
The Neuroplastic Paradox

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A depression pandemic is sweeping the globe, and its end appears nowhere in sight. Study after study confirms skyrocketing diagnostic rates: now about ten times more prevalent than it was only a few decades ago, depression has become the world's leading cause of disability. Approximately 350 million people live with a depressive disorder and over 800,000 people commit suicide every year. [1] These startling statistical trends have politicians and public health officials scrambling to mitigate a crisis that deepens with every moment. [2] The crisis has gotten so out of control that even the world's financial elite have started to worry about the economic consequences. "This is not just a public health issue—it's a development issue," says Jim Yong Kim, President of the World Bank. "We need to act now because the lost productivity is something the global economy simply cannot afford" (World Health Organization 2016b). In an effort to entice further government investment into mental health services, Yong Kim underscores the economic advantages of treating depression and anxiety disorders—a "fourfold return"! (WHO 2016b) As well-intentioned as the World Health Organization's call for increased mental health resources may be, the efficacy of these resources has come under close scrutiny, especially given that the depression pandemic's continued intensification. Studies on dominant treatment methods are showing their benefits to be as modest as ever, and broad-based initiatives to administer "evidence-based treatments" to the public have yielded underwhelming clinical results. [3] Access to first-rate medical treatment has done little to change the

unwavering fact that once someone has been diagnosed with severe depression, it is typical for them to battle with the black dog for their entire life. [4]

In an epoch in which more people than ever have access to professional mental health services, more people than ever find themselves depressed and living with disabling emotional pain. What is to be made of this burning contradiction? In this paper I would like to suggest that this contradiction can be partially understood through the paradoxical ways that neuroplasticity functions in a neoliberal economy: as both the promise of better mental health, and the enabling condition for economic performances that exhaust and depress.

Neuroplasticity refers to the brain's ability to change, even into adulthood, as neurons "forge new connections, ... blaze new paths through the cortex, [and] even ... assume new roles. In shorthand, neuroplasticity means rewiring the brain" (Schwartz and Bigley 2002: 15). The discourse of plasticity forms the scientific ground upon which the dominant medical strategies in place for treating depression are built. The two most practiced treatments for depression today are the prescription of psychotropic medication (antidepressants) and a modern form of psychotherapy known as Cognitive Behaviour Therapy. The rationale behind prescribing antidepressant medication is that the depressed brain has a chemical imbalance that can be regulated through medication. CBT operates on the principle that depression is characterized by a deficit of accurate thinking, and that the depressed person's thoughts are trapped within the "cognitive triad" (a reinforcing loop of negative thoughts) which makes life situations seem worse than they really are. What undergirds both this former psychiatric practice and latter psychological one (which differ quite remarkably in their approach but are often practiced in unison) is the neuroscientific discovery that the brain can change, either by introducing new chemical compounds or thought patterns.

What I argue in the following pages is that the therapeutic efficacy of these institutionally sanctioned methods is largely thwarted by neoliberal power's immanence to plasticity. Neuroplasticity may provide a solid scientific basis for insisting on the possibility of at least some form of therapeutic cure, even in the

deepest bouts of despair. Yet this optimism fueled by various neuroscientific research initiatives is tempered by a harrowing contradiction: that the epoch of neuroplasticity is the same epoch that has witnessed the outbreak of a global depression epidemic. What institutionally sanctioned therapies fail to critically engage with, is the political operation of how the brain becomes subject. Perhaps unconsciously, or perhaps out of willful blindness, the dominant medical strategies in place for treating depression uncritically lend themselves to the neoliberal free marketeering of life – the transformation of life into capital. They each assist this transformation by creating brain chemistries or thought patterns that facilitate the maintenance, or even enhancement, of one’s “human capital.” It is precisely through this becoming subject of the brain to assume its role as capital that the plastic paradox I would like to foreground here (a politicized variant of the one proposed by Norman Doidge) presents itself [5]: that despite its therapeutic promise, there is nothing inherent to neuroplasticity which prevents the production of subjectivity in line with affective suffering. After all, neoliberal power works immanently to the brain, so that (neuro)plastic qualities of movement, modulation, transformation, or restructuring cannot in and of themselves be valorized for their therapeutic value, since there is nothing preventing power from enticing these changes to serve its own interests, to the detriment of psychic and social life. [6] The subsumption of mental health services to the demands of the market (what Josep Rafanelli I Orra calls “therapeutic capitalism”) may not sound all that bad. After all, it is still “therapeutic.” But when analyzing therapeutic capitalism’s subjectifying apparatuses, Christian Marazzi’s reminder rings as pertinently as ever: “If we want to produce capital through life, we need to remember how little life is worth in the eyes of power” (150).

