

Transcendental Blues

Content Notes: Suicide (§0-1), Mental Health (§*), Neuroscience (§2, §4), Logic (§3.2), Computer Science (§4), Rhetoric (§*).

0. That Fucking Dog

When I found out Mark Fisher had finally been cornered by the black dog, I was standing at a bus stop on a chill morning in Ryhope. I could see the sea from where I was, and I could hear the pain in my friend's voice, but I couldn't connect with either of them. I couldn't connect with anything. My life had unravelled around me. I'd recently admitted to myself and others that I couldn't return to my postdoctoral position in South Africa. I couldn't write or read. I couldn't even understand my own work. I couldn't enjoy anything. Not music. Not food. Not the morning sea. I could barely stand to be in the same room as people who cared about me. All because I was being chased by the same black fucking beast.

I was dragging myself out of bed every morning and walking a tooth grinding forty-five minutes to the nearest swimming pool in order to get the thirty minutes of exercise that was supposed to keep the beast at bay. The path follows the route of an old colliery railway line, over a bridge my great-grandfather helped build more than a century ago. Every day, once on the way there, and once on the way back, I'd think about throwing myself off of that bridge. It would never quite rise to the level of volition. I could consider the burdens I'd lift from others, the anxieties I'd finally be free of, even the bleak poetry of it. What I couldn't do was ignore it. This was the first time this had ever happened to me.

I couldn't process the significance of Mark's death. I was too numb. Deep depression washes all the [colour](#) out of the world, turning the contrast down until you can't tell the difference between real loss and mundane misery. It's leaked in slowly, bit by bit over the last year, as I regained enough sensitivity to properly feel it, and enough understanding to properly mourn it. It's the sort of thing you get periodically reminded of, discovering new layers of response each time, be it [wistful sadness](#) or [blistering anger](#). I don't think this process is finished, it won't be for a while, but I hope that writing this post will help it along. Back then, there was one meaningful signal that cut through the depressive noise: this fucking thing shouldn't have been allowed to take him from us, and I shouldn't let it take me too.

1. Depressive Drives

Depression manifests differently for different people. For me, it is inexorably tangled up with self-worth. The one ability I never lose during the slow slide into incapacity is self-criticism. I tend to think one of the reasons a lot of [philosophers](#) struggle with depression is that we spend so long sharpening our knives they cut deeper when we turn them on ourselves. I have to tell people not to praise me when I'm deeply depressed, because I will reflexively take up the opposing position, and I'm much better at finding and dissecting my own flaws than they are. The undeniable fact of Mark's death was that *he did not deserve this*. He was worth so much, to so many of us, for so many reasons, even if that fucking beast wouldn't let him see it, feel it, or act on it. Maybe, just maybe, if he didn't deserve it, neither did I. Here was a fact I could cling to, a raft to stop me drowning in the sea of negative affects, a shield to wield against the barrage of brutal intensities. Here was something to keep my fractured multiplicity of drives in check. Here was a *reason* to keep going.

If that sounds like a dig at post-Deleuzian affect theory, too right it is. It's not simply that I object to

the elevation of affect over reason, or, worse, the dissolution of the latter into the former. I have plenty to say about this from a theoretical perspective, and far harsher things to say from a personal perspective. It's one thing on which my thoughts and feelings are *ironically* in tune. What bothers me most is the sheer gall involved in taking Spinoza, the most radical and uncompromising of the rationalists, Spinoza, the one man in history who attempted to write an ethics as a Euclidean deduction from axioms, Spinoza, the literal *god-damned* prince of philosophers, and flaying the rationalism off him in the name of some post-philosophical '[theory](#)' or '[tactical](#)' political praxis. It induces in me a thoroughly rational disgust. Worse still are those who suggest this is itself an [affective problem](#), as if to say "Positivity is too hot right now, better short it and buy some stakes in negativity." Ugh.

But here's the thing: what better contrast with such irrationalist spinozism than Mark's [cold rationalism](#)? What better modernist retort against its sublimated postmodernism than his [dogmatism](#)? What better alternative to its naive embrace of intensity than [emotional engineering](#)? What better response to its scientific capriciousness than [neuro-punk](#)? Who was a better Spinozist than Mark Fisher? No one I know. As if you needed more evidence of this, it is nowhere more apparent than his ability to psychoanalyse the political and his willingness to politicise mental health.

With regard to the former, what more can be said about [Capitalist Realism](#) ? Mark took the famous Jameson/Žižek line ("It has become easier to imagine the end of the world than the end of capitalism") and spun it into an analysis of the post-financial-crisis neoliberal Zeitgeist, weaving precise examinations of personal and social life (e.g., [anhedonic depression and interpassivity](#)) with insightful readings of popular culture (e.g., Children of Men and WALL-E). And the words, the words! Mark's talents lay not just in tracing the outlines of phenomena no one else had quite seen, but choosing the right names to express them, giving us all the resources to say those things that need to be said: 'business ontology', 'market stalinism', 'democratic paternalism', etc. etc. More than anyone, Mark saw the horizon of impossibility characteristic of capitalist realism, and understood its connection to anxiety and depression, both as general conditions of social consciousness, and as particular conditions imposed on disconnected individuals, a privatisation of social misery kept in check by SSRIs and CBT. To try and summarise the book any further would be to do it a disservice. If you haven't read it or don't remember, go read it again.

With regard to the latter, it's hard to overstate Mark's sincere commitment to treating mental health as not just a personal issue to be worked through in private, but a social and material issue to be addressed in public. Mark was incredibly [candid](#) about his own battle with depression, but there was more to this sincerity than mere candidness. Mark took pains to articulate not just his personal experience of depression, but the way it fitted into his personal history, and the nexus of educational, social, and political environments he found himself in. He did this in such a way that it became a template for self-understanding, a way of working through your own issues by following his lead. Indeed, he explained the dynamics of self-criticism and self-worth I mentioned above [much better](#) than I ever could, elaborating their political significance in a way that will resonate with more people than anything I can write here.

I've been thinking about writing this post for months now. Obsessing about it even. Putting off other things until I've written it, and then neither writing it nor giving up on the idea. The blockage? A clash between the deeply felt need to explain what I've been going through and the nagging suspicion that such explanations are either entirely irrelevant, embarrassingly self-centred, or worse, both. I find myself spending too much time on Facebook, writing huge comments and responses, drawn back into the digital agora as the bits of my brain dedicated to generating streams of words spin up again. I used to point these bits at this blog and let loose. I used to be (in)famous for churning out thousands of words on short notice, working through my own thoughts or responding to those of others. I once even wrote a [massive post](#) working through my thoughts on Mark's

Capitalist Realism, all too characteristically caught up in philosophical prolegomena and promising a second part that never came. But the blog has been functionally dead for years now, functioning more as a place I can share links to my offline activities. What happened? Why did I stop? The answer is going to require a detour.

But [here's](#) what forced me to start again. Mark long advised us not to fall into easy patterns of online behaviour, micro-addictions, dopamine loops, and attention traps that have been designed to capture our cognitive mechanisms, and customised to our unique behavioural profile. Perhaps more than anyone he saw social media as the new frontier of Deleuze's society of control, not simply deterritorialising and reterritorialising existing disciplinary institutions in strange and more bureaucratic ways, but a whole new plane on which the subpersonal undercurrents of the personal were laid open to observation and manipulation. However, he also refused the obvious conservative response: "Kids these days with their twitter and instagram! Why can't they all just look up from their phones, get offline, and live *real* lives?" His answer was that we should use social media proactively, not reactively. So I'm redirecting my word generators away from Facebook and back to Wordpress. Will this mean a return to the good old days of Deontologistics? Probably not, but who knows? If I write nothing more than this, then at least that will be something.

For the moment, I want to pay my respects to Mark through pale imitation. I want to talk about my mental health and what it means. Mark eloquently explained the difficulty of being public about depression, and how secrecy can eat away at you when you're in its grasp. As I've slowly come back into the light, I've tried to be open about it, but I haven't been as open about it *as possible*. This is an attempt to do that in such a way that it can't eat away at me the next time I'm lost in the dark. In case the introduction wasn't sufficient warning, this is going to get *personal*. It's also going to be *long*, and in some parts *technical* and *wildly speculative*. If you don't want any neuroscience, skip §2.1, if you don't want any logic skip §3.2, and if you don't want any computer science, skip §4. I'll reference some of this in the conclusion, but you should be relatively safe.

