Cassells, Christopher John (2019) *Reassembling the monad: the intellectual genealogy of an actant rhizome ontology.* PhD thesis.

Reassembling the Monad:
The Intellectual Genealogy of an Actant Rhizome Ontology

Christopher John Cassells
MA (Hons), MSc

Submitted in fulfilment of the
requirements for the Degree of PhD

School of Humanities
College of Arts
University of Glasgow

June 2019

Abstract

> The *monad*, of which we will speak here, is nothing else than a *simple* substance,
> which goes to make up compounds; by simple, we mean without parts.
> (Leibniz, *Monadology*)

From its origins in antiquity the monad is a concept that has time and again beguiled and attracted philosophers. This thesis will argue that it is a concept that lives on in the work of Bruno Latour and that it continues to have a contemporary relevance, offering a way out of sterile debates rooted in Cartesian dualism – subject/object, interior/exterior, essence/accident, whole/part, mind/body – and an alternative to those traditions which privilege one side of the dualism over the other – positivism on one hand, postmodernism on the other.

The present study charts the development of the monad through the modern period, beginning with the work of Gottfried Leibniz and, thereafter, its recurrence in the work of Gabriel Tarde, Alfred North Whitehead, and, finally, Bruno Latour. However, rather than simply sketching a chronological history of the monad this study takes as its starting point Bruno Latour's Actor-Network Theory, or to use Latour's preferred formulation, Actant Rhizome Ontology. Arguing that Latour's work is best understood as being another instance of a monadological metaphysics that – contra Graham Harman – owes more to Whitehead than Heidegger, to Tarde than Nietzsche, to Leibniz than Spinoza; the thesis traces the genetic intellectual relations between Latour and his three co-monadologists. Latour himself frequently identifies Leibniz, Tarde and Whitehead as intellectual antecedents in his own work; in the spirit of Latour's own Actor-Network Theory, this thesis takes a closer look at these claimed chains of association.

The first chapter surveys Leibniz's monadology and argues that, far from being an idealist, Leibniz was committed to a monism that recognized the materiality of simple substance through his corporeal 'de Volder' monad. This does not necessarily lead, as argued forcibly Pauline Phemister, to pan-psychism, as Leibniz anticipates William James' 'depsychologized' category of experience with his three level system of bare, soul and spirit monads, where only the spirit monads possess anything resembling a mind; however,

it takes Whitehead's transformation of the monad into the actual entity to complete the break between experience and mind.

The second chapter provides a close reading of Gabriel Tarde's *Monadology & Sociology*, a work only made available in English in 2012. Latour has played a significant role in the rediscovery of Tarde, claiming his criminologist compatriot as an intellectual forefather; yet throughout the 20th century Tarde's work quietly influenced continental philosophy through Giles Deleuze who, despite only ever mentioning Tarde parenthetically, borrows Tarde's very own formulation for the title of *Difference et Repetition.* The chapter presents Tarde's work as being an explosion of the Leibnizian monad where the universe is no longer reflected but literally embodied in each individual entity while at the same time diffused through the universe of monads by virtue of relations of possession. Taken together with his theory of repetition and imitation, his privileging of difference over identity, and his philosophy of having – his 'echontology' – Tarde's monadology provides the foundations for a truly relational ontology; foundations which Latour will retrospectively claim for Actor Network Theory.

The third chapter considers Whitehead's metaphysical scheme as presented in *Process and Reality*. Whitehead resolves the 'audacious fudge' committed by Leibniz – the doctrine of pre-established harmony – through a complex and sophisticated realist metaphysical system, one held together by 'creativity'. Whitehead's categoreal scheme, his peculiar vocabulary, his reiterative method whereby ideas are presented over and over again in different contexts mirror the very metaphysical scheme he describes. This – along with his insistence on the atomic nature of time and the instantaneous emergence and realization of each 'actual entity' – lays the basis for Latour's democratic ontology which, as well as famously according equality between human and non-human actors affords concepts the same ontological status as the thinker in whose mind they have been formed.

The final chapter returns to the work of Latour himself to find the monad reassembled as the 'actor-network'. Latour's ontological scheme is discussed in detail with reference to his three antecedents, and his ontology is presented as a reiteration/renewal of the monad; an ontology that itself demands to be renewed each and every time it is deployed. Finally, the thesis argues that Latour pays insufficient heed to Whitehead's understanding of abstraction with the result that, despite developing the idea himself, Latour fails to fully embrace the ontological reality of the abstract. This in turn leads to his preference for litany over critique and results in a philosophy with a great deal of descriptive power but

little or no transformational power. The 'compositionist' politics that emerge from Latour's Actant Rhizome Ontology are ambiguous and utopian, and the thesis concludes by suggesting that more work is required to further Latour's democratization of the monad, to include its radicalization, in pursuit of a monadology that provides an ontological basis for:

> …the genuine resolution of the conflict between man [sic] and nature and between man and man – the true resolution of the strife between existence and essence, between objectification and self-confirmation, between freedom and necessity, between the individual and the species.
> (Marx, *Economic and Philosophical Manuscripts of 1844*)

Contents

Preface

> STUDENT: But that's exactly my problem: to stop. I have to complete this doctorate. I have just eight more months. You always say 'more descriptions' but this is like Freud and his cures: indefinite analysis. When do you stop? My actors are all over the place! Where should I go? What is a complete description?
> PROFESSOR: Now that's a good question because it's a practical one. As I always say: a good thesis is a thesis that is done. But there is another way to stop than just by 'adding an explanation' or 'putting it into a frame'.
> S: Tell me it then.
> P: You stop when you have written your 50,000 words or whatever is the format here, I always forget.
> (Latour, 2005, p.148)

This thesis was drawn to its conclusion with the imminent arrival of my and my partner's first child, a much more compelling reason to stop than a word count or a deadline: as the professor says, 'Whatever the format is here'. But the question of 'what is a complete description' has accompanied the thesis from beginning to end. Originally conceived as a polemic against the technological determinism that was so dominant in discussions around the role of social media in the 2011 Arab Spring, my reading quickly took me far away from social network analysis and information theory. Regardless, events in that part of the world soon demonstrated the poverty of that analysis as the triumph of the 'Twitter Revolutions' gave way to the tragedy of military coups and civil war. The question of agency, however, was left unanswered. How do things change? Is the social a strictly human affair? What is the nature of the relation between individual and group, group and individual? When I act, what is it exactly that I am doing?

I first encountered Bruno Latour in Bijker and Law's *Shaping technology/building society: studies in sociotechnical change*. Latour's essay, titled *Where are the Missing Masses?*, struck me as the most compelling – and most intriguing – account of sociotechnical change in the anthology, and the only one that hinted at its author having a theory with the potential to answer the questions that occupied my mind. From there I kept encountering Latour in the philosophy of technology and information studies literature, sometimes in his

own words, more often summarised by others. These articles and books generally took Latour as being of the STS (Science and Technology Studies) school, as someone who helped explain the interaction between humans and technology; whose 'Actor-Network Theory' allowed sociology to, not only think about the non-human, but incorporate it as well. But there were always hints of an expansive, less travelled hinterland to Latour's work that lay beyond discussions of sleeping policemen and hotel keys. Reading *Irreductions* – the second part of Latour's *The Pasteurization of France*, the first of Latour's own books I read – confirmed this. 'Leibniz was right to say that monads have neither doors nor windows' (p.166); 'If we thought that termites were better philosophers than Leibniz, we could compare a network to a termites' nest' (p.171); 'Contrary to Leibniz, in the movement of the watch there are also ponds full of fish and fish full of ponds.' (p.201) – these aphoristic sentences punctuated a raw and gripping philosophical system completely, strikingly different from both the analytic philosophy I had studied in my undergraduate degree and the postmodern philosophy I had subsequently turned to in reaction. Leibniz was only vaguely familiar to me – usually dismissed in analytic textbooks as an idealist, denied even his claim to the differential calculus in favour of Newton – but reading his *Monadology* was similarly arresting and helped cement my feeling that Latour could just as easily be considered a monadologist as an STS theorist.

As I continued to read through Latour's publications, two other names recurred time and again in connection with the 'monadological' aspects of Latour's work: Gabriel Tarde and Alfred North Whitehead, both of whom Latour enthusiastically claims as 'forefathers'. However, in my reading, the only time I encountered the names of Leibniz, Tarde, Whitehead and Latour in the same sentence – described as 'philosophers of "monadologies" and isolated from the rest of the 'canon' – was, of all places, in Risan's 2006 essay on cattle breeding and social democracy.[1] Nevertheless, I had four theorists, united in their relation with Latour at one end and Leibniz at the other, working across three-hundred years, all with the monad – or a variant thereof – at the heart of their system. In the spirit of Actor-Network Theory, I had chosen my actors and now it was time to describe the unfolding of their monadalogies.

---

[1] In Risan, L. C., 2006. Whitehead's Philosophy of Unities Explored in a Case of Social Democratic Cattle Breeding. Configurations, 14 (1-2), pp.127-156. Risan writes:

The STS embrace of Whitehead is part of a move to rediscover some "grandfathers" in the Western history of ideas. Included are the French sociologist Gabriel Tarde (Latour uses the metaphor of "grandfather" regarding Tarde), the British philosopher Whitehead, and, as the (usually) first mover in this story, G. W. Leibniz. These are philosophers of "monadologies." (2006, p.130)

Rather than attempt to extract common features from each writer's system, reveal underlying social forces, or explain (as in 'explain away') the connections between them, I have approached this thesis as a hermeneutic exercise, an opportunity to trace and describe – and in doing so redescribe and redefine – the monadologies of each writer carefully and in detail. The result is to disclose the continuities – and discontinuities – between the four monadologists, to make them 'visible'; to provide a map, not in the usual sense of the metaphor where the author actually means to provide a prescribed route, but in the sense of mapping a landscape, inhabited by the four pro/antagonists. In making the continuities and discontinuities visible, the intention is not to trip Latour up, to prove that he has not understood Leibniz or Tarde or Whitehead: instead, I am interested in mapping and tracing what Stengers calls the 'adjunctions'– the accretion of ideas rather than the cancelling out of one idea by another.[2]

While partly motivated by a frustration with texts which fail to properly take into account the complexity of the work of the philosophers they marshal as allies; the primary motivation is to try to use the methodology of Actor-Network Theory on itself and its antecedents[3] – hence the vocabulary of 'visibility', 'tracing', 'redescription', 'alliance', 'taking into account' and the like. Of course, the other significant inspiration is Deleuze's series of books on the work of other philosophers, including Leibniz; his reading of Leibniz or Hume or Kant is always a rereading – description as redescription/redefinition.

Yet, while Latour gives us a 21st century monadology with tremendous descriptive power – and one with which we can begin to approach questions like, how do things change? – I cannot help but be frustrated at what ultimately remains a politically agnostic philosophy, despite Latour's utopian compositionist efforts. With Latour we can see how climate change is not simply composed of fossil fuel, oil companies and the weather, but is teeming with actors of all shapes and sizes, human and non-human. But can we really go along with Latour when he claims that we can get to Gaia through slow, careful description and composition alone? Can we not see that there are certain actors who are more to blame than others; that the present state of affairs is of more benefit to some than others; that some actors will resist composition? Demanding the emancipation of human beings from wage slavery or an end to the blind, profit-driven destruction of the planet – and, by

---

[2] As Walt Whitman wrote, 'Do I contradict myself? Very well then I contradict myself. (I am large. I contain multitudes.)'

necessity, recognizing the antagonism of labour and capital, of use and exchange value, of rapacious capitalist avarice and a fragile ecosystem – does not, as Latour likes to suggest, entail the bifurcation of nature. On the contrary, the bifurcation of nature is resolved by and through these demands. The strength of Latour's work is in his decentralised, flattened ontology that, unlike the postmodernists, does not retreat to the margins. The weakness is his outright rejection of what Alain Badiou describes as the 'Communist Hypothesis'. I have little time for Badiou's unrepentant Maoism but I wholeheartedly agree when he writes:

> We know that communism is the right hypothesis. All those who abandon this hypothesis immediately resign themselves to the market economy, to parliamentary democracy—the form of state suited to capitalism—and to the inevitable and "natural" character of the most monstrous inequalities.
> (Badiou, 2010)

My intention in this thesis is to lay the necessary ground work for the development of a monadology that has this hypothesis at its heart, harnessing the descriptive power of an Actant Rhizome Ontology to take a first tentative step from Latour's liberal democratic ontology to a revolutionary democratic one. But to take this step we first need a map and, just as a cartographer must traverse the territory they are mapping – even if they now do this through satellites rather than on foot – we must traverse the monad of Leibniz, Tarde, Whitehead and Latour – always describing, redescribing, defining, redefining; only completing our descriptions when we stop describing.

Marx's thought runs through this thesis in much the same way as Tarde's ideas run through the work of Deleuze,[4] seldom mentioned but ever-present. Latour writes about putting Marx's eleventh thesis on Feuerbach back on its feet, reformulating it as: 'Social scientists have transformed the world in various ways; the point, however, is to interpret it.'' (2005, p.42) But, if, as Latour's monadology maintains, by describing things we also change them, then Marx is still correct: the point *is* to change the world.

---

[4] See page 18 of this thesis.

Acknowledgements

Author's Declaration

"I declare that, except where explicit reference is made to the contribution of others, that this dissertation is the result of my own work and has not been submitted for any other degree at the University of Glasgow or any other institution."

Christopher J Cassells

Introduction

> A philosophy is more like … a person than a list of consistent statements, and for this reason it needs to be presented in the manner of biography, rather than as a chain of true and false utterances.
> (Harman, 2009, p.120)

From its origins in antiquity[5] the monad is a concept that has time and again beguiled and attracted philosophers. This thesis will argue that it is a concept that lives on in the work of Bruno Latour and that it continues to have a contemporary relevance, offering a way out of sterile debates rooted in Cartesian dualism – subject/object, interior/exterior, essence/accident, whole/part, mind/body – and an alternative to those traditions which privilege one side of the dualism over the other – positivism on one hand, postmodernism on the other.

The present study charts the development of the monad through the modern period, beginning with the work of Gottfried Leibniz and thereafter its recurrence in the work of Gabriel Tarde, Alfred North Whitehead, and, finally, Bruno Latour. However, rather than simply sketching a chronological history of the monad this study takes as its starting point Bruno Latour's Actor-Network Theory, or to use Latour's preferred formulation, Actant Rhizome Ontology. Arguing that Latour's work is best understood as being another instance of a monadological metaphysics that – contra Graham Harman – owes more to Whitehead than Heidegger, to Tarde than Nietzsche, to Leibniz than Spinoza; the thesis traces the genetic intellectual relations between Latour and his three co-monadologists.

---

[5] In his account of the life of Pythagoras, Diogenes Laërtius tells us that:

> Alexander also says, in his Successions of Philosophers, that he found the following dogmas also set down in the Commentaries of Pythagoras:-

> That the monad was the beginning of everything. From the monad proceeds an indefinite duad, which is subordinate to the monad as to its cause. That from the monad and the indefinite duad proceed numbers. And from numbers signs. And from these last, lines of which plane figures consist. And from plane figures are derived solid bodies. And from solid bodies sensible bodies, of which last there are four elements; fire, water, earth, and air. And that the world, which is endued with life, and intellect, and which is of a spherical figure, having the earth, which is also spherical, and inhabited all over in its centre, results from a combination of these elements, and derives its motion from them; and also that there are antipodes, and that what is below, as respects us, is above in respect of them. (Laërtius, D., 1915. *The Lives and Opinions of Eminent Philosophers*, London: G. Bell & Sons, p.348)

Latour himself frequently identifies Leibniz, Tarde and Whitehead as intellectual antecedents in his own work; in the spirit of Latour's own Actor-Network Theory, this thesis takes a closer look at these claimed chains of association.