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A brief contextualization of neuroplasticity’s primacy within neuroscientific discourse will help to frame this paradox of neuroplasticity in which we are snared. Long gone are the days when scientists thought that the brain finished developing during childhood, and that adults were stuck with a “hard wired” brain that could only diminish in capacities due to psychical trauma, mental illness

or aging. The rationale that the adult brain can heal from even severe impairments is now commonplace, and constitutes the basis for a vast array of therapeutic options, that all seek, through different means, to modify the plastic structure of the brain into some non-pathological form.

According to Catherine Malabou, plasticity has become “the dominant concept of the neurosciences.” “Today,” Malabou argues, “it constitutes their common point of interest, their dominant motif, and their privileged operating model, to the extent that it allows them to think about the brain as at once an unprecedented dynamic, structure, and organization” (Malabou 4). The brain’s ability to be rewired, even into adulthood, has promised a new wave of hope for the treatment of “mental illnesses” (now also frequently referred to as “brain disorders”) and a host of other conditions. [7]

As the shift in emphasis from the “psy” to the “neuro” continues to intensify across a broad range of societal discourses and institutions, especially those pertaining to the management of health [8], the reductionist temptation to desubjectify the depression pandemic we are living through presents itself as strongly as ever. Take for example, the words of pioneering researcher in brain plasticity, Michael Mezernich: “Contemporary neuroscience is revealing, for the first time in our history, our true human natures,” he says. “Human wisepersons and societies have had great fun pondering about the mysteries of the origins of the ‘self’.... We now have first-level scientific answers to these questions. We now understand the basic processes that underlie the genesis of the ‘self’” (Mezernich). If the self can be reduced to primary brain processes, then what distinguishes a life coloured by depression from an exuberant one, a life on the verge of suicide from a life with an appetite for more? According to this material reductionist viewpoint [9], the difference between these two tendencies of life lies in the brain. And make no mistake, it undoubtedly does, but only if the brain is granted an expanded sense that confounds its orthodox usage in the neurosciences.

As Gilles Deleuze and Félix Guattari’s own theoretical turns from the “psy” to the “neuro” in the 1980s and 1990s attest, theories of subjectivity production that seek

to break from established analytic topographies are apt to explore the neurological dimension. The real schism between a reductionist scientism and a politicization of subjectivity is that the former thinks the brain in isolation, “outside of organism and milieu” (Rose 2016), whereas the latter thinks the brain as milieu, “event,” or “screen” (Deleuze 2000: 366; Deleuze 1995: 176). By constructing an isolated brain as the essence of subjectivity (and psychological affliction), neuroscience and the hegemonic therapies couched in it, all too frequently treat the “social as a supplement” (Rose 2016), effectively effacing the political contingency of the brain’s plastic composition.

Deleuze may have advanced a “materialist psychiatry,” but his take on the brain couldn’t differ more from material reductionist schemas. That’s because the materiality of the brain is thoroughly “psychosocial,” a membrane at the limit of the desire and the social: “the brain is precisely this boundary of a continuous two-way movement between an Inside and Outside, this membrane between them” (Deleuze 1995: 176). Deleuze’s brain-as-screen is material; a materially constituted milieu which includes the reality of relation between polymorphous flows of desire (or “stimuli”). Read in this expanded sense, the brain is indeterminate, a brain for the making and in the making, shaped by the movements of desire that impress upon it. As Deleuze writes: “Cerebral circuits and connections do not preexist the stimuli, the corpuscles, or particles that trace them” (Deleuze 2000: 366).