2. Bipolar Brains

2.0. The Story

It's in the heading. I'm bipolar. Type II to be precise. I've suspected as much for quite some time. There's a long history of bipolarity in my family (my father and grandfather), and it's a condition with recognised heritability and even some recognisable [genetic components](#). I've had mood swings at least since my teens, these got worse during university with a pronounced downswing in the Summer months, and tipped over into debilitating at the very end of my PhD in 2011. I had nearly finished the thesis, having written everything but the conclusion. I then took some time out to go to some [conferences](#). It was a pretty amazing experience. I got to talk about metaphysics with Daniel Dennett over Turkish coffee in Beirut. I vividly remember explaining my transcendental realism to him, in Quinean terms, and him telling me it was a worthy position to hold [*philosophy squee*]. I also got to meet Robert Brandom in Prague, and he even offered me a visiting scholarship in Pittsburg (sadly unfunded [*lesser squee*]). Anyone who has ever seen me at a conference will not be surprised when they learn they can be triggers for [hypomania](#). I think fast, talk fast, want to ask the first question at every talk, and generally spend the whole time caught between reading/writing and immersing myself in the delights of conversation with my professional peers. Philosophy conferences are supernormal stimuli for all the dialogical machinery sitting in my skull. The crash came when I returned to the UK. I only had five thousand words to write, but I gradually lost the ability to articulate myself, till I was writing a sentence a day, and then none at all. It was a slow process of decline, that spiralled as the sheer horror of cognitive dysfunction drove me deeper into depression. This positive feedback loop of cognitive decline is something I became intimately familiar with in the next few years, acquiring new coping mechanisms and new anxieties alike.

The first real milestone is when you give up on living without medication. I remember being so sure that to go and get treatment was to somehow let it win, and worse, to admit this was going to be my life from now on. I knew my father's condition, and I knew there was a distinct chance this was the first real sign of the onset of bipolar disorder. This terrified me. That made it worse. I eventually went to my GP, and got the standard rigmarole: whichever SSRI they personally preferred, talk of possible [CBT](#). The worst thing about SSRIs — beyond the controversy regarding [how they work](#), [how well they work](#), [who they're supposed to work for](#), and [the ongoing side effects](#) (shout out to [SlateStarCodex](#)) — is the uptake and withdrawal period. [Sertraline](#) had a two week window, during which it increased anxiety, irritability, restlessness, etc., before mellowing out. [Fluoxetine](#) had a six week period of the same. This, and any period where you're without your medication for some reason, can be excruciating. I made the mistake of taking a driving test while coming off fluoxetine. It was a very, very bad idea.

I initially made the mistake of coming off sertraline on my own (rather than waiting the full six months). The reason this was a mistake is that, after I flagged my family history and finally got an appointment with an NHS psychiatrist, it was used as a diagnostic contra-indicator. I actually had two different appointments, one several months after the first episode, and one several months after the second episode, which came pretty much right on time a year later. Here's where the diagnostic difference between [bipolar type I](#) and [bipolar type II](#) becomes relevant. Depression is not enough to get you a bipolar diagnosis, there has to also be evidence of mania. But in type II cases this is usually only [hypomania](#), which is much harder to identify, especially retroactively. I didn't display any signs of delusions or excessive risk taking, just extreme productivity and associated euphoria. This means you can only get a bipolar type II diagnosis when you don't think you need one, and can't get one when you really, really do. Those SSRIs? Pretty much useless for bipolar depression. That hypomania? Much shorter, much less common, and much less severe than the corresponding depressive episodes.

For the last six years I've had about one depressive episode a year, and you can usually track them through my social media output (are those word generators working?). I tried SSRIs on and off until I had a definite depressive episode while taking them, and then felt justified in concluding they were fucking useless (and glad that I could dispense with the side effects). After those first two years (2011 and 2012), I found ways of managing my episodes that made them less intense. I think writing [my book](#) helped a lot. It was an ongoing project than spanned across episodes, which I could continue to pick away at without too much pressure to finish it (until 2014). Thanks to Reza Negarestani and Ray Brassier, I started getting invites to give [talks](#). I moved to Loughborough and had something resembling a domestic routine (2015 and 2016). I started consciously using [modafinil](#) (a nootropic many UK based researchers are familiar with) as a counter-cyclic way of managing motivation. I also started teaching a film studies seminar at De Montfort (2015-2016), which was immensely helpful. I love teaching. I can do it even when I can't research. This means it's a great way of breaking the cognitive dysfunction feedback loop.

I've applied for academic teaching jobs constantly since before the end of my PhD. I've even haphazardly applied for postdocs and other research jobs in adjacent fields. At the beginning of 2016 I was ready to give up. I'd finally had a go at the US market, and discovered that I was even less competitive there than in the UK. I even applied to a job at a liberal arts college where they forgot to BCC the rejection letter, showing 297 applicants, each of which had to prepare a full dossier: custom CV, custom cover letter, evidence of teaching excellence (UK reaction: !?!), selected writing samples, custom research plan, oh, and three letters of recommendation written and submitted in advance. It's also about this time that my PhD supervisor refused to give me a reference, which was... well. Never being shortlisted for a job has some unexpected consequences. But then, after six years, two opportunities came along at once. I was just about to sign a contract to spend a semester teaching at CalArts, when I got word I'd been accepted for a postdoctoral research fellowship in [South Africa](#). For three days I didn't know up from down. I asked everyone I knew

what I should do. They were evenly split. I went with South Africa, because it was longer, and an opportunity to work on publications. In hindsight, I wish I'd gone to LA. Why?

Welcome to the cycle. When you've got it under control, you forget it's there. When I went on tour again, doing talks in the [Netherlands](#), [London](#), [Dublin](#), and a [whole two weeks in NYC](#), I went about as high as I can go. No delusions or dangerous behaviour, but productivity so intense my intuitions were getting well ahead of my capacity to reign them in. Throw in moving my whole life to another hemisphere and a follow up trip to [Mexico](#), and we have a recipe for a crash worse than 2011. This might have been avoided, if not for a few bad things that converged at the same time:

Johannesburg is a very isolating city, for various reasons. You can't walk anywhere. You are likely to be living in a single room, with no split between work and living space. If everyone you know leaves the country for a month, then you're going to be stuck in that room, working on that one paper that isn't quite coming together. The one that's based on a chapter from your book. The one that you're desperately over-researching because you've got no idea who'll accept it and under what conditions, and you really, really could use a safe bet right now. That one. Then you get an interview for an honest to God teaching job and you've got a week to pull everything together: flying back to the UK for the holidays early, arranging to meet your partner, putting together the impossible presentation they've asked you to give (seriously, how are you supposed to explain ontology, epistemology, ethics, and politics to an audience of art students using classical and contemporary art examples in ten minutes?). Then your partner leaves you. You don't get the job, but they take three weeks to tell you. Trump somehow gets elected in the meantime (20-fucking-16). The only thing that's left is that bloody paper. Cue cognitive dysfunction feedback loop. Return to the top of the page.

Maybe if I'd gone to LA the teaching would have kept me grounded. Maybe the social interaction would have. Who knows? What actually happened is that I lost about eight months. This was the longest and most intense depressive episode I have ever experienced, and it felt like my life was unravelling around me, to some extent because it was. I returned to my GP and got put on a four week anxiety course (I could only pick depression *or* anxiety, and the latter was less familiar territory), and a waiting list for one on one counselling (i.e., CBT). Once a week I sat in a room with a group of other misfits while some very well trained and well meaning people told me how to deal with work stress. To say this was unhelpful is like saying a manual on car maintenance is unhelpful when you're trying to land a plane. It's just not even the same thing, though absurdity has its own rewards. I eventually went to see a private psychiatrist, who after listening to the above story gave me a bipolar II diagnosis and a prescription for [quetiapine](#). This pulled me out of the depression, and then sedated me so heavily as to make little difference. I'm still on a small dose of it, but I'm finally transitioning to [lamotrigine](#). This whole extended diagnosis-prescription cycle has been a pain, but I haven't yet seen a [skin rash](#) and the effects seem really positive. It only took six years to get here.

2.1. Neuropunk

How to be a good neuropunk in this situation? Do some research. I've been reading up a bit on the neurobiology of bipolar disorder and depression more generally. The most important point to make is that depression has no single cause. There are a bunch of different neural correlates for the symptoms that get diagnostically packaged as depression. The second most important point is that something similar can be said about bipolar disorder. Although there's decent evidence of heredity in some cases, there's a lot of variation in the way it's expressed. It's for this reason that the type I/type II distinction was expanded into the more complex [bipolar spectrum](#). This is made even more complicated by the [genetic](#) and [diagnostic](#) overlap between bipolar disorder and schizophrenia. Where does this leave us?

