and also (in a different form) with the state of REM sleep associated with dreaming. This suggests that alpha waves may be particularly associated with the state of waking or ambivalent dream, a dream that may be superintended and, as it may appear, mechanically regulated.

The production of hallucinations or visions through regularly flickering light had been reported at intervals before this. David Brewster claimed, in an essay of 1834, that

a remarkable structure may be exhibited at any time, and whether the eyes are open or shut, by subjecting the retina to the action of successive impulses of light. If, when we are walking beside a high iron railing, we direct the closed eye to the sun so that his light shall be successively interrupted by the iron rails, a structure resembling a kaleidoscopic pattern, having the *foramen centrale* in its centre, will be rudely seen. The pattern is not formed in distinct lines, but by patches of reddish light of different degrees of intensity. When the sun's rays are powerful, and when their successive action has been kept up for a short time, the whole field of vision is filled with a brilliant pattern, as if it consisted of the brightest tartan, composed of red and green squares of dazzling brightness. (Brewster 1834, 241)

Brewster found that a similar effect was produced by looking at the sun while moving the distended fingers of the hand from left to right, and also while looking through the slits in a phenakistoscope, a popular apparatus very similar to Sommerville's device (Brewster 1834, 242). He assumed that what was being seen was the reticular structure of the retina itself. Others took these visual effects to be spiritual visions. Genesis P.Orridge makes much of the experience.

The Dreamachine can quite literally invoke. It can call out that same blue light mentioned in high Egyptian magic and in Sufi texts. The energy Dervish Dance calls out, and which is received and then earthed by the pointing of the hands up and down from and to the Earth, is this same Light/Energy. (Cecil 1996, 19)

He discovered that adding the sound of his breath to the experience meant that 'I was more able to control the visual images I was receiving by the variation of breath, modulation, frequency and depth. I could hold, freeze-frame, loosen and shatter images; though I could not, nor did I wish to, control their content' (Cecil 1996, 19). Ian McFadyen describes the Dreamachine as 'a form of psychic cinema, a magical machine triggering the projection of inner visions through electrical rhythms in the brain' (Cecil 1996, 22). In the 1997 documentary film *FLiCKeR*, Nik Sheehan describes the Dreamachine as 'a kind of portal into the time-space continuum' [as though other things, indeed every conceivable other thing, were not]. It opens a window into a magical universe, a very real place inside all of our heads' (Sheehan 1997, 3.54-4.00). Apparatus and apparition are closely entwined in kinetic and optical developments during the nineteenth century. The stroboscopic effects so characteristic and beloved of 'psychedelic' art, the fantasies about the power of fantasy, of the 1960s have their origin in the phenakistoscope. The optical toys marketed through the nineteenth century, the thaumatrope, the phantascope, and the zoetrope, preceded the cinema, exploiting the so-called 'persistence of vision' principle to create the illusion of motion. One can see the Dreamachine as a deliberate attempt to break up the continuity provided by these images. It was thought of as an optical equivalent to the work of discursive jamming or interference allegedly effected by the cut-up. It was conceived of as a sort of parallel to the

standardising dream machine of the mass media, which was also a disruption of its anaesthetising uniformity. Indeed, one can see the stroboscope as an illustration of the very function it is supposed to form of jamming or putting a spoke into the wheel (a ‘Spaniard in the Works’ to quote the title of John Lennon’s whimsy) of ordinary mass-produced experience. It provided a sort of amplification of the interference effects common in Western films, in which wagon wheels appear to be moving backwards. In place of shared images, projected outwards in the external; world, the Dreamachine was supposed to work at the level of the optical or even cognitive code to create a kind of individualistic dream cinema, which was at once predictable (it worked mechanically) and unpredictable (for the nature of the ‘dreams’ could not be prescribed). As Dave Geiger puts it:

You imagine a nation of people glued to their television sets, sitting in their living rooms, Mum, Dad, kids, dog, cat, all in this blue-grey light, bathed in this, like a nation of automatons. Suddenly you have an alternative to that. The alternative is a kind of beautiful device that moves and allows each of the people in that room to have a completely different experience. There’s no central authority projecting this from a studio somewhere, but rather each of these people inventing their own scripts and their own films. This was the ultimate way to defeat control. (Sheehan 1998, 10.43-11.30)

It is also, one might think, the ultimate way to block the possibility of any kind of directed or concerted action. As Marianne Faithfull remarks, ‘It is like a wonderful idealistic idea. But you know it’s never going to fly. People unfortunately prefer television’ (Sheehan 1997, 10.10-10.21). Yet in many respects the Dreamachine may be regarded not as the antidote to television but as its apotheosis.

At various points in human history, techniques have been applied not only to interpret dreams, but also to produce them. The process of procuring or governing dreams, setting the dreamwork to work, as we might say, is often known as incubation, after a practice that was common in Greek and early Christian times. Incubation is from *cubare* and *cumbere*, to recline or bear down upon – a root that gives us the cubicle, incumbency, succumbing and both the incubus and succubus. It seems likely that there were prescribed ritual procedures which had to be followed in order to provoke, either the healing intervention of the God himself (commonly Asclepius) in a dream, or a dream in which advice was given as to the healing regimen to be followed, though these procedures have not survived in detail. However, there are records of some of the procedures to be followed by those seeking incubatory cures at the oracle of the chthonian deity Amphiaraos at Oropos. Pausanias relates that it was required that the patient sacrifice a black ram and sleep on its spread-out skin in order to ensure the diagnostic dream, a usage found widely elsewhere (Hamilton 1906, 84-5). It appears that the skin was thought to have a particular power both to consecrate and to open the dreamer to divine influence. There were associated dietary injunctions too, wine and, oddly, beans being forbidden because of their inhibitory effect on dreaming (Hamilton 1906, 85).

Nothing that looks very much like modern machinery is in evidence here, but we can be sure that the work done by the ritual is the magicomechanical kind that is common in almost all therapeutic practices, and especially those with no physical basis. There must always be some procedure to be worked through obediently. This encompasses both the production and the interpretation of the dream. Cure requires the operations of an oneirotechnic that is both actual and imaginary – actual in its operations, and perhaps also in its effects, though imaginary in terms of the mechanism that is supposed to be at work (and in the work of that supposing).

We may suspect that the vast area of placebo medicine, which, given the extraordinary variability in drug efficacy, may operate to a much larger degree in organic medicine than may be imagined, depends upon something of this materialist logic. Always, it appears, there must be the mediation, if not of a material object – classically, some kind of pill (red sugar pills are routinely found to more effective than blue ones – except in Italy, where the national football team are the ‘azzurri’ and so perhaps blue has the potency commonly attributed to red elsewhere), then of some usually complex medicotechnic mediation that approximates to an object, by hardening action into iterative object-form. There are things we call ‘comfort objects’ because objects comfort. Comfort and comfiness may seem soft and eiderdowny, though the word originally suggests that which fortifies or confirms. The verse from Isaiah 41 which the King James Version renders as ‘he fastened it with nails, that it should not be moved’ is given in the Wycliffite Bible as ‘He coumfortide hym with nailes that it shulde not be moued’. This is how the rod and the staff of Psalm 23 can be said to ‘comfort’, a sentiment otherwise intelligible only to sexual enthusiasts of a specialised kind.

Unlike the Gysin Dreamachine, which was designed to induce dreams, the dream machine devised by sleep researcher Keith Hearne during the 1980s was designed to facilitate investigative control over the dreaming process. Hearne’s dream machine was in fact nothing more elaborate than a respiratory monitor which measured changes in rates of breathing that can be correlated with the periods of REM sleep in which dreaming occurs. However, Hearne also discovered that being able to detect automatically when dreaming was occurring in a sleeping subject also made it possible to direct the dream-process in various ways, for example by introducing a physical stimulus that might be incorporated into the dream narrative. It even proved possible with certain subjects to trigger the state known as lucid dreaming, rousing a dreamer by a coded series of electrical pulses sufficiently for them to be able to observe, direct and even to report on their dreaming in ‘real time’. Hearne is clear that the purpose of the dream machine is not that ‘before you sleep you somehow “programme in” the dream you wish to have’ (Hearne 1990, 97), though this does seem implicitly to be promised in the very idea of a technology that allows for conscious control of dreaming.