The first chapter surveys Leibniz's monadology and argues that, far from being an idealist, Leibniz was committed to a monism that recognized the materiality of simple substance through his corporeal 'de Volder' monad. This does not necessarily lead, as Pauline Phemister argues, to pan-psychism, as Leibniz anticipates William James' 'depsychologized' category of experience with his three level system of bare, soul and spirit monads, where only the spirit monads possess anything resembling a mind; however, it takes Whitehead's transformation of the monad into the actual entity to complete the break between experience and mind.

Latour's earliest explicitly philosophical work, *Irreductions*, is peppered with references to Leibniz and his monads but, to borrow Tarde's own phrase which Latour quotes (2001, p. 3), the monads Latour realises have come a long way since their father. For example, 'Leibniz was right to say that monads have neither doors nor windows, for they never come out of themselves. However, they are sieves, for they endlessly negotiate about their frontiers, about who the negotiators will be, and about what they ought to do.' (Latour, 1988, p. 166) And, 'no matter how far we go, there are always forms; within each fish there are ponds full of fish. Some believe themselves to be the moulds while others are the raw material, but this is a form of elitism.' (1988, p. 161) As we will see, what both these quotes illustrate is the distance travelled from Leibniz's conception of the monad. Recasting the monad as a 'sieve' illustrates the way in which Latour translates and transforms the Leibnizian monad; leading Graham Harman to describe Latour's approach to Leibniz as an 'atonal remix' (2007, p. 39) or the 'edgy off-Broadway rendition of the Leibnizian philosophy.' (2007, p. 42)

The second chapter provides a close reading of Gabriel Tarde's *Monadology & Sociology*, a work only made available in English in 2012. Latour has played a significant role in the rediscovery of Tarde, claiming his criminologist compatriot as an intellectual forefather; yet throughout the 20th century Tarde's work quietly influenced continental philosophy through Giles Deleuze who, despite only ever mentioning Tarde parenthetically, borrows Tarde's very own formulation for the title of *Difference et Repetition*. The chapter presents Tarde's work as being an explosion of the Leibnizian monad – another 'atonal remix' – where the universe is no longer reflected but literally embodied in each individual entity

while at the same time diffused through the universe of monads by virtue of relations of possession. Taken together with his theory of repetition and imitation, his privileging of difference over identity, and his philosophy of having – his 'echontology' – Tarde's monadology provides the foundations for a truly relational ontology; foundations which Latour will retrospectively claim for Actor Network Theory.

The last fifteen years have seen a series of works by Latour and various collaborators on Tarde's writings. From his political economy to his sociology, Latour has been engaged in a sustained attempt to uncover Tarde and bring his concepts to a wider audience. Languishing for over a century in the shadow of Durkheim, Tarde is being rehabilitated as the metaphysicist for the digital age. Tarde's flattened, one level sociology – his spheres of action, laws of imitation and repetition, refusal to countenance the existence of aggregates as something apart from their constituent parts – seems perfectly suited to Latour's language of networks and associations. Indeed, Latour cites Tarde as 'forefather' to Actor-Network Theory and the originator of two key concepts championed by ANT: the irrelevance of the nature/society divide for the understanding of human interactions – in other words, the admission of non-human technological actants into any account of the constitution of agency, and the stifling effect of the micro/macro distinction on any attempt to generate society (Latour, 2001, p. 2). [6] Latour has spent considerable time imagining a 20th century where Tarde is the dominant philosopher-sociologist, writing in *The Science of Passionate Interests*:

> Imagine how things might have turned out had no one ever paid attention to *Das Kapital*. A century later, the book would have been rediscovered and people would have been struck with amazement by its scope and audacity – an isolated, little understood work, without any scientific, political or social impact; a work that had generated neither disciples nor exegeses, and one that no attempts at application had come to transform. How different the history of the 20th century would have

---

6   'It is truly surprising to see men of science, so stubborn in repeating at every turn that nothing is created, admit implicitly as though self-evident that relations between distinct beings can of themselves become new beings numerically added to the former.' (Tarde, 2012, p. 35) Tarde argues that it is mistaken to conceive of social aggregates as resulting in the creating of a new being; for example, that from a social group a 'collective ego' can arise which is not metaphorical but real. Thus, the distinction between macro and micro is not a distinction between collective consciousness and individual consciousness but the distinction between individual agency and the aggregates into which the individual enters. In contrast, the social aggregate of Durkheimian sociology conceals the complexity of its composition by conceiving of it as a real social entity in its own right. It is, of course, possible to consider certain individuals – Tarde suggest the ministers of a State – as personifying or individualising the aggregate but they themselves are members of the aggregate and do not arise from the collective as separate beings.

been...

(2009, p. 1)

The third chapter considers Whitehead's metaphysical scheme as presented in *Process and Reality*. Whitehead resolves the 'audacious fudge' committed by Leibniz – the doctrine of pre-established harmony – through a complex and sophisticated realist metaphysical system, one held together by 'creativity'. Whitehead's categoreal scheme, his peculiar vocabulary, his reiterative method whereby ideas are presented over and again in different contexts mirror the very metaphysical scheme he describes. This – along with his insistence on the atomic nature of time and the instantaneous emergence and realization of each 'actual entity' – lays the basis for Latour's democratic ontology which, as well as famously according equality between human and non-human actors affords concepts the same ontological status as the thinker in whose mind they have been formed. Latour writes in his review of Isabelle Stengers' *Thinking with Whitehead*, with his admiration of Whitehead clear to see, that:

> [O]nly Whitehead went far enough to explain why the first empiricism did not respect the cosmological and rationalist dimensions of the sciences. And contrary to all of his predecessors—Kant and Hegel—and contemporaries—Bergson, James, Husserl, and, of course, Heidegger—he did not try to impose limits to science, to overcome their limits, to feed on their weaknesses, but added another dimension to them. … Whitehead always digs further into what is given by the scientific activity and what is learned about the world in addition to what scientists say about their own work.
>
> (2002, p.6)

The final chapter returns to the work of Latour himself to find the monad reassembled as the 'actor-network'. Latour's ontological scheme – as presented primarily in *Irreductions*, *We Have Never Been* Modern, and *Reassembling the Social*[7] – is discussed in detail with reference to his three antecedents, and his ontology is presented as a tacit reiteration/renewal of the monad; an ontology that itself demands to be renewed each and every time it is deployed. Finally, the thesis argues that Latour pays insufficient heed to Whitehead's understanding of abstraction with the result that, despite developing the idea

---

[7] This thesis is concerned with Latour's work in relation to 'Actor-Network Theory' and not what Harman describes as his 'secret system', the parallel philosophical system he began work on in 1987 and unveiled in 2013 where the network is one of fourteen different modes of existence.

himself, Latour fails to fully embrace the ontological reality of the abstract. This in turn leads to his preference for litany over critique and results in a philosophy with a great deal of descriptive power but little or no transformational power. The 'compositionist' political economy that emerges from Latour's Actant Rhizome Ontology is ambiguous and utopian, and the thesis concludes by suggesting that more work is required to further Latour's democratization of the monad to include its radicalization, in pursuit of a monadology that provides an ontological basis for:

> [T]he genuine resolution of the conflict between man [sic] and nature and between man and man – the true resolution of the strife between existence and essence, between objectification and self-confirmation, between freedom and necessity, between the individual and the species.
> (Marx, *Economic and Philosophical Manuscripts of 1844*)

Harman is correct to say that presenting a philosophy is like writing a biography, but while most biographies are written at end of period of someone's life, looking back; in writing a philosophical biography we have to 'start in the middle of things, *in medias res*' (Latour, 2005, p.123). Indeed, the passage from which that quote is taken perfectly encapsulates the process of trying to pin down ideas:

> At best, we add an account to all those which are simultaneously launched in the domain we have been studying. Of course, this study is never complete. We start in the middle of things, *in medias res*, pressed by our colleagues, pushed by fellowships, starved for money, strangled by deadlines. And most of the things we have been studying, we have ignored or misunderstood. Action had already started; it will continue when we will no longer be around. What we are doing in the field—conducting interviews, passing out questionnaires, taking notes and pictures, shooting films, leafing through the documentation, clumsily loafing around—is unclear to the people with whom we have shared no more than a fleeting moment. What the clients (research centers, state agencies, company boards, NGOs) who have sent us there expect from us remains cloaked in mystery, so circuitous was the road that led to the choice of this investigator, this topic, this method, this site. Even when we are in the midst of things, with our eyes and ears on the lookout, we miss most of what has happened. We are told the day after that crucial events have taken place, just next door, just a minute before, just when we had left exhausted with our tape recorder mute because of some battery failure. Even if we work diligently,

things don't get better because, after a few months, we are sunk in a flood of data, reports, transcripts, tables, statistics, and articles. How does one make sense of this mess as it piles up on our desks and fills countless disks with data? Sadly, it often remains to be written and is usually delayed. It rots there as advisors, sponsors, and clients are shouting at you and lovers, spouses, and kids are angry at you while you rummage about in this dark sludge of data to bring light to the world. And when you begin to write in earnest, finally pleased with yourself, you have to sacrifice vast amounts of data that cannot fit in the small number of pages allotted to you. How frustrating this whole business of studying is.

(2005. p.23)

There is a recursive nature to all monadologies whereby the past is something that is to be grasped at and represented, that is, quite literally made present again. The frustrating business of studying is the result of trying to corral the past into the present, like collecting water with a leaky bucket; we are engaged in the Sisyphean task of representing a past that is forever just out of reach. And we can talk about Latour's influence on the Leibnizian monad as much as we can of Leibniz's influence on Latour. Indeed, in the course of this present study, Leibniz, Tarde and Whitehead were all read through a Latourian lens and with Latour very much in mind. As a re-presenting we are also engaged in an act of redefining; the naming of parts is also the production of parts, as we sense in Henry Reed's poem:

> This is the lower sling swivel. And this
> Is the upper sling swivel, whose use you will see,
> When you are given your slings. And this is the piling swivel,
> Which in your case you have not got.
> (Reed, 1942)

The intended audience for this thesis is all those who work with and around the methodology and metaphysics – whether assumed or explicit – of Actor-Network Theory and its associated movements, including the likes of Graham Harman's Object-Oriented Ontology. The prime motivation is to address a contradiction at the heart of ANT, one that has come to the fore in the past decade as we entered a period of compounding crises – the financial crash, global warming, mass extinction, runaway inequality and so on. That is, its ability to provide a detailed description of the way in which the social world ('social' as understood according to the principle of generalised symmetry) is composed and

recomposed by the plenitude of actants who constitute it; while at the same time, through its eschewal of critique and insistence on description rather than prescription, maintaining a political agnosticism that is nothing short of perverse in the face of the disintegration of the very world ANT has so carefully attempted to describe and compose. As Hegel writes in the preface to the *Phenomenology of Spirit*, 'to blend judgement and comprehension in a definitive description is the hardest thing of all.' (1977, p.3) Latour and his co-thinkers attempt to do away with the 'judgement' and in doing so lose the ability to make that 'definitive description' of which Hegel writes.

This leads to two projects that are intertwined through the thesis. The first is the attempt to conduct something of a historical anthropology on the concept of the monad, tracing the concept through a series of writers from the 18th century to the present day; concluding with the argument that Actor-Network Theory is best understood as being part of the 'monadological' tradition that is constructed through the thesis. The second is to argue that we cannot do without critique. These come together in the final chapter, in a meeting of ontology and politics, in the notion of concrete abstraction: the idea that the abstract has what Marx would call a 'spectral objectivity,' or Deleuze a 'virtualality', which is to say ideal yet also real. This notion, it is argued, is indispensable if we are to reclaim critique – and with it the ability to intervene in the world – while also harnessing the descriptive power of Actor-Network Theory.

The genesis of the thesis lies in the work of Bruno Latour and his, to use his one-time preferred formulation, actant rhizome ontology. The selection of authors – Leibniz, Tarde and Whitehead – is informed by encounters in Latour's work. These three thinkers run like threads through Latour's writing but their relation to one another, or their significance to the ontological foundations of actant rhizome ontology, is never quite brought out into the open. This thesis attempts to unpick these threads, examining each in detail, tracing the redefinition and redeployment of the monad through the centuries, before re-stitching actant rhizome ontology into the larger monadological quilt. The thesis is not intended as an intellectual history of Bruno Latour himself – hence no chapter on Michel Serres or Charles Péguy – but rather takes Bruno Latour's actant rhizome ontology –a contemporary monadology, as this thesis will argue, set out in its most compelling form in Latour's early work, *Irreductions* – as a starting point for the exploration of the monad. Again, for this reason, there is no account of the parallel system developed by Latour over the past four decades – announced with his 2013 publication, *An Enquiry Into Modes of Existence* – where Actor-Network Theory is but one of 15 modes of existence. Similarly, with its focus

on the monad, there is no room for Spinoza or Nietzsche; both of whom certainly have a place within the intellectual family tree of ANT, but not as monadologists.

There are two other figures which cast a long shadow over the thesis, without being given chapters in their own right. The first is Giles Deleuze who has, to one degree or another, engaged extensively with the first three philosophers and is undoubtedly present in the work of Latour. However, Deleuze is no monadologist; like Bergson, he is a philosopher of the flux and generalised becoming, not the atomic monad – despite his efforts to reconcile the two in his 1992 monograph, *The Fold*. Nonetheless, his insights are indispensable and pepper the thesis throughout. The second is Karl Marx. 'We will not be done with Marx until we are done with capitalism.' (Pomeroy, 2004, p.21) We are far from done with capitalism, but capitalism looks increasingly like it is done with us; leaving behind a planet in ruin and vast swathes of the global population condemned to at best precarity and at worst abject poverty and misery. Latour says as much when he writes:

> [T]he elites have been so thoroughly convinced that there would be no future life for everyone that they have decided to get rid of all the burdens of solidarity as fast as possible – hence deregulation; they have decided that a sort of gilded fortress would have to be built for those (a small percentage) who would be able to make it through… (2018, pp.18-19)

The left has a long track record of making such proclamations – think Rosa Luxemburg's 'socialism or barbarism', a phrase which she credits to Engels – but there is an urgency today in the growing climate crisis and the inability of the post-war political institutions to offer any kind of solution in the face of growing nationalism and a capitalist class intent only on self-preservation. As such, Marx is more relevant than ever; not the caricatured Marx of Althusser which Latour all too often raises as a political bogeyman, but Marx in all his complexity as encountered in careful readings of texts like *Grundrisse* and the three volumes of *Capital*. Such careful readings in the light of the actant rhizome ontology assembled in this thesis are for a future project but, for this work, Marx stands as a rebuke to Latour's plea for patient composition and demonstrates the power of critique as both a destructive and, crucially, creative act. This is most evident in the final chapter where, with the return of the monad to the contemporary world, a greater sense of urgency to the writing is unavoidable.

There are a number of themes which recur through this thesis beyond the central arguments relating to the monad and to the rescue of critique; among them, free will and agency, abstraction and the concrete, the materiality and the ideal. These achieve more or less prominence at different points through the thesis and, of course, have been addressed by a wide range of authors not considered in this work. However, as the focus here is on the question of the monadological tradition and the role of critique, these authors are referred to only when they come into contact with that tradition.

