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The New Realism: Seeking Alternatives to Postmodern Pessimism

Todd Hoffman

Abstract Postmodern pessimism has been newly expressed by Mark Fisher as capitalist realism: the sense that one can't even imagine an alternative to capitalism. Fisher's use of the term realism points to the subjective content of the contemporary capitalist life-world. In contrast, a new brand of realism as assemblage theory has become prominent through Manuel DeLanda: that is, a complex ontology of interwoven networks of immanent unfolding that operate on multiple scales of size. DeLanda supplies a basic ontology of society that, combined with Fisher's sense of realism, elaborates a new potential for socio-economic change. This paper will examine Fisher and DeLanda's views and add the speculative materialist economic work of Benjamin Lozano as a means of bringing the two together.

Over the last decade or so, the term realism has become increasingly pervasive in philosophical circles and in neo-Marxist theory. Specifically, there are two fundamentally different senses of realism, one oriented toward an examination of capitalist culture and the psychological effects of this culture, the other a philosophy that seeks to explain emergence and ontological becoming by excluding all anthropocentric intrusions. The former concept of realism has been espoused recently by Mark Fisher and details the way in which capitalism has become so ubiquitous and deadly that it appears to be an unstoppable juggernaut leading us toward an apocalyptic end; the latter concept of realism, which I will call speculative realism, (although it has gone by such diverse names as, or used in tandem with, neo-materialism, continental materialism, non-philosophy, flat ontology or object-oriented ontology) eschews subjective oriented approaches for a strictly de-anthropocentric inquiry into a mind-independent reality. While there are numerous shades of speculative realism – most notably in such figures as Quentin Meillassoux, Graham Harman, Iain Hamilton Grant and Ray Brassier – it is the Deleuze (and Guattari) inspired Manuel DeLanda and his conception of emergence and assemblage

theory that will be the focus here. While Fisher's brand of realism finds its roots in postmodern theory and leads to a pessimism concerning effective political or socio-economic change, DeLanda's brand of realism argues for the inevitability of change at the level of ontology. However, one charge leveled against most of the speculative realists is that these ontological considerations are often so abstract and consciously removed from the human sphere as to seem useless as politically efficacious tools. But recently work has been done by Benjamin Lozano in the realm of what he calls speculative materialism (which is the aforementioned brand of DeLandian/Deleuzian ontology applied specifically to finance) that intriguingly addresses this charge. So, if we take Fisher and DeLanda's claims to realism together – their clear fundamental philosophical differences, (indeed one might even say antagonistic premises) notwithstanding – add Lozano's recent work on the ontology of finance, one is offered a tantalizing theoretical promise for existential change in a time of planetary crisis the likes of which have never been reckoned with in history. What ensues, therefore, is largely expository in nature, seeking a synthesis of sorts whereby DeLanda and Lozano can be thought to mitigate some of the pessimism and helpless resignation that characterizes Fisher's view of realism. While Fisher rather weakly seeks to reestablish a revolutionary fervor through an external assault on capitalism and its ideological state apparatuses, DeLanda and Lozano point out the radical possibility of an immanent transformation that would be revolutionary in character by addressing the ontology of capitalism.

Among the many paradoxes of postmodernism is the simultaneous resignation and despair at the totalizing nature of a capitalist mode of production whose power has infiltrated every sphere of the social world and the euphoria at becoming fully interpellated into its consumerist promise of bliss. Ever since the implementation of neoliberal economics and neoconservative politics into American and British governance in the 1980's, the possibility to challenge unfettered capitalist growth seems increasingly unmanageable. Indeed, as far back as Frederic Jameson's seminal essay on postmodernism – a term that, for him, designates the ubiquitous operation of late capitalism in the form of a cultural dominant – the sense that an alternative praxis to the endlessly supple and coercive power of capital appeared naively Utopian. Gone were the days of political mobilization, artistic manifestos and revolutionary hope. Instead, as Linda Hutcheon argued, dissent is reduced to "complicitous critique" – a kind of double-coded parody which subverts from within.¹

Hutcheon's complicitous critique, to some degree, reflected the post-structuralist emphasis on localized subversion as opposed to large-scale revolution, strategic ideological destabilization as opposed

to far-reaching manifestos, linguistic insurrection of dominant ideologies instead of centralized discursive regimes. However, postmodernism in the Jamesonian sense strives to offer a counter-punch to the post-structuralist revisions of Marxism: namely, Foucault's disciplinary society, Lyotard's suspicion of grand narratives, or Derrida's endless deconstruction of the metaphysics of presence. Jameson holds the Marxist line that a material base still organizes the proliferation of cultural and ideological domination, even if it appears that discursive power, virtual realities and tele-technologies have unmoored our life-world from a material structure and operate as a kind of autonomous system. Challenging the linguistic and cultural turn of the 1960's generation of French thinkers, Jameson argued that Foucault or Lyotard's disavowal of grand narratives and the claims of a comprehensive cooptation into panoptic power structures was merely a symptom of deeper material sub-structures.

The debate between those who focused on the ideological composition of capitalist culture—its signifying systems, its language, its hyperreality—and those who sought a materialist subtext to what only appeared to be an autonomous realm has been interestingly revived through the invocation of the aforementioned conceptions of realism. On the one hand, Mark Fisher has recently spoken of a capitalist realism, which he defines as “the widespread sense that not only is capitalism the only viable political and economic system, but also that it is now impossible even to *imagine* a coherent alternative to it” (Fisher's italics).² Fisher extends Jameson's diagnosis of postmodernism to the contemporary moment and finds such an intensification of the cultural symptoms Jameson descried that, ironically, Jameson's materialist sub-text is itself inconsequential. Even if we know that there is a material subtext for such overwhelming problems as, say, environmental degradation or global starvation, even if we are *conscious* of this in the sense Marcuse hoped for, we feel helpless. To quote the unnamed narrator of Melville's “Bartleby the Scrivener”:

So true it is, and so terrible too, that up to a certain point the thought or sight of misery enlists our best affections; but, in certain special cases, beyond that point it does not. They err who would assert that invariably this is owing to the inherent selfishness of the human heart. It rather proceeds from a certain hopelessness of remedying excessive and organic ill. To a sensitive being, pity is not seldom pain. And when at last it is perceived that such pity cannot lead to effectual succor, common sense bids the soul be rid of it.³

Fisher would sympathize with Melville's incisive psychological rendering of our confrontation with overwhelming tragedy. But more to

the point, it is precisely the generation of this impotence in the face of such “excessive and organic ill” through a defensive psychological posturing in the form of resignation that precludes substantive, actual change. *Bartleby’s* protest of preferring not to—his “passive resistance,” as the unnamed narrator calls it, against a dehumanizing system that relocates the source of authority precisely in the laboring subject—is not adequate in the face of such comprehensive and far-reaching capitalist forces in our present age.⁴ Indeed, passive resistance exactly accords with the logic of capitalist systemic ubiquity: we resign ourselves to the sublimity of capitalism and instead partake of its fruits (if we are one of the lucky ones who happen to be in that position) even as we know those fruits are gained at a terrible cost to others and ultimately to our planet. Of course, *Bartleby*, it must be remembered, withers away in the Tombs; his equation with humanity at the end of the story, let us hope, is not an ominous portending of our own fate as a species passively awaiting the effects of global warming, the depletion of water resources, overpopulation and any number of humanly constructed conflagrations that could be unleashed. For Fisher, then, realism must be understood primarily in cultural and psychological terms: we cannot imagine an alternative. In other words, this is a realism emphasizing subjectivity, the human experience of living under the present conditions.