One of the interesting features of the dream-detecting apparatus was that it tended to become assimilated into the dream-content, as for example in one dream reported

by a subject, which Hearne suggests may be a representation of the dream-machine itself:

I was walking into a house. Music was coming from a chest of drawers. I 'knew' that each compartment or drawer can be changed to another section so causing the sound to change. I am trying to decide how to change the volume, when I am woken. (Hearne 1990, 36)

It is not clear whether in a lucid dream the dreaming subject is to be regarded as being awake and aware while dreaming, or as dreaming that they are awake. After all, dreams of being awake, or of lying awake unable to go to sleep, are a common occurrence, so there seems no reason in principle why one should not also be able to dream that one is dreaming and is awake while doing so.

Just as scientists and inventors have often reported solving technical or theoretical problems in dreams, so it has recently been suggested that one might, so to speak, mechanically harness dream capacity for engineering purposes. Deirdre Barrett has reported on techniques for controlling dreams in order to make them instrumental. Dreaming may be cognitively useful in this respect because it intensifies spatiovisual awareness (alpha rhythms being associated with the production of visual imagery) and perhaps also 'mutes' language function. Barrett recommends priming the dreamwork in a series of 'incubation instructions', which include the following steps: writing the problem down as a brief phrase or sentence, and placing it by your bed; visualising the difficulty as a concrete problem, and visualising yourself as successfully dreaming the problem's solution; arranging objects connected with the problem on your night table; lying quietly on awaking and writing down any dream memories (Barrett 2001, 120). Another way of describing the process of rendering a problem in spatiovisual terms is to see it as a mechanisation of the problem. Indeed, one might almost say that to turn a kind of intellectual difficulty into a problem is itself a process of devising a kind of mechanism capable, as we say, of 'working out' a solution. I have myself sometimes posed a question to myself in this way before going to sleep and at least had the sensation of having worked through to some kind of answer to the problem on awaking: though it may very well be that the largest part of the work involved had been done in simply framing the question in the first place. Good teachers know the value of helping a student to reconfigure an intellectual impasse into a problem capable of being analysed into a series of moving parts and yielding a definite result.

It is interesting that the procedure may include the act of dreaming itself, making of the incubation procedure a kind of reflexive design technology: the dream that imagines its own dreaming process as a kind of machine in order to facilitate the dreaming of a more perfect machine. This process seems to be assisted by the move from language to visual or motor forms. Seemingly, many people find they cannot easily read text in a dream – if they see letters and recognise them as writing they may often be illegible, or mutable. But of course writing is not necessarily opposed

to spatiomotor form, for one might see writing as in certain respects a mechanisation of speech. This might suggest that writing itself can be thought of as a kind of dream machine. In a remarkable nineteenth-century text on dream production, Hervey de Saint-Denys suggests that the mode of analysing dreams as allegories, as influentially embodied in the work of the second-century Artemidorus, is a consequence of the widespread belief among the Egyptians that the gods who sent dreams were also the originators of writing systems: ‘nothing more natural, then, than to suppose that the same gods who they took to be the authors of dreams, employed the same hieroglyphic language’ (Hervey de Saint-Denys 1867, 54n; my translation).