Finally, it is interesting to note that – in what could be considered to be historical materialism in action – the fact that the systems proposed by each of the authors treated in this thesis very much reflect the age in which they were formulated: Leibniz has his mill, Tarde the microbe, Whitehead writes in the early days of post-Newtonian physics, while Latour's career traverses the emergence of the digital world. The next chapter of the history of the monad will undoubtedly reflect the world in which it finds itself; a world on the brink.

Chapter 1: Leibniz

And then there are exasperated philosophers. For them, each concept covers an aggregate of singularities, and then they always need to have other, always other concepts. One witnesses a mad creation of concepts. The typical example is Leibniz. He never finished creating something new.
(Deleuze, 1980)

It is well known that Leibniz's work operates on many different levels: put simply, his writings vary in complexity depending on his intended audience. With relatively little published during his lifetime and a great deal of significant work buried in correspondence, tackling the Leibnizian text requires of the reader not simply an attentiveness to the text itself, but an awareness of to whom it was directed. His popular writings are not to be disregarded; on the contrary, they provide a degree of concision and clarity which makes them indispensable introductions to his thought, albeit in a truncated, simplified form which often pose more questions than they answer. For example, the *Principles of Nature and of Grace* (henceforth, the *Principles*) functions as a companion piece to the *Monadology* and as a popular introduction to Leibniz's mature metaphysics. It renders Leibniz's metaphysics in broad brush-strokes, leaving the fine detail to the *Monadology*. This, as Deleuze notes, poses a problem for a student of Leibniz. However, the *Principles* should not be set aside in favour of the *Monadology*, but read in tandem to understand the stress placed by Leibniz on certain concepts and to note the portions of his thought which require greater elaboration in the *Monadology*. The *Principles* present a simplified account of Leibniz's metaphysics and understanding their short, densely packed paragraphs requires the reader to attune to the level of Leibniz's system on which they are situated. It is tempting to see in this method something of Leibniz's metaphysics itself: certain perceptions clouded and confused, others clear and distinct; all dependent on the subject's point of view. In any case, the purpose of this chapter is to lay out the basic principles of Leibniz's metaphysics, beginning with his axiomatic concepts: the identity of indiscernibles, the principles of sufficient reason and the best of all possible worlds, pre-established harmony, continuity, compossibility, the relation between mind and matter, before moving towards a summary of the monad – the thing onto which Latour

superimposes his actor-network – and a reconsideration of the reality of Leibnizian bodies. With due cognizance taken of the multiple levels on which Leibniz's system operates, the central texts under consideration here are the *Monadology* and the *Discourse on Metaphysics* (henceforth, the *Discourse*), along with fragments from the *Principles*, *Theodicy*, *New Essays on Human Understanding,* correspondence between Leibniz and De Volder, and commentaries by Deleuze (1980) (1993), Garber (2004) (2005) (2009), Savile (2000), Saw (1954) and Woolhouse (1998), with a particular focus on Phemister's monograph, *Leibniz and the Natural World* (2005). The aim is not to set a series of traps for Latour but to tease out the key concepts, examine the orthodox and heterodox readings of Leibniz, identify the principles with which it is impossible to dispense without also dispensing with the 'monad', so as to, when we return to the actor-network in Chapter 4, see the distance travelled and the obstacles traversed by the monad/actor-network.

The identity of indiscernibles

Leibniz's axiomatic concepts unfold from one another in a torrent of creation. Deleuze characterizes this as mad, insane; as a scream of *everything must have a reason* (1980). The concepts pile upon one another, multiplying furiously, interdependently, sustaining and justifying one another in a process which ends only with Leibniz's death. Indeed, Leibniz, as Daniel Garber argues (2009, p. 387), dies before he manages to solve the problem of the relation between bodies and minds, but we can be almost certain that any such solution would require the generation of yet more concepts. Unlike Descartes' parsimonious, austere foundation in the *cogito*, Leibniz moves backwards from the thinking subject to realise a whole suite of concepts upon which the notion of a thinking subject is dependent. In the paragraphs below we will attempt to separate out some of the key concepts in Leibniz's metaphysics but, by necessity, these concepts will barge in on each other's territory; they will overlap, pop up where they do not belong and certain among them will be reiterated time and again.

The two key principles are the identity of indiscernibles and the principle of sufficient reason. Let us begin then with the concept of identity. In the *Discourse on Metaphysics* Leibniz states, 'No two substances are entirely alike, and differ only in number.' (Leibniz, 1998a, p. 60) This is restated in the *Monadology* as, 'Indeed, every monad must be different from every other. Because in nature there are never two beings that are perfectly alike, and between which it is not possible to discover some difference which is internal, or

founded on an intrinsic denomination.' (Leibniz, 1998c, p. 269) The question of identity comes down to the, on the surface, banal formulation of: no two beings can have all their internal properties in common. Crucially, properties are restricted to those internal or intrinsic to the being ruling out relational states such as time and space – it is not possible for two beings with exactly the same properties to exist in two different places or at two different times. In the formal sense, the principle of identity is: A is A. Identity, then, takes the form of a proposition. A, the subject, is A, the predicate. An example: Caesar is Caesar. A formulation such as this is somewhat empty, it tells us nothing about the nature of Caesar nor does it commit us to Caesar's existence. But consider the following passage from the *Discourse*:

> [W]hen the predicate is not expressly included in the subject, it must be virtually included in it. This is what philosophers call *in-esse*, and they say that the predicate *is in* the subject. So the subject term must always involve that of the predicate, in such a way that anyone who understood the subject notion perfectly would also see that the predicate belongs to it. This being so, we can say that the nature of an individual substance or of a complete being is to have a notion so complete that it is sufficient to include, and to allow the deduction of, all the predicates of the subject to which that notion is attributed.
> (Leibniz, 1998a, pp. 59-60)

The concept is no longer banal. We have moved from the reciprocal and tautological proposition, A is A, to something more significant and complicated. Take a simple example, borrowed from Deleuze (1980), of the triangle. 'A triangle has three angles', is a reciprocal proposition because it is impossible to conceive of a three angled thing which is not a triangle. However, the proposition, a triangle has three sides, is not reciprocal as it is possible to imagine a thing with three sides which is not a triangle. Yet, according to Leibniz, the predicate of having three sides is included in the notion of the triangle as a matter of logical necessity, because it is impossible to imagine a triangle which does not have three sides. The predicate and the subject are not identical but the predicate is included in the notion of the subject. When we consider a more complicated subject, like Caesar, we can see the implications of the idea that the predicate is included in the notion of the subject. In other words, for every predicate that can be attached to the subject, Caesar, that predicate or attribute is contained in the notion of the subject, Caesar, itself. So, crossing the Rubicon, overthrowing the Roman Republic, his assassination on the Ides of March; all of these predicates are included in the notion of Caesar. In fact, all the

propositions that, to quote Deleuze, 'state relations, that state existences, that state localizations, and that, at the outside, exist, are in relation with, can be translated as the equivalent of the attribute of the subject.' (1980) The consequence of this concept of identity is that the whole universe, past, present, and future, is logically contained in the subject, Caesar.[8] In Leibniz's own words, each substance 'expresses, albeit confusedly, everything which happens in the universe, past, present, and future, and this has some resemblance to an infinite perception or understanding.' (1998a, p. 61) We will return to the notion of confused expression and the resemblance to infinite perception later, but for now this brings us to Leibniz's second axiomatic concept, sufficient reason.

Sufficient reason

Let us begin by saying that sufficient reason is not the same as cause. Causal relations exist in the form of x is causally sufficient for bringing about y, and y for z, and so on. While x is the antecedent and y the consequent, both x and y can co-exist although we would say that x has a prior existence to y. However, to avoid infinite regression something is required to stand outside of the causal chain. In the *Monadology*, sufficient reason is formulated as 'no fact could ever be true or existent, no statement correct, unless there were a sufficient reason why it was thus and not otherwise – even though those reasons will usually not be knowable by us'. (1998c, p. 272) Leibniz goes on to differentiate between two forms of truth: truths of reason where a thing is necessarily true and its opposite impossible – a triangle has three angles – or truths of fact, where truth is contingent and its opposite is possible – Caesar crossing the Rubicon. But, if crossing the Rubicon is included in the very notion of Caesar, it surely cannot be possible that Caesar does not cross the Rubicon. The answer for Leibniz is clear – Caesar's actions were necessitated but not certain – but we will return to this shortly when we discuss free will. In the meantime, let us expand the concept of sufficient reason. Leibniz uses the example of a prince's military victory in the *Discourse* to explain the necessity of something outside the chain of causal relations. If we were to explain such a military victory by reference only to the reaction of gunpowder to a spark, the particles of copper in the cannon and their movement, we would be attempting to explain the phenomena in terms of only the

---

8   This lead Latour to speculate in *Aramis* that predicates could be programmed into software. Of course, this would necessitate infinite perception, an ability confined by Leibniz to God. 'For my part, I'd prefer a system more in conformity with that of Mr. Leibniz, one in which God's creatures would contain the complete recapitulation of all possible actions. It would suffice to enter all predicates in the software.' (1996, p. 63)

properties of matter involved. Instead, we must assert the role of the prince, in choosing his weapons, generals and strategy. Effects must correspond to causes, but there is an organizing intelligence which exists outside of cause and effect: in this case, the prince; in the case of the universe, God (Leibniz, 1998a, p. 73).[9] From the *Principles*:

> [T]he sufficient reason, which has no need of any further reason, must lie outside that series of contingent things, and must be found in a substance which is the cause of the series: it must be a necessary being, which carries the reason for its existence within itself, otherwise we still would not have a sufficient reason at which we can stop. And that final reason for things is what we call *God*.
> (Leibniz, 1998b, p. 262)

Now that God has been introduced, we are in danger of releasing a torrent of concepts. But, we can admit one more in order to fully explain sufficient reason, and that is the principle of contradiction. This seemingly benign principle states simply that A cannot be not A, which is to say that the proposition A & not A is a logical impossibility. Together, the principle of contradiction and the principle of sufficient reason serve to underpin all human reasoning[10]; with the principle of contradiction being a means of accessing mathematical or metaphysical truths, and sufficient reason being a means of accessing truths of fact (Carr, 1930, p. 18). So, to repeat what we have already established, 'A is A' is an eternal truth and cannot be 'A is not A', and there must be a sufficient reason besides a causal chain for Caesar to cross the Rubicon.

There is an internal or inherent aspect of the principle of sufficient reason which Deleuze takes great care in drawing out. We can say that everything that is attributed to a subject is contained within the notion of the subject. The reason is the notion itself; all of a subject's predicates and attributes inhere in the notion (Deleuze, 1980).[11] In contrast, cause operates

---

9 It would be remiss at this point – despite earlier promises not to indulge in setting traps for Latour – to pass over without comment what looks uncannily like an almost direct refutation of Actor-Network Theory's principle method; a commitment to consider precisely these actants which Leibniz has cast aside. But it is important to recognize that, for Leibniz, metaphysics does not replace physics, but provides a foundation for physics. It is possible for Leibniz to maintain a version of the Hobbesian mechanistic account he held to in his youth, provided that it is founded upon a suitable metaphysics which Hobbes' account lacks. This presents a considerable challenge to Latour and will necessitate a significant redefinition of the monad.

10 Sufficient reason is not the same for the infinite monad (God) as it is for the rational soul monad (humans).

11 In *The Fold*, Deleuze makes the distinction between attribute and predicate. He writes, 'Perceptions as included predicates, that is, as inner properties, were replacing attributes. Predication was of the domain

between the subjects and so is not inherent in the expression of the notion of the subject: A acts on B which, in turn, acts on C, and so on. Sufficient reason is an internal relation, which allows for the co-existence of all subjects, even those not yet actualized; causation is an external relation. And when we say that crossing the Rubicon is contained in the notion of Caesar, we open the notion of Caesar to the whole universe: from that single event pours an infinite succession of past events that bring us to the crossing of the Rubicon; and an infinite succession of future events that are contingent on the crossing of the Rubicon. Balanced on any given point in time is the sum of past and future events; it is, as Leibniz writes in the *Monadology*, the interconnection of all matter in the plenum. Every subject contains within it the notion of the whole universe from its own point of view, which leads us to the topic of the next section, perspectivism, for at this point the flood gates can no longer remain closed. So, with these two great principles, we must let ourselves be carried along by the torrent of Leibniz's concepts.

Perspectivism

By now it should be clear that Leibniz's concepts are deeply interwoven; they hang together interdependently like a web rather than moving along the points of a line. Leibniz's system is architectonic, a notion Deleuze plays with to great effect by characterizing Leibniz's philosophy as a Baroque house (1993). But having left off from sufficient reason with the idea that every subject contains within it the notion of the whole universe, it is necessary to explain how then each subject retains its distinct identity.

The crossing of the Rubicon is particular to Caesar, or, at least, the notion of Caesar. But it also is contained within the notion of you and me. If, contained within the notion of me is the totality of the universe, then that includes Caesar crossing the Rubicon. All of us contain the same predicates – past, present and future – in the notion of ourselves. How, then, are we different? The answer is offered by Deleuze:

> What makes me = me is a point of view on the world. Leibniz cannot stop. He has
> to go all the way to a theory of point of view such that *the subject is constituted by*

---

of having, and was resolving the aporias of being or attribution.' (Deleuze, 1993, p. 125) This forms part of his argument for the necessity of the body on which the monad is dependent for its existence.

the point of view and not the point of view constituted by the subject.
(1980)

Leibniz outlines this notion of point in view in more detail in the *Principles*, stating that a monad is distinguished from all others by:

> …its *perceptions* (that is, the representations of the composite, or of what is external, in the simple), or its *appetitions* (its tending to move from one perception to another, that is), which are the principles of change. For the simplicity of a substance does not in any way rule out a multiplicity in the modifications which must exist together in one simple substance; and those modifications must consist in the variety of its relationships to things outside it – like the way in which in a *centre*, or a *point*, although it is completely simple, there are an infinity of angles formed by the lines which meet in it.
> (1998b, p. 259)

This is rendered in the *Discourse* as:

> [T]hey all express the same phenomena, their expressions do not therefore have to be perfectly alike; it is enough that they are correlated – just as a number of spectators believe they are seeing the same thing, and do in fact understand each other; even though each one sees and speaks according to his point of view.
> (1998a, p. 67)

We are getting closer to the monad here but still have some way to go. It is not difficult to see why Deleuze describes Leibniz's system as like a fever dream; the concepts are awkward to pin down as they pile on top of one another, overlapping, flowing into one another. To return to the point of view, we must now define what this totality of the universe consists in. As Ishiguro writes:

> Even a simple substance perceives the whole world from its point of view, and expresses the world. It also subsists through time. This means that an enormous number, if not an infinite number of predicates is true of it. The notion of any individual substance is far from simple. What then could the simplicity of a substance consist in?
> (1998, p. 535)

A number of spectators may see the same thing from a different point of view – this is not difficult to understand – but they will not necessarily see Caesar crossing the Rubicon, even though this too is contained in the notion of themselves. Again, an apparently banal concept is not all that it seems. Firstly, the subject does not precede the object – the point of view – but the reverse: the point of view constitutes the subject. And what is viewed is not what is in front of the subject at any given time, but the totality of the universe. Simplicity, in answer to Ishiguro's question, consists in totality; in the unity of the simple substance's point of view. The totality of the universe is viewed in a confused and obscured manner as *petites perceptions*. In other words, the universe is contained within the notion of the subject but only a portion of it is clear and distinct to the subject. Leibniz returns time and again to the example of waves (1998a, pp. 85-86) (1998b, p. 264). By the sea, one can hear the sound of a wave but one does not hear the sound of every droplet of water. Each droplet exists and is perceived but only as a minute perception; the minute perceptions come together to form a single perception which is clear and distinct to us; that is, the sound of the wave. This clear and distinct perception is named an 'apperception' by Leibniz.