On the other hand, the increasing prominence of the speculative turn in philosophy—again, a philosophical realism that strives to provide an ontology totally stripped of anthropocentric biases—suggests a remarkably different sense of the term. For this new wave of philosophy, it is precisely the quasi-idealist emphasis on culture that needs rectification. There are a number of different iterations of this new ontology. For instance, Quentin Meillassoux argues against what he calls “correlationism”: “the idea according to which we only ever have access to the correlation between thinking and being, and never to either term considered apart from the other.”⁵ In other words, philosophy, in particular since Kant and his rejoinder to Hume’s attack against the Principle of Sufficient Reason, has been plagued with an at times explicit at times tacit view that the human subject is necessarily the filter through which being can be known. Graham Harman has called this the problem of “human access”; as Steven Shaviro explains it: “It gives a privileged position to human subjectivity or to human understanding, as if the world’s very existence somehow depended upon our ability to know it and represent it.”⁶ Each of these formulations rejects the reduction of ontology to the subject, cultural milieu, or configurations of institutional power. Realism here is the Real stripped of its Lacanian semiotic associations: being not as the unrepresentable or unsignifiable, but purely in itself.

The formulation of this de-anthropocentric ontology to be considered here, particularly because of its potential political efficacy in the form of alternatives to postmodern pessimism, is Manuel DeLanda's assemblage theory and theories of emergence. While most speculative realists argue strictly through the lens of philosophy, DeLanda combines his theories with other disciplines in which mathematical models as well as simulations of emergence confirm the plausibility of his explanations of ontological unfolding. DeLanda, extending Deleuze and Guattari's flat ontology, offers a comprehensive theory of emergence through complexity, and posits a mind-independent reality in which entities unfold according to "immanent patterns of being and becoming manifested in objective causal interactions, whether or not these are directly observable."⁷ Furthermore, these immanent patterns can and should be examined at a variety of scales, from the minute interactions of molecular parts to molar aggregations. While DeLanda and the speculative realists offer an intriguing de-anthropomorphized account of becoming, the question of whether this has relevance to human communities, culture and economics is controversial to say the least. As will be shown below, it is unclear whether a proper description of the spontaneous unfolding of the material universe totally irrespective of human life is useful for addressing the concerns stemming from capitalism. So which realism is more real? Fisher uses realism to assert the preeminence of human culture and psychology, DeLanda explores the realm of the Real devoid of the human presence and seeks total objectivity. Is there a synthesis possible between the subjective and objective accounts offered us here, a new assemblage theory that accounts for both the ontology of capitalism and the existential conditions effectuated by capitalism that seems to absorb dissent only to refashion it into a deeper resignation of the omnipotence of capitalism?

Let us begin with Fisher's largely subjective account of the conditions of contemporary capitalism. He synthesizes a variety of theoretical perspectives in his diagnosis of capitalism, but nevertheless uses Jameson as his primary touchstone and sees that the state of affairs since Jameson's account of postmodernism has exacerbated to the point that there is no exit. Such vague prescriptions to ward off the encroachment of consumerist ethics into the life-world through what Jameson called "cognitive mapping" has itself easily been coopted into the logic of capitalism and made impotent as a potential source of locating one's self in the vertiginous proliferation of media images and brands.⁸ Eschewing the term postmodernism for the phrase capitalist realism to designate the intensification of Jameson's prior concerns, Fisher notes three fundamental changes that solidify capitalism's hegemony. First, there is no longer a political alternative to capitalism as there once was at the time of Jameson's analysis; thus there is a "deeper, more pervasive sense of exhaustion, of cultural and political

sterility.”⁹ Second, there is no longer a confrontation with modernism, whose “vanquishing” is taken for granted; modernism has become a kind of “frozen aesthetic.”¹⁰ Third, now an entire generation has been born post the collapse of the Berlin wall and have no experience of an alternative possibility; instead they have been “precorporated” into capitalist culture: namely, “the pre-emptive formatting and shaping of desires, aspirations and hopes by capitalist culture.”¹¹ Modes of cultural resistance are in fact themselves mainstream or, at least, very easily appropriated into a culture industry that commodifies the very act and style of resistance.

For Fisher, capitalism is realism in itself rather than a type of realism because it is unable to persist without the new and therefore ceaselessly and exploitatively territorializes in order to generate value. Capitalist realism “derives its power” from its capacity to convert all cultural objects – from religious iconography to pornography, high modernist literature to street art – into a “system of equivalence,” namely, money.¹² It therefore subsumes and consumes all previous history and turns all cultural objects into monetary value. Nothing is sacrosanct since all things: spiritual euphoria, nostalgia, romantic sentiment, erotic urge or the aesthetic forms that may sublimate these feelings, become exploitable terrain for surplus value; in other words, initially subjective life was made objective, reified into commodity production and sold as the very thing which would satisfy the emotion that gave rise to it in the first place. But with a generation that has only grown up in a world of hyper-commoditization, the emotions are themselves manufactured *a priori*, the brand, product or image pre-exists the subjective experience and already defines the subjective content. The old ideologies, having been conquered by capitalism, become incorporated into the logic of the market and therefore no different than a corporate brand to be purchased and used to mark one’s identity. “Capitalism,” Fisher argues, “is what is left when beliefs have collapsed at the level of ritual or symbolic elaboration, and all that is left is the consumer-spectator, trudging through the ruins and the relics.”¹³ For Fisher, culture becomes the place that registers the anxieties fomented by capitalism; for it will be in aesthetics that one can express what previously was the purview of belief, a kind of sublimated outlet for the frustrations at the sheer impotence before such a totalizing, coercive system.