Here is where I return to [SlateStarCodex](#), which I cannot recommend highly enough. Even when I disagree with Scott Alexander, it's usually an interesting disagreement. He's been providing an excellent rundown of cutting edge developments in the study and treatment of depression. Though I've read a bit more around these topics, he still provides the best introduction to many of them one can find. With regard to study, the most interesting development is the prospect of something like a general theory of depression. I know I said the first rule of depression club is there's no one cause of depression, but this doesn't mean the various neurological correlates aren't different causal pathways of the same overall dysfunction. There are roughly two ways of looking for such a unifying dysfunction: bottom up, by looking for something that all the neural correlates have in common, or top down, by looking for some suitable function whose disruption could realistically produce the relevant symptoms. Scott has covered one of each.

The former is the [synapse hypothesis](#), which claims that the common factor between neural correlates (e.g., stress hormone and monoamine levels, folate balance, brain inflammation, etc.) is decreased synaptogenesis, or a failure to create new synaptic connections at the rate you're losing them. This means that the symptoms of depression are a matter of neural network structure rather than temporary chemical imbalance. This promises an approach to depression that doesn't subordinate [cognitive impairment](#) to affective dysregulation. It also suggests useful connections with work on the neurological effects of [post-traumatic stress](#), whose symptoms obviously overlap with depression in many cases. With regard to treatment, it suggests that one might be able to deal with root causes rather than managing symptoms by encouraging [neurogenesis](#). However, the first [drug](#) explicitly designed to do this has had some [less than promising results](#). Nevertheless, it's also one of the first drugs to be synthesised and used by a community of [enthusiastic neuropunks](#). The jury remains out.

The latter is the [predictive theory of depression](#), which requires a bit more explanation, because it's based on the [predictive processing](#) model of brain function. This theory has made big waves in recent years (philosophically [surfed](#) by Andy Clark). It claims that our experience of our environment is largely a predictive simulation, and that sensory input is principally a matter of error correction. It's one of those wonderful fruits of the back and forth between biological research into the complexities of human neuroanatomy and computational research into simplified artificial neural networks.

The idea is that the brain is organised in layers (e.g., the [visual cortex](#) (V1-V6) and its overlapping dorsal/ventral streams) that correspond to different *learned representations*, moving from more concrete to more abstract structures (e.g., regions of colour/texture/motion > objects with type/orientation/dynamics). This is similar to the layers of *feature detection* in deep learning machine vision systems (e.g., edge detection > 2D surfaces > 3D volumes > object identification). In essence, each layer has learned to predict the signal from the layer below it. Passing its successes downward (as active expectation) and its failures upward (as error signal). It's the interaction between these *downstream* (top-down) and *upstream* (bottom-up) signals that makes the PP model so interesting. If they have distinct mechanisms, then one can think about precisely what happens when the signals clash, and what happens when either of them is *stronger* or *weaker* than usual. When they clash, you get *salience*. This is to say that things become surprising enough that you have to pay attention to them. If you look at things from a [Bayesian perspective](#), it looks like there is more *confidence* in the expectations being projected down the layers of simulation when the downstream signal dominates, and less when the upstream signal does. I've got some problems with the Bayesian brain interpretation of the PP model, but this does have interesting consequences.

Let's test drive the PP model of brain function with some other pathologies (or maybe just [divergences](#)). Much recent work on the autism spectrum leans towards the idea that [more noticeable](#) problems with social interaction and communication are symptoms of [deeper issues](#) with sensory processing. A simple way of interpreting this would be in terms of a decreased threshold for

salience. A lowered tolerance for error would produce a constant sensory barrage of demands for attention. This would explain both [sensory overload](#) and [stimming behaviour](#). The latter insofar as it *produces* an expected signal that drowns out others.

What about hallucinations? They might be what happens when the downstream signal is overactive, meaning that your sensory input can't correct the expectations you're simulating. The snake you're projecting isn't there, but your eyes *can't tell you*. This is similar to what happens in dreams, where there's no input at all. It's no surprise that the PP model is sometimes described in [hallucinatory terms](#), or following Metzinger, as 'online dreaming'. What about delusions? They might be what happens when the upstream signal is overactive, forcing you try to make sense of random salience. That man across the street is *relevant* so he must be part of a bigger picture, which means he must be following you. This suggests some interesting ways of looking at schizophrenia and similar forms of [psychosis](#).

What about depression then? Well, it might be what happens when one or both of the signals are *underactive*. This seems most obvious with the downstream signal, as depression is almost synonymous with reduced confidence, and concomitant low self-esteem. However, an underactive upstream signal might explain why the depressive world is so washed out and colourless. Sensory information just isn't strong enough to penetrate the fog of negative expectations. Furthermore, this provides a good way of explaining the pronounced slowing, dampening, and [general disruption of motor activity](#) characteristic of major depression. From the PP perspective, action is a matter of *active expectation*. I expect to eat the biscuit, and so the [hierarchy of control systems](#) operating my muscles fulfils the expectation. If your upstream and/or downstream signals are turned down, then it's both hard to generate strong volitions (expectations) and to modulate them in response to mistakes (error). With regard to treatment, one suggestion is that we might want to act on the [glutamate system](#), and the NMDA and AMPA receptors that have been potentially linked to these signals. This [might be why](#) ketamine is [proving so effective](#). Another is that this might be what's going on when we act on [serotonin receptors](#), though that's as likely to be about the anxiety that sometimes [overlaps with depression](#).

Differentiating between overactive and underactive signals rather than merely talking about dominance suggests that we should be thinking less in terms of simple clashes and more in terms of complex interactions. An exclusively linear focus on up and down will obscure the processing that is going on in each layer, and the specific ways in which it is interacting with the layers above and below it. A *slightly* more accurate image might be an overlapping series of loops, where signals from lower layers get passed upstream until they're caught by a layer that can deal with them by projecting a better expectation downstream. On the one hand, this looks a lot like [cybernetic feedback](#), but on the other, it looks a lot like computational [exception handling](#). These belong to two different models of control, one more [continuous](#) and the other more [discrete](#). Regardless, it looks like a bunch of interacting [concurrent processes](#). Neuropunk has transformed back into cyber-punk, kuber-punk, [k-punk](#).

If this is what continuous active adaptation to your environment looks like, then turning down both the upstream and downstream signals simultaneously looks something like declining capacity for active adaptation. The smaller loops become weaker, more prone to disruption, and the larger loops collapse entirely. Alternatively, anything that seriously interferes with the pathways through which the signals that constitute these adaptive loops travel would have a similar effect. A thinning out of synaptic connections might just do the trick: topological holes appearing in the networks that process the relevant information signals. Does this mean that the *causal factors* grouped by the synaptic hypothesis (bottom-up explanation) are responsible for the *cognitive dysfunction* described by the predictive theory of depression (top-down explanation)? I have no idea. It's almost certainly a whole lot more complex than that sounds, even if there's a connection. This is where neuropunk speculation ends and a slightly more disciplined experimental inquiry needs to take over.

Well, maybe not quite yet. I've talked about the depressive pole, but I haven't yet talked about the manic pole, or how they're related in bipolar spectrum disorder. This is where I have to leave SlateStarCodex behind, because, despite some interesting [historical observations](#) and some valiant [experimental efforts](#), he doesn't have much to say about research into the condition. Let me start off with the most important and most terrifying thing I've learned about bipolar disorder: there's a growing consensus that it is a [neurodegenerative disease](#), or perhaps an [expression of variant neurodegenerative conditions](#), that produces persistent [cognitive deficits](#) in attention, executive function, and emotional processing. This sheds some light on the tendency of bipolar symptoms to worsen over time, and the fact that this tends to spiral: the more episodes you have the more likely you are to have them in the future, because those regions of the brain that might act to dampen them (e.g., areas associated with [alertness/sleep](#), [impulse control](#), and [emotional processing](#)) are progressively thinned out by the cycle. There is a quite literal sense in which having bipolar disorder means you are *losing your mind*, a few tiny pieces at a time. While you're sunk in a deep depression, people have a tendency to try and comfort you by telling you everything that's gone away is going to come back. This makes it hard to deal with feelings that suggest otherwise when you're resurfacing. It's thus *slightly* comforting to know that there could be some truth to those fleeting impressions that you didn't used to be this scattered, flighty, or sensitive. But it's really hard to say *how much*. Best stick to the terror then.

Here's where we need to learn a new word: [excitotoxicity](#). This is the bigger, meaner cousin of decreased synaptogenesis. This is what happens when you're not simply losing synaptic connectivity between neurons, but the neurons are actually dying, taking their connections with them. This is the same thing that happens to the neurons of [stroke victims](#): where [ischemia](#), the loss of blood to brain tissue that starves cells of oxygen and glucose, causes the cells to dump glutamate, precipitating a glutamatergic storm in which the NMDA, AMPA, and KA receptors are overstimulated, allowing excess calcium ions into the cell, overloading it and inducing neural death. There is [some evidence](#) that a similar process underlies bipolar neurodegeneration. It also makes sense of the [high levels of calcium](#) that have been found in the spinal fluid of some bipolar patients during depressive phases. However, this means we need to find a causal pathway to glutamate overstimulation other than ischemia, or a pathway to open calcium channels that bypasses glutamate entirely.