Such a conception of the brain may seem a bit counter-intuitive at first; it is not the brain inside of the head, but the brain as the screen, as materially immanent to the (plastic) movement of the psychosocial event. Deleuze elaborates:

One might equally well speak of new kinds of event, rather than processes of subjectification: events that can’t be explained by the situations that give rise to them, or into which they lead. They appear for a moment, and it’s that moment that matters, it’s the chance we must seize. Or we can simply talk about the brain. [...] I think subjectification, events, and brains are more or less the same thing. (Deleuze 1995: 176)

Rather than the originator of experience, or the building block of some essential human self, as is posited by the material-reductionist hypothesis, the brain is an eventful milieu of subjectivity production—a milieu that can engender the hardened confines of an unshakeable depression, or even the most unexpected of therapeutic recompositions.

The shift in neoliberal strategies of governance from industrial capitalism's emphasis on discipline towards deployment of control, has seized the potential of brain plasticity. "Control society" is the term that Deleuze uses to describe a new type of power that emerges in the late 20th Century, in contradistinction to Europe's "disciplinary" and "sovereign" societies that figure prominently in Michel Foucault's work on discipline and punishment in the 19th and 18th centuries. Strategies of control augment the state-run disciplinary institutions of confinement such as the military barracks, the classroom and the psychiatric ward by governance through more decentralized and corporatized means. New forms of subjectivity have been produced as a consequence of this shift in power. Whereas disciplinarity operates by molding its subjects from the outside (through confinement, repetitive drills and exercises as well as moral strictures), control works more seductively to induce conformity by way of modulation from within the subject who performs its own enterprising sense of self (by incurring debt, seeking motivation and conducting self-audits). Significantly for this study of plasticity and power, Deleuze attunes to how these strategies of power are to be distinguished by their tendency to either mold or modulate. He writes: "Confinements are moulds, different mouldings, while controls are a modulation like a self-transmuting moulding continually changing from one moment to the next, or like a sieve whose mesh varies from one point to another" (1995: 178). Of key importance here is that rather than restricting change by confining and disciplining movements through moulds that hold for a set period of time (the school day, the tour of duty, etc.), control societies work immanently to change, by directing, inflecting and modulating it indefinitely—"In control societies you never finish anything," Deleuze adds (1995: 178).

The rise of the control society poses a whole new set of questions about political resistance that were absent from the discourse of political modernism. Neoliberalism has, at least in many “advanced capitalist” pockets, ceded to worker demands for more free time and less rigid work structures; feminist and queer demands for gender fluidity and non-heteronormative relationships; and postcolonial demands for minority recognition. But at the same time that many of the 20th century’s desires are seeing themselves fulfilled, and stifling old molds have given way to some more flexible identities, schedules and borders, power has not ceded any of its capacity to modulate modes of existence.

This modulatory style of control is emblematic of what Mark Fisher calls “capitalist realism,” the idea that it may be easier to imagine the end of the world than the end of capitalism. For Fisher, capitalist realism “entails subordinating oneself to a reality that is infinitely plastic, capable of reconfiguring itself at any moment. [...] We are presented with what Jameson calls ‘a purely fungible present in which space and psyches alike can be processed and remade at will’ ” (199). In the control society, power entices never-ending adaption to a plastic reality in perpetual change and modulation, regardless of how uncondusive to wellness or how unsustainable such economic imperatives have proven to be. Faced with this neoliberal reality political resistance cannot be content with only working towards the abolishment of confining structures and identities.

Catherine Malabou and Marc Jeannerod address this predicament at the heart of the neuroplastic paradox in the most politicized passages of the book *What Should We Do with Our Brain?* In order to salvage the concept of plasticity, they propose a distinction between the neoliberal economy’s demands for infinite flexibility and the potentially therapeutic qualities of neuroplasticity. They warn:

Let us not forget that plasticity is a mechanism for adapting, while flexibility is a mechanism for submitting. Adapting is not submitting, and, in this sense, plasticity ought not to serve as an alibi for submitting to the new world order being dreamed up by capitalism.... What flexibility lacks is the resource of giving form, the power to create, to invent or even to erase an impression, the power

to style. Flexibility is plasticity minus its genius. (Jeannerod: xiv; Malabou: 12)

The distinction that Malabou and Jeannerod set up between plasticity and flexibility posits plasticity's creative capacity to challenge the neoliberal demand of interminable flexibility. According to their formulation, plasticity actively shapes the world, whereas flexibility submits to the shape that the world has already taken. For these thinkers, the act of giving form, creating, inventing, erasing and styling constitute the pragmatic and experimental basis for resistance. Conversely, flexibility would entail a subduing of this creative capacity in order to accept the form of the world as it is (in its becoming), and submit to its modulatory impositions, rather than contribute to its ongoing formation through acts of creation.

