

4. Boxing Day: Unwrapping the Mind

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The mind is a kind of theatre, where several perceptions successively make their appearance; pass, repass, glide away, and mingle in an infinite variety of postures and situations.

— David Hume, *Treatise on Human Nature* (1739–40)

Induction¹

1 — or An Introduction to the States of Mind

Read these words now. Notice how they turn into thoughts. Each word evokes an idea. Each idea is replaced by the next. Notice how they relate to combine, notice how some stay at hand - some back of the mind, and some into a vague memory at the tip of the tongue. And as the words go from left to right, top to bottom so does experience move through time. What is left, is left to memory, what will be is right ahead but what is, will stay in this instant. David Hume thought this to be a *train of thought* or a chain of reason. William James disagreed and thought consciousness to be an unjointed stream, flowing continuously, ever-changing, and never quite the same. But chain or stream, there is something that it is *like* to be you right now. It feels like *something* and that something can be hard to put into words sometimes. There is a poverty of language that we run into when it comes to experiences profoundly altered from our everyday way of being or even everyday experiences that we have never had to put words to before. But we needn't feel alone, for we are in good company because at the dawn of science, Humphry Davy inhaled 20 quarts of laughing gas.



"Nothing exists but thoughts! — the universe is composed of impressions, ideas, pleasures and pains!"

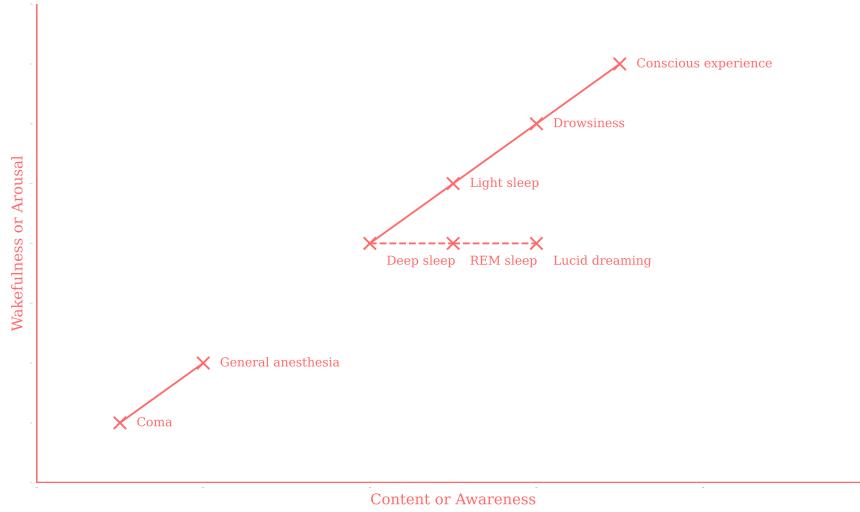
A cartoon featured in an 1807 dissertation by a medical student at the University of Pennsylvania on the "chemical and exhilarating effects of nitrous oxide gas." Around the two figures, presumably Davy to the right and perhaps Beddoes to the left, a number of Davy's quotes describing his experiences appear — Source, The Wellcome Library.

Davy was a poet, a romantic, and a scientist beyond being delirious on nitrous oxide in the year 1799. Language was important to him, in that time when there was little distinction between art, science, and philosophy. His experiments were public demonstrations in spectacle and intrigue. He was struck by the words his participants would use to describe their experience². They lacked the language then, and theory too to describe this alteration in experience in this period that was called the Age of Wonder. Two centuries later, can we do any better?

2 One report goes, "I feel like a harp sounds!" many others can be found [here](#), including one from an amateur chemist, Samuel Taylor Coleridge who was known to have a way with words and coined the phrase "suspension of disbelief."

Awake

You are awake now. Your eyes are open, your senses are keen. If I were to take a knife and press its edge against you, letting the skin part, the blood swell as the it cuts through you, cleaving flesh, millimeter by bleeding millimeter, it would hurt. You would thrash around, scream bloody murder and you would feel every second of its pain. Surgery then is an art that is hard to practice on one such as you and was a butcher's art in the days past³. Modern surgery for major operations will therefore opt for general anesthesia. This is the art and science of turning the subject into an object. And if that was all it was, a knife through the heart would suffice but by this miracle of modern medicine you can wake the object of the body back into subjective experience. Nitrous oxide was the first surgical anesthetic, it's anesthetic properties were noted by Davy himself (about a toothache) but it wasn't used as such until four decades later. And a year later, came ether. This was unlike Davy's laughing gas, this could turn the subject insensible. This anesthetic had a depth to it. Breath by breath, you would go from awake and aware, to delirious, and to finally, an unthinking, unfeeling, object. It could radically alter the state of your consciousness. Ask the modern anesthesiologist and they would likely chart this alteration along two dimensions:



This, of course, is a simplification but it's not an uncommon one⁴. And it gives us a map to start with to chart even our everyday experiences. The first dimension then is arousal or wakefulness. You are awake now. Your eyes are open, your senses are keen. And when you are asleep, you are senseless to the world outside. And so as we all go up and down the line every day, perhaps you may think it is because you are awake that you are aware. And as you relax each night with your eyes closed, your awareness of the world outside does begin to fade into the oblivion of sleep. But the depth of it doesn't remain constant throughout and though you are asleep, you begin to be aware of a world, one conjured by the mind to find itself in. To sleep, perchance to dream, and that throws a wrinkle in that line⁵. So one might find oneself aware but not awake. But then there are circumstances where one might undoubtedly be awake, but have a diminished sense of awareness. Because you see, awareness is necessarily about some content and yet there are fleeting moments of blankness even when we are awake when we have little to none in mind. This concept of "Mind Blanking" is new to the literature, only a dozen years old now, but this perhaps is not as much news to the schoolkids who have been zoning out in lessons, blankly with their attention lapsed since the beginning of schooling.

Aware

Attend, attend to the theater of the mind. Everything you are, everything you have been, everything you will ever be is but a play in the theater of your mind, acted out by a phantasms of notions and perceptions. To be aware, one needs something to be aware of. And this can be of ones own self — an awareness that is embodied and interoceptive or it can be of the world outside — exteroceptive. And neither can ever be known except by groping through the sensory veil. And the limits of what senses you can attend to are limited by the space on this stage⁶.

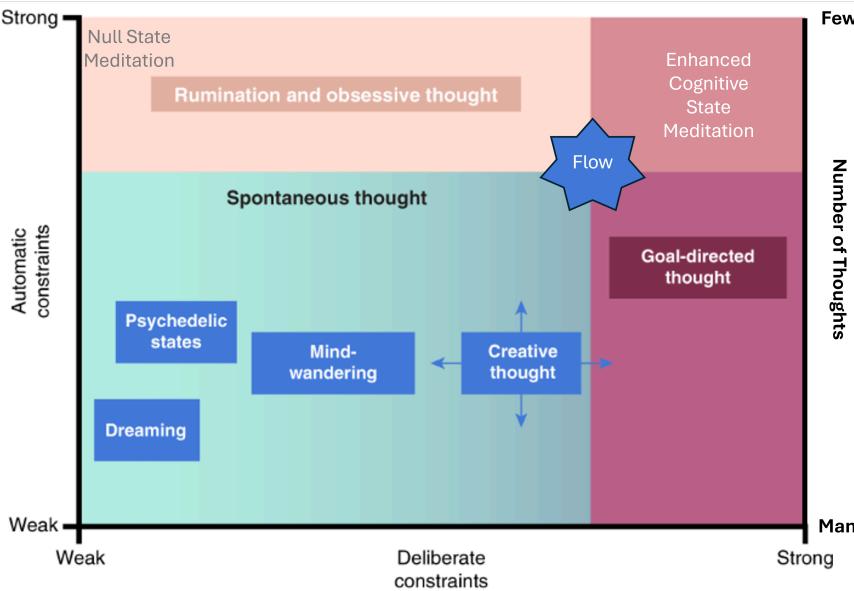
Notice your weight on the surface below you, a sensation that was always present but now is aware just as your breath that goes in, goes out and comes to attention too. Attention is as if a spot light, shining upon the star of the moment, the itch on your face, the feeling of your clothes hanging onto you, the begrudging amusement that I hope you give way to. The precepts move from one to another but they are guided by these words, but left to your own devices and with no goal to guide you, your thoughts may become more spontaneous, your mind may begin to wander and wonder. And if you were to have taken a whiff of Davy's laughing gas, you might find the thread that ties your thoughts together to loosen into delirium. Awareness, then isn't as simple as just a degree but it has a quality to it, that can be examined by the nature of conscious thought and an attempt that makes a pretty picture is called the Dynamic Framework of Thought in the literature.

³ While Davy had mused about using it for surgery, its first recorded use happened decades after and was soon supplanted by ether a year later. See Robinson, D. H., & Toledo, A. H. (2012). Historical development of modern anesthesia. *Journal of investigative surgery*, 25(3), 141-149. <https://pubmed.ncbi.nlm.nih.gov/22583009/>

⁴ And you can stretch this further to do some interesting things but there is not enough space in this margin to write it.

⁵ And then there are the lucid dreamers, who can be aware of others talking to them and even communicate back.