The mechanism for dream-incubation and recall suggested by Barrett involves the mediation of writing (writing out a problem, keeping a torch and pen by the bed) writing down the solution) rather than, say, reciting the dream out loud. Charles Dodgson went further and actually devised a machine for writing at night without the need to get out of bed. Dodgson’s ‘nyctograph’ consisted of squares in which one could write one character at a time. Dodgson improved on the device by inventing an alphabet of dots and lines adapted to the squares (Douglas-Fairhurst 2015, 316). A solution so far in excess of the problem it is meant to solve suggests that the dreamwork has overtaken its purpose.

Often what is incubated by a dream machine is precisely some device, contrivance or machinery. August Kekulé’s famous dream of the structure of the benzene molecule (Read 1995, 179-80 may be of this kind, along with Mendeleev’s dream of the periodic table (Strathern 2001, 282-6), for both of these are schematic structures capable of being thought of as mechanisms. William Blake described being told by his dead brother Robert in a dream about a method for doing hand lettering in reverse, which was a crucial part of the process of engraving employed in his *Songs of Innocence* and other works (Erdman 1977, 100). Elias Howe, the inventor of the sewing machine, described a dream in which he was commanded on pain of death to complete his design for the machine, which he had until that point not been able to make work, with a hole in the middle of the needle shank. In one account of his dream

he saw himself surrounded by dark-skinned and painted warriors, who formed a hollow square about him and led him to the place of execution. Suddenly he noticed that near the heads of the spears which his guards carried, there were eye-shaped holes. He had solved the secret! What he needed was a needle with an eye near the point! (Harrington 1924, 2.385)

Another dream-mechanism was devised, or at least reported, by D.B. Parkinson, a researcher at Bell Telephone Labs. Parkinson had devised a potentiometer, a device for recording fluctuations in voltage. In 1975, he recorded having the following dream in the spring of 1940 as German forces swept across Northern Europe:

I had been working on the level recorder for several weeks when one night I had the most vivid and peculiar dream. I found myself in a gun pit or

revetment with an anti-aircraft gun crew. ... There was [a] gun there ... it was firing occasionally, and the impressive thing was that every shot brought down an airplane! After three or four shots one of the men in the crew smiled at me and beckoned me to come closer to the gun. When I drew near he pointed to the exposed end of the left trunnion. Mounted there was the control potentiometer of my level recorder! There was no mistaking it – it was the identical item. It didn't take long to make the necessary translation – if the potentiometer could control the high-speed motion of a recording pen with great accuracy, why couldn't a suitably engineered device do the same thing for an anti-aircraft gun? (quoted Mindell 1995, 73)

In 1961, John Whitney adapted the high-speed position-plotting apparatus used in World War II gunsights to produce *Catalog*, a film of computer-generated visual effects. Ian McFadyen connects this with the story that the inventor of the sighting device had in fact 'seen the robotic mechanism in a dream and had drawn it when he awoke', implying then that Whitney had turned the dream-produced device into a device for producing dreams (Cecil 1996, 23). As I have just said though, Parkinson did not record his dream until more than decade after the making of the film – did Whitney anyway somehow see, or hear of it? In any case, it is a writing-act – the inscription of the dream of a machine that translates one kind of writing into another – that here provides the mediation between the dream and the machine.

Perhaps we dream through, with and about objects ultimately because the dream borrows or, in Kleinian terms, introjects, certain kinds of object-form, or substitutive substance, to keep itself in being. The form that Bertram Lewin proposed in 1946 was what he called the 'dream screen', an imaginary surface which represents the satiety and containment of the breast, an imaginary integument which maintains the integrity and intactness of the dream (Lewin 1946). If the purpose of the dream is in part to keep the sleeper asleep, by soaking up distractions and disturbances and digesting them into narrative, making the dream a machine for converting noise into information, then such a temporal continuity-function might aptly be embodied in a continuous object like an endless unrolling film.