Compossibility

The totality of the universe exists in the notion of the subject. The totality of the universe is expressed from the point of view of the subject. A portion of this is expressed clearly and distinctly, the rest is confused and obscure. But the point of view constitutes the subject, not the other way around. So, the point of view rather than the subject expresses the totality of the universe which is contained within the notion of the subject. There is, therefore, no reason for external reality; Leibniz as an idealist is all but confirmed. But Leibniz has no room in his system for a universal mind as Spinoza's monism maintains. Subjects, as we have seen, are individual, expressing the same world albeit from different perspectives. And Leibniz is no occasionalist (Garber, 2004, pp. 7-8) (Woolhouse, 1998, p. 34); God does not intervene at each moment to bring about the harmony of the world expressed by a particular subject with the world expressed by all other subjects. This is not a problem for truths of essence, truths which are true at all times: $2 + 2 = 4$, for example. But it is a problem for contingent truths: for example, Caesar crossing the Rubicon. Truths arrived at by sufficient reason are fundamentally different from truths arrived at by the principle of contradiction. For a truth of fact to be so it is not enough that it is possible – or, inversely, impossible – but it must be compossible with the world in which it is held to be true. In

other words, Caesar could have not crossed the Rubicon, but not in this world. In this world, crossing the Rubicon is contained in the notion of Caesar; to not cross the Rubicon is not impossible in itself but it is incompossible with this world. It is worthwhile emphasising that the notion of compossibility is not reducible to contradiction. The two are quite distinct. Contradiction applies to only truths of essence and the crossing of the Rubicon is most certainly not a truth of essence, it is not contradictory in itself.

There are, then, an infinite number of worlds in which Caesar did not cross the Rubicon, in which the Roman Republic was not overthrown and so on.[12] But there is only one world that has been actualised. So, the question remains: why does the world where Caesar crosses the Rubicon exist and not another? Leibniz writes, in the *Monadology*:

> Now, since there are an infinite number of possible universes in the ideas of God, but only one can exist, there must be a sufficient reason for the choice God makes, which determines him to choose one of them rather than another. And that reason can only be found in the *suitability*, or the degrees of perfection, that these worlds contain; each possible world being entitled to claim existence in proportion to the perfection it embodies.
> (1998c, p. 275)

Perfection, in the Leibnizian sense, has a number of implications. In the *Discourse*, Leibniz states that perfection is, 'that which is simultaneously simplest in theories and the richest in phenomena.' (1998a, p. 58) In the *Monadology* he writes that, 'one created thing is more perfect than another to the extent that we find within it what serves to explain a priori what happens in the other' (1998c, p. 274), while Garber states that the mind, according to Leibniz, 'passes to a greater degree of perfection insofar as it has clearer perceptions.' (2004, p. 8) Perception, in this case, accords with the first two definitions as, ultimately, the selection of the world to be actualized is made by God. And this brings us to the principle of the best of all possible worlds.

---

12 This idea of possible worlds bears resemblance to idea of modal realities in contemporary metaphysics. As Simon Duffy writes in *Deleuze and the History of Mathematics*, 'Post Poincaré, the infinite series of states of the world is no longer contained in each monad. There is no pre-established harmony. The continuity of the states of the actual world and the discrimination between what is compossible and what is incompossible with this world is no longer pre-determined. The logical possibilities of all incompossible worlds are now real possibilities, all of which have the potential to be actualized by monads as states of the current world.' (2012, p.59)

The principle of the best

How does God choose which of the infinite number of possible worlds to bring into existence? By choosing the best of all possible worlds. This concept was too much for Voltaire. Already sceptical of the monad – 'Can you really believe that a drop of urine is an infinity of monads, and that each of these has ideas, however obscure, of the universe as a whole?' (Voltaire, 2009, p. 434) – the principle of the best has long been a source of mirth and derision. But there is more to the notion than boundless optimism and the goodness of God. Consider the three readings of perfection above, none of which have any inherent moral content. Leibniz's God, in his metaphysics at least, is present through necessity, ensuring compossibility, continuity, and pre-established harmony. But this does not fully answer the question of what constitutes the best of all possible worlds. To do so we must examine Leibniz's God in more detail.

Woolhouse writes,

> [E]ven in the conceptual complexities of Leibniz's metaphysical analyses, God does not figure as a merely added-on extra. He fills certain crucial roles and is there for good reasons. Doing away with God would require showing that, to the contrary, the roles he plays are actually dispensable, or else would require some other ways of filling them.[13]
> (1998, p. 41)

God, unlike you and me, has a clear and distinct perception of the universe in its totality. In this sense, God is omniscient, having a complete perception of all *petites perceptions*. Leibniz writes,

> [I]f we consider carefully the interconnectedness of things, we can say that in the soul of Alexander there are for all time remnants of everything that has happened to him, and marks of everything that will happen to him – and even traces of everything that happens in the universe, although it is only God who can recognize

---

13 Contrast this with Latour's suggestion: 'Once God is taken out of Leibniz's monads, there are not many other ways for them but to become, on the one hand, spheres and, on the other, networks.' (2009b, p.139) We will see, soon enough, the difficulties of Latour's proposition.

them all.

(1998a, p. 60)

So, while we all have infinite perception – in the sense that the notion of ourselves contains the totality of the universe, most of which is clouded and confused to us – only God has infinite apperception. In this, we resemble God (1998a, pp. 60-61). However, while truths of essence are accessible to us through reason, there are limits on our access to truths of fact as we are unable to apperceive the universe in its totality.

God is not omnipotent: not even God can act counter to the truths of essence which are true of necessity and governed by the principle of contradiction, 'without any regard to the free will of God or of created things.' (1998a, p. 65) So God, for our purposes, belongs to the realm of truths of fact and sufficient reason. In fact, God *is* the sufficient reason (Woolhouse, 1998, p. 42) and the final cause[14] by virtue of containing within itself the sufficient reason for its existence (Leibniz, 1998b, p. 262). In this sense, God's existence is an absolute necessity but God's decision to create the universe is a hypothetical necessity. However, once created it becomes an absolute necessity that this universe be the best of all possible worlds; leading Savile to describe Leibniz's system as, 'an intricate set of interrelated hypothetical necessities… absolute and hypothetical necessities elegantly nested within each other.' (2000, p. 87)

The best of all possible worlds, returning to Leibniz's notion of perception, can be said to be simply that which has the simplest laws and the greatest quantity and variation of phenomena. The principle of the best of all possible worlds is contained within the principle of sufficient reason: God's reason – the sufficient reason – for choosing this world is that it is the best. Thus, the actual world, the world we inhabit, is the best of all possible worlds because it is the world which God chose to actualise. Russell interpreted this as being a rather empty proposition: this world is the best because it exists. But Leibniz's concept of perception shows that there is more at work here. It is impossible to separate the principle of the best from considerations of identity, sufficient reason, compossibility – in fact, it is impossible to separate it from all of the concepts discussed so far. If every predicate is contained within the notion of the subject, then the fact that these

---

14 The final cause is one of four types of causality identified by Aristotle in Volume 5 of his *Metaphysics*. They are: the material cause, e.g. that bronze is the cause of a statue, to use Aristotle's example; the formal cause, the form something will take e.g. the shape of the statue; the efficient cause, that from which the change begins e.g. the sculptor of the statue; and the final cause, 'that for the sake of which a thing is', e.g. creating the statue in the name of beauty.

predicates exist and not others, is down to their being compatible with the best of all possible worlds. They are the best possible because they are, at the very least, compatible with the concept of sufficient reason, and to be compatible with the principle of sufficient reason is to be moved – in the sense of the final cause – by God, making it the best possible by definition. They conform to the laws Leibniz identifies and from these laws flow the infinite richness of phenomena. The sense in which Leibniz's system is self-sustaining is now clear. God does not stand above or apart from this system but is a necessary part of it – the only being who can apperceive all of the predicates contained within every subject and the only being who can set the system in motion by virtue of being the final, sufficient reason.

The notion of the best as being the maximum compossible richness of phenomena gives rise to a whole series of conclusions developed by Leibniz concerning the theological nature of God[15] – God's moral goodness and wisdom – but, as this is an account of Leibniz's metaphysics, we will leave this to one side in order to consider the implications of the best of all possible worlds, and the preceding concepts, to the notion of free will.

Free Will

> [A]ll these contingent propositions have reasons why they are so rather than otherwise – or alternatively (and this is the same thing), that they have *a priori* proofs of their truth which make them certain, and which show that the connection of the subject with the predicate in these propositions has its foundation in the nature of each. But they do not have necessary demonstrations, because those reason are only based on the principle of contingency or of the existence of things, that is, on what is or what appears the best among a number of equally possible things.
> (Leibniz, 1998a, p. 65)

Leibniz draws a distinction between what is certain and what is necessary. As we have seen, truths of essence are necessary but truths of fact are not. We have also indicated that the concept of compossibility is irreducible to contradiction. So, it is not correct to say that

---

15   Woolhouse suggests that God may be dispensed with if we consider that the best of possible worlds brings itself into existence 'through an urgency or pre-tension to exist.' (1998, p.43) In other words, that the predicates which conform to the principle of perfection are internally predisposed to manifest themselves.

crossing the Rubicon is necessary. Nor is it correct to say that crossing the Rubicon is necessary due to its negation – not crossing the Rubicon – being incompossible. But, for the same reason of compossibility, it is correct to say that Caesar's crossing the Rubicon is certain. Again, we can follow Russell and interpret this as stating that Caesar's crossing the Rubicon is certain because Caesar *did* cross the Rubicon. But Leibniz argues that Caesar's crossing the Rubicon is certain at all times, both before and after the event. We can turn to Leibniz's *Theodicy* for another concept, inclination: 'I am of opinion that the will is always more inclined towards the course it adopts, but that it is never bound by the necessity to adopt it. That it will adopt this course is certain, but it is not necessary.' (1985, p. 147) However, this inclination is formal in nature; if the course to which the will is inclined is certain then free will seems to be a mere technicality. However, this distinction between the possible and the compossible means that free will, even as a technicality, does have a place within Leibniz's system; although it does not feel very much like free will.

Phemister approaches the question from a different angle which brings to the fore our next concept, the principle of pre-established harmony. She argues – an argument we will return to towards the end of this chapter – that free will exists in rational beings when the will corresponds most closely to the corresponding action of the body (Phemister, 2005, p. 254). This requires clear and distinct perception on the part of the mind but includes those perceptions which are obscure. To explain, the mind[16] expresses everything which occurs in the body, although the majority of these perceptions will be confused. When a mind expresses these bodily movements clearly and distinctly we have something approaching freedom, even though the majority of those minute movements will be obscure. For example, when opening a book, the will to do so corresponds with the bodily movements necessary to realise the will; even though the tiny muscle movements required to grasp the pages are performed without our conscious awareness. This certainly feels more like free will inasmuch as the will to open the book clearly corresponds with the opening of the book. But the opening of the book is still certain; it still unfolds from the predicates already present in the notion of the subject.[17]

---

16 'Mind' hereafter should be read as the ego-monad, director-monad, or rational soul monad – in other words, the apperceiving monad.

[17] Alternatively, there is Max Beerbohm's model from *Zuleika Dobson*: 'You must not imagine that they [the Gods] think out and appoint everything that is to befall us, down to the smallest detail. Generally, they just draw a sort of broad outline, and leave us to fill it in according to our taste.'

There is at least one more possible understanding of free will in Leibniz's system, although it may be no more satisfying than the previous two suggestions. Free will can be understood, like space and time in the Leibnizian system, as being relational. In other words, as all of my future actions are currently obscure even though they are contained in my notion, it will appear to me that each action I perform is the result of my own free will. In the same way that, for Leibniz, space and time do not exist in the Newtonian sense as, respectively, a kind of absolute container in which things are placed and a linear succession of events; free will exists as a relation to the predicates of which we are conscious. If we were conscious of all the predicates contained in the notion of ourselves we would realise that our future actions are pre-determined but as we are only conscious of a portion of these predicates we labour under the illusion of free will. That illusion, however, is no empty space: it is the arena of all our moral deliberations and convictions. There is something terrible in this construct. It allows us to experience a whole host of moral feelings but without the agency to freely determine our own actions. Our actions can engender guilt, pride, shame, satisfaction but they unfold unstoppably in directions already made certain. In other words, moral agency becomes a retrospective appraisal of actions we were always going to perform.

Pre-established harmony

Before moving on to explicitly discuss the relation between mind and matter – touched on above in relation to Phemister's take on Leibnizian freedom – there are two more concepts which require explanation. The first is pre-established harmony. In the *Discourse* Leibniz writes, 'So God alone produces the connection or communication between substances: it is through him that there is reality in our perceptions.' (1998a, p. 84) The notion of pre-established harmony is most commonly used to explain the correspondence of the mind and body; as per the example above, how the will to open a book corresponds with the physical process necessary to realise this will. But pre-established harmony governs all causal relations.[18] It is the mechanism through which the totality of the universe which is contained within the notion of one subject corresponds with the totality of the universe expressed by another. It ensures that, while each subject has its own perspective which constitutes it as a subject, the phenomena perceived are the same for every subject though the phenomenal content is distinct. In other words, there is one world which is perceived,

---

18 Pre-established harmony is subject to further discussion at the end of this chapter and, as we will see, governs more than just causal relations.

albeit from an infinite number of perspectives. And, crucially, this one world is multiplied as many times as there are subjects as it is contained within the notion of each subject. From the *Discourse* again, 'the universe is multiplied as many times as there are substances, and in the same way the glory of God is redoubled by so many quite different representations of his work.' (1998a, p. 61) Pre-established harmony ensures that each of these universes correspond with one another. If we run ahead again to mind-matter relations, Leibniz describes this construction of a common reality in a letter to de Volder in 1704:

> [M]oreover, matter and motion are not so much substances or things as phenomena of perceivers, whose reality is situated in the harmony of perceivers with themselves (at different times) and with other perceivers.
> (Lodge, 2009, p. 465)

There is no direct interaction between subjects. Each subject relates solely to a universe which exists in the notion of itself. The subject, as we will see when we arrive at the monad, is windowless; nothing can enter into the notion of a subject for all its predicates are already present. When God, as the sufficient reason, sets the chain of intra-substantial causal relations in motion, God ensures that all of the predicates contained within the notion of each subject correspond and are compossible with all of the predicates contained within the notion of every other subject.[19] In other words, from the very beginning, each subject comes pre-programmed to express only what corresponds and is compossible with what is expressed by every other subject. In this way we can have both a common reality and an infinite number of enclosed, self-sustaining, autonomous subjects.