Resistance may not be entirely futile, but certainly revolution is. If only resistance is possible, but never eradication of the system through revolution, then capitalist realism “circumscribes current political possibilities”: if “‘Flexibility,’ ‘nomadism’ and ‘spontaneity’ are the very hallmarks of management in a post-Fordist, Control society...[then] any opposition to flexibility and decentralization risks being self-defeating, since calls for inflexibility and centralization are, to say the least, not likely to be very galvanizing.”¹⁴ Resistance, then, is easily

co-opted into the next trendy commodity or life-style. Therefore, the realism of capitalist realism is analogous to the depressive who sees a positive state, such as hope, as a dangerous illusion. It creates a reflexive impotence: those who wish to resist know the state of affairs but take it for granted that there is nothing to be done. Indeed, Fisher continues, capitalist realism reinforces anti-capitalist stances through, what Žižek calls, a cynical distance: we can know and feel our critical repulsion at capitalist exploitation and crudity, and therefore feel free to continue to participate in it—for instance, investing in 401Ks, and thereby tacitly accepting that labor is not enough to insure a means of subsistence or buying life insurance and thereby tacitly accepting a monetary equivalent for the worth of my life; it also allows us to reconcile, or at least dismiss, the contradiction in our moral repugnance at the use of exploited African labor for the minerals used in our cell phones or the clothes I wear manufactured in sweat shops, etc. While I can make certain oppositional stances, I can't make a total oppositional stance without risking a kind of psychological breakdown and becoming a Ted Kaczynski, in which case, I have now become the subject of the state repressive apparatus.

Capitalist realism, then, refers to the ubiquity of capitalism and the psychological consequences for living in this amorphous, insidious economic environment. It is like a "pervasive atmosphere...constraining thought and action."¹⁵ Along with the vast expansion of bureaucracies and the dehumanizing atmosphere of capitalist corporate, educational and state culture, of which we are all necessarily immersed, comes a heavy psychological price: anxieties, depressions, feelings of impotent rage, low self-esteem, etc. In other words, capitalist realism leads to the "privatization of stress," where the all-too-common mental disorders that are a manifestation of the dysfunction of capitalist culture are convincingly fabricated into a natural fact, thereby placing the onus of the disorder on the individual rather than on a system that generates entire populations of psychotropic-drug dependent people.¹⁶ Coordinating and feeding off of this dysfunction is the stranglehold of the pharmaceutical-psychiatric medico-industrial complex, prescribing with reckless abandon mood altering drugs and even ultimately making possible an underground recreational use of such drugs. If only Aldous Huxley could see us now.

What pervades Fisher's sense of realism, then, is not, as philosophy would have it, a mind-independent reality, but in fact a totally subjective integration of the mind into capitalist logics, a colonization of the now fully realized consumer-subject. Emphasis on belief, atmosphere, mental disorders, cynical distance, etc. all point to a psychological orientation to a pervasive culture industry. Everywhere Fisher diagnoses the symptoms of capitalism through the pathologies of its culture: the anhedonic depression that grips youth (namely, the inabil-

ity to do anything but seek a pleasure that is forever beyond one's grasp and thereby leading to disaffection), the boredom of not being plugged into the "communicative sensation-stimulus matrix of texting,"¹⁷ the "syndromes" related to incessant self-evaluations of work performance, the cooptation of alternative cultures so that they are in fact far more prevalent and mainstream than the "ordinary," or his proclamation that "morality has been replaced by feeling."¹⁸

Ironically, Fisher concludes this rather dire description of our contemporary state of affairs by seeking to overcome the post-structuralist suspicion of grand narratives and arguing for a return to a single structural cause—namely, Capital. Thus, while he provides a startling symptomology of capitalist culture, in the end he argues for a materialist accounting of these effects—even if he had previously treated Jameson's similar claims with suspicion: "what is required is that effect be connected to structural cause."¹⁹ Yet, despite his call for "strategies against a Capital which presents itself as ontologically, as well as geographically, ubiquitous,"²⁰ Fisher argues large-scale revolution is not an answer: rather "the state should be subordinated to the general will,"²¹ which would require a "resuscitating [of] the very concept of general will."²² In place of the atomistic individual, a bourgeois creation, we must "reviv[e]...the idea of a public space."²³ We must not simply react against capitalism but create an anti-capitalism with "its own authentic, universality."²⁴ By promising to deliver what neoliberalism has failed to deliver, such as reductions of bureaucracy, and reassert control of labor practices and the work space, the left can regain its ascendancy. Actions like a strategic withdrawal of the labor force such that management is most effected by such a withdrawal, and the politicization of mental illness—that is, to mobilize affective disorders against Capital—these would be possible strategic approaches to striking at the heart of Capital.

While Fisher's ideas are compelling, one can't help but ask whether such activities alter the ontology of Capital? To what degree are these mere recapitulations of old Marxist approaches? In the end, are these simply more declarations of what we ought to do but, given the force of his arguments and descriptions about where we are now, is this a cry in the wilderness?

Where Fisher ultimately returns to a kind of revitalized Marxism, not only pointing to the capitalist underpinnings of these multifarious symptoms and crises, but seeing the need for a return to a revolutionary class oriented toward large-scale change, Manuel DeLanda sees the Marxist paradigm as antiquated by virtue of its reliance on the thinking subject as a necessary condition of ascertaining the ontology of capital. Where Fisher seeks revolutionary consciousness through more directed labor strikes, appropriations of disaffection against the regimes of institutional power and by imposing a new sense of the

general will, DeLanda would seek new economic models that would explore the self-sufficiency of assemblages of economic activity and wrest these away from corporate planning systems: "What we need is to replace the reified generalities with concrete assemblages: many bazaars, many regional trading areas, many national markets... each with a date of birth and (potentially) a date of death. The best way to deal with this problem is always to think statistically, dealing always with populations and with how variation is distributed in a population."²⁵ DeLanda, despite being on the Left ideologically, also rejects the Marxist paradigm of economic critique, which is still classical in orientation.

For DeLanda, "Marx's theory of value was indeed anthropocentric: only human labor was a source of value, not steam engines, coal, industrial organization, et cetera. So... we need to move beyond that and reconceptualize industrial production."²⁶ Value exists in objects themselves, such as the electrochemical energy in the molecule adenosine triphosphate, which is generated by the assemblage of chemicals called the electron transport chain; this activity comprises a system of self-organized, mind-independent assemblages generating value without the aid of human (and certainly not "market") guidance. The value is not measurable in terms of money because it is the basic component of generating energy to make animal life possible; its value is wholly outside of capitalist logic. Indeed, there are undoubtedly numerous forms of value which exist in the Real that have yet to be discovered, as for instance Alexander Fleming's discovery of penicillin from a fungus has famously taught us. Thus, what Marxist materialism fails to consider that neo-materialism addresses, DeLanda claims, is "the idea that matter has morphogenetic capacities of its own and does not need to be commanded into generating form" and, we may add, value.²⁷ But how do these abstract ontological considerations combat the seemingly more pertinent psychological and cultural malaise instituted by capitalism? In other words, if we are resigned to be unable to stop a system we know to be responsible for global warming or increasing income inequality with the devastating consequences attendant to these issues, then what matters that we can describe the morphogenetic capacities of matter?