Here are our most promising leads. On the one hand, the genetic markers that have been [associated](#) with both bipolar disorder and schizophrenia involve altered expression of the CACNA1C gene, which encodes for a [subunit](#) of a voltage-gated [calcium channel](#). This could be a direct causal pathway to excitotoxicity, but it might be dependent on glutamate in one or more ways. On the other, there's a very recent and [ingenious study](#) that suggests that in at least some cases, roughly those 33% that can reliably be treated with [lithium](#), bipolar disorder could be a problem with post-translation regulation of a protein called [CRMP2](#). This protein is involved in [axon growth](#) and [guidance](#), and thus in the formation of synaptic connections, and [cleaved forms](#) of it have been associated with axonal degeneration and cell death. There could be a causal pathway in there somewhere, and there's a hint of a connection to synaptogenesis, but it's hard to see where it might be. The really ingenious thing about this study was the idea of reverse engineering the mechanism through which lithium works.

Until quite recently lithium was the only reliable treatment for bipolar disorder, though it has since been joined by a couple anti-convulsants usually used to treat epilepsy ([lamotrigine](#), [sodium valproate](#), and [carbamazepine](#)) and a couple anti-psychotics that are sometimes used as mood stabilisers ([quetiapine](#) and [olanzapine](#)). These can be mixed and matched with lithium and one another in various ways, as well as more familiar anti-depressants. The important thing to understand is that they don't all treat depression and mania equally: lithium and the anti-psychotics are much more effective against mania than depression, and the anti-convulsants are much more effective against depression than mania. There are [good reasons to avoid lithium](#), but it is often the

medication of last resort. There is also one good reason to consider lithium: it has [neuroprotective properties](#) that seem to mitigate against excitotoxicity. However, the same can be said for [lamotrigine](#) and [valproate](#), and I'm certainly more eager to take these than lithium. The anti-psychotics can fuck right off.

Are there any other possibilities on the horizon? There seem to be two potential lines of research. On the one hand, we can look at a wide range of drugs with a direct neuroprotective effect. The most promising so far looks to be [memantine](#). There was a recent clinical trial of [riluzole](#), a drug used to treat ALS, but it [did not go well](#). Luckily, there remains a [panoply](#) of neuroprotectives that have not yet been tried. On the other, we can focus on narrower range drugs that [specifically target calcium channels](#). However, the best thing we can say at the moment is that [we haven't really looked into them enough](#). There's a lot of possibilities to explore, and a better understanding of the mechanisms of bipolar excitotoxicity could make a big difference.

What of neuropunk though? Can we say anything more speculative about how bipolar disorder fits into the predictive model of depression discussed above? It seems to me that we can. If depression is what happens when you turn down both the upstream and downstream signals to some extent, maybe mania is what happens when you turn them both up to some extent. This might produce an *increased* capacity for active adaptation to one's environment: cognitive hyperfunction rather than cognitive dysfunction. The problem being that this can lead both to massive *overconfidence* in some regards (e.g., investing all your money in a *sure thing*) and massive *oversensitivity* in others (e.g., one *cutting* remark sending you into an emotional tailspin). Worse still, any imbalance one way or the other and you're back to hallucination and delusion, which are both possible features of manic episodes. All this is just to rehearse the age old question about whether the highs make the lows worthwhile. Can one channel the creative energy of mania? Can you harness the brighter beast? Can you [tube ride](#) along the edge of uncertainty?

Here's where the terror comes back. Do the manic upswings *cause* the depressive downswings? Is the excitement of mania the reason for excitotoxicity? Are you running so hot you're overheating? Or is that just an easy metaphor to reach for? I don't know, but I can't rule it out. Here's the kicker: the cognitive dysfunction feedback loop seems to have a manic twin, a cognitive hyperfunction feedback loop that drives you upward. This sort of makes sense when you think about it from the perspective of overconfidence: things are going well, so they're going to keep going well, and every additional insight, breakthrough, or sign of progress just confirms this, driving you further into cognitive overdrive. If the twin signals of the PP model are really associated with the glutamate system (NMDA-downstream and AMPA-upstream), then it's not hard to visualise turning them both up to eleven as something like a glutamatergic storm. Every wave crashes eventually.

3. Academic Anxieties

3.0. The Hook

The last long conversation I had with Mark was before I got the job offers. We talked about a few different things, but we got stuck on the topic of academic employment. His well aged bitterness and my own more recent vintage were nicely paired with complaints about opaque hiring practices, precarious teaching work, the myriad impossibilities of researching while depressed and anxious, and the complete indifference of the system to these unless you already have a stable job. Mark had spent so long scraping and scrabbling against all odds to piece together the sort of job that other academics take for granted that he couldn't quite believe it when he finally got there, and wasn't capable of believing he deserved it when he did. This is despite the fact that his [cultural and intellectual influence](#) is, and will remain, far greater than most people you'd find holding down similar jobs in the humanities. Our conversation left me with an image that has stayed with me since. He described becoming an academic as being like running down a corridor in something like

a Bond or Indiana Jones movie, chasing down someone or something only to hear a reinforced door slam shut behind you, terminally foreclosing the possibility of return. Let's talk about how this happens, and what it does to you.

Contemporary academia is under attack, assailed from all sides by funding cuts, bureaucratic impositions, and perverse incentives. I have talked [elsewhere](#) about the way the current publishing model combines distribution and assessment in a manner that feeds into these issues. However, it is equally cruel and capricious in ways that cannot simply be reduced to these external influences. The best older academics see the pain, humiliation, and learned helplessness inflicted on 'early career academics' by the chasm between graduate study and full employment, and try to ameliorate them as best they can. The worst merely contribute to it by blindness, negligence, or an intense narrow-mindedness that has been carefully honed over years of practice.

The joke is that 'early career academics' aren't anything of the sort for the most part. They're only 'early *career*' if they've actually got a job and have the possibility of either progressing in it or getting a new one. They're only 'early career' in the sense that they're either in a fitful *pre-career* state or have just transitioned from it, clinging to the first rung of the ladder by their fingernails. By my calculations the *earliest* career academic in the UK would be twenty-five (18 + 3BA + 1MA + 3PhD), excepting extraordinary circumstances, after approximately seven years of training in their subject, maybe or maybe not including any useful teaching experience. That's *relatively* old to be starting a career, even if us millennials are doing everything later these days. However, I sincerely doubt this is the *average* starting age of most academics, at least in the areas I'm familiar with. Of course, there's a few possible bridges between the end of graduate study: part-time and/or temporary teaching positions and postdoctoral research fellowships, in addition to odd jobs such as research assistant roles, events organising, editing, translating, tutoring, and the like. For the most part these are all ways to continue mortgaging your future to your own intellectual enthusiasm, be it for producing knowledge or imparting it. The best thing to be said about it is that it's often better than the alternative, at least in the short term. Carrot meet stick.

I went straight through education: four to twenty-six without any gaps. When I was five years old my infant school gave me an award for 'being interested in everything'. I still have the piece of paper somewhere. They gave personalised awards to every child at one time or another, but I like to think they had me pegged at five. My problem has never been finding things interesting *enough* to talk or write about them, it's always been finding *too many* things interesting to talk or write about only one of them. This surplus enthusiasm was a problem well before it got periodically turbocharged by hypomania. But this *is* me. I like explaining things more than everything else, pretty much. I don't *study* philosophy. I don't *teach* philosophy. I *am* a philosopher. I *philosophise*. It's what I do. When I *can* do it it's the best thing there is. When I *can't* it's the worst thing there is. This is not the bipolar cycle talking, this is the core of my self-image. It's also how other people see me. I don't know about anyone else, but the sort of mutual recognition I get from my academic peers means a great deal to me. That moment when someone else *understands* what you're saying and thinks it was *worth* saying, whether they agreed with it or not. I'm pretty sure that I wouldn't still be here without the recognition of Ray Brassier, Reza Negarestani, Robin MacKay, Nick Srnicek, Alex Williams, Benedict Singleton, the diasporic subsystems of [Luboria Cuboniks](#), and many others. But that's the thing: I am still *here*, in this fitful *extra-career* purgatory. Your self-image is the hook you hang by.