Continuity

The principle of continuity now comes to the fore. In fact, we can revisit the principle of the best of all possible worlds and add to our notions of perfection that of continuity. The best of all possible worlds is a world where there is no discontinuity, where contingent

---

19 Woolhouse (1998, p. 49) again suggests that God can be replaced arguing that it is possible to conceive of harmony as a matter of representation and expression. How this would work is not elucidated but it would seem to necessitate either some form of interaction between subjects or a kind of inherent tendency within subjects to represent and express a universe in accordance with the representations and expressions of other subjects.

propositions follow on one from another and where the subject and predicate are reciprocally connected. Returning, again, to Leibniz's statement in the *Discourse*:

> [A]ll these contingent propositions have reasons why they are so rather than otherwise – or alternatively (and this is the same thing), that they have *a priori* proofs of their truth which make them certain, and which show that the connection of the subject with the predicate in these propositions has its foundation in the nature of each.
> (1998a, p. 65)

These *a priori* proofs are not, as we have already established, necessary but they are certain inasmuch as each successive proposition can be deduced from all of the previous propositions if one is able to, like God, apperceive the totality of the universe. This results in Leibniz's famous maxim, from the *New Essays on Human Understanding*, 'nature never makes leaps.' (2005, p. 7) There can be no break in the causal chain; to paraphrase from the *Discourse*, everything must happen in accordance with its antecedents (1998a, p. 65). Where a break does occur, you have a different substance; to quote Savile, 'Spatio-temporal continuity is thus a condition of substance identity.' (2000, p. 95) Nature does not leap because it does not have to: everything is present in the monad, ready to unfold.

Continuity requires a series of minute differences which connect one proposition to the next. We can say that there is a causal link between Caesar crossing the Rubicon and the creation of the Roman Empire. But to link the two requires a chain of inter-linking minute differences lest there be a leap. And to ensure that even these minute differences do not in themselves constitute a leap they must be rendered as 'infinitely small relations.' (Deleuze, 1980) We can see traces of Leibniz the mathematician here in the resemblance between the notion of infinitely small relations and the notion of the infinitesimal in his differential calculus. In Leibniz's calculus, 'the infinitesimal has not extension, but it cannot be reduced to nothing, since there is a continuum between any given magnitude and zero.' (Schwebel, 2012, p. 597) These infinitely small relations are the same in that they cannot be reduced to nothing but they do not have extension. Thus, we can have continuity rather than a series of minute leaps. This is of great significance in terms of contingent truths, truths of existence. Whereas truths of essence inhere in the notion of the subject – in other words, they are logically necessary – truths of existence are connected to a subject in a continuous, unbroken succession. That allows us to say that a truth of existence is certain,

even though it is not necessary. Deleuze terms these infinitely small relations 'evanescent differences' (1980); differences that tend to disappear, thus ensuring continuity

Mind and matter

So far, we have worked around the issue of the relation between mind and matter without directly engaging it. Yet, to move toward a successful explication of the monad the question of mind and matter and their relation must be addressed.

There are two main schools of thought on this question. The first, orthodox reading of Leibniz – long established and represented by most of the commentaries cited here – is idealist: material reality is a phenomenon which appears to have extension but in fact is, as all of reality is, made up entirely of simple mental substances. The second, heterodox argument – represented here by Phemister (1999) (2005), Arthur, and Lopston – maintains that Leibniz is committed to a 'material universe of bodies'. (Lopston & Arthur, 2006)

Leibniz's view of the relation between mind and matter changes considerably over the course of his life. The young Leibniz engaged extensively with Hobbes and, whilst rejecting both his materialism and atheism, he did absorb aspects of Hobbes' thought into his own work; perhaps most notably the role of memory in distinguishing between the perception of inanimate bodies and animals (Ross, 2007, pp. 30-31). According to the orthodox reading, Leibniz's metaphysics move steadily away from Hobbes towards an idealist position; the immaterial monads are established as the fundamental building blocks of reality in his later years following on from a middle period where he is committed to the primacy of corporeal substance. But, as Garber notes, bodies never disappear from Leibniz's writing, even after 1700 and his turn to the monad (2009, p. 387). According to Garber – and here he departs from the two main schools of thought, although he does incline towards the idealist position – it is impossible to assign to Leibniz either the title of idealist or realist as Leibniz's metaphysics are in a state of flux right up to his death in 1716.

There is reasonably strong evidence for both main positions, a fact which perhaps lends credence to Garber's middle-road. On the one hand, the idealist can point to Leibniz's 1704 letter to De Volder where he writes,

> Indeed, considering the matter carefully, it should be said that there is nothing in things except simple substances and in them perception and appetite. Moreover, matter and motion are not so much substances or things as the phenomena of perceivers, the reality of which is located in the harmony of perceivers with themselves (at different times) and with other perceivers.
> (Lodge, 2009, p. 465)

While, on the other, Arthur and Lopston point to the Monadology, highlighting Leibniz's apparent commitment to matter, motion, bodies, and causation between bodies in the following passage:

> Everything is full, which means that all matter is interconnected. In such a plenum, every motion has some effect on distant bodies, in proportion to their distance. For each body is affected by the bodies that are in contact with it, and in some way feels the effects of everything that happens to them, but in addition, through those bodies with which it is in direct contact it also feels the effects of all the bodies with which they are in contact, so that this communication extends indefinitely. As a result, every body is affected by everything that happens in the universe…
> (Lopston & Arthur, 2006, p. 4)

And, of course, Garber can cite both passages to confirm his own view that this is simply, 'Leibniz in his metaphysical workshop, trying out different ways of connecting the two pieces of his world, both of which must find their places in his final story.' (2009, p. 387)

For the purposes of this text, we will follow Phemister's lead (2005, pp. 2-3) – as, indeed, we have done implicitly throughout this chapter – and avoid attempting to provide a developmental account of Leibniz's work. The purpose here is not to attempt to chart the development of Leibniz's thought – as has been done admirably by Garber and others – but to present an overview of his metaphysics which can be scrutinised in the context of Latour's ancestral claim.

In considering mind and matter in Leibniz's work, let us begin at the end with the fifth and final point of Leibniz's five-fold ontological schema: corporeal substance. For Descartes, corporeal substance is simply a question of extension. Anything which has breadth, length, and depth qualifies as a body. Unlike the mind, which is defined by individual consciousness, corporeal substance has no identity; it is just sections or slices of extended

matter. Leibniz disagrees. For extension to exist, there must first exist something which can be extended. Therefore, according to Leibniz, the property of extension is neither simple nor self-evident, as it would seem it is to Descartes. Instead, it is relative to that which is extended, namely, the body itself. To put it another way, Leibniz's body is an intricate aggregate of distinct parts rather than a continuous stretch of homogeneous matter, sliced or sectioned (Phemister, 2005, p. 57).

For the definitive statement of Leibniz's corporeal substance we must turn to his 20 June 1703 letter to De Volder where he writes:

> I therefore distinguish: (1) the primitive entelechy, i.e., the soul; (2) matter, namely, primary matter, i.e., primitive passive power; (3) the monad completed by these two things; (4) the mass, i.e., the secondary matter, i.e., the organic machine, for which innumerable subordinate monads come together; and (5) the animal, i.e., the corporeal substance, which the monad dominating in the machine makes one. (Lodge, 2009, p. 438)

Here, in contrast to Descartes, Leibniz imbues the corporeal substance with the notions of unity and identity. Indeed, unity and identity are one and the same thing: being *qua* being, in Leibnizian ontology, is equated with discernibility and oneness. The corporeal substance – point (5) in the above ontological schema – draws the aggregate into a unified whole; and the identity of this composite arises from the individualizing element or the dominating monad which, in the case of the human being, is the mind (Savile, 2000, p. 71).

And what of matter? Matter – point (2) – does not exist purely as extension. It has, in addition to extension, impenetrability and inertia. Together, impenetrability and inertia constitute primitive passive power. This passive power is required to prevent the possibility of one body setting another body in motion through collision without any corresponding decrease in its own motion. According to Leibniz, the total force of motion in existence is constant; if one thing speeds up another must slow down. For example, if a tennis ball in motion collides with a stationary tennis ball, the latter is set in motion while the former is slowed down. This stands in opposition to the Cartesian view of matter as extension where one body is able to set another in motion without any corresponding decrease in motion, entailing a disparity of cause and effect and an increase in the total amount of motion in existence. However, matter as passive force cannot exist alone and must be accompanied by an active force, also known as the entelechy or substantial form. If passive force

accounts for the resistance of bodies on collision then active force accounts for their being in motion in the first place. This active force is required because it is only through the distance that a body has travelled – that it has occupied a series of different places at different times – that we are able to tell it is in motion. From one instant to the next there is no difference between a body in motion and a body at rest. The active force provides an essential force of movement which allows us to make the distinction between motion and rest (Woolhouse, 1998, p. 22).

The immediate question is, how do these five points fit together? According to Garber, we must read the above letter to De Volder as a fundamental break from Leibniz's previous view that corporeal substances – the soul and the body together – are the basic units of reality. Instead, the corporeal substance is distinct from the simple substance, the monad. These simple substances are non-extended and are the basic unities in which reality is grounded. Matter or primitive passive force is now merely phenomenal. The simple substance, the monad, is still imbued with passive and active force but it is a mind-like substance which has no material reality. This leaves corporeal substances as composites of monads centred on a simple, mind-like unity (Garber, 2004, p. 2).

Phemister provides an alternative reading. Corporeal substances are immaterial but they possess material bodies whose materiality is not merely phenomenal. Phemister cites a passage from Leibniz's letter to Queen Sophie Charlotte, *On What is Independent of Sense and of Matter*, where he argues that the soul does not exist apart from the body but as something more than the body. In other words, the immaterial substance is not the soul in isolation but the soul attached to the body. Therefore, an immaterial substance is one which is not wholly material rather than one which is wholly immaterial. The corporeal substance, being the unity of the substantial form and matter – matter conceived as extension and impenetrability – is an immaterial substance because it cannot be explained solely by a mechanical account of the world. The consequence of Phemister's reasoning is that we can no longer hold to the interpretation of immaterial substances – i.e. monads – as bodiless: we can conceive of them as embodied unities.

> The road is open to interpret the true immaterial substances in Leibniz's philosophy as the created monads that exist as animated corporeal creatures. Indeed, corporeal substances, as animals, fish, trees, plants and anything that possesses its own life force, being indivisible (albeit the possessors of divisible bodies) unities *per se*, are in many ways, as he admitted to Bernoulli, the best and most accessible examples

of monads. The most obvious kinds of indivisible unities are living creatures, such as fish and sheep and worms, or generally, corporeal substances.
(Phemister, 2005, p. 76)

While Garber's account sees the five-fold ontology with the monad – point (3) – as the substance upon which reality is grounded; Phemister sees the five-fold ontology as literally folding into the corporeal substance.[20] We will return to have a closer look at Phemister's work shortly but now we must finally confront the monad.

Monads

The term 'monad' does not originate with Leibniz but towards the end of his life it became the name by which his entire philosophical system – the monadological system – became known. From the Greek *monas*, meaning unit or unity, and first employed by the Pythagoreans as the principle from which numbers are generated, it was first adopted by Leibniz in 1690 to denote his conception of simple substance (Rescher, 1991, p. 46). The definitive elucidation of Leibniz's monad is to be found in the *Monadology.* The text begins with the following statement:

> 1. The *monad*, of which we will be speaking here, is nothing but a simple substance, which enters into composites; *simple*, meaning without parts.
> (Leibniz, 1998c, p. 268)

From this principle unfolds – in a dazzling exercise of logical reasoning – a whole series of notions, one from the other, building on this first definition of the simple substance. For thirty short paragraphs the monad is constructed and refined before the *Monadology* bursts out from these simple substances to account for God, the principles of truth, the relation

---

20 As an interesting aside, Schwebel provides an account of Hermann Cohen's understanding of Leibnizian substance in her paper on Walter Benjamin's reception of Leibniz. Cohen argues that substance is the actualisation of the infinite in the monad; that substance is grounded in the 'constitutive activity of thought'. This thought takes the form of a pure intensive function, an infinitesimal degree of activity from which 'any given quantity can be generated.' The infinitesimal, lacking extension but being greater than zero, replaces the material atom. It is not reached by endless subdivision but it is 'the generation of reality from a constructive method, just as the curve of a circle can be plotted through the continuous application of a function.' In other words, reality is constituted by a continuity of infinitesimal degrees of activity. Thus, says Cohen, did Leibniz establish, without even realising it himself, the priority of law over substance (Schwebel, 2012, pp. 597-599).

between mind and body and all the other key philosophical concepts we ascribe to Leibniz. It is worth quoting in full the next five paragraphs of the *Monadology*:

2. And there must be simple substances, because there are composites; for the composite is nothing but a collection, or *aggregatum*, of simples.

3. Now, in that which has no parts, neither extension, nor shape, nor divisibility is possible. And so monads are the true atoms of nature; in a word, the elements of things.

4. There is also no dissolution to be afraid of, and no conceivable way in which a simple substance could come to an end naturally.

5. For the same reason, there is no way in which a simple substance could begin naturally, since it could never be formed by composition.

6. Thus we can say that monads can only ever begin or end all at once: that is, they can only ever begin by creation, and end by annihilation; whereas what is composite can begin and end bit by bit.

(1998c, p. 268)

Together, these six arresting paragraphs constitute the opening salvo with which the monads' arrival is announced. In these sentences we discover the monad as unextended, as a unity, as capable of entering into a series of relations with other monads to form composites, and as existing continually and contemporaneously with one another. Monads have no spatial extension yet they have infinite temporal extension for they, having no parts, occupy no space and, having no beginning or end beyond the beginning and end of time itself, exist at every point on the temporal continuum. The monad is thus constituted as the substance upon which time and space depend: their existence creates time, their formation into composites creates space.[21]

---

[21] As an aside, Mumford takes an interesting and critical view of the Cartesian baroque conception of space and time which is relevant to Leibniz as he is, according to Deleuze at least, the philosopher of the baroque: 'If the earlier painters demonstrated Cartesian mathematics before Descartes, on their system of co-ordinates, the general sense of time likewise became more mathematical. From the sixteenth century on the domestic clock was widespread in the upper-class households. But whereas baroque space invited movement, travel, conquest by speed – witness the early sail wagons and velocipedes – baroque time lacked dimensions: it was a moment-to-moment continuum. Time expressed itself, not as cumulative and

And within the monad itself there exists only perception and appetition. All matter and motion, as we saw earlier from Leibniz's 1704 letter to De Volder, is phenomenal; it is the product of the monad's perception, a perception that only occurs within the monad itself and has no access to external reality (Lodge, 2009, p. 465). This, of course, leaves the possibility open that there is no external reality. But while a Berkeleian solipsism is certainly a logical metaphysical possibility, it can be safely ruled out by an appeal to the best of all possible worlds: in the choice between a single monad and an infinitude of monads, God would have to choose the latter on the basis of the greatest degree of variation and quantity. And the principle of the best can again be invoked to maintain that the relations a monad perceives within itself ought to correspond with external relations between monads; it is surely better this than our perceptions being reflections of nothing. God is therefore obliged to ensure that the reflection of the world of monadic relations is actually a reflection of an external world, filled with monads, and not a fiction. As previously discussed, it is the notion of correspondence that ensures each windowless monad is perfectly in sync with every other monad, that every set of internal perceptions within every single monad corresponds. The monad is not blind, its lack of windows does not entail a lack of light, a state of permanent inner darkness, but rather it means that each monad contains within itself everything that will ever happen to it, every perception and appetition, every memory, thought and feeling, from the beginning of time to eternity.

Having finally arrived at the Monad, we can see how much of its nature we have already described in previous paragraphs. The monad emerges almost fully formed from the panoply of concepts we have been struggling to pin down. It is not for nothing that John Cowper Powys has the eponymous Wolf Solent utter the words, 'I see you read Leibniz, Miss Makalite … Don't you find those "monads" of his hard to understand?' Still, before we further complicate matters with a return to Phemister, we will briefly look at the organisation of the monad.