Lewin's quasi-cinema is anticipated by Hervey de Saint-Denys in his detailed investigation of dream-processes and recommendations for directing them. Hervey de Saint-Denys explains that dreamers seem to have the capacity to dream of complex visual forms like buildings without having any architectural or engineering training because dreams work with photographic '*cliché-souvenirs*', images that have previously 'photographed themselves' and been stored in the memory, unknown to the subject until they return in dream, in a 'mysterious process which works spontaneously' (Hervey de Saint-Denys 1867, 32; my translation). The imaginary camera of memory is supplemented by the magic lantern, which is Hervey de Saint-Denys's favoured metaphorical apparatus, allowing as it does for forms of overlaying, or double exposure (Hervey de Saint-Denys 1867, 33, 40-2) in what Freud would call 'hypermnesic' dreams (Freud 1953, 13). Though he draws on ideas

of mechanism to explicate the dreaming process, Hervey de Saint-Denys was determined to assert the power of the will in and over dreams, arguing against purely physicalist interpretations of dreams as the product of morbid stimulation of the nerves (Hervey de Saint-Denys 1867, 161) or against the materialist ‘mania (Hervey de Saint-Denys 1867, 74) of a commentator such as Boerhaave, who maintained that dreaming is a state of delirium, in which, in a passage quoted by Hervey de Saint-Denys, ‘one has no more than a mechanical existence’ (‘on n’existe plus que machinalement’, Hervey de Saint-Denys 1867, 75). Hervey de Saint-Denys resembles other writers on dream machinery in his tendency to imagine positive and negative modalities of the machine, depending on whether the dreamer is the producer or production of the dream.

There is a similar relation between the dream-machines that one makes one’s own through a kind of active engineering and the invasive and (usually) oppressive mechanisms that Viktor Tausk in 1919 described as ‘influencing machines’. These machines, the most famous subject and exponent of which was Daniel Paul Schreber, are thought to control the thoughts and sometimes also bodily sensations of their subjects from a distance, typically through waves, rays or wires. In one sense, these imaginary machineries are tyrannous and persecuting; but they also offer a kind of pleasure in the possibility of a kind of surrogate remote control of the mechanism through the detailed explications, either in verbal or visual form, that sufferers from such systematic delusions (delusions of systems and systems of delusion) generate. The subject is driven by the machine that works upon him (or rather, of course, ‘him’) to a demanding and often deeply absorbing work of self-production, an inscribing of delusion that is far from being itself deluded (Connor 2010, 43-101).

Tausk agreed with Freud’s suggestion in *The Interpretation of Dreams* that ‘all complicated machinery and apparatus occurring in dreams stand for the genitals (and as a rule male ones – in describing which dream-symbolism is as indefatigable as the “joke-work” ’ (Freud 1953, 355). But in Freud’s own work, machines tend to have a rather different signification. Machines tend in fact to symbolise psychoanalytic treatment, or psychoanalysis itself, the very work that is being done to reveal the work of the dream. Freud relates the dream of a female patient: ‘*She was in a big room in which all sorts of machines were standing, like what she imagined an orthopaedic institute to be. She was told I had no time and that she must have her treatment at the same time as five others. She refused, however, and would not lie down in the bed – or whatever it was – that was meant for her*’ (Freud 1953, 199). Freud writes that

[t]he first part of the content of this dream related to the treatment and was a transference on to me. The second part contained an allusion to a scene in childhood. The two parts were linked together by the mention of the bed. The *orthopaedic institute* referred back to a remark I had made in which I had compared the treatment, alike in its length and in its nature, to an *orthopaedic* one. (Freud 1953, 200)

This hall of machines appears again in one of Freud's own dreams, in which once again the machinery seems to image the apparatus of psychoanalytic interpretation, on this occasion complicated by the fact that the dreaming Freud is assailed by the sense that he is being accused of dishonesty:

conscious of my innocence and of the fact that I held the position of a consultant in the establishment, I accompanied the servant quietly. At the door we were met by another servant, who said, pointing to me: 'Why have you brought him? He's a respectable person.' I then went, unattended, into a large hall, with machines standing in it, which reminded me of an Inferno with its hellish instruments of punishment. Stretched out on one apparatus I saw one of my colleagues, who had every reason to take some notice of me; but he paid no attention. I was then told I could go. But I could not find my hat and could not go after all. (Freud 1953, 336)

Here, the machine is perhaps emblematic of the 'dream-work' itself, of the dream as a kind of encoding and partially decoding machinery.