There is no way back to that period before you diverged from your friends, when they started getting jobs (or even, careers), maybe getting married, maybe buying houses, maybe having kids (we are millennials after all). The worse thing is that you can't even start afresh in the present. There is a neat overlap in the Venn diagram between overqualified and underqualified marked 'PhD'. You can't even hide the dark mark of academia, taking the 'Dr.' from all the things you once proudly put it on in the hope that someone might just employ you as a normal person. Your CV either says you

spent the best part of a decade in academia or it contains a worse and only slightly less mysterious absence. The only reliable exit routes seem to be leaping headlong into university administration or secondary school teaching. I'm aware other people didn't make the same stupid decisions I did, ending up in their late twenties applying for jobs left, right, and centre with no experience of doing anything else. Other people got work before or during their studies, most often because they needed to in a way I didn't. I have passed through several thresholds of not wanting to take any more money from my parents, though a mix of guilt for depending on them, and guilt for taking what others are never offered. There's probably another one lying in wait for me, but I'll try to worry about it when I get there. Privilege checked. Please try not to poke the festering wound of my self-respect.

I haven't even gotten to the indignities of the academic job market. Don't worry, we'll get back to that. Instead I've been trying to describe the existential weight of being trapped between academia and *the real world*. The cognitive dissonance created by defining yourself through work that won't quite get you an academic career but which means *absolutely nothing* outside of an academic context. Here's something that happens to me surprisingly often: I meet someone in a quasi-academic context, sometimes at an event I've been paid to talk at, sometimes at events I've found nearby where I live, they recognise my name and/or like my work, and they ask "So where are you?" I've now got about two or three jokes prepared that I can use to diffuse the tension and stop the torrent of resentment tinged explanation from spewing out of me. If they get to "But how can *you* not have a job?" all bets are off. I'm honestly not trying to humblebrag here. Of course I think my work is good, *I would*. You might think it's not. You might think these peoples' opinions are worthless. Fine. What I'm trying to get across is what *the hook* feels like when someone who can see it unintentionally grabs it and yanks it in the wrong direction. The longer you've been hanging by it, the more it hurts.

3.1 The Market

So, back to applications then. I've given an outline of my story above: six years of applications, six years of rejections, one aborted postdoc, and one failed interview. I think the one failed interview is probably most significant, because it let's us talk about *the shortlist*. How *does* one get on the shortlist? When I finally did it was because I was applying for a distinctly unusual job: an art school advertised for someone to teach philosophy, and I've spent a good deal of time in art contexts over the last few years, giving talks about various things, including philosophy of art and aesthetics. (As an aside, the amazing thing about art institutions and affiliates is that *they pay you* to give talks. Not always on time, but it's real money. I've was once paid more for two days of work than I made in several months working part-time at a pork sandwich stand.) Here's a funny thing: it took the art school so long to tell me I hadn't gotten the job that when I asked for feedback they said it had been too long ago for them to do so.

Feedback, our first catch 22. You can't get feedback unless you make the shortlist, and sometimes even if you do. Are there any fatal mistakes, red flags, or simple omissions that stand out amongst the vast amount of information the HR process and hiring committee have to sift through in order to whittle down the hundred or more applicants to a manageable number? How can you find out? If you've got a conscientious supervisor, generous mentor, or some friends more knowledgeable about the opaque process than you are, then maybe your applications will evolve, become better, and eventually get through. Mine didn't.

The UK and US systems are subtly different. They're also both different from mainland Europe, and anywhere else that hasn't imported the US model. Everywhere has it's own issues, but I think it's worth contrasting the UK and US for readers unaware of the differences. In the US, PhD programs have always been more vocational than those in the UK. The UK is focused on the production of a long thesis, the US makes you jump through additional hoops in the aim of making you an

employable academic. In the US teaching experience is generally a component part of the program, in the UK it's neither mandatory nor guaranteed (at least when I came up), and it will not give you any experience of course design or lecture delivery. It's mostly just leading seminars on other people's courses. Furthermore, in the US adjunct teaching is readily available. It's awful, exploitative, and hard to transcend, but it's there. In the UK it's hard to get more than seminar teaching without going through the above process and hitting the shortlist barrier. Catch 22 number two: you can't get teaching experience unless you've already got it. The only way around this is to be in the right place, at the right time, knowing the right people. In six years I've only managed two out of three. The flip side is that UK jobs are generally more stable once you get them. Nothing we've got is as bad as the tenure track system, though we're busy trying to fix that oversight.

As time goes by you go sour, and then bitter. Souring is the slow process of turning from *early* career academic to *extra* career academic. Embittering is the slow process of becoming conscious of this fact. We've already discussed the unusual timescale of academic employment. *Technically*, it doesn't matter how old you are. If you went back to school and got a PhD in your forties you'd enter the job market as an early career academic. *Practically*, what matters is how much time there's been since you received your PhD, and what you've been doing in the meantime. This is most obvious when you apply for postdocs, where eligibility is tied to years since PhD. There's no room to explain what your circumstances are, and why you haven't done as much as the average academic in the intervening time. Did you need to get real job? Did you have a child? Did you get sick? Did you have other family commitments you couldn't shirk? Had you begun a cycle of affective and cognitive disruption you could barely understand let alone control? This is what I mean when I talked about the indifference of the academic system to mental health. If you have a job and have mental health issues, they pay attention. If you're trying to get a job, there's not even a good way to explain these issues, let alone have them taken into account. Five years post-PhD does not mean a five year period when you were capable of working.

Here's the final, much more personal catch 22. If you can't get in the door with teaching credentials, and you can't get teaching credentials without getting in the door, then the only route left is research. Here's another cinematic image one of my PhD cohort gave me: we were like Leonardo DiCaprio, running as fast as we could just to board the Titanic. We finished our PhDs just as the post-financial-crisis cuts were hitting, and just before the Research Excellent Framework ([REF](#)) was due to hit. Departments were only hiring people, even on temporary contracts, to stuff their 2014 research submissions. We hadn't been encouraged to develop a publication profile. We'd just worked on our thesis. We didn't stand a chance. This was only the first of many bad decisions.

The obvious answer is: publish. Publish. PUBLISH! Give conference papers, write them up, send them out, wait a while, get them back, revise them, repeat. Throw everything you've got against the wall and see what sticks. If you think the shortlist is an opaque filter, you've seen nothing yet. The irony is that, though I'm complaining about all this, I've barely submitted anything to journals. I've written papers, given papers, stuck few things in miscellaneous collections, written a book, and even *reviewed* for journals, but I've got few journal articles of my own, and none that really count for much. It's taken me a long time to understand just *why* I'm so bad at trying to *write* for journals, but the essence of it is anxiety. Anxiety that grows in proportion to just how important it is to publish. Anxiety whose tendrils sink deeper and cinch tighter the longer you're out of work. Anxiety that frames every writing project as *maybe the one that will finally get me a job*.

I recognise that this is a very personal catch 22: the main barrier to getting a job becomes stronger as it creates psychological feedback. I want to explore the psychology of this a bit more, if only because I've already explored the neuroscientific aspects, and it seems important to consider the other side of things. I've already suggested that I find *too many* things interesting. I get pulled in too many directions at once, and this gets exacerbated by invitations to talk or [give courses](#) on completely different subjects (e.g., metaphysics, art, freedom, artificial intelligence, Continental

and/or Analytic philosophy, etc.). The great thing about these external commitments is that they pull me out of myself and force me to write. They ask me to explain things to an audience I can get a grip on, which is when I'm at my best. The problem is that they stop me from selecting and working on a main project, and they interact with the bipolar cycle in unfortunate ways. Hypomania reinforces the temptation to work on too many things at once, while depression reinforces the tendency to focus on one thing to the exclusion of all else, in a way that slips into the cognitive dysfunction feedback loop. The result is that I have [a bevy of papers](#) which I don't know what to do with, some cut short by depression, the research I did only half-remembered. The choices ramify as I cycle between enthusiastic overcommitment and paralysing indecisiveness.

Isn't this all a failure of *self-discipline*? Of course it is. Enthusiasm is no good if you can't control and channel it. However, I want to explore the psychology of this failure, not simply in terms of the way bipolar cycling subverts *self-control*, but in terms of the way ratcheting anxiety makes it harder to *choose*.