It is hard not to see the appeal of this sort of optimistic assertion that creative actions can defy the control society's demand of endless flexibility. Yet what needs to be emphasized here is that even plasticity's creative capacity cannot escape the "plastic paradox" outlined above; the paradox that plasticity can habitually reinforce psychological suffering as much as its therapeutic overcoming, political oppression as much as emancipation. What scholarship on the various incarnations of the control society points to is that the creative capacity to give form far from guarantees a break from the logic of "the new world order being dreamed up by capitalism." In a control society, modulatory controls work immanently to plastic creation and change, and find ways to strategically revive old disciplinary moulds in key instants.

Franco 'Bifo' Berardi elaborates this idea in his extensive writings on the political conditions that enable widespread depression. His approach advances the view that neoliberalism strategically abandons a politics of repression, and instead entices creative expression and novel change. This idea comes from Deleuze, who in bemoaning the excess of communication in late capitalist society, writes: "repressive forces don't stop people from expressing themselves, but rather, force them to express themselves" (Deleuze 1995: 129). [10] Berardi builds on this idea most overtly in his article "Repression, Expression, Depression" where he writes:

“The pathologies of our epoch are effectively no longer the neurotic pathologies produced by the repression of the libido, but rather the schizoid pathologies produced by the expressive explosion of ‘just do it’ ” (189). In “Re-Assessing Composition: 40 Years After the Publication of *Anti-Oedipus*” he reiterates this view: “Psychic suffering does not come so much from repression but mainly from the hyper-expressive compulsion...” (Berardi 2012: 114). The overarching concern running throughout Bifo’s recent work on the politics of depression is neoliberalism’s ability to promote aggressive and exhausting competition by inducing labourious performances for economic gain, or even just for mere survival. By making this critical diagnosis of the contemporary situation, Bifo is prompted to call for “a new cultural task”: “to live the inevitable with a relaxed soul. To call forth a big wave of withdrawal, of massive dissociation, of desertion from the scene of the economy, of nonparticipation in the fake show of politics” (Berardi 2011a: 148).

The political directive to withdraw is historically grounded in the *Autonomia* movement’s refusal of work strategy, but can be criticized as promoting a culture of defeatism and falsely equating all action, including activism, with unconsciously performing the interests of neoliberalism. [11] I include these extracts here in order to show how Malabou and Jeannerod’s plasticity-flexibility binary that allies plasticity to creativity and flexibility to submission is troubled by the fact that neoliberal economics depend on creativity, expressivity and novelty in order to extract surplus value and reproduce its lecherous relationship between capital and life. This is not to say that all actions are inherently coopted and futile, and that we should follow Bifo in his most depressive moments by withdrawing from the scene of activism, but simply to point out that in the control society, power is savvy enough to encourage the expressive, creative, and modulatory capacities of (neuro)plasticity, but in ways that never risk its dominance.

Deleuze makes exactly this point in his essay on the intercessor where he bemoans the excess of communication that surrounds late capitalist society: “repressive forces don’t stop people from expressing themselves,” he writes “but rather, force them to express themselves” (Deleuze 1995: 288–89). This insight that neoliberal

power works as much through expressivity as through repression was speculatively glimpsed in *Anti-Oedipus*, his earlier work with Guattari on desire and its machinism. In Foucault's preface to the English translation, he famously articulates this strange paradox that repressive forces don't stop people from expressing themselves as inherent to the "molecular fascism" that Deleuze and Guattari went to such great lengths in that book to identify and eradicate. Molecular fascism, Foucault writes, is "the fascism in us all, in our heads and in our everyday behaviours, that causes us to love power, to desire the very thing that dominates and exploits us" (Foucault 1983: xiii). The desire for power, or for fascism, is always already productive. Not coincidentally, what one of the subjective formations it is productive of, is none other than the individual: "The individual is the product of power" (Foucault 1983: xiv).