It is scarcely surprising that a work that spends so much time exploring and explicating the operations of what Freud calls the 'mental apparatus' involved in producing, remembering, forgetting and interpreting dreams, should sometimes find this apparatus taking on objective form in the dreams that it subjects to analysis – one wonders whether Freud's dreamers might have been primed by Freud's own mechanical lexis in describing dreamwork. But these dreamed machines also seem like a kind of mocking travesty of the principle that Freud carefully articulates, that this psychic apparatus is to be thought of as logical rather than locative (like Babbage's Analytical Engine or Turing's Universal Machine, it consists of relations and so can be made of anything):

we shall be obliged to set up a number of fresh hypotheses which touch tentatively upon the structure of the apparatus of the mind and upon the play of forces operating in it. We must be careful, however, not to pursue these hypotheses too far beyond their first logical links, or their value will be lost in uncertainties. Even if we make no false inferences and take all the logical possibilities into account, the probable incompleteness of our premises threatens to bring our calculation to a complete miscarriage. No conclusions upon the construction and working methods of the mental instrument can be arrived at or at least fully proved from even the most painstaking investigation of dreams or of any other mental function taken in isolation. (Freud 1953, 511)

Like Hervey de Saint-Denys before him, Freud then turns to the example of actual machines, somewhat paradoxically to explain the ways in which the psychic apparatus is not to be reduced to any simple physical arrangement:

I shall carefully avoid the temptation to determine psychical locality in any anatomical fashion. I shall remain upon psychological ground, and I propose

simply to follow the suggestion that we should picture the instrument which carries out our mental functions as resembling a compound microscope or a photographic apparatus, or something of the kind. On that basis, psychical locality will correspond to a point inside the apparatus at which one of the preliminary stages of an image comes into being. In the microscope and telescope, as we know, these occur in part at ideal points, regions in which no tangible component of the apparatus is situated. (Freud 1953, 536)

Perhaps we should say that what characterises dreams and dreaming is precisely a kind of essential *manque-à-être*, a failure to be, or be anything (any kind of thing), in themselves. The imaginary work of producing dreams may then be continuous with the dreamwork – the work of dreaming and the dream of working – of which they undecomposably consist. Freud seems to have come to recognise this, adding a footnote to the *Interpretation of Dreams* in 1925 in which he corrects not only lay dreamers who mistake the dream for its manifest content, but also dream-analysts who mistake the dream for its latent, or encoded content: ‘At bottom, dreams are nothing other than a particular *form* of thinking, made possible by the conditions of the state of sleep. It is the *dream-work* which creates that form, and it alone is the essence of dreaming – the explanation of its peculiar nature’ (Freud 1953, 506 n2).

Dreams are the work they perform on themselves in order to form themselves as coherent or substantial forms. This means that they must include the work of fabulation that Freud called ‘secondary revision’ – dreams are already secondary revision in the never-apparent ‘first place’. We may compare this machinery of self-production with Conrad’s vision, in a letter to Cunningham Grahame of 1897, of the ‘knitting machine’ of the cosmos:

There is a – let us say – a machine. It evolved itself (I am severely scientific) out of a chaos of scraps of iron and behold! It knits. I am horrified at the horrible work and stand appalled...And the most withering thought is that the infamous thing has made itself; made itself without thought, without conscience, without foresight, without eyes, without heart...It knits us in and it knits us out. (Conrad 1983, 425)

The rapture reported by those who are able to supervise and control their dreams in lucid dreaming (or those at least who dream of or with this kind of rapture) perhaps has something to do with their success at producing the dream as controllable object, or ideal psychic mechanism. By contrast, the horror or nightmare reported by Conrad is perhaps that of the dreamer lucid enough only to find himself part of the machinery of self-production and self-entanglement without there being any position from which the dream-machine may be worked. Perhaps part of the rapture of the lucid dream, continuous as it may be with Freud’s suggestion that art may be a sort of command-and-control daydreaming, is the overcoming – or, as we should perhaps rather say, the dreaming away, or phantasmal overcoming – of the resistance to control that seems to be part of many dreams, as embodied in the fact that dream

mechanisms or structures are so often unreliable, perverse or paradoxical. One of the most striking evidences of this is what has been called the ‘light-switch’ phenomenon. Lucid dreamers were asked to imagine turning on a light switch in their dreams. Almost all reported that the switch did not work – the lights failed to come on, came on in the wrong place, or produced a dysfunctionally sparking and flickering light-bulb rather than full illumination (Hearne 1981, 98). One of Hearne’s subjects reported thinking that it was ‘typical of this place, nothing works properly’ (Hearne 1981, 98), which certainly applies to most of the gadgetry in my dreams. Hearne suggests that, because the lights suddenly going on is associated with the interruption of the dream in waking (as well as, we might add, the end of a film or play), this may be the dream’s self-defence, or the sleep-maintaining function that dreams may perform, pointing to the existence of an ‘autonomous dream-producing process’ (Hearne 1981, 98). The machine of dreaming that is designed to ensure that the dream continues at all costs disables all other mechanical operations that might override its workings. The default machinery of dream engineers machine-deterrence. Even for the so-called lucid dreamer, there can be no full *fiat lux*.

Machines are necessary mediations between the things called things and the no-things called selves. I am and am not a machine in the same way as a machine is and is not an object. I am a machine’s self-exceeding as a machine is an object’s self-exceeding. A machine is an object that acts, as well as is. A mind is a machine that feels itself acting, or feels, or wills the feeling, that it does. But the machine can never be entirely left behind in this self-exceeding, precisely because it is the machine and not some other thing that is exceeded, and also because the exceeding is anyway part of how the machine works. Where I feel, or dream myself to be in relation to this exceeding of machinery programmes much of the feeling-tone – whether fascination, dread, rage, or delight – invested in dream machines or generated by the machinery of dream.

The idiom one might propose for reading these objects, or objectifying apparatuses, might be a *psychotechnography* – even though one would find oneself in short order saying that that psychotechnography is exactly what dream machines already are. The term itself implies a kind of *combinatoire* for conjugating its three components, of *psyche*, *techne* and *graphesis*: the writing of dream machines, the writing of the machinery of dreams, dreams of writing machines, dreaming of the machinery of writing, machines for writing dreams and machines for dreaming of writing. That’s it: as bell-ringers and players of fantasy-tournaments will know, $3!$ (3 factorial), or 6 triads gives the complete set: WDM; WMD; DWM; DMW; MWD; MDW. But the *psycho*-prefix signifies more than just imagination or fantasy – or signifies that force that makes fantasy more than just fiction or falsehood. Fantasy is the forceful existing, or will to being, not only of what does not exist but also of what does. Fantasy is always both the force of feeling and the feeling of force, a field of forces and feelings that is ideally mediated by dream machines. It is the insistence on existence that makes for objects by injecting the *it must be* into the *it is*. It is the

impassioning of the object that substantiates itself, writes itself up as subject substituting itself in the dream machine.

Let me try to reduce what I have saying to its elementary working parts.

- Machines are what we dream of, and what we dream with. Whether or not they are of machines, dreams seem machine-like.
- Emotion is always meshed with the motor force of these machineries. Dream machines machine dream feeling. And none of the wanting, fearing, mourning, envy, lust, disgust, horror or fascination can occur without the mediating apparatus of the dream machine. So the feelings we have about machines are feedback mechanisms, in that a proportion of the force of whatever we may feel about machines must be borrowed from machines themselves.
- Not all objects are machines; but all machines are dream machines.

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