3.2. Problem Space

Here's how I think about a philosophical problem. It is a branching [tree](#) of paths, splitting off into alternative solutions, each with their own [forking reasons](#), each caught in [dialectical interaction](#) with its opponents. You choose a path that seems right, and if you're lucky you outlast the alternatives, chasing them into dead ends of bare assertion or loops that beg the question (either is a [pyrrhic](#) victory). However, these looping paths are [tricky structures](#). They don't always lead back to the alternative solution you're disputing, but to other branches of the wider philosophical tree. This is the interesting thing about infinite trees, they're [self-similar](#) in a sprawling fractalline fashion. This means that what you originally think is a well defined local problem can force you to see it as a branch of a bigger tree, if you want to continue arguing against an opponent whose premises reach deeper into the problem space. The tree analogy is at risk of bursting here, so let me make an *explicitly* formal modification: the structures we're talking about are in some sense like [proof nets](#), but they're more like (infinite) [directed graphs](#). The directional [asymmetry](#) between question and answer remains significant, and we always have to start somewhere, at what *looks like* the root of a tree.

See what I did there? I snuck in some philosophy of logic when you were least expecting it! This should make it obvious why I'm so drawn to [Wilfrid Sellars's](#) account of the space of reasons. I think of philosophy as being about navigating problem spaces. But I struggle with restricting myself to a *local* region of the space. I always want to [reframe](#) the problem in such a way that I can argue for what I think is the proper solution. This is not dissimilar to Benedict Singleton's conception of freedom as [generalised escapology](#): I try to break out of a series of ever larger and more encompassing conceptual traps. I tend towards the *global* space, trying to integrate issues from diverse philosophical fields. This makes it really hard to condense an argument down into a small space. I can often be *concise*, but I find it hard to be *brief*.

It's a question of [compression](#), and I've learned some useful tricks over the years. Historical narratives are a great way of rehearsing the shape of the debate in such a way that you can provide a [map](#) of the conceptual terrain that doesn't worry too much about irrelevant details. Even then, I tend to reach pretty far back (e.g., "If you want to understand the concept of freedom, we really have to start with the debate between Spinoza and Leibniz, and then show how it gets refracted through Kant.") This is why I often get bogged down in philosophical prolegomena, historical or otherwise. I recently set out to write a response to [this paper](#), which argues that games can never be art, nor vice versa. I disagree with it intensely, and can point you to exactly where its own arguments fail, but it considers only one, rather peculiar, definition of games, and only one, rather vague, definition of art. I don't simply want to knock it down on its own terms, I want to show how these terms are [hopelessly narrow](#). I want to argue for the contrary thesis: that there is an affinity between games

and artworks, evidenced in similarities between their definitional problems and manifest in their solutions. In addition to the research I did for the Glass Bead piece, I spent a couple months researching the history and current state of play in the philosophy of games and [game studies](#). I've now got the outline of an essay I have to abandon because I need to do other things. I am my own worst enemy.

3.3. Publishing Space

Except for the faceless reviewers who haunt my dreams. Here's the real source of the writing anxiety I find hard to tame: there's a difference between what details *you* think are relevant in providing a solution to a problem and what details *they* think are relevant in arguing for this solution. The branching tree of *problems* becomes a branching tree of *anticipations*: What will they expect me to justify further? What work will they insist I reference? What will they count against me if I reference it? What sort of pet peeves might I run up against? How does this change depending on which journal I submit it to? *Who the hell are they and what the fuck do they want from me?* The good thing about running this blog, giving talks, and teaching, is that I have a pretty good psychological model of my audience. It may or may not be accurate, but it's [tractable](#).

It took me a long time to realise that there's two sides to academic education. I did a PhD on Heidegger, and then decided the norms of Heideggerian scholarship were so toxic I wanted nothing else to do with it. I thought I could move on. What I didn't realise is that it's one thing to teach yourself the structure of a problem, and another to acquire the tacit knowledge of how to talk about that problem absorbed by people who are trained in the area. See my earlier excursion in philosophical logic. How should I turn this into an academic paper? Who would publish it? You tell me. When I get worried about these sorts of questions I tend to wildly overcompensate, trying to research everything that might possibly be relevant, and trying to defend myself against every possible objection. The amount of work required and the number of choices involved explodes, rapidly becoming intractable, and, if I'm not careful, driving me into a depressive loop. In my last month in Johannesburg I furiously chased up every possible lead regarding the provenance of the terms 'ontology' and 'metaphysics', all the way through Calvinist theologians and the Arabic appropriation of Aristotle, to the subsequently titled *Metaphysics* itself. I burned out so badly I can only half-remember most of it. There's another unfinished paper for the folder. Another possible choice. Which one should I pick up and have another go at? Will it burn me again if I stare into it too long?

This is my own private anxiety. I don't expect anyone else to experience these things in the same way I do. I know other people have anxieties about publishing, [some](#) of which are exacerbated by the glacial turnover of many journals, and [others](#) which are ameliorated by the very anonymity that causes me so many problems. Again, I've written about the [pathologies](#) of the process before. *TL;DR: the current climate creates excessive uncertainty and discourages risk taking.* Restricting myself to the familiar context of Anglophone Continental philosophy, so I can be as bitter and forcefully blunt as possible, I would have been better off churning out another half-dozen excruciatingly dull papers on Heidegger, making the same repetitive points, fetishising ineffability and hyperbolic uncertainty, with slightly different references, than ever trying to do something new. Continental philosophers thirst for novelty and ambition, but outright refuse to let anyone around them exhibit it. We wait for somebody French to do it and then squeeze them dry through endless exegesis and tedious application to the same few issues: isn't art great, isn't science worrisome, something something *politics*. Cue [François Laruelle](#).

3.4. The Mistakes

For those of you wondering: isn't spelling all this out a terrible career move? Probably, but I've made a whole series of bad career moves, so why stop now?

Here are some of my worst decisions:

I wrote a [24,000 word essay](#) that can't be published or referenced. Too long for an article, too short for a book. Too Analytic for Continentals, too Continental for Analytics. Some of my early readers may wonder why I've never cut it down into an article or expanded it into a book. Which would you choose? How would you go about it? Where would it go? Answers on a postcard please.

I stopped writing on this blog because I couldn't figure out how to turn what I was writing into publications. I thought that I needed to stop writing so much here in order to focus on writing elsewhere. This was a *great* way to cultivate writer's block.

The first cover letters I sent out started with a list of reasons *not to hire me*, which I then went on to respond to [*epic facepalm*]. It took a while to realise this was a bad idea. Sometimes the ways I try to be smart are *incredibly stupid*.

I completely failed to specialise in a profession that increasingly demands specialisation. For any job I can apply to there are *at least* five people more suited to the narrow specification than I am. Can one be a generalist in philosophy? Stay tuned to find out.

Mark Lance gave me an incredibly good piece of advice that I've completely failed to follow: they want you to be a *little* weird (e.g., "Oh, a philosopher of logic with a side interest in philosophy of sport? How novel!") but not *too* weird (e.g., "This guy does Continental metaphysics and philosophy of artificial intelligence? WTF?"). I am *very* weird.

I spent three years writing a book that was definitely [too weird](#). It sold pretty well, especially for a philosophical debut. But it didn't come out with a 'good' press ([Urbanomic FTW](#)). Also, you're supposed to parcel all your ideas out into journal articles *before* assembling them into a book. You're not supposed to weave them into an extended pedagogical exercise in how *not* to do metaphysics. Books are only [double weighted](#) on the REF after all. [Strategy is all important](#).

[Speculative Realism](#). *Join this exciting new movement, and you too can be talked about at conferences by people who would never consider hiring you! Don't worry about not mentioning it on your CV, they'll know anyway!*

[Accelerationism](#). *Have you thought about organising an [event](#) that kicks off an avalanche of discussion across the internet and spawns a series of papers, conferences, and rabid denunciations? You too can be talked [about](#) by people who won't talk [to](#) you! Marvel at your own complete lack of intellectual agency!*

[Mathematics](#). *Why not immerse yourself in [category theory](#), [type theory](#), and [non-classical logic](#)? Do you know that mathematicians, logicians, and computer scientists make their work [available for free](#)? No need for institutional access to resources! Now you can spend three years getting lost in a maze of papers no one else cares about!*

These are just the highlights in my recent history of poor choices and non-choices. I'm not trying to excuse them. I am by some standards a *terrible* academic. What I'm trying to highlight is the pressures under which 'early career academics' are forced to develop strategies for acquiring and sustaining employment, and how these pressures generate *escalating* anxiety.

The issue is *pervasive uncertainty*. This is evident both in the job application process and in the publication process it depends upon. These require an inordinate amount of effort for each attempt, and this makes the corresponding choices much harder, as one has to figure out the most impressive

and least risky ways of using the time one has. The systems that decide whether these attempts succeed or fail can be so opaque, capricious, and even random that it becomes impossible to learn anything *from* them, even while one spends increasing amounts of time worrying *about* them. This is a perfect recipe for [learned helplessness](#). Or catastrophic breakdown. All these things create and exacerbate mental health problems beyond just anxiety. I'm not even going to link you to anything about this, because you only need to google the topic to be overrun by articles, confessions, and tearful farewell letters to the core of one's sense of self. Ripping *the hook* out hurts, but sometimes it's the only choice that's left.

