-sistence

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Where do we dream? When Jean Piaget asked one young boy this question, he answered 'in my mouth'. Dreams seem to require enclosed spaces, chambers, or dim, theatrical alcoves. The space into which Descartes retreated for the exercise of his lucid dream, or dream of philosophical lucidity, was a room heated by a hot stove. Dreams were used to heal the sick at the shrine of Asclepius in Epidaurus, who retired for the purpose to beds designed to incubate their dreams. Many people, and peoples, have seen a close relation between dreaming and the stomach, especially the disturbed stomach, which was thought of as the crucible of dream, able to transmit its disordering fumes and vapours to the brain. Because they are enclosable, dreams may also sometimes be thought of as portable, as in the case of the pleasant dreams that Roald Dahl's Big Friendly Giant collects and carries from house to house, blowing them in through children's bedroom windows through a kind of bubble-pipe.

That for the where of dreams. And what of their *what*? Human beings have had many dreams about the nature of matter, few of them anywhere near as exotic as the truth. Perhaps it is possible to ask the question in reverse – not, what dreams do we have about matter, but what kind of matter, what dream-stuff, do we imagine that dream itself might consist of? Usually, we assume that, like thought itself, or what we tellingly call 'spirit', they are made out of some kind of gas, cloud, or superfine fluid, subject to rapid diffusion, but also capable, as is a gas, of gathering and lingering. As when we think about the nature of thought itself, we seem to find it hard to think of dream as entirely immaterial, preferring instead to see it as a kind of ultimately attenuated, infrathin kind of substance, a matter that approaches without ever quite attaining to immateriality. Accordingly, we dream, this imaginary dream-stuff may also be capable of acting as an ethereal archive, capturing and preserving visions, impressions or aromas of revelation. So dream-stuff has its own chemistry, which mirrors the dreamwork of chemistry itself, from the extravagant fantasies of alchemical doctrine through to the more forensic excursions into the nature of matter undertaken by chemists. One of the most important chemists in the history of the elements, Humphry Davy, was in youth an obsessive imbiber of the visionary gas, nitrous oxide, leading him to exclaim rapturously, during one binge, 'nothing exists but thoughts! – the universe is composed of impressions, ideas, pleasures and pains!' (Davy 1800 489)

To try to distil the question of the imaginary matter of dream a little further, let us dwell on the word *consist*, in a phrase like 'of what do dreams consist'. Consistency

is the quality of coherence, or holding together. In human history, matter has been opposed to mind in terms of its greater consistency – that is, its thickness, or density. Something which has consistency consists of something, that is, it is something that remains in place, holding together in, and as what it is. Mind, thought, imagination and dream, by contrast, have been thought of, not as immaterial, but as a special kind of matter characterised by a magical or imaginary kind of near-infinite rarefaction, and therefore the consistency of something that just about manages to subsist, or remain itself almost not quite to the point where it would fail to exist, that is, to consist of anything at all. Air, in its various dream allotropes – animal spirits, magnetic fluid, ether – is the favoured vehicle for this dream of ultimately attenuated matter, matter desisting from itself. The zero degree of the family of words that includes persistence, insistence, subsistence, assistance, resistance and consistency is 'sistence'. The earliest citation for this word in the Oxford English Dictionary indicates that which floats in an uncertain condition between a state of being and no state of being at all: 'Extraordinary must be the wisdome', writes John Howell, in his *Dendrologia* (1640), 'of him who floateth upon the streame of Soveraigne favour, wherein there is seldome any sistence, 'twixt sinking and swimming' (Howell 1640, 187)

Dreams are supposed to take us beyond the way things are, into the realm of the fictive or fabulous, in which desire can frolic, freed from the trammels of the real. But for some this prospect of unwalled wish-fulfilment is itself a confinement. For those more accommodated to finitude, the old, say, there may be a stranger and more miraculous magic than that of the counterfactual, in the redemptive facticity of the fact that things are the way they are and not some other way. There is more magic in the thought that there is no magical thinking than in the thought that there is, more power in the thought that can overcome its own desire for the overcoming of the real than the thought enslaved by the dream of its own freedom.

Of such a kind are the sudden revelations delivered in dreams to scientists and philosophers, natural and otherwise. Two of the most famous dreams of this kind are said to have occurred within the space of a few years in the 1860s. One was the dream in which, late in life, the chemist Friedrich Kekulé said he had had some time in the early 1860s of a snake swallowing its own tail, from which he awoke suddenly being able to discern the ring-structure of benzene. The other is the account that the Russian chemist Dmitri Mendeleev gave of his struggles to visualise the relations between the elements in the form of a table of regularly recurring properties. The story goes that, after working on the problem for three days and nights without sleep, moving the elements round in the form of cards arranged in rows and columns, like a game of patience, or a tarot reading, Mendeleev fell into an exhausted doze, from which he awoke suddenly able to see the pattern.

Mendeleev was by no means the only or even the first scientist to develop a periodic scheme. But he certainly seems to have been the first to have used atomic weights to group the elements in terms of their regularly-recurring properties. The most remarkable thing about Mendeleev's periodic table was not that it matched and accounted for what was known – following in nature's footprints – but that it predicted the existence of what was not yet known – 10 as yet undiscovered elements, that Mendeleev called eka-aluminium, eka-boron and eka-silicon, which occupied places in the table later filled by the discovery of the elements gallium, scandium and germanium. The power of a predictive model is that it suggests that the mind may, for once, and in however small degree, come before matter, rather than following obediently in its wake. Prediction seems to allow the dreaming of a world into being.

But there are ghosts in Mendeleev's conceptual machine. Though he predicted the existence of ten new elements that in 1870 were unknown, and whose existence was later verified, three of these, with atomic weights of 45, 146 and 175, do not in fact exist. He also failed to predict a number of other elements, most notably the inert or so-called 'noble' gases, the first of which, argon, was discovered by Lord Rayleigh in 1895; though it makes up 1% of the atmosphere, argon is so unreactive as almost entirely to have escaped detection until then. These new elements were nevertheless accommodated to Mendeleev's table in the form of a new column. Though he did not himself conceive of elements that had might have zero valence, they are in a sense abstractly predicted by his system, just as grammatical systems allow for 'zero-degree' conditions of words in their root form, without any inflection, which sometimes appear in language (words like 'sistence', for example). Indeed, it has been suggested that Mendeleev (whose first attempts to gain a university place were blocked because of his weakness in ancient languages), used Sanskrit terms for the undiscovered elements predicted by his periodic table in imitation of just this habit among historical grammarians of extrapolating abstract linguistic forms from actual historical usages.

The story of Mendeleev's dream is a story of an attempt to dream the nature of matter. It is, of course, not Mendeleev's dream, or not his exclusively, but ours – the dream that knowledge can come in a dream, understanding delivered in abrupt, absolute and irreversible revelation. Our dream of Mendeleev's dream is a dream that insists on actuality, punctuality, the here and now, on the possibility of a pure moment of breakthrough that can be isolated from all preceding and succeeding moments, on the idea of time, as Beckett put it, as a laminar process of 'decantation from the vessel containing the fluid of future time, sluggish, pale and monochrome, to the vessel containing the fluid of past time, agitated and multicoloured by the phenomena of its hours.' (Beckett 1965, 15). It insists, in the midst of this process, on the absolute immunity of the isolable moment – its thisness, or inertness. It is time conceived as a noble gas, noble because it involves

no mixing or mingling, no compounding of past and present, no hoipolloi-hobnobbing.

But what if the fabric of time and memory were in fact much more volatile, more complex and compounded, altogether less elemental than this? In fact, scientific understanding, perhaps like any form of understanding whatever, comes much more slowly and fitfully, and, like a cloud or mist, does not have sharply defined edges. When we understand something for the first time, we often recognise that we must have partially understood it already, but without fully understanding how we have done so. Mendeleev himself did not take it for granted that we know what an element actually is, and meditated deeply on the question of elementariness – what happens exactly to the poisonous gas chlorine when it is combined with sodium to make salt? It cannot be destroyed or decomposed, but where precisely is it, and what has come of its properties?

Yet we, or our consensual dream of what thinking and understanding might be, require there to have been such a sudden deliverance of understanding, acting as an absolute threshold between before and after, in order to allow us, in Jung's words, to 'dream the dream onward'. This prolongation of the condition of the what-if condition of the dream is at work in Nina Canell's soberly delirious project of attempting to bottle up whatever wispy residues of dream-force that might still linger in the study where we continue to permit ourselves to dream that the dream-event of the dream of knowledge took place (I refer here to the 3800 mL of air which was collected by the artists from Mendeleev's preserved study in St Petersburg on the 21st February, 2012).

Questions of spirit run through Mendeleev's life. As a scientist, he resisted fiercely the mysticism and spiritualism that was taking hold in Russian society just as it was across America and Europe in the middle of the nineteenth century. More worldly kinds of spirit also preoccupied him; his doctoral dissertation was entitled 'On Combining Alcohol and Water', and, late in his life, when he had given up his academic position at St Petersburg to become head of the Russian office of weights and measures, he was responsible for standardising the alcohol content of vodka at 40% ABV. Late in life, probably disturbed by the discovery of radioactivity that contradicted one of the fundamental principles of his system, the immutability of the atoms forming the elements, he returned to his prized discovery of the periodic table in order to try to find a place in it for the most exotic and elusive of all forms of matter, the ether, that putative pseudo-substance of the physicists (Mendeleev 1904, Bensaude-Vincent 1982, 183-4). Here the chemical and the chimerical come as close as they can possibly be.

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