The speculative realist offers an abstract response to this and, in so doing, opens up possibilities of striking against Fisher's bleak description of capitalist realism through an analysis of the process of ontological unfolding. DeLanda, as Fisher ends up doing, moves against the post-structuralist and idealist preoccupation with conceptual and linguistic categories and instead posits an ontology of emergence, or an "objective relation of production between events, that is, a relation in which one event produces another event."²⁸ For DeLanda this relation must be seen as a set of relations of exteriority, where no entity exists as a seamless whole, but is always comprised of a multiplicity

of component parts, each of which interacts in a variety of possible ways with the other. For instance, the individual organs of the body interact with each other by exterior surfaces or membranes: “their intimate relations are not explained by their necessary mutual constitution, but by their contingent coevolution.”²⁹ If we think of economic assemblages versus organic ones—that is, malleable financial entities which contingently coevolve—we can theorize an economic model based on the morphogenetic properties of financial flows versus the purely metricized macroeconomic models utilized for the organization of profit and ultimately the concentration of wealth into the hands of a few. Let us proceed by these steps: first, we will begin with a brief general exposition of DeLanda’s theory of emergence, which is essentially a version of Deleuze and Guattari’s own philosophy of the rhizome and nomadic distributions—what can be called a flat ontology; we will then offer an instance of the morphogenetic qualities of the finance market through the credit default swap as explained by Benjamin Lozano; we will then return to the ontology of finance and provide a more specifically economic exposition of morphogenesis. Only then can we reconsider Fisher’s pessimism and how it may be mitigated by a heterodox economic model.

DeLanda explains the intimate relations between assemblages by rejecting the notion that a formula can be superimposed upon the event and thereby have it contained under the jurisdiction of some natural law. Rather, material and immanent unfolding (a process in no way necessitated upon human influence or participation) is predicated on the dynamic and strictly autonomous interrelations between three functions: the singularity, the basin of attraction and the state space. A singularity refers to “the objective structure of a space of possibilities” and does not conform to a pre-existing structure; rather it is the possibility of a certain structure emerging under given conditions.³⁰ In addition, objects are topographically organized by state spaces—that is, the state of all possible solutions to a particular physical process and its possible future states. Finally, singularities act as zones of influence or “basins of attraction” that affect the trajectory of a process to yield an actual event; the state space is the sum total of singularities in any assemblage of things. For instance, if a physical process has a tendency toward stability, like, say, the periodic oscillation of a clock’s pendulum, then a material singularity exists that gives rise to the possible states of such regularity. But the state space of a non-linear process (which is the vast majority of physical processes) can be constituted by numerous singularities, each with its sphere of influence, making the predictability of such an outcome quite difficult (like long term weather patterns). For a state space to give rise to a material event, then one of the possibilities engendered in a singularity (in dynamic interaction with other singularities) is actualized. In other words, actualization is

the concrete manifestation of the aggregation of singularities in a state space such that this outcome rather than another occurs. Since these actualizations are themselves conditioned by preceding actualizations, then the immanent unfolding of a process is historical.

This exposition is admittedly brief and abstract, but theoretically necessary to point to its relevance to the flows of capital: in other words, to the emergent operation of capital as multiple and variable aggregations of financial instruments, markets, commodities and currencies, each individually comprised of their own aggregation of constituent parts at numerous levels of scale. There are four key points here to note, upon which a corresponding economic example may serve to point to the theoretical utility of assemblage theory to a critique of capitalism: 1) the singularity is not a transcendental force operating from some nether realm that lies outside of ordinary experience; rather, the singularity is a real entity. The Smithian “invisible hand” of the market, with its presumed equilibrating mystical powers, is not akin to the state spaces; 2) the ontology of the singularity then is virtual as opposed to potential, meaning that the possibility of an event being actualized is rooted in the material configuration of an assemblage and not by some hidden potential that, *ex nihilo*, comes to be. Just because the temperature of water is above zero degrees does not mean that the property of water to change to ice is not real; rather, its material structure contains within it this virtual capacity, even if it never actualizes it; 3) this dynamic and immanent unfolding of aggregations of material assemblages operates regardless of a human presence; 4) while the bulk of emergent material is highly complex and non-linear, they are nonetheless, theoretically, mathematically formalizable. However, here, as we will see later, it should be noted that at a certain level of emergence, at least in the ontological realm of the finance market, a stochastic effect must be accounted for that defies metricization.

One problem with attempting to locate singularities in the assemblages of economy is the increasingly de-materialized form of financial instruments. DeLanda (as with most of the speculative realists, in whatever form they take) tend to deal almost exclusively with physical matter. While Deleuze and Guattari dealt with the ontology of concepts, for instance, and DeLanda does address the expressivity of social assemblages, nonetheless the vast bulk of emergence theory or speculative realism centers on physical matter, with the virtual being captured within the physical constitution of things. But with the proliferation of synthetic finance in the 1990s – that is, synthetically-structured products like credit default swaps that infamously led to the financial crisis of 2008 – we now must account for a realm of capital production that appears almost exclusively at a non-physical tier of being and actualizes in novel ways. Benjamin Lozano’s work has recently addressed this issue in a series of articles on the website *speculativematerialism*.

com and elsewhere, seeing the economist Fisher Black's early insights into synthetic finance, the Black-Scholes-Merton hedging process that developed out of these insights, and Deleuze and Guattari's flat ontology as providing theoretical models of political economy that could pose an immanent assault against the territorialized forms of capitalism that operate ubiquitously today. As with DeLanda, Deleuze and Guattari, Lozano sees a traditional Marxist critique of these new forms of finance as poorly justified evidence that "(a) capitalism is still, as always, trying to find new ways of countermanding the tendency of the falling rate of profit, or (b) it is yet another illustration of the tendency to over-accumulate endemic to the falling rate of profit."³¹ The problem with this, Lozano argues in the speculative realist vein, is that it doesn't address synthetic finance on its own ontological terms, but problematically asserts it as yet "one more incarnation of the same old malediction of 'true' value, i.e. labor value."³²

Take, for instance, the aforementioned credit default swap (CDS):³³ a form of transaction in which one party, a protection buyer, pays a second party, a protection seller, an agreed upon amount for some referent entity on a periodic basis of their choosing. The seller will in turn pay a protection amount should a credit event occur with the referent entity. They are therefore "swapping the risk of a default or some like credit event on a *credit/debt* obligation" (Lozano's italics).³⁴ In the recent mortgage crisis, these CDS ultimately caused higher interest rates on non-fixed mortgages that led to the epidemic of mortgage defaults. Thus, the physical referent (the house) is affected by the generic referent (the mortgage) that in turn is affected by the synthetic referent (the CDS). But the CDS is a synthetic replica of the generic referent: it isn't the mortgage itself but a manufactured exchange between two parties on the possible risk or value associated with the mortgage. "The synthetic referent announces itself as a replica of a generic asset, though it is not of the same, for its economic properties (maturity, notional value, etc.) are often and almost always different from its so-called referent. The synthetic referent...is an image of an object that is without likeness, an immanent copy of a model which quickly overturn any grounds on which such a distinction would stand."³⁵ The two parties in the swap have created "*ex nihilo* and *ad infinitum*" a new asset, "and this asset does have the very real material properties of risk and cash flow. In this respect, the act of synthetic exchange effectively creates...a risk and cash flow which did not previously exist."³⁶ We are no longer in the realm of the labor theory of value or industrial production. This is an entirely different ontological agent. One is tempted to argue that this is a kind of Baudrillardian simulacrum of finance that defines a new hyperreality; but Deleuze and Guattari's model of immanent becoming shows it to have real, material being.