Want a final, delightful absurdity? Technically this post could be submitted to the REF ([category H - Website Content](#)). The REF isn't actually supposed to judge a submission's quality on where it's been published, even if it distinguishes between different submission formats. However, the pressure it creates causes job selection processes to revolve around how many outputs you have and where they've been published. This is what perverse incentives look like. For those hypothetical REF panelists reading this, you may be wondering: isn't the fact he's writing *like this* potential evidence of hypomania? No shit. I don't think I'm quite there, but I would, wouldn't I?

4. Mathematical Maladies

4.0. Neurophenomenology

Here's a peculiar feature of depression that may or may not be unique to me. When I'm severely depressed, I become obsessed with trying to explain *what it is like* to other people, precisely in proportion to my frustration with my inability to do so. This is one of the main reasons I'm writing this post. I don't quite feel that need so intensely now, but I spent so much time obsessing over it, tying myself in knots over my inability to articulate it, that it's probably worth trying to do it properly, if only once. The problem is, like many intensely unpleasant experiences, memory blunts its edges, sapping its peculiar and unexpressed intensities. However, I'm not a fan of fetishising the inexpressible [*Post-Heideggerian Phenomenology Burn*], so let's see if we can square this particular circle. Things will need to get a little technical here, but I'll try to be gentle.

As you may have gathered, my mind works in quite particular ways. I'm not a very visual person. I'm more spatial. I talk with my hands, because the shapes are already there, waiting to be pulled out of the air: distinctions, oppositions, inversions, deformations; argumentative trees of forking paths, responses and counter responses, circular reasoning and justificatory dead ends. I'm not visually or audibly creative. I do have a good sense of taste, and I love experimenting with food. However, my main creative outputs are linguistic and narrative. I formulate arguments (philosophy). I build narrative environments (fiction). I even enjoy a well turned phrase (poetry). Why am I talking about this? Because you already know the other stuff: anhedonia, low motivation, motor disruption, indecisiveness, negative ideation, and pervasive unhappiness. The difficult thing to describe is the cognitive dysfunction. What I need to do is walk you through what it is like for everything described above to slowly go away. What it is like to be left alone in your own brain, unable to find any of the things you know are there. What it is like to be afraid that they aren't even there anymore. What it is like to forget what it was like to have them in the first place. Treatments like CBT are very sensitive to [cognitive bias](#), but they outright ignore other types of dysfunction.

When we think of memory we tend to focus on episodic memory. The ability to recall things that have happened to us. We might extend this to include facts about things that have happened and people that we know. From there, we might consider the ability to remember words and names. This is where we start getting into the right territory. All the other kinds of recall just mentioned definitely become more difficult, sometimes failing entirely, but when you get to words/names you start thinking less about *information* and more about the abilities required to *process* it. I suspect many people will be familiar with the feeling of seeing an actor on TV whose face they know, but

whose name they can't quite recall ([IMDb](#) is great isn't it?). This is a tip-of-the-tongue feeling. You're searching for it, you know it's there, but you just can't quite *reach* it. It's like two cognitive subsystems failing to communicate (e.g., facial recognition and language processing). The interface is there, but it's out of service. Once you find out the person's name, it all snaps back into place, communication resumes as if it were never interrupted in the first place ('I knew that!'). This sort of cognitive failure, the sort that retroactively becomes invisible, is the thread we've got to pull on.

4.1. Computational Analogies

Speaking of pulling on threads, let's stick with that metaphor. When I'm in full writing flow, like I am now, this is precisely what it feels like. You're not really *doing* anything. You pull on the thought and it unfolds of its own accord. Sure, it occasionally gets snagged, or there's a knot you need to untie, moments when you've got to step back and think more analytically about what you've been doing, but for the part most everything is already linked up by the time it hits your consciousness, and you just see it rolling past, like a neat, continuous string. Of course, not everything works so smoothly. Let's pick another metaphor: crossing a river on step stones. Here you're aware of the choices you're making, even as you're skipping along. You speed up or slow down as you become more or less sure of which path to take, and occasionally you have to stop and work your way back. But again, for the most part you're not aware of the bigger picture. You don't think more than a few skips ahead. Let's pick another one: climbing a mountain. Here you've got a reasonable overview of the landscape and where you're trying to get, but you can run into troublesome bits of terrain, ascents that are more difficult than you anticipated, and [local minima](#) that you can't climb out of. You have to make deliberate strategic decisions about the paths you're taking, and keep track of where you've come from in case you need to double back and try a new route.

See what I did there? I pulled/leapt/climbed from one analogy to the next by making a series of structural associations, which, as I said above, are probably more spatial than visual. Once I've *found* the path between them, it's much easier for you to *follow* me, but you might not have picked the same route on your own. It's exactly this sort of asymmetry that so easily becomes retroactively invisible. If I got here, surely you could too? Right? This is where we would have to start talking about combinatorics and computing theory if we wanted to make these ideas precise. That's the nitty gritty of information processing. Here's a way to get us to the same place.

Chomsky and others have rightly made a big deal of the fact that a good number of the sentences produced by the speakers of any given language are unique, as in, they've never been spoken before in the history of that language. I'd wager that when you take into account writing, this proportion gets even bigger, just because we tend to write *longer* sentences. It's all about how big the possibility space is. Let's take an extreme example: what are the chances that, if you took a number of Spanish words at random, the same length as *Don Quixote*, you would somehow recreate the novel? As [Pierre Menard](#) understood, the chances are infinitesimally small unless one can discover some principle through which to generate it, something better than *mere* randomness, something like Cervantes's original [inspiration](#).

Some problems are like *finding* a rule, and some problems are like *following* a rule. Some are unavoidably confronted with a space of *possibility* and some can collapse this space into *necessity*. It's [immeasurably](#) harder to discover a novel mathematical proof than it is to check one. It's far harder to write a great novel than it is to read one, and far harder to compose a brilliant song than to enjoy one. In case it looks like this is always an asymmetry between *production* and *consumption*, here's something that seems to go in the opposite direction: it's [far harder](#) to decrypt something than to encrypt it. But wait, this only works if you haven't got the encryption key, which means you have to find the rule! The lesson is that in asymmetric interactions the *sender* and *receiver* can play different roles. Consider the fact that it's often (though not always) harder to learn something than it

is to teach it. It's worth noting that [Scott Aaronson](#) thinks cryptography and learning are *dual* problems. From this perspective, trying to learn something is like trying to decrypt the world.

4.2. Memories of the Self

The expression 'can't see the wood for the trees' describes a specific mode of cognitive failure. However, it doesn't really grasp the full spectrum on which such failures are located. If this sort of failure is a characteristic feature of depression, then one way of looking at hypomania is that you can no longer see the trees for the forest. I've been consistently describing cognition in spatial terms, so it makes sense to describe this as *zooming in* and *zooming out*. The string of metaphors I used above gives some sense of this process, both in terms of how you can control the flow of *connections* and *associations* through which your thoughts unfold, and in terms of the way these are arranged in [possibility spaces](#) that you traverse when chasing them, with more or less navigational awareness. I'd now like to speculate about how these cognitive spaces get constituted, and how cognitive dysfunction causes them to disintegrate, trapping you in the lower reaches of your world.

I want to return to the topic of memory. I'm still less interested in episodic memory than I am with the way in which we can consciously and unconsciously access our abilities to think about the world. What we might call remembering *how* rather than remembering *that*. What happens when we can't traverse the networks of associations involved in spontaneously generating aspects of our inner life? Is it because the signals have been turned down, there's holes in the underlying networks, or something else entirely? Does this prevent us from forming *cohesive* simulations? Does this lock us out of the higher reaches of the world?

I have a surprisingly vivid memory of being in the shower and trying to think about mathematics. I'd been researching it ever since Reza Negarestani told me to get into category theory, and I'd made a good deal of progress in the past three years. I'm no mathematician, but I can read papers and resources in some areas without getting lost, I've discovered a love of topology that fits with my spatial intuitions, and I'm in my comfort zone when things border on logic. I remember desperately trying to get the thoughts to cohere, but the objects wouldn't come. I then realised I couldn't remember the name of the simplest construction in category theory ([products](#)). I could almost see the diagram, but it wouldn't form. All I had was the vague impression that there was something there that I couldn't reach.