One of neoliberal power's most enduring strategies for maintaining its dominance amidst the deterritorializing effects of a plastic reality that incessantly expresses, creates and modulates is to reterritorialize onto the site of the individual. If there is a historical through-line linking the disciplinary society to the control society, which should be taken as evidence that one type of society does not replace the other but that it emerges over and on top of the other, like an archaeological site or palimpsest, it is the enduring and unwavering presence of the individual. This individualized subject is not a natural given, though neoliberal ideology often presents it as such. It is the result of a highly abstract form of subjectivity production that parses the individual from the machinic assemblages in which it is immersed as a component part. Nevertheless, this parsing of the individual from the "dividual" is a fundamental aspect of the capitalist production of subjectivity that Maurizio Lazzarato calls "social subjection." Found in regimes of power based both on disciplinarity and control, the apparatus of social subjection assigns "subjectivity, an identity, sex, profession, nationality, and so forth" to produce "an 'individuated subject' whose paradigmatic form in neoliberalism has been that of 'human capital' and the 'entrepreneur of the self' " (2014: 24). Though really inseparable from the creativity and novelty of the dynamic plastic assemblages in which it takes part, power parses an individual who is made "guilty and responsible for his fate" (24). In an undulatory reality of endless modulations,

characterized as “infinitely plastic,” the individual and its lingering mould incessantly returns as a dominant refrain, confirming power’s vested interest in an ontology that separates self from world and makes the former unduly responsible for all that happens in the latter.

If the individual is the product of power, and if power subjects the individual in such a way as to encourage its performance as modulatory “human” capital, then there is no reason to believe that the individual’s ability to creatively shape the plastics of its world would somehow mark power’s undoing. Nor is there reason to believe that therapeutic methods which encourage brain plasticity to move more in sync with the economic demands of life under neoliberalism would somehow lead to wellness or flourishing, even if they may lead to being “symptom-free.” Plasticity, as much as flexibility, can constitute a total submission to the status quo, without us even being cognizant of it – hence the plastic paradox. After all, there is nothing unusual about desiring “the very thing that dominates and exploits us,” and thus producing its (and by extension, our) very existence.

Given neoliberal power’s immanence to neuroplasticity as well as its immanence to the dominant therapeutic methods which justify themselves with recourse to the concept, the lofty hopes that have been invested in neuroplasticity beg to be critically tempered. Yet I would like to conclude on a pragmatic note, which also happens to be a positive one, and suggest that by reintroducing the question of subjectivity – of how the brain becomes subject – into the plastic dynamics of the event, we may ride the quantum of potential that neuroplasticity does offer: the potential for transversal social practices constitutive of therapeutic activism to usher in novel subjectivities whose processual composition amounts to nothing less than well-becoming – a collectively animated well-being whose therapeutic and political value lies in *the how* of its making.

Notes

[1] For more statistics on depression see the World Health Organization’s factsheet (2016a).

[2] Politicians are increasingly making mental health a policy priority. Take for example the UK secretary of health Jeremy Hunt's recent admission that mental health services are the NHS's greatest area of weakness, and his subsequent announcement of £1.4 billion for children and young people's mental health care (Campbell 2016: n.p.). In Canada, mental health funding has become a hot-button issue in failing budgetary negotiations between the federal government and the provinces, due largely to Federal Health Minister Jane Philpott's insistence "that billions in new federal money be devoted specifically to mental health care" (Curry 2016: n.p.).

[3] A recent meta-analysis published in the American Psychological Association's *Psychology Bulletin* shows that Cognitive Behaviour Therapy is proving less and less effective as a treatment for depression (Johnsen and Friborg 2015). In the UK, more than a million people have received free CBT as part of the initiative that economist Richard Layard helped to push through with the Oxford psychologist David Clark (Burkeman 2016; Department of Health 2012). In spite of these massive governmental efforts, mental illnesses such as depression are still higher than ever in the UK (Campbell 2016). On the psychopharmaceutical side of things, the critical literature is ever mounting, from within the scientific disciplines and without. The success rates of antidepressants in treating depression overall have drastically fallen off since the 1990s, a time when initial numbers had been inflated by drug companies selectively revealing their studies to the FDA. Marcia Angell, the former editor of the *New England Journal of Medicine*, shares this history in "The Epidemic of Mental Illness: Why?," a lengthy 2011 review of three books critical of the psychiatric establishment's reliance on psychotropic medication (Irving Kirsch's *The Emperor's New Drugs: Exploding the Antidepressant Myth*; Robert Whitaker's *Anatomy of an Epidemic: Magic Bullets, Psychiatric Drugs, and the Astonishing Rise of Mental Illness in America*; and Daniel Carlat's *Unhinged: The Trouble With Psychiatry – A Doctor's Revelations About a Profession in Crisis*). Furthermore, a recent patient-level meta-analysis has raised doubts about the effectiveness of SSRIs for "milder forms" of depression (Fournier et al. 2012).