Though this kind of entity has created very real and very tragic effects, Lozano also notes that its peculiar ontological structure offers startling radical possibilities. For instance, similar kinds of synthetic replication of generic financial assets (again, like mortgages) have been used for securitization—that is, “to create a security from a financial asset.”³⁷ By first pooling a securitization, namely, taking the various risks and cash flows from (in this case) mortgages and pooling them into a single risk and cash flow, and then tranching this one risk and cash flow, namely, redistributing it into new kinds of securities, you have radically altered the notion of ownership of the houses initially associated with those mortgages—if the debt notes that correspond to the tranches are collectively held. That is, the houses are now collectively owned:

Indeed, to observe that the result of pooling any number of generic assets into a single portfolio is to homogenize their risks and cash flows into an asset with a single risk and single cash flow; and that once we pool these preexisting risks and cash flows together we can then redifferentiate this new risk and its cash flow differently and flexibly as we so choose...first, it conveys a hyperfungibility to the security that is lacking in the generic financial asset, and secondly...this is already, technically speaking, a method for the abolition of private property.³⁸

What is particularly intriguing from the DeLandian point of view of this financial evolution is that the ontological properties of these synthetic exchanges give rise to new economic properties with ontologically different structures. In other words, there has been emergence via the complexity of the interactions of financial entities irrespective of an observing human agent. So, ironically, out of a synthetic method of trying to generate new modes of capital accumulation emerges a redistribution of value removed from the original value of the generic asset, collectively owned among holders of the new asset, such that the physical referent is technically owned by a collective.

With the increasingly autonomous functioning of the capitalist market, now guided by technologies that allow for speculations to occur at the time scale of the nanosecond with high frequency trading and whole new financial instruments that create an entirely new field of finance, an ontology of the multiplicities of finance that constitute “the Market” can be performed. What Lozano theorizes is the ironic capacity of finance to be infinitely leveraged in such a way as to distribute wealth across the market evenly—ironic because it points to the possibility of changing the dynamics of wealth inequality within the very system itself, as an immanent transformation toward an even distribution of wealth via an ontological understanding of financial flows. Lozano has utilized emergence theory as a means of conceiving

a heterodox political economy. Lozano, like DeLanda, uses Deleuze and Guattari's flat ontology, to explore the virtual properties of economic flow, particularly synthetic finance as demonstrated above. One can think of financial flow as two "qualitatively different modalities": at one level, it is a "determinable metrics of cardinal value" – that is, those economic quantifiables measured through macro and microeconomic accounting by such state agencies as The National Income and Product Accounts and the Flow of Funds Accounts. These state institutions provide statistics that comprise, in the former case, the Gross Domestic Product with all of its attendant measures of personal consumption expenditures or net export of goods and, in the latter case, such value binarities as assets-liabilities, lenders-borrowers, and the like.³⁹ Other such territorializing and stratifying institutions such as central banks or the World Bank, which concentrate the power of finance capital, strive to regulate the macro and microeconomic flows. Yet, in each of these instances, the efforts at controlling these non-linear flows are often defined more by what escapes their regulatory controls and efforts. For despite these determinable measures, which are predicated on finding points in the financial flow upon which regulations and controls can be organized and consequently valued, there are always fungible, non-metricized, topographically dispersed modes of financial flow that are subjacent to the determinable values – those fixed poles of value. Thus, there is always a component to financial flows, coterminous with, intertwined with, those flows which are determinately measured that surpasses or defies metricization and representation – what one might call the virtual capacity of economic flows to actualize through non-linear processes. These flows are stochastic, non-sedentary spaces within and between the poles of financial flow.

This stochastic and emergent quality of finance can be understood on three orders of operation: poles, singularities and quanta. The poles are the two "ends" of a transaction, singularities are nominal liquid assets, and quanta is the inflation, deflation, disinflation, stagflation, etc. which arise from the exchanges. The poles of a transaction are a conversion of an economic object into its equivalent in money and vice versa: the object is liquidated for money even as the money paid, which is crystallized liquidity of a certain amount (the price), purchases the object. Liquidity is "the requisite condition of possibility for every act of exchange."⁴⁰ Thus, liquidity is a singularity around which the poles of a transaction emerge. Lozano describes this economic singularity as "a motionless, always vacant, organizing center around which the affects endemic to an exchange are always coordinated, and from which the elements of cardinal value are refracted out into the actual."⁴¹ Liquidity itself moves from an ontological property of a financial object to an ontological property of an economic space, as in "market liquidity," or even a subject, as in "funding liquidity," both of which effect conse-

quences to financial objects. Since we are dealing with a migration of liquidity from one realm to another in the process of polar exchanges of finance, then we are also dealing with another order of value which Lozano, following Deleuzian terminology, calls ordinal value (as opposed to the metrical cardinal value), a value that “resists metricization.” Finally, the quanta are an intensive property of the transaction, “only ever effectuate[ing] themselves with the relations between an asset and its image of value as money.”⁴² An intensive property of an object is one which pervades the multiplicities that comprise an object such that dividing the object does not alter the intensive property—just as if one were to break an ice cube in half, the temperature of the ice, an intensive property, is not also reduced by half. Inflation, then, is not extensive but intensive, “articulating” itself in objects but not being the object itself. This abstract model of financial flow corresponds with DeLanda’s model of emergence: it accounts for a mind-independent unfolding of material processes that always resist and, in some sense, supervene our anthropocentric efforts at organization for a given end.

This heterodox political economy, as Lozano has called it, has opened the way for a theoretical redistribution of wealth to generate equity in the markets which would translate to a continuous process of nullifying volatility in the market. That is, by recognizing the inherent property of economic ontological unfolding, understood through a Deleuzian flat ontology, refined and clarified through DeLanda’s speculative realism, one can point to a nomadic distribution of economic space:

... nomadic distribution does not entail a parceling out of economic space, preproduced, fixed, enclosed, Euclidean, finite. It is not the redistribution of preproduced economic space, does not involve the assignation ‘to each person a share,’ and then proceed to regulate those shares. Rather nomadic distribution does precisely the opposite: it is the distribution of economic space itself, economic space produced *as* distributed in an open wealth (as opposed to redistributing preproduced wealth in a closed space) ...It is a mode of distribution that includes production itself. (Lozano’s italics)⁴³

The power of Lozano’s model is to conceive of a way to infinitely leverage options—that is, in the most general sense, contracts which give the holder of the contract the right to buy or sell an asset at a specified price at a specified time. There are different types of options, which will not concern us here. Rather, what Lozano points to, is the capacity to utilize options in such a way as to stave off, in as much as is possible, the stochastic uncertainty of volatility. In other words, in finance markets, a non-linear system, options always possess a component of uncertainty because one can’t know how a future price will become.