It's in moments like this that memory becomes strangely dissociative. You remember *facts* about yourself. I know this. I can do that. But if you try to call it up it isn't there. You can recall *what* you think but not *why* you think it. You can't traverse the argumentative tree. The polished, almost anecdotal explanations you tell yourself and others won't come, or worse, they fall apart as you try to rehearse them. If it feels like anything, it feels like receding deeper into your own skull. Like the outer reaches of your mind have been hidden, like you can't find the connections that normally carry your thoughts forward, generating the possibility spaces you used to explore. After a while, you stop even trying to reach out. It's just too jarring. The intimations of stuff that should be there but isn't, a sort of cognitive phantom limb syndrome, slowly fade away.

Rock bottom is living moment to moment, trying not to think about thinking, as your internal monologue fragments and gets caught in repetitive loops of self-criticism. Days, weeks, months pass as if they're all the same, and they blur together in memory. There can be no plans. No forward thinking. Nothing more than the current day. The best coping strategies you've got are things that silence the inner monologue (e.g., audiobooks) and spin what little motivation you've got into cycles (e.g., the same, repetitive computer game). Even social media is too much.

I think there's maybe some sense in which memory is a matter of being both sender and receiver: it requires a certain communicative symmetry in which there's not simply transmission of neatly formatted information, but a mutual encryption/decryption, compression/decompression, or

spontaneous adaptation. The information isn't stored *per se*, it only makes sense as an emergent feature of interacting behaviours. There are disparate cognitive systems that have to work together in order to produce the impression of effortless recall, controlled imagination, and even coherent thought. Computational capacities that have to connect. When there aren't enough computational resources available, for whatever reason, they can't sync up properly, producing a tip-of-the-tongue cascade that forecloses certain abilities to creatively simulate.

What does this tell us about the self? If memory is in some sense about internal communication, can one see persistent selfhood as something like continuity of an internal conversation? This brings us back to the concept of concurrency briefly mentioned earlier. If we're all more or less integrated bundles of adaptive computational processes, then it's possible to talk about failures of integration that are less than full blown dissociation or [schizophrenic suspension](#) of the sense of self. Much of the machinery that [Metzinger](#) describes can still be functioning, but the self-model becomes detached from the ongoing conversation. If nothing else, the connection between capacities and awareness of capacities breaks down, as the control systems cease to function properly. Autopilot is indistinguishable from the lowest energy state of the internal conversation. This has nothing to do with the internal monologue, which is for the most part left to its own devices. If there is anything to Scott Bakker's [bleak vision](#) of the brain, it's most visible here, where what's left is the semblance of executive function, but none of the exploratory dynamics that result in active choice.

5. Cybernetic Solutions

This brings us back to Mark's work. He was the harbinger of more than one trend.

He was the first person to pick up [Benjamin Noys](#) critical description of accelerationism and [suggest](#) that maybe there was something to be appropriated. He was an actual representative of the theoretical tendencies Noys critiqued: a core member of the CCRU, a student of Nick Land, and the original master of Deleuzo-Guattarian-Cyberpunk fusion. If anyone was allowed to own the accelerationist label it was Mark, and he's the one who announced the possibility of a leftist reworking of those ideas. He also led the charge to [reclaim modernity](#) as a concept to be wielded against the conservative right, the technocratic centre, and the post-modernist/anti-modernist elements of the left. Some of these themes are obviously worked out in Alex Williams and Nick Srnicek's [#Accelerate](#) manifesto, and developed further under different guises in their [Inventing the Future](#).

There's also an ongoing conflict over Mark's legacy, centred around his '[Exiting the Vampire's Castle](#)', with some on the left using it as an excuse to [dismiss](#) Mark's work entirely, others using it to get a grip on the [internal pathologies](#) of leftist discourse, and others still horrified at the way it has been appropriated by [its opponents](#) as a means to critique the left from the outside. Obviously, I think attempts to exaggerate the genuine faults of the piece are misguided at best and disingenuous at worst. If you've hung around in online leftist spaces and you don't recognise the conjunction of "a *priest's desire* to excommunicate and condemn, an *academic-pedant's desire* to be the first to be seen to spot a mistake, and a *hipster's desire* to be one of the in-crowd", then you're either too close to see it, or simply refusing to do so. The ongoing debate over whether Mark's overall framing of the issue is more useful than it is harmful is more interesting and important.

However, I want to close by talking about his influence on [rationalist inhumanism](#). This is a project that has been picked up by Reza Negarestani, myself, and others. It wasn't until going back over his blog that I realised just how much of an influence Mark had on all of us, and how much there is still to engage with in his thought on these issues. I've already referenced [this post](#) several times, but I think I should quote from it:

We can now see why becoming inhuman is in the best interests of humanity. The human organism is set up to produce misery. What we like may be damaging for us.

What feels good may poison us.

The fascinatingly de-stratifying potential in neuroeconomics, then (from a survey [of which](#) all my neurology data is taken) lies in the possibility of using it against its ostensible purposes. As yet another of Kapital's slave-programs, the purpose of neuroeconomics is to induce the kinds of idiot-repetition-compulsion Burroughs and [Downham](#) delineate. According to Rita Carter in *Mapping the Mind*, "where thought conflicts with emotion, the latter is designed by the neural circuitry in our brains to win". The Spinozist body without organization program is aimed at reversing this priority, providing abstract maps for imposing the goals of reason upon emotional default. So k-punk is also neuropunk: an intensive rewiring of humanity's neural circuits.

Again, what better response is there to the uncritical celebration of affect? It seems to me that what I earlier called irrationalist spinozism is best described as an anti-cybernetics. An allergic reaction based on a misreading of Deleuze's ['Postscript on the Societies of Control'](#) that wants to have the account of interacting dynamic systems without any account of control. The transmutation of the *post-structuralist* insight that we are not intrinsically unified selves into a *post-modern* celebration of fragmentation. Mark insists on thinking *through* cybernetics, so that the techniques being used against us can be harnessed for our own ends, rather than treating them as intrinsically contaminated: the masters tools that can never be used to dismantle their societies of control.

I increasingly think that Mark was prescient on this issue. As far as I'm concerned, the next step is the move from merely dynamic systems to thoroughly computational ones. To properly integrate the cognitive with the affective by integrating cybernetic and computational concepts of control. Affect theory responds to cognitive problems with emotional solutions, and CBT responds to emotional problems with cognitive solutions. We need something superior to both.

Here is another quote, [articulating](#) the connection between freedom and the impersonal:

The danger, the great temptation, is to retain the dualism between the impersonal and the personal that Freud had so expertly dismantled. Ray put this to me very well once: we cannot think in terms of an opposition between the personal and the impersonal, as if granny doing her knitting was the personal, and the impersonal was the remorseless, gleaming wheels of the Kaptalist megamachine. No. Granny too is impersonal, and the Kapitalist megamachine produces personality alongside cars and computers.

The great Cold Rationalist lesson is that everything in the so-called personal is in fact the product of impersonal processes of cause and effect which, in principle if not in fact, could be delineated very precisely. And this act of delineation, this stepping outside the character armour that we have confused with ourselves, is what freedom is.

This recognition that the personal can be captured by systems of oppression, and that the impersonal decomposition and reconstitution of ourselves can be liberating, an emancipatory alienation from the imposition of self-image, is a theme developed with verve by Laboria Cuboniks in the [Xenofeminist Manifesto](#). It's also a key component of Benedict Singleton's [work](#). It's a line of thought that still needs to be pursued further.

I will finish by explaining the one significant disagreement I have with Mark. Even then, it's not so much a disagreement with a doctrine as a note of caution regarding a tendency. I think it's best demonstrated by the continuation of the first passage I quoted:

Even if they have often repressed the knowledge, all cultures have understood that being a subject is to be a tortured monkey in hell, hence religion, shamanic practices etc.

geared towards the production of BwOs. Paradoxically, the ultimate interests of any body lie in having no particular interests at all – that is in identifying with the cosmos itself as the BwO, the Spinozist God, the Lemurian body of uttunul.

It's here that Mark comes too close to [Land](#) and [Ligotti](#) alike. Perhaps this is where [my inhumanism](#) parts ways with his: here there's still too much of the uncontrolled deterritorialisation of *Capitalism and Schizophrenia*, and too much of depressive realism's drive for personal dissolution. If inhumanism is to find that remnant within humanism that pushes it beyond itself, rather than falling back into outdated anti-humanism or fashionable post-humanism, then it must preserve some notion of the personal that can be wielded against external forces of control. My view is that we need a new understanding of [autonomy as self-control](#), but with a notion of 'self' and a notion of 'control' that are neither comfortable nor familiar. On this basis, there is a different balance to be struck between the impersonal and the personal.

It's true that *something* spoke through Mark. He was many things to many people, not least his wonderful family, his many friends, and his intellectual heirs. But to me, he *was* what that thing spoke through.