[4] Depression recurrence statistics show that “50 percent of those who recover from a first episode of depression having one or more additional episodes in their lifetime, and approximately 80 percent of those with a history of two episodes having another recurrence” (Burcasa and Iacono 2007: 960). For depression recurrence statistics, see Burcasa and Iacono’s “Risk for Recurrence in Depression.”

[5] The plastic paradox that I present here is a politicized variant of the one presented by Norman Doidge in his book *The Brain that Changes Itself*. Doidge’s “plastic paradox” accounts for the brain’s duplicity, its ability to be afflicted or to be healed, or simply to yield to influence. He describes the paradox as follows: “the same plasticity which allows for the brain to change and heal, even in adulthood, is also the same plasticity that reinforces patterns of behaviour and habits of perception, and consequentially can entrench a number of disorders into the brain” (Doidge: xx).

Neuroplasticity makes equally possible the most miraculous of therapeutic cures and the most agonizing of afflictions. It insists on the brain’s capacity to affect and be affected, and to modulate its dynamic form, but can condemn as much as it can liberate.

[6] Even though neuroscience has nothing to say on the question of how the plasticity of the brain is conditioned by the operations of power in the field of its emergence, philosophers of the brain do miss out on this crucial point. Drawing on the work of Luc Boltanski and Eve Chiapello in *The New Spirit of Capitalism*, there are moments where the Derridean philosopher Catherine Malabou actually echoes Deleuze’s formulation of the brain as a decentralized eventful screen composed in tandem with the psychosocial flows of desire. Malabou writes: “Neuronal functioning and social functioning interdetermine each other and mutually give each other form (here again the power of plasticity) to the point where it is no longer possible to distinguish between them” (Malabou 2008: 9). As a result, “the functional plasticity of the brain deconstructs its function as the central organ and generates the image of a fluid process, somehow present

everywhere and nowhere, which places the outside and the inside in contact” (Malabou 2008: 35).

[7] I put the term “mental illness” in scare quotes here to signal that many conditions which are officially labelled as such in the DSM-V are being reclaimed by the neurodiversity movement, which seeks to celebrate and de-pathologize neurological difference by privileging the strengths of diversity. See, for example, Thomas Armstrong’s *Neurodiversity: Discovering the Extraordinary Gifts of Autism, ADHD, Dyslexia, and Other Brain Differences*.

[8] For more on this shift from the “psy” to the “neuro” see Nikolas Rose and Joelle M. Abi-Rached’s *Neuro: The New Brain Sciences and the Management of the Mind*.

[9] “The brain” is a fetish object of bourgeois psychiatry and the materialist-reductionist ideology that it holds dear. Mark Fisher, author of *Capitalist Realism*, puts it bluntly: “The chemico-biologization of mental illness is of course strictly commensurate with its depoliticization” (Fisher 37). Materialist reductionism is a cluster of dominant beliefs within neuroscience research that account for all human experience and consciousness in terms of biological processes, and thus refuses to admit either experience or consciousness as scientifically valid entities. For materialist reductionists, conscious experience is nothing more than the sum of firing neurons. According to this widely held scientific worldview, experience is reducible to the brain, and thus the key to understanding all psychopathology lies in unlocking the neurological mysteries of brain functioning. It is easy to see how such a perspective is commensurate with the depoliticization of melancholia since it completely disengages the brain from the psychosocial field of experience and its conditioning by power. As Jeffrey Schwartz writes in *The Mind and the Brain*: “To the mainstream materialist way of thinking, only the physical is real. Anything nonphysical is at best an artifact, at worst an illusion” (24).

[10] The translator of this essay chose the work “meditator” for the French “intercesseur.” At the SenseLab, we prefer to translate “intercesseur” as

“intercessor” since “mediator” implies a logic of representation at odds with the immediate, free indirect nature of the intercessional act.

[11] For an elaboration of this important critique, see Erin Manning’s essay “In the Act: The Shape of Precarity” in “Melancholy and Politics.” (Manning, 2013b)

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