One hedges investments as a means to try, in as much as is possible, to protect against volatility. Volatility arises from a number of different factors which, again, are non-linear in nature, therefore exceedingly difficult if not impossible to predict. Because volatility is an intensive property of the option and operates on the ordinal level described above—that is, in a stochastic and non-metricized fashion—then the infinite changes in price movements can be theoretically offset by an infinite process counter-movements via continuous recalibration. This would be a kind of infinite hedging which seeks to interminably deterritorialize, not by exerting large scale top-down controls, but through immanent, minute adjustments for constant management of price fluctuation. This rate of change of price movements is referred to as the delta, which “maps the speed of change between the option price and the referent price.”⁴⁴ By seeking to reduce the delta to zero—that is, to always move toward neutralizing the volatility through continuous adjustments—one can theoretically use the finance market as a means of distributing wealth evenly across an economic space.

Black-Scholes-Merton (BSM), the trio of economists who devised precisely this model in the 1970s, was one means of attempting to do so:

... the success of BSM’s pricing model pivots on hedging. And not just any hedging, but delta *hedging*—whose wager is that if an operator can get the delta of their package ‘right,’ and then hedge accordingly and continuously, any price movements in an option position will always be offset by price movements in the referent position, and vice versa: and that these price movements offset one another means that the delta of the package at any given point in time, while not strictly zero, is nonetheless always striving towards it, tending towards it, asymptotically ever attempting to move yet closer to zero. The delta of the package is perpetually a *becoming-zero*. (Lozano’s italics)⁴⁵

The goal, then, in such a heterodox political economy would be to embrace the very dynamism of volatility (stochastic immanence) at the level of instantaneous becomings of price migrations and distributions: an economy of hyper-speed, continuous calibration, interminable deterritorialization.

Let us consider an analogy from the realm of ophthalmology. LASIK surgery is an operation using a complex laser technology to sculpt the cornea of the patient through ablation—a vaporizing of microscopic layers of corneal tissue—toward a shape that allows for the accurate focusing of light onto the retina. In short, vision is corrected. A human is unable to perform the ablation, not only because it deals with burning away microscopic layers of the cornea, but because no human could keep up with the rapid eye movements known as sac-

cadetes. Saccades refer to the quick movements of the eyes as it fixates on an object or in a direction. They operate at a speed nearly as fast as a blink and they happen continuously. Only a machine can operate a laser fast enough to compensate for saccades during surgery. In other words, there is a continuous recalibration of the laser to counter the saccadic movements of the eye. One might think of volatility in the finance market in the same way: its stochastic hyperspeed fluctuations are, like saccades, only manageable by a technology capable of operating at similar speeds.

It is precisely these technological-financial instruments that are currently being devised. These instruments, like the LASIK machine, can operate at speeds far beyond the human, making possible this process of infinite leveraging and reconceptualizing the modes of financial transaction. For instance, bitcoins, a virtual currency that allows for far more supple liquid flows of finance, is making obsolete the use of money, which is a territorializing and concretizing form. Bitcoins opens up a mode of transaction called a blockchain, which allows for the digital transfer of, say, money in such a way as to allow for “an autonomous, digitally-distributed, fully-decentralized consensus system, equipped with mechanisms for public memory, voting, and agreement on the order and character of all transactions,” thereby eschewing a centralizing authority.⁴⁶ The exact mechanisms of these processes are in development, but point to a future emerging capitalism that may in fact demonstrate the evolution of capitalism into some other, as yet to be named economic system.

Lozano’s emphasis on speed and deterritorializing, the embrace of non-linearity and the stochastic and emergent properties of economy, lead Lozano to term this a dromocracy. What is of great theoretical significance and what I would like to point to in returning back to Fisher’s postmodern pessimism, is that it departs from the humanist underpinnings of traditional Marxist critiques of capitalism and looks toward a posthumanist ethos, one which relinquishes the deeply entrenched, presumptive privileging of the human experience. The humanist hubris of rational management of all resources and life activities gives way to a posthumanist consciousness of the human as an assemblage integrated and complexly interwoven into a natural, synthetic and virtual environment—one component of the rhizome equal to and inextricably bound with the rest of the rhizome. In other words, rather than operating under the hierarchical regulating mechanisms of banking centers and state apparatuses, which tacitly presumes that humanity is fundamentally rational and, *a fortiori*, bound toward progress through technological controls (of both nature and civilization), this posthumanist view relinquishes such privileged hierarchies and acknowledges that humans are socially embodied in the very technologies we construct, immersed in a world increasingly organized

by technologies as well as natural systems. To draw a parallel, just as Derrida or Lacan pointed to the fact that we inhabit language, that we enter into a world in which linguistic structures pre-exist us and language comes to occupy us rather than us utilizing it as a tool, so too does the posthumanist and speculative realist economic account come to accept that we enter into pre-existing economic structures and concomitant technologies—to say nothing of bio-technologies—that displace our presumed humanist center and demand a recalibration, as it were, of our multitudinous connections within this network of relations. The ophthalmologist participates in the LASIK surgery, is integral to the process, but must relinquish control to the technology that allows for the operation to be efficacious. However, lest we delude ourselves, the analogy only goes so far: the LASIK machine has a single object—the human eye—whose stochastic effects are limited to within a narrow range of activity. That is, the view theorized here in no way is suggesting, in utter naivety or as some fantasy science fiction speculation, that we bow down to a theology of the Machine. Rather, it is always the unfolding assemblages of technological, cultural, anthropological and social distributions that are theorized here—not the establishment of a new stratified, hierarchical, fixed structure in lieu of traditional institutions.