There are three types of monad: bare; soul or animal soul; and rational soul or spirit. The bare monad is capable only of perception and appetition, and confused perception at that. For example, inanimate objects are aggregates of bare monads – they perceive inasmuch as they stand in relation to other monads, albeit in a confused manner where they are unaware

---

continuous, but as disjunctive: it ceased to be life-time. The social mode of baroque time is fashion, which changes every year; and in the world of fashion a new sin was invented – that of being out of date. Its practical instrument was the newspaper, which deals with scattered, logically incoherent "events" from day to day: no underlying connection except contemporaneity.' (1942, p.92)

of these perceptions, and have appetite insofar as these relations change.[22] The soul monad is able to perceive, possesses appetite, and has memory. A dog, for example, is governed by a dominant animal soul; it is able to perceive with a degree of clarity that allows it to know that hunger is sated by eating food or that pleasure is had by chasing the cat. This understanding is gained and consolidated through repetition. And this points towards the fundamental distinction between the animal soul and the rational soul, namely, apperception; the ability to reflect on perceptions, to possess self-consciousness, and to access general laws, such as the laws of mathematics. The apperceiving rational soul monad is the highest form of monad and is possessed only by human beings. All bodies in the world are an aggregate of monads and all living bodies – plant, animal, and human – have a dominant monad which oversees and directs that aggregate. For myself, I am a collection of bare and soul monads, directed by an ego-monad in the form of the rational soul monad. Certain parts of me are self-regulating, my heart beats without my direction and so we can say that my heart has its own animal soul monad with its own set of bare monads under its direction. However, it is still subordinate to the notion of me, as contained within my rational soul monad. When, one day, my heart ceases to beat and the rest of my parts begin to disintegrate, my rational soul monad will persist albeit without its body and thus unable once more to perceive distinctly the rest of the world, as it was before my birth.[23] The monads which make up my subordinate aggregate are in a constant process of coming in to and falling out of relation with one another, but the notion of me, as contained in my rational soul monad, is constant and exists from the moment God created the world of monads and will continue to exist until God decides to destroy the world of monads.

And so here we have a brief sketch of the monad as the immaterial substance, the building block of reality and the well from which springs all phenomena. The monad is irreducible but everything else, matter, extension, motion, is reducible to the monad. Leibniz the idealist is confirmed in this, the interpretation of Leibniz's metaphysics which holds the immaterial monad as the only true substance. But we will now turn to Phemister's interpretation, as developed in her *Leibniz and the natural world.* In it she posits the corporeal substance rather than the immaterial monad as the basic unit of reality. What

---

22 As we will soon see, for Tarde, and even for Leibniz himself, this is not quite the whole story as even inanimate objects are made up of animate stuff in the form of chemical chains, electrons etc.

23 Which brings to mind the quote, attributed to Mark Twain, that, 'Annihilation has no terrors for me, because I have already tried it before I was born—a hundred million years—and I have suffered more in an hour, in this life, than I remember to have suffered in the whole hundred million years put together.'

follows is an extended discussion on the key tenets of Phemister's thesis which will re-evaluate the underlying assumptions we have thus far taken as axiomatic. The significance of this will soon become clear as what Phemister proposes, in arguing that Leibniz does not reject the reality of material bodies, may in fact provide the missing link between Latour's 'relational materiality' and Leibniz's monadology.

Corporeal substance and the material reality of bodies

We will begin not with Phemister but with Garber. Remember that for Garber the idea that Leibniz can be confirmed as either an idealist or as committed to a material reality is problematic. For Garber, we cannot be certain that Leibniz's apparent commitment to idealism towards the end of his life was indeed his settled view on the matter. Leibniz is in his 'metaphysical workshop' making use of whatever ideas fit the task at hand. However, Garber does advocate, in agreement with the usual Anglo-American reading of Leibniz, that while the middle period of Leibniz's work is characterised by a commitment to corporeal substances as simple substances, this commitment is abandoned in the late period when Leibniz shifts to an idealist position of affirming the immaterial monad as the only possible simple substance. We can see from his essay, *Leibniz and Idealism*, the sort of corporeal substance orientated view he considers Leibniz is committed to in his middle period:

> The pain I feel when I am pricked by a pin, when I am acted upon, is a confused expression in my mind, my soul, my substantial form, but in the texts that I have been examining, Leibniz makes no suggestion that this is an event that does or could happen without the body. It is the corporeal substance, soul and body that is acted upon, that suffers, but it is the mind that feels the pain.[24] Insofar as a mind has confused expression, it must have matter: the confused expression, on this reading, is the mark of the embodiment of the soul.
> (Garber, 2005, p. 105)

The difference between Garber and Phemister is that, while Garber believes this position has been abandoned by Leibniz by the time he comes to write the *Monadology*, Phemister

---

[24] Of course, as W.G. Sebald points out in *The Emigrants*, pain is a curious sensation as it ultimately negates itself: 'I gradually understood that, beyond a certain point, pain blots out the one thing that is essential to its being experienced – consciousness – and so perhaps extinguishes itself; we know very little about this.' (2002, p.170)

argues that the corporeal substance view is indispensable and it persists as a foundational concept in Leibniz's work right up until his death.

Phemister's *Leibniz and the Natural World* is a remarkable attempt to re-read Leibniz without any trace of Cartesianism. She argues that many of Leibniz's letters and published works were tailored to contemporaries who were committed to the Cartesian principles, and were written in such a way as to be acceptable and understandable to them. The result is a body of later work which is, on first glance, full of concessions to the Cartesians, but on closer inspection is a careful attempt to express a very different kind of metaphysics without ruffling the feathers of the Cartesian dominated philosophical establishment. Leibniz, after all, is the consummate diplomat; among his many life's works was the ambition to reconcile the Catholic and Protestant churches through a shared theology, developed by himself. This can lead Phemister, on occasion, to speculative leaps along the lines of, 'what Leibniz really meant to say was...', but when the emphasis shifts from speculating on what Leibniz really meant to scrutinising his system through an exhaustive close reading of texts written throughout his life, what emerges is a convincing and arresting challenge to the orthodox idealist reading of Leibniz.

Let us start by restating the basic Cartesian argument which Phemister's Leibniz stands in opposition to. Descartes holds that mind and body are independent from one another. The mind can exist without the body – like Goethe's Homunculus – and is the only indivisible substance in nature. Descartes' mind is possessed only by human beings, there is no room for animal souls or the soul-like bare monads. According to Phemister, Leibniz, on the contrary, is closer to the Aristotelian view that the substantial form is the combination of the entelechy, that is the soul, and primary matter (Phemister, 2005, pp. 21-22). With this in mind, we must not view the Leibnizian simple substance through the lens of the Cartesian mind. Descartes' mind requires no matter, whereas Leibniz's hylomorphic substance can only be completed though the union of primary matter and mind, or, to put it another way, primitive passive power and the entelechy.

Phemister takes her definition of the monad from the five-fold ontological system in Leibniz's correspondence with De Volder. To recap, this system distinguishes between: 1) the primitive entelechy; 2) primary matter, or primitive passive power; 3) the monad, completed by 1) and 2); 4) secondary matter, comprised of subordinate monads, also known as the organic body; and 5) the complete corporeal substance, unified by the dominant monad. The relation between each of these parts is key. For the orthodox

Leibnizian scholar, Robert Adams, in the De Volder correspondence the monad is completed by the unity of the entelechy and primary matter, while the corporeal substance is comprised of the monad and the organic body which are two distinct substances. This separates the monadic substance from the corporeal substance and stands the two substances in relation to one another. Phemister objects, writing that:

> [T]he relation of the De Volder monad to the complete corporeal substance is best understood, not in terms of the relation of one substance to another different substance, but as a relation of one substance to itself. The De Volder monad is the foundation from which the complete corporeal substance springs. The complete corporeal substance is the De Volder monad, together with its modifications (its perceptions, appetitions and organic body) … the truly complete De Volder monad, in its created state, is always a corporeal substance.
> (2005, p. 39)

To frame it in Deleuzian language, from the union of the dominant entelechy and primitive passive force unfolds the corporeal substance. However, Leibniz's five-fold ontology is not to be read as a step-by-step recipe, but rather states the elements which are required for the corporeal substance to become actual (2005, p. 50). Each of the elements entails the others, they unfold from one another; as well shall see, there can be no bodiless monad nor can there be a monadless body.

We will now turn to primary matter. Primary matter is not the same as physical matter. Its other name, which Leibniz uses interchangeably, is primitive passive force, and this perhaps provides a better sense of its nature. It is the inertial substance which is to be found in everything and which provides the counterpoint to the entelechy, the primitive active force: primary matter is to the entelechy what resistance is to motion. Primary matter is homogeneous, it exists as the same stuff everywhere, and provides continuity. It has no form, quality, or quantity. On its own, it has no extension. It is completed by the entelechy and the entelechy is completed by it. The entelechy gives it form. The Aristotelian understanding of primary matter requires the entelechy in order to give individual things their differentiated existence. For example, the substantiality of both the table and chair is underpinned by primary matter. But for these two objects to be differentiated they require form. The table and the chair take a different form and are therefore different objects. For physical extension to occur, primary matter must be imbued with a series of entelechies. Where there exists more than one entelechy in primary matter, there exists extension. This

multiplicity of – that is, more than two – entelechies within primary matter constitutes secondary matter. Phemister's Leibniz differs from Aristotle in that Aristotle understands form as accidental or secondary. Phemister does not argue the contrary – that extension in primary matter is essential – but instead contends that primary matter's extension is something between accidental and essential. To explain, for primary matter not to be extended, God would have to destroy all entelechies in existence but one. The result would be the existence of only one substance and thus no extension. But without God's intervention there can be no naturally occurring event which can prevent the multiplicity of entelechies in primary matter and thus secondary matter and extension. Primary matter's extension is therefore a natural necessity even though its non-extension is a metaphysical possibility (2005, p. 48). When the dominant monad – the monad as the fusion of the entelechy and primary matter – is combined with the aggregates of subordinate monads which constitute its organic body, we get a complete corporeal substance. But the relation of the dominant monad to the subordinate monads is not one of a whole to its parts. As we have seen, primary matter is by necessity imbued with a multiplicity of entelechies, thus the completion of the dominant monad by primary matter is the completion of that monad by a primary matter that is already diffused with subordinate entelechies. In the case of inanimate objects, there is no dominant monad; there is simply an aggregation of substances. But when there exists a dominant monad, it is this monad which transforms the aggregate of subordinate monads into the secondary matter of the organic body, and so the corporeal substance comes into being. To illustrate the point, consider the difference between a rock and a human being. A rock is not a substance. Break a bit off a rock and you get two rocks. It is an aggregate of substances but there exists no dominant entelechy to hold it together as a single substance. A human being, in contrast, is a substance. If you cut my hand off you do not get two of me. While I am also made up of a multiplicity of substances, there exists a dominant monad which unites these substances into an organic body and so completes the corporeal substance (2005, pp. 45-52). The subordinate entelechies within my organic body are not parts of my corporeal substance but they are, to quote Phemister, ''immediately required' by the organic body and, we may infer, by the corporeal substance too since it requires the organic body.' (2005, p. 51)

So, primary matter is the same everywhere. The same primary matter completes the dominant monad as completes the subordinate monads. But for the entelechy the opposite is true. Where primary matter is homogeneous, each and every entelechy is unique, being the thing which grants form to individual substances. Phemister raises the question of how we might then conceive of the relation between the dominant and subordinate monad. Her

answer is that while they cannot be the same they must be similar. In other words, they must have partial sameness, they must produce, 'a discrete repetition in which the things repeated are similar in kind but not identical. Each dominant entelechy is discretely repeated by the similar but non-identical, subordinate entelechies in its organic body.' (2005, p. 61) The relation of partial similarity between the dominant and subordinate entelechies – and, indeed, between the subordinate entelechies themselves – is expressed by the dominant entelechy having a clearer, more distinct perception of the subordinate entelechies. In other words, it is their similarity that ensures the dominant entelechy expresses its subordinate entelechies more clearly than it would the entelechies belonging to other organic bodies (2005, p. 61). As we will discuss in the next chapter, this notion will be of great importance to Tarde who argues that it is only through the presence of similarity between any being and ourselves that we are able to understand it. Indeed, it is this notion which underpins Tarde's, and later, to a certain degree, Latour's, argument that we must, in effect, simultaneously naturalize sociology and sociologize nature (Tarde, 2012).

However, each subordinate entelechy also possesses its own organic body which is included in the larger organic body belonging to the corporeal substance. Similarity and clarity of perception is not enough to secure the relation of these organic bodies to the corporeal substance as a whole. For example, I may clearly perceive my own hand as a result of it being governed by a subordinate entelechy similar to my own dominant entelechy, but that is not necessarily the case when it comes to my less clear perceptions of the infinitesimal movements of each individual muscle and tendon. In fact, we can go further and say that I have a clearer perception of an entelechy belonging to a different organic body – say your dominant entelechy – than I do of the movements and activities of my own organic body at a cellular level. So, we must identify something beyond perception which binds all of the subordinate entelechies and their attached organic bodies within my own organic body; and that something is derivative force. Derivative force is that which ensures all organic bodies within any given part of my body are all compelled to act in accordance with the impulse of my dominant entelechy. Derivative force operates by the repetition and diffusion of the dominant entelechy's essence or nature through its organic body. Again, primary matter takes centre stage as the conduit for this repetition – being the same everywhere and necessary for the completion of any entelechy – and, in a roundabout way, guarantees the natural, real extension of the material body. Phemister, taking her analysis to its logical conclusion, posits a plurality of corporeal substances as those things which are repeated and diffused in extension (Phemister, 2005, pp. 61-64).

Phemister's reasoning requires some explanation. Leibniz distinguishes between comparison and concurrence: comparison is a relation between ideal things, it guarantees compossibility or incompossibility and belongs to the domain of sufficient reason; concurrence, on the other hand, is the relation between actually existing things, it belongs to the domain of the causal chain. For two things to exist concurrently, to co-exist, they must be sense perceivable. And to be sense perceivable they must exist as actualised beings rather than mere concepts. If, as we have already discussed, the organic body is naturally necessary for the completion of the monad – thus becoming the corporeal substance – then it is this sense perceivable extended body which secures the co-existence of monads within their ultimate expression as corporeal substances. Without organic bodies, monads cannot co-exist; the monad can be conceived but not perceived. But united with its organic body within the corporeal substance, the monad can be both conceived and sense perceived through its organic body. What we are striving towards here, and what allows Leibniz to rescue God's existence, is a distinction between essence and existence. God cannot be sense perceived but God's existence can be inferred through God's essence. The existence of God can be proven by Leibniz's ontological argument: the non-contradictory notion of God.[25] Similarly, possible beings in possible worlds cannot be sense perceived but their existence can be inferred from their essence; however, this inference can only be established by God who has a complete knowledge of the world from beginning to end and is able to discern the best of all possible worlds at all times. This is a form of modality where all possible beings exist but only those which God chooses as the best possible are actualised. Thus, we can maintain both the completeness of the monad – as the unity of entelechy and primary matter – and the completeness of the corporeal substance – the unity of the monad and the organic body. The latter is complete as a concept, whereas the former is complete as an actual created being. Moreover, the corporeal substance is the basic constituent unit of reality as it is the natural necessary expression of the monad; the corporeal substance is, in other words, the necessary realisation or actualisation of the monad (2005, pp. 67-72). We can now look back at Phemister's description of the embodied monad, quoted in the 'Mind and Matter' section of this chapter, and better understand the reasoning underpinning her assertion that the 'most obvious kinds of

---

[25] Anselm's ontological argument takes the form: 1) God is, by definition, the greatest of all conceivable beings; 2) God exists in our minds as an idea; 3) Any being which exists in reality is greater than a being which exists only in the mind; 4) If God only exists in our mind, we can conceive of a being greater than God, that is, a being that also exists; 5) There can be no being greater than God as God is, by definition, the greatest of all conceivable beings; 6) Therefore, God exists. Leibniz develops Descartes version of Anselm's argument – that a supremely perfect being which did not exist would constitute a contradiction, as existence is one aspect of perfection – by introducing the notion of coherence to argue that supreme perfection can exist in a single being.

indivisible unities are living creatures, such as fish and sheep and worms, or generally, corporeal substances.' (2005, p. 76)

The consequence of Phemister's interpretation is that when we return to Leibniz's famous fishpond metaphor in the *Monadology*[26], we must now conceive of the fish which is full of smaller fish - which, in turn, is full of even smaller fish, and so on – as corporeal substances which are themselves full of corporeal substances. Phemister encourages us to read this metaphor literally, to take Leibniz at his word that every animal is composed of animal-like substances. To put it another way, the aggregate body is not an aggregate of mind-like substances but an aggregate of other similar aggregate bodies; an aggregate of corporeal substances. To quote Phemister in full:

> In claiming that each fish has smaller fish within its own body, Leibniz is drawing attention to the similarities that hold among the substances in any one organic body or corporeal substance. … 'Fishness' is repeated in the fish's body. The active and passive primitive forces that comprise its dominant De Volder monad are repeated and diffused throughout its organic body. In inanimate objects, such as milk, all components share the same character but no primitive active force or entelechy is dominant; in animate objects, the repetition and diffusion takes its lead from the dominant entelechy and primary matter (that is, from the primitive forces or De Volder monad). These modifications and the modifications of the subordinate De Volder monads ensure a repetition and diffusion of active and passive derivative forces also. Each and every body is formed through the repetition and diffusion of both primitive and derivative forces.
> (2005, p. 93)

The result is a plenum, where within the spaces between each individual fish exist still more ponds full of fish. Corporeal substances are necessarily contiguous; nature's abhorrence of vacuums means there is no space between corporeal substances, although these substances differ in size and relation with one another. The fish then becomes like a matryoshka doll: each doll is a corporeal substance embedded within a larger corporeal

---

[26] In §67 of the *Monadology* Leibniz writes: 'Every portion of matter may be conceived as like a garden full of plants and like a pond full of fish. But every branch of a plant, every member of an animal, and every drop of the fluids within it, is also such a garden or such a pond.'

substance, the key difference with the Russian doll being that when you open each doll you find not one but an infinite plurality of smaller dolls.

However, there remains the question of relation. According to Leibniz's principle of homogeneity, only things which are of the same nature can stand in relation as parts of a whole. As the corporeal substance is indivisible, we must establish how exactly the plurality of fish within the individual fish are related. The corporeal substances themselves – the fish, and the fish within the fish – cannot take the form of parts to the whole as they are indivisible, and so cannot be divided into parts which have the same nature as the whole. But the organic body is divisible. So, the smaller fish must aggregate to form the organic body of the larger fish's corporeal substance. However, they cannot be an aggregate of corporeal substances as the corporeal substance and the organic body are not of the same nature. Nor can the organic body be comprised of souls for the same reason. Therefore, the organic body must be the result of an aggregate of the organic bodies attached to the smaller corporeal substances. For example, both the individual fish and the smaller fish embedded within it are corporeal substances, but the organic body of the fish is comprised of the organic bodies of smaller fishes. It is only the organic body that can qualify as a part, not the corporeal substance as a whole. Corporeal substances are embedded within corporeal substances and constitute the basic unit of reality but they do not relate as parts to a whole (2005, pp. 98-100).[27] While the divisible organic body can be compared to the infinite matryoshka doll, the fish as a corporeal substance is better understood with reference to M. C. Escher's *Circle Limit III*.[28] In Escher's pattern, the number of fish increases exponentially from the centre but all fish have an equal hyperbolic area and occupy the same hyperbolic plane. In hyperbolic geometry, the space around any point increases exponentially; when hyperbolic space is created as a physical model – as in the crocheted models of Dr Daina Taimina – the result is a crenelated and folded surface.[29] One could conceive of the indivisible living being – the corporeal

---

[27] Here we can see hints of Tarde and Latour's notion that, contrary to the popular saying, the whole is always smaller than its parts..Leibniz provides a possible basis for this statement – which we will examine in more detail later – by ruling out the relation of corporeal substances as one of parts to wholes, allowing for a flattened, non-hierarchical conception of the relation between corporeal substances or actor-networks/actant rhizomes.

[28] Escher's woodcut can be viewed here: http://www.mcescher.com/gallery/recognition-success/circle-limit-iii/

[29] Hyperbolic geometry is a non-Euclidean geometry whereby space has a negative curvature and is shaped like a saddle, in contrast to Euclidean geometry where space has zero curvature and is shaped like a flat sheet of paper. The significance of hyperbolic geometry is that it contradicts Euclid's fifth postulate which states that: for any point x which stands in relation to a line l, there is only one possible line which can be drawn through x which will not intersect with l. Because of the negative curvature of a hyperbolic plane, an infinite number of lines can be drawn through x which will not intersect with l. In 1997, Dr

substance – as the centre point of a hyperbolic model, enfolded by an exponentially increasing number of other indivisible living beings.

We can conclude by turning to the example of the human body. When we die, we do not split into parts. As corporeal substances united by a dominant rational soul monad, we are indivisible and persist as a corporeal substance from the beginning to the end of time. What changes is the constitution of our organic body. Throughout our life our corporeal substance contains a relatively large organic body comprising of smaller organic bodies. When these smaller organic bodies break down our organic body is divided. These divisions will, eventually, result in death but the core of our body – reduced, according to Leibniz, to a minute point – will persist as part of our corporeal substance. To quote Phemister:

> Apparent death is the separation of the person (or corporeal substance) from the larger part of their physical body. A visible and divisible corpse is left behind. The corporeal substance itself, however, comprising the core body and indestructible soul, remains a living, indivisible (although now to all practical purposes invisible) being.
> (2005, p. 99)

If we follow Phemister's treatment of Leibniz further, we will see that the primacy of corporeal substance can also be used to avoid any problem with the composition of the continuum. In simple terms, the problem arises when we attempt to hold to both the notion of substance – i.e. things that exist as separate beings from one another – and the notion of the infinite divisibility of any extended thing. This would not be a problem if we take extension to be merely phenomenal but, of course, Phemister's project is to establish the opposite, non-idealist interpretation of Leibniz. Phemister begins her argument with Leibniz's distinction between the real and the ideal. Take the difference between the mathematical point and the physical point. The mathematical point simply marks the limits of a particular line. It is itself unextended. No number of mathematical points alone can generate extension, for the mathematical point is dependent upon the existence of a line: in other words, the whole comes before the parts. On the contrary, the physical point is extended. A series of physical points does result in extension, the series generates a

---

Taimina created a model of a hyperbolic surface using crochet, thus creating the first practical physical model of hyperbolic space. Her extraordinary creations can be viewed here: http://theiff.org/oexhibits/oe1e.html

physical line: the parts come before the whole, in another foreshadowing of Tarde and Latour. When the mathematical line is sectioned between points, it is not actually divided but simply delimited. The physical line, however, can be divided into points. And so, for the ideal, divisions are indeterminate; whereas for the real, divisions are determinate (2005, pp. 106-109). Corporeal substance provides the bridge between these two realms in a manner similar to that described in the previous paragraph:

> On the one hand, the continuum is divisible into determinate indivisibles, where the indivisibles are the living creatures Leibniz claims are everywhere in matter. On the other hand, each living creature has an organic body that is composed of parts, which parts … are other aggregate organic bodies. The fact of these bodies and the bodies of which they are composed ensures that the continuum is divided to infinity. Each indivisible animal has an organic body and this organic body is itself infinitely divisible into other corporeal substances, into true unities, each of which is again an indivisible, but which is also again the source of further division of the extended world through the division of its organic body in turn, and so on, ad infinitum.
> (2005, p. 117)

In other words, extended divisible matter – in the form of the organic body – and unextended indivisible substances – in the form of the De Volder monad plus the organic body – co-exist and are co-dependent within the corporeal substance. 'Bodies, as Leibniz's writings suggest, are both aggregates of monads and aggregates of corporeal substances.' (Phemister, 1999, p. 78) Thus, we can say that I am indivisible while maintaining that my organic body can we broken down into parts, parts which are themselves corporeal substances which possess their own divisible organic bodies. It is, to borrow Russell's apocryphal interlocutor's phrase, corporeal substances all the way down, with organic bodies providing the divisible extended matter at each level.[30] This account accommodates both the existence of indivisible unities and the infinite divisibility of extended matter.

---

[30] The 'turtles all the way down' anecdote is of unknown provenance and variously attributed to Bertrand Russell and William James, among others. From Stephen Hawking's *A Brief History of Time*: 'A well-known scientist (some say it was Bertrand Russell) once gave a public lecture on astronomy. … At the end of the lecture, a little old lady at the back of the room got up and said: "What you have told us is rubbish. The world is really a flat plate supported on the back of a giant tortoise." The scientist gave a superior smile before replying, "What is the tortoise standing on?" "You've very clever, young man, very clever," said the old lady. "But it's turtles all the way down!"

With primary matter fulfilling the role of the homogenous continuum, we can – as Phemister (2005, pp. 115-116), Deleuze (1993), and even Leibniz himself in his dialogue *Pacidius to Philalethes* do – conceive of the continuum as a sheet of paper, folded innumerable times to create divisions or envelopes which form distinct substances, albeit substances all constituted from the same continuous sheet of paper. Within each substance are folded still more substances and so substances can retain their unity while being in the constant state of motion of being folded, unfolded, and refolded. It is this motion which prevents these divisions from being merely conventional; conventional in the sense that we can arbitrarily designate names to different portions of the same matter. When the parts of an object move in the same manner we distinguish it from another object, in the same way that we can, to borrow Phemister's example, distinguish between the juice in a glass and the glass itself; both move but their movement is sufficiently different from one another to qualify as being two distinct entities (Phemister, 2005, pp. 124-125). And this impulse to move comes, of course, from the substantial form – the dominant entelechy – and is manifested in the body through the principle of pre-established harmony. Therefore, the continuum can be understood as being made up of infinitely divisible aggregates of corporeal substances while still fulfilling the necessary criteria for being real, as these corporeal substances themselves are unities which exist prior to the whole and create the whole through their aggregation (2005, p. 127).

By now it is clear that the dual character of the corporeal substance – both real and ideal, extended and indivisible – has become, in Phemister's hands, a powerful tool with which we can dismantle many of the orthodox readings of Leibniz's late philosophy, and with this in mind, let us turn to the windowless monad. Remember that perceptions are the reflection of a plurality of substances within a single substance, the monad, and appetition is the movement from one perception to another. Perception is the actualisation of primitive passive force, while appetition is the actualisation of primitive active force. When one substance perceives another we can say that the substance expresses the substance it perceives. This expression denotes a relation between the two substances (2005, pp. 134-136). The dual nature of the corporeal substance now comes into play. Though perception, as a state, belongs to the monad of the corporeal substance rather than the organic body; and though that perceptual state is necessarily an internal quality – it is still windowless, after all – it corresponds to an actualised relation between the two organic bodies of the substances which stand in an expressive relation to one another. As the mind cannot exist without the body, it is necessarily the case that whenever a monad perceives, there is a corresponding relation between organic bodies. In other words, while the organic body

cannot be said to perceive, the corporeal substance can. Internal perception requires an external relation and *vice versa* (2005, p. 142). Only a few of these perceptions are clear and distinct, the vast majority are perceived confusedly and indistinctly as minute perceptions. But these minute perceptions are crucial as they, to quote Phemister, 'are essential to the harmony of all things with one another, ensuring that there are no gaps in the perceptual continuum any more than there are gaps in the material continuum.' (2005, p. 145)

However, there is more to say about bodies. Phemister identifies three competing traditions which are relevant to this discussion: spiritual phenomenalism; monadological phenomenalism; and corporeal substance phenomenalism. Spiritual phenomenalism is simply the assertion that bodies exist as phenomena in the mind but have no external reality. All perception happens within the mind of the perceiver and is confined to their mind, finding no corresponding object in the external world. Monadological and corporeal substance phenomenalism share in the belief that there is some corresponding reality external to the mind of the perceiver. They differ in that monadological phenomenalism grants a reality to external substances through the unification of aggregates through acts of perception – in other words, aggregates of incorporeal substances are unified into a single substance by virtue of their being perceived as such – while corporeal substance phenomenalism contends that, as we have seen, these aggregates are themselves composed of corporeal substances and so are not dependent on perception for their existence. In other words, they do not have to be aggregated through perception to become real (2005, p. 165). Quoting from Leibniz's *New System*, Phemister argues that, while he acknowledges that internal phenomena have the character of 'appearances or well-ordered dreams', they do relate to 'external things'. (2005, p. 167) These external things, according to corporeal substance phenomenalism, are the external objects which are expressed by the perceiving substance and are held in some relation to the physical body of the same perceiving substance. Thus, we must conclude that the perceiving substance is not simply an immaterial monad but a corporeal substance, an embodied monad whose physical body interacts with other physical bodies; interactions which are then expressed internally as 'appearances or well-ordered dreams'.

We can better understand that interaction when we consider our relation to our own bodies. If I look at myself in the mirror, I see an abstraction, a phenomenal reflection which does not betray the multiplicity of entelechies imbued throughout the extended matter. The same holds true when I look at another person. They appear phenomenally, inasmuch as my

sense-perception does not allow me access to anything beyond their organic body. But, our phenomenological experience of living as embodied beings does allow us to feel and experience our bodies as essential aspects of our own existence – in Look's words, 'the body of a particular dominant monad becomes itself essentially an intentional object of that dominant monad.' (2002, p. 398) Our own experience attests to the truth of corporeal substance phenomenalism, in that our aggregated organic bodies and our monadic selves are united in our experience as living beings. We cannot 'be' without our bodies. As Phemister writes, 'Our own organic bodies are aggregates, but they are not aggregates from which we might walk away at will.' (2005, p. 180) If we follow Leibniz in rejecting solipsism, we are led towards a multiplicitous experiential account of being: a natural world bursting at the seams with experiencing beings. This is, in effect, a form of pan-psychism. Whitehead is right to note that the Leibnizian experience, with its 'belief' and 'desire', is 'too closely allied to the notion of consciousness', (*Adventures of Ideas*, p.234) but there is an anticipation of the Jamesian category of depsychologized experience[31] inasmuch as Leibniz is careful to distinguish between different levels of experience through the differentiated monad: bare, soul and ego. Certainly, the claim being made is that we inhabit a world of experiencing beings, from the stone all the way up to the human being, but there is no sense in which there is a psychological aspect to the existence of a stone, or, indeed, any kind of mind – though as Whitehead remarks, 'If we desire a record of uninterpreted experience, we must ask a stone to record its autobiography.' (*PR*, p.15) At best, the stone can be said to have a mind-like character and this is what should make us hesitate to label Leibniz as an all-out pan-psychist.

We will conclude our treatment of Phemister's work with a discussion of the importance of derivative forces and pre-established harmony. Let us begin with a quick sketch of the derivative forces. Derivative forces are necessary in order to link the substantial form with

---

[31] Most notably outlined in his essay on Consciousness, the final paragraph of which reads:

> Let the case be what it may in others, I am as confident as I am of anything that, in myself, the stream of thinking (which I recognize emphatically as a phenomenon) is only a careless name for what, when scrutinized, reveals itself to consist chiefly of the stream of my breathing. The I think which Kant said must be able to accompany all my objects, is the I breathe which actually does accompany them. There are other internal facts besides breathing (intracephalic muscular adjustments, etc., of which I have said a word in my larger Psychology), and these increase the assets of consciousness, so far as the latter is subject to immediate perception; but breath, which was ever the original of spirit, breath moving outwards, between the glottis and the nostrils, is, I am persuaded, the essence out of which philosophers have constructed the entity known to them as consciousness. That entity is fictitious, while thoughts in the concrete are fully real. But thoughts in the concrete are made of the same stuff as things are. (James, W., 1904. 'Does Consciousness Exist?' *Journal of Philosophy, Psychology and Scientific Methods*, 1 (18). Available at http://fair-use.org/william-james/essays-in-radical-empiricism/does-consciousness-exist#e1s8n1 Last Accessed 23 February 2019.)

the resistance and motion of the physical body, the principle of 'acting and being acted upon' (Leibniz to De Volder, 20 June 1704; quoted in Phemister, 2005, p. 190). The derivative forces, as their name suggests, derive from the primitive active and passive forces. Derivative passive and active forces translate the will of the primitive passive and active forces into the actual movement and resistance of the body when it comes into contact with other bodies. These derivative forces limit the primitive forces, determining the quantity of motion or resistance in any given moment and, in so doing, actualise the primitive forces in the physical world. We cannot appeal to the primitive forces to fulfil this role because they are constant, permanent and concerned with the general form. The derivative forces, on the other hand, are momentary, particular and concerned with the specific instance or event. For an example by analogy, we can think of the primitive forces as being like computer code – a set of instructions and rules along the lines of if x then y, and so on – while the derivative forces are the actual execution of each step of the code. The derivative forces propel the body through time and space by executing each successive command derived from the code contained in the primitive forces. In other words, derivative force is the instantaneous, particular moment in each step of the unfolding of the general plan.

As indicated in the paragraph above, each derivative force constitutes a limitation or modification of the primitive force, inasmuch as it actualises the specific instance. But, there remains the question of how exactly the primitive forces – which belong to the monad – find themselves modified by the derivative forces, which belong to the aggregate body. Phemister's solution is to appeal to the notion of the actualised or complete monad. Remember that the monad is completed by the addition of an organic body within the corporeal substance. Only through the addition of the organic body can a monad become actual. As derivative forces are to be found in the organic aggregate body, they can only come into being when the dominant monad comes into being. Thus, the corporeal substance makes possible the modification of the primitive forces by the derivative forces. The derivative forces are actualised along with the actualisation of the dominant monad in the corporeal substance; and each successive instance of the corporeal substance's existence through time and space is an instance of derivative force (2005, p. 198).

The significance of the derivative forces can be appreciated when viewed alongside the principle of pre-established harmony. Derivative forces explain the motion and resistance of bodies when impacted upon by other bodies. But, according to the principle of pre-established harmony – a principle which, as Phemister points out, Leibniz intended to be

applied to both bodies and monads[32] – this impact is not the cause, the impetus to motion or resistance is actually internal to each body, despite any appearance of interaction or collision between bodies. So, for the bodies to co-exist in pre-established harmony rather than interact, the collision of one body with another must occasion an internal impetus to motion or resistance.[33] This internal impetus is provided by the derivative forces. There is something intuitively true about this – to quote Phemister, 'Animals and plants appear to initiate movement in their own organic bodies and they seem to do so without undue influence from external sources. The plant turns towards the sun; the dog runs after the stick.' (2011, p. 51) Even inorganic aggregates appear to be constantly in motion, a motion which comes from the mobility of their parts and the presence of the derivative forces. Therefore, each instance of apparent interaction between bodies is simply the unfolding of the corporeal substance through time and space – the succession of instantaneous derivative forces. The corporeal substance, therefore, moves itself; through the modification of the primitive active forces by the derivative active forces. It also limits itself through the passive forces which curtail motion. When a body appears to act on another with the effect of its losing speed, for example, this is not the result of the collision but of the derivative active forces limiting the active impetus to motion according to the pre-established harmony of co-existent bodies (Phemister, 2005, pp. 203-204). To put it another way, the various forces – derivative and primitive, passive and active – act in concert, pushing and pulling the corporeal substance through time and space.

We can now begin to draw all of the above into a coherent account of the embodied, perceiving agent. Unfolding within the corporeal substance is a dual process of modifications. On the one hand, derivative passive force is the modification of the primitive passive force, actualised in the external physical realm of bodies as resistance; and derivative active force is the modification of the primitive active force, actualised as motion. While on the other hand, confused perception is the direct modification of primitive passive force, internal to the perceiving mind-like substance; and distinct perception and appetition are the modification of primitive active force. Appetition is included alongside distinct perception as the harmony between mind and body is the harmony between the desires of the mind and the motions of the body. Thus, there is a

---

[32] See Leibniz's *Specimen Dynamicum* and *Tentamen Anagogicum*, cited in Phemister, 2005, p.203.

[33] Aggregate bodies do physically collide but the resulting motion is an internal dynamic, in the same way that a body resists motion through its own internal inertia. There is no transfer of force from one body to another as this would imply an intermingling of primitive forces; an impossibility in Leibniz's system due to the windowless nature of each substance.

correspondence within the corporeal substance between the mind and the body where primitive passive force is modified as confused perception and derivative passive force, expressed as resistance; and primitive active force is modified as appetition and distinct perception, along with derivative active force, expressed as motion (2005, pp. 213-217). We therefore have a series of harmonic levels: the harmony between perception/appetition and derivative forces within the organic body; the harmony between perceptions and appetitions within the monads; the harmony between the motion and resistance of bodies; the harmony between the systems of final causes and efficient causes; and, finally, the harmony between the kingdoms of grace and nature (2005, p. 224). These last two levels require some explanation. The harmony between efficient and final causes correlates the world of agency and the mind's desire with the mechanistic, causally determined physical world. As rational, apperceptive beings, we are aware of these systems of efficient and final causes. We are also conscious of our own desires and agency and, as such, sense that there is some relation between our will and our actions (2005, p. 227).[34] Most of the time, this relation is guaranteed by God, who sets up the universe in such a way that our desires will correspond to activity in the physical world. We have, in this sense, free will to the extent that God organizes the universe so that it will correspond with our desires. When the world fails to correspond with our desires, it is, in some way, another expression of the pull between activity and passivity. This pull or tension is also evident in the relation between our mind's will and our body's material reality. Phemister describes this relation in a passage which is well worth quoting in full:

> As self-conscious and responsible minds, we stand aside from the mechanical
> determinations of bodies, but as embodied minds, we are subject to the effects of
> the mechanical and physical changes wrought on our bodies by the external
> material world. Yet we cannot be the one without the other. We need our bodies and
> their ability to interact with the bodies of other creatures in the world outside if
> those very volitions that serve to extricate us from the determinist, mechanical

---

[34] Psychologically speaking there are, of course, times when we are more acutely aware of the causal chain, as Sartre describes in this anecdote: 'More than twenty years ago, one evening as he was crossing the Place d'Italie, Giacometti was knocked down by a car. Injured, his leg twisted, he was at first aware, in the lucid faint into when he fell, of a kind of joy: 'At last something's happening to me!' I appreciate his radical attitude: he expected the worst; this life which he loved to the point of never wanting any other had been upset, perhaps smashed by the stupid violence of chance: 'So,' he thought, 'I wasn't born to be a sculptor or even to live; I was born for nothing.' *What excited him was the menacing order of causes suddenly unmasked and imposing on the lights of the city, on men, and on his own body*, flattened in the mud, the paralysing aspect of a disaster: to a sculptor, the Kingdom of the mineral world is never far off. I admire this will to welcome everything. If you like surprises, you must like them to this extreme; even to those rare lightning-flashes which reveal to its lovers that the earth was not created for them.' [emphasis added] (pp.144-145)

system are to be efficacious. Our bodies, similarly, require the active lead and direction afforded by the mind or soul. The body needs the mind or soul as the source of active force that grounds its motion. Hence, the existence of the body is necessary for the soul to exercise its desires and volitions and the existence of the soul or mind is required by the body as its principle or source of motion.
(2005, p. 231)

The final harmony, grace and nature, provides a moral dimension to the agency granted to rational beings by the previous four. The theological aspect is beyond the scope of our present discussion, but morally we can readily appreciate the consequences of the concept of the necessarily embodied corporeal substance. Far from being two distinct, separable realms – one moral, the other natural – the result of embodiment is an interwoven, interdependent world where nature depends on grace for its moral objectives, and grace depends on nature for their realisation. To quote Phemister once more:

> Leibniz has laid bare a reason for the awkward affliction that lies at the heart of the human condition whereby the human being is, on the one hand, outside and even above the natural, while on the other hand, essentially part of the natural world and inseparable from it.'
> (2005, p. 234)

This strikes at the heart of the enlightenment dualism between the rational mind and deterministic scientific reality and suggests a co-constitutive role for both mind – with its agency, morality, and reflective capacity – and matter, the completion, actualisation and, indeed, perfection – in the sense of the maximum possible variety and order – of the mental world through physical expression in material reality. Maximum variety is guaranteed by the limiting primitive passive force which confines and bounds the active force of each substance to various degrees – primitive passive force is what differentiates us from God, who possesses no passive force, being incapable of anything other than distinct perceptions. Maximum order is ensured through the 'mutual representation of all by all.' (2005, p. 242) This notion becomes an embodied monadic perspectivism, whereby each substance perceives the entire world from its own point of view, but does so through the direct perception of its own organic body, and the indirect perception of other substances through the perception of the changes that occur in its body as a result of the bodies of other substances. The organic, aggregate body is thus the essential link to external reality, providing indirect perception of other beings. Of course, as we already

know, these perceptions vary in quality, from the minute or *petites* perceptions, through sensible perceptions to the apperceptions of rational beings. And their counterpart, appetition, is similarly stratified: beginning with the insensible inclinations, moving through the sensible urges, and culminating in the conscious volition of rational beings (2005, pp. 246-247). These two work together: every perception is motivated by a matching appetition – to return to a previous example, the bundle of minute perceptions which form the perceived sound of the wave are mapped on to a symmetrical bundle of insensible appetitions, which motivate these perceptions.

It is important to restate this as it is in the minute perceptions and insensible appetitions that we find the greatest barrier to the notion of rational human agency. Every conscious distinct perception is made up of innumerable confused minute perceptions. Every rational volition is similarly made up of innumerable insensible inclinations. Ultimately, then, what motivates us is a wave of insensible proclivities of which we are completely unaware. What appears to us as a free choice – the rational volition – is, in actual fact, a bundle of unconscious inclinations. The active force, manifest in rational volition, is completely dependent on the limiting passive force which both restricts and underpins our ability to perceive distinctly and, correspondingly, consciously desire (2005, p. 251). But despite this, our rational volitions are real and do constitute free will. By embodying the monad, we ensure that there is a direct relation between the will of the mind and the activity of the body in the external world. We know this to be the case from our earlier discussions of the three-fold relation between primitive and derivative force, appetition and perception, and motion and resistance. When all aspects of the three-fold relation work together in harmony – in other words, when the rational volition of the mind matches the motion of the body – we are at our most free (2005, p. 254). But even in such an instance, our free volitions and conscious perceptions are still collections of insensible urges and confused perceptions. Even typing these words, my will to move my fingers is translated in my hands as innumerable minute movements of which I am completely unaware. Like an echo down a tunnel or ripples in a pond, from my rational volition emanates an infinite series of sensible urges, fading to insensible inclinations; motivating increasingly confused perceptions at each point on the series. However, we can still rescue freedom. If we allow ourselves – as rational, perceiving beings – the ability to choose which of the insensible perceptions and appetitions we use to construct our rational volitions and distinct perceptions then we can reconcile free agency with the passive force which limits our ability to act and perceive clearly (2005, pp. 259-262). It is a question of focus; we can choose to ignore the multitudinous minute perceptions of the droplets of water in the wave

and instead turn our attention to the series of confused perceptions which constitute the conscious perception of the cry of the seagulls. Given the intertwined, interdependent relationship between appetition and perception, by changing the focus of our perceptions we can change the content of our appetitions. The resultant modification of our primitive forces means that this process of refocusing is actualised in the world through the derivative forces which bring about the varying degrees of motion and resistance in our bodies. The embodied agent is thus inclined but not necessitated and our mind's will is mirrored in our body's activity.

* * *

We have now come to the end of our discussion of Leibniz. By traversing Leibniz's key metaphysical concepts, before retracing our steps with Phemister as our unorthodox guide, a particular rendering of Leibniz has emerged – one well suited to the social monadology of Tarde and the process philosophy of Whitehead. We will see in subsequent chapters how Leibniz's successors negotiate the plenum of monads, bodies and corporeal substances; which concepts are embraced, which are modified and discarded; and how well the kernel of Leibniz's metaphysics, the monad, survives its intellectual travels. But, for now, we have the embodied agent, inclined but not necessitated, substantial but actualised in physical reality; ready to be translated, enrolled, and associated. With Phemister's innovations supplanting orthodox Leibnizian idealism with corporeal substance phenomenalism, we do not have to undertake a Feuerbachian dialectical inversion, there is no Marxian discovery of the 'rational kernel within the mystical shell'; we already have at our disposal an agent in the world, the corporeal substance.

Chapter 2: Tarde

> In reality, we judge beings to be less intelligent the less we understand them, and
> the error of thinking the unknown to be unintelligent goes hand in hand with the
> error … of thinking the unknown to be indistinct, undifferentiated, and
> homogenous.
> (Tarde, 2012, p.24)

Gabriel Tarde is back. The long overlooked and neglected theorist whose work languished in obscurity for almost a century is enjoying a renaissance for which there are few parallels. Of course, thinkers fall in and out of favour but seldom has there been such a dramatic fall and rise in renown. Born in 1843 in Dordogne, Tarde studied law before becoming a magistrate and judge. He entered academic life with a critique of the work of Italian criminologists Lombroso, Garofalo and Ferri, three scholars who argued that criminality was biologically and racially determined (Scott, 2007, p.174). However, despite rejecting their biological determinism, their search for social and behavioural laws started Tarde on his own course of research and launched a career that would culminate in Tarde being awarded chair of Modern Philosophy at the Collège de France. From this lofty position, he was assailed and eventually usurped by his younger provincial colleague Émile Durkheim. History would remember Durkheim as the founder of modern sociology but Tarde was quickly forgotten, vanquished by the victors of the turn of the last century battle to establish sociology as a respected and rigorous discipline.[35]

The difference between Tarde and Durkheim's approach to the question of the social is stark. In popular thought, Tarde is the theorist of the individual while Durkheim is the theorist of society. However, this simplification obscures more than it reveals. Brighenti writes that, 'a stark dualism between 'all' and 'each' is the very signature of the Durkheimian foundation of sociology', noting the reflection of Durkheim's theory in

---

[35] There is an irony is this, identified by Niezen, inasmuch as:

> One of the key questions on which Tarde's approach to social influence was based concerned why a particular innovation, conceived at the same time as hundreds of others, would spread abroad while the rest would be forgotten. In other words, Tarde's system of thought convincingly describes the causes and conditions of its own marginalization. (2014, p.43)

Alexis de Tocqueville's famous statement 'the *pression immense de l'esprit de tous sur l'intelligence de chacun* ('the immense pression of the spirit of all on the intelligence of each')' (2014, p.47). In opposition, Tarde, during a 