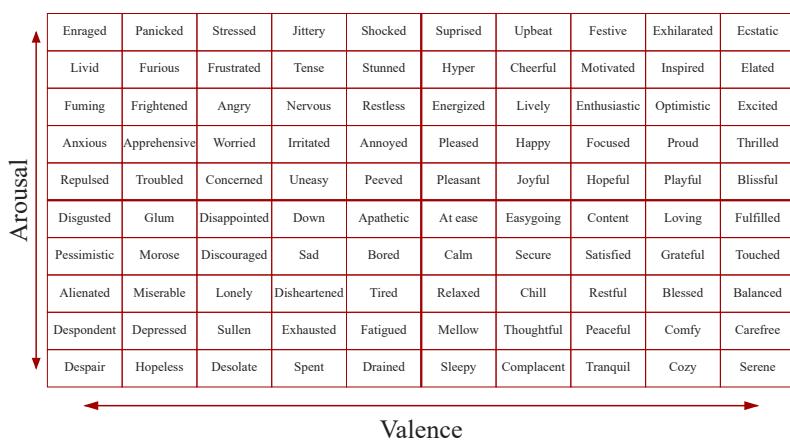
⁶ The Magical Number Seven, Plus or Minus Two



This new map, can't quite be called one of the states of consciousness, but it is a map that charts out the states of mind one might be even in a conscious state. It is a synthesis of a literature, you will not find it in this form elsewhere, but the jigsaw pieces fit well enough for my intuition⁷. Here, we have two new dimensions to chart the trains of our thought, automatic constraints and deliberate ones. These are words that intend to be abstract heuristics for intuition than concrete numbers that may be measured or reported. Automatic constraints are ones from processes that are habitual, emotional, and instinctive while deliberate constraints are ones that act to effortfully guide the tracks of the train of thought towards a certain goal in mind. This bears some resemblance to Kahneman and Tversky's System 1 vs System 2 modes of thinking but instead of a strict one or the other, it allows a state-space where we can place different states of mind while looking at their differences, if only as a simplistic cartoon plotted on abstractions.

Feeling Good

You are awake now, your eyes are open, senses keen and if a knife were to move towards you, the glinting edge making its way towards flesh, you would be more than awake. You would be terrified. That beating of the heart, the adrenaline surge, the catching breath would correlate to that arousal we spoke about. But consider instead of the knife, a lover, your lover — their eyes closed, lips parted, moving towards yours; your breath would still catch, adrenaline still course, your heart would still race. What is different, if not arousal? It is valence. And taken with arousal it captures a surprising amount of the difference between all our emotions. Valence and arousal taken as dimensions allow us to chart another territory among the states of mind, the one of emotions and moods.



Emotions can be fleeting things, but moods extend over time, they are perhaps the state of mind that we most commonly describe in our daily lives. How are you doing? I hope you are feeling good but sometimes it is hard to answer that question honestly rather than just by rote, even to our own selves but even the act of articulating it can be a therapeutic one and soothe the mind. But as the bard said, nothing is good or bad but thinking makes it so, and it turns out that the way we articulate our mood, affects the mood to the point when you take the signs of arousal in the face of anxiety, and think of them as the signs of excitement, you can change the state of your mind to help you perform better. Our thoughts, beliefs and expectations, therefore, shape experience and can change the state of our mind. And perhaps that is why Davy laughed. There was an euphoria to the experience of nitrous oxide, but it needn't have been funny, but once it was, the experience of it was tied to that expectation of it. Yes, the participant remained sensible, but the constraints that make us make sense did get loosened, and out of that came surprise, mirth and the sublime.

⁷ The Dynamic Framework of Thought was introduced in [Christoff et al. \(2016\)](#) for mind-wandering, extended to creativity and psychedelics in [Gim et al. \(2020\)](#), and to flow states in [Shepherd \(2022\)](#), and automatic constraints were set out as a correlate for the empirically reportable "Number of Thoughts" in [Nakatani et al. \(2019\)](#) in their effort to study ultradian rhythms in thought and mind-wandering.

While this correlation may represent no more than a tendency in human nature, it serves as a useful heuristic. The authors' argument, as I understand it, runs thus: the stronger our automatic constraints make certain thoughts salient, the longer those thoughts grip our minds and crowd out the rest.

In the End

This essay is somewhat of a commemoration. It has been 225 years (to the day the first excerpt of this essay was posted) since Davy's Boxing Day Experiment with the first surgical anesthetic. Anesthesia was and remains closely associated with the terms and concepts such as altered states, inductions and depth. And these words so glibly used by hypnotists have a tangled history to them that goes back to the young days of science. It is 240 years since the Franklin Commission indicted Anton Mesmer's animal magnetism to be a result of compression, imagination, and suggestion. 240 years also since Mesmer's acolyte, Marquis de Puységur stumbled his way into the "magnetic sleep," which perhaps was a link in the chain to the psychological turn of the Enlightenment⁸. The Age of Wonder lies dead, and some may claim that science disinfects the mind of its magic in pinning it down to the material, Max Weber may say disenchantment has already won. Trance should be dead, but can we re-enchant the disenchanted? Because wonder is the first step to understanding, and beyond it lies Awe.

(To be continued.)

⁸ "But none of those cultures had a pioneer who did what Puységur did, turning a healing vision and technique into a means of systematically exploring human depth through probing the unconscious mind. The psychological turn occurred in the West, but not elsewhere. The psychological turn occurred at a definite time (1784), in a definite place (France), and as the result of the discoveries of a definite person (the Marquis de Puységur). There have been few culture altering events that can be so specifically located."
Crabtree A., J Hist Behav Sci. 2019 Jul;55(3):199-215.