The rapid growth of speculative realism, in cultural terms, can be seen as a sign of the disenchantment with the capitalist world. But unlike Fisher's neo-Jamesonian critique, it also sees the Marxist refutation of capitalism as entrenched in antiquated notions of the ontology of capitalism in its newly emergent form and, as I have elaborated briefly, on the stubborn entrenchment of a humanist value system that insists on seeing the human as the elite caretaker of the environment—be that environment nature, civilization/culture or some new order of the synthetic virtual. (Indeed, these binary distinctions themselves need to be deconstructed). Fisher's capitalist realism falls into the trap of what Walter Benjamin called Left melancholia. As Wendy Brown describes it, "*left melancholy* is Benjamin's unambivalent epithet for the revolutionary...who is, finally, attached more to a particular political analysis or ideal—even to the failure of that ideal—than to seizing possibilities for radical change in the present...[It] represents...a refusal to come to terms with the particular character of the present" and "signifies, as well, a certain narcissism with regard to one's past political attachments and identity" (Brown's italics).⁴⁷ If Mark Fisher's diagnosis of the sheer inability to imagine some other system holds true, perhaps it is because we continually think in terms of political, revolutionary solutions—ones that will eradicate the system as it currently stands by some kind of frontal assault—even if it is performed with novel strategic approaches. Instead, it ought to be considered, following this Deleuzian/DeLandian/Lozanian model of emergence, that transformation must be immanently actualized.

Yet, lest we become too enamored with speculative realism, we must heed Fisher's very important emphasis on the subjective experience of life under the current hegemony of capitalism: the astonishing rates of psychological distress, increasing disenfranchisement, terrorism, dissociation from nature, lethargy of political action, ideological coercion through profit-oriented media — and the list goes on. Fisher's cynicism concerning the subjective content of capitalism cannot be ignored. One concern with DeLanda's neo-materialism is that it precludes the subjective to the point that it appears to have no political utility. Indeed, one common critique of the so-called speculative turn in general is its incapacity, given its purely descriptive mode of inquiry, to adequately cross the divide between a purely exterior object world aloof to human subjectivity and the ineluctable subjective world of human experience that comprises our social institutions and general life-world. Nick Srnicek, for instance, in discussing François Laruelle's non-philosophy (that is, Laruelle's particular version of speculative realism), could equally apply to Manuel DeLanda: "Non-philosophy thus appears as a significant and important rejoinder to philosophical (or political...) pretensions, limiting philosophy in much the same way that Kant limited metaphysics. But beyond this it can make no positive pronouncements in itself. This is perhaps not unsurprising since... non-philosophy is largely an explanatory framework, seeking to heteronomously explain philosophy's relative autonomy, or in this case, capitalism's purported self-sufficiency."⁴⁸ A purely objective account of what amounts to suffering and crisis rooted in capitalism is, in other words, sterile.

Reading DeLanda's assemblage theory in, for instance his book *A New Philosophy of Society: Assemblage Theory and Complexity*, one is struck by the absence of the emotional dimension of social life. DeLanda applies his theories of emergence and complexity to social systems to uncover the ontological immanence of human institutions and community networks. In this book, DeLanda argues one can provide a purely objective account of the multiple dynamic interactions of societies, from the level of the individual agents who make up a given community to national entities overall. But reading this work is not unlike reading, say, an art historian's essay that describes the way chemicals interact in oils on a canvas to produce certain textural effects to construct a painting assemblage that is ontologically unique: it simply doesn't capture the existential-aesthetic component that makes that Cezanne landscape a lived-living object. Another way of stating this in the present context is that while DeLanda shows the general objective movements of social assemblages comprised of individuals as their own ontologically discrete assemblages working in emergent patterns, these do not in any way account for what Fisher has thoroughly demonstrated to be a kind of disenfranchised psychological state, a col-

lective defensive resignation and consequent malaise. The anhedonic attitudes of those immersed in the coercive consumerist ethos, the rage by a lone sociopath toward a faceless force which is tragically realized by random shootings, or the suicidal depression felt by a mid-level corporate employee whose pension is lost through faulty accounting practices: all of these are affective states of being that are coldly absent from the speculative realist approach to the socio-political.

To give one example from DeLanda:

Speaking of conflict between communities already implies that, like all assemblages, interpersonal networks exist in populations. Interactions among members of these populations may sometimes lead to the formation of political alliances or coalitions among communities, alliances being the paradigmatic case of relations of exteriority in the social realm. In some cases, alliances lead to the emergence of larger-scale entities such as *social justice movements*. (DeLanda's italics).⁴⁹

This kind of objective account and its strategic removal or omission of the subjective content of forming a social justice movement (say, the terror experienced by Civil Rights activists in the South in the 1960's) certainly has an academic value, but the scale of emotion and the lived content, particularly when dealing with large political crises, is what we might call a surplus-ontological factor. Surplus here is meant to emphasize another material dimension of being and not something in addition, like some property that attaches in some mystical or spiritual sense. It is an intensive property — that is, if we recall from above, a property “which *cannot be divided without involving a change in kind*” (DeLanda's italics).⁵⁰ A psychological state cannot be divided; but if an individual undergoes some crisis, then the original intensive psychological state becomes something other, an intensive state of a different kind. Furthermore, if we adopt assemblage theory, then the individual is one kind of assemblage but populations of individuals with a collective sensibility that can be sociologically measured and even a culture have their psychological intensive properties that must be accounted for (or, to be more accurate, the heterogeneous and localized assemblages of collective sensibility or culture as it aggregates into some larger assemblage we might think of as a national culture or general will). Similarly, Lozano completely ignores the existential effect CDS and other numerous forms of synthetic finance had and continue to have. For those who were forcibly removed from their homes, lost a significant percentage of the value of their retirement savings, or lost their jobs, looking to synthetic finance as a place of possible salvation ought to be treated with suspicion. One cannot underestimate the power of vested interests, especially at the systemic level given the history of capitalism. Nor, indeed, ought one to underestimate the culture of

greed with which humanity fosters its ethical relations—a culture that Lozano never addresses yet seems all too eager to operate within.

Fisher's numerous cultural diagnoses and their translation onto the subjective, psychological level, are, in fact, material factors that neo-materialism, on methodological grounds, seems to consider either ancillary considerations that disrupt rather than inform proper conclusions or can be made purely quantitative through statistical analyses and, in the process, altering their ontological character. Therefore, we might say that in addition to actualizing the virtual in the field of finance ontology toward a radical subversion of the profit motive, we would have to have a corresponding socio-political movement to counteract the social assemblages whose state spaces are territorialized in what Althusser called the Ideological State Apparatuses; in other words, we could define and "unearth" new state spaces in, say, educational institutions by creating institutes for speculative materialist studies of finance, eroding the antiquated Aristotelian taxonomies of knowledge that still drive education and formulate new epistemological boundaries, perhaps even revolutionize the arts as a transmitter of culture to effect these new kinds of neo-realist sensibilities. DeLanda's work offers an abstract way to reconceive of social structures by removing the anthropocentric biases in autopoietic objective development. Lozano offers a novel strategy of attacking capitalism through internal subversion utilizing the ontological properties of synthetic finance. These posthumanist strategies—one conceptual, the other applied theory, as it were—I would argue, are the necessary direction one must turn: remove the privileging of the human and see the human placement within an ever-changing set of assemblages. However, the affective level of human existence, the need to still maintain the fundamental dignity of, yes, human life, but all life because it is a rhizome of symbiotic inclusivity, must be addressed. Fisher pointedly and importantly offers this important focus.

To sum up: synthetic financial exchange generates financial assets with new ontological properties. Therefore, we can say that synthetic referents possess singularities whose virtual structures give rise to these emergent financial properties via synthetic exchanges—that is, via the reconfiguration of financial assemblages, leading to the possibility of collective ownership of property. This kind of unexpected result that has generated entirely new financial instruments points to the self-generating capacity of these entities. Furthermore, the synthetic referent possesses an ontological structure that is primarily virtual. That is, as an entity it exists almost exclusively in the realm of its capacities to actualize. Thus, we are dealing with a class of ontological entity that is malleable, so to speak, as an immanent force within finance itself, opening the possibility of radical change to the existing profit driven model that currently has led to the sense of capitalist realism

that Fisher delineates. If, as Lozano points out, the hyperfungibility of synthetic assets is extended across the entire spectrum of assets and if one can generate financial instruments and technologies of continuous calibration and infinite leveraging, theoretically one could achieve a delta of becoming-zero—that is, of continually mitigated volatility. Perhaps this is a naïve, science-fiction Utopic vision. But as we move into the post-humanist world, the signs of which are in the eruption of the environmental Real, in technologies that mediate and ultimately structure human relations, in the integration of the non-human into the very bodies of the human, and, as we have seen, in the rapidly growing field of synthetic finance, perhaps an economy can be generated that is autonomous yet stable, as, for instance, many natural phenomena are, free of the hubristic human interventions of profit-driven models, but instead operating by a kind of continuous, dynamic ecological balance in which humanity benefits without trying to dominate.

Notes

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2. Mark Fisher. *Capitalist Realism, Is There No Alternative?* (Winchester: Zero Books, 2009), 2.
3. Herman Melville. "Bartleby the Scrivener." *The Piazza Tales*. (Evanston: Northwestern University Press, 1996), 29.
4. *Ibid.*, 23.
5. Quentin Meillassoux. Interview. "'There is contingent being independent of us, and this contingent being has no reason to be of a subjective nature': Interview with Quentin Meillassoux," by Dick Dolphijn and Iris van der Tuin. *New Materialism: Interviews and Cartographies*. 2012. Open Humanities Press. <http://quod.lib.umich.edu/o/ohp/11515701.0001.001> (accessed June 11, 2014).
6. Steven Shaviro. "The Actual Volcano: Whitehead, Harman and the Problem of Relations." In *The Speculative Turn, Continental Materialism and Realism*, edited by Levi Bryant, Nick Srnicek and Graham Hartman (Melbourne: re:press, 2011), 280.
7. Manuel DeLanda. "Emergence, Causality and Realism." In *The Speculative Turn, Continental Materialism and Realism*, edited by Levi Bryant, Nick Srnicek and Graham Hartman (Melbourne: re:press, 2011), 386.
8. Frederic Jameson. *Postmodernism, or The Cultural Logic of Late Capitalism*. (Durham: Duke University Press, 1991), 51.
9. See note 2 above, 7.
10. *Ibid.*, 8.
11. *Ibid.*, 9.
12. *Ibid.*, 4.
13. *Ibid.*
14. *Ibid.*, 28.
15. *Ibid.*, 16.
16. *Ibid.*, 19.
17. *Ibid.*, 24.

18. *Ibid.*, 74.

19. *Ibid.*, 77.

20. *Ibid.*

21. *Ibid.*

22. *Ibid.*

23. *Ibid.*

24. *Ibid.*, 79.

25. Manuel DeLanda. Interview. "Any materialist philosophy must take as its point of departure the existence of a

material world that is independent of our minds': Interview with Manuel DeLanda," by Rick Dolphijn and Iris van der Tuin. *New Materialism: Interviews and Cartographies*. 2012. Open Humanities Press. <http://quod.lib.umich.edu/o/ohp/11515701.0001.001> (accessed June 11, 2014).

26. *Ibid.*

27. *Ibid.*

28. See note 6 above, 385.

29. *Ibid.*, 386.

30. *Ibid.*, 387

31. Benjamin Lozano. "Why Even Do Heterodox Political Finance with Deleuze?" *Speculative Materialism: A Forum for the Study of the Materialism and Ontology of Finance*. Accessed June 11, 2014, <http://speculativematerialism.com/why-even-do-heterodox-political-finance-with-deleuze/>.

32. *Ibid.*

33. In the following explanations, I rely heavily on Lozano's explanations of finance, financial instruments and market dynamics. For more thorough accounts of this, I encourage the reader to view the speculative materialism site at <https://speculativematerialism.com/>.

34. See note 30 above.

35. *Ibid.*

36. *Ibid.*

37. *Ibid.*

38. *Ibid.*

39. Benjamin Lozano. "Economy of the War Machine (Part III of IV)." *Speculative Materialism: A Forum for the Study of the Materialism and Ontology of Finance*. Accessed June 16, 2014 <https://speculativematerialism.com/2014/05/14/economy-of-the-war-machine-part-iii-of-iv/>.

40. *Ibid.*

41. *Ibid.*

42. *Ibid.*

43. Benjamin Lozano. "Economy of the War Machine (Part IV. Overview)." *Speculative Materialism: A Forum for the Study of the Materialism and Ontology of Finance*. Accessed June 16, 2014) <https://speculativematerialism.com/2014/07/03/economy-of-the-war-machine-part-iv-of-iv-introduction/>.

44. Benjamin Lozano. "What the greeks mean to a speculative materialist." *Speculative Materialism: A Forum for the Study of the Materialism and Ontology of Finance*. Accessed June 16, 2014

<https://speculativematerialism.com/2014/08/28/what-the-greeks-mean-to-a-speculative-materialist/>.

45. Benjamin Lozano. "What Black-Scholes-Merton means to a speculative materialist." *Speculative Materialism: A Forum for the Study of the Materialism and Ontology of Finance*. Accessed June 16, 2014 <https://speculativematerialism.com/2014/09/07/what-black-scholes-merton-means-to-a-speculative-materialist/>.

46. Benjamin Lozano. "Hey kids, do you like rhizomes?" *Speculative Materialism: A Forum for the Study of the Materialism and Ontology of Finance*. Accessed June 16, 2014.

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47. Wendy Brown. "Resisting left Melancholy." *Boundary 2* 26.3 (1999): 19.

48. Nick Srnicek. "Capitalism and the Non-Philosophical Subject." *The Speculative Turn, Continental Materialism and Realism*, edited by Levi Bryant, Nick Srnicek and Graham Hartman. (Melbourne: re.press, 2011), 178.

49. Manuel DeLanda. *A New Philosophy of Society, Assemblage Theory and Social Complexity*. (London: Continuum, 2006), 59.

50. Manuel DeLanda. *Intensive Science and Virtual Philosophy*. (London: Bloomsbury, 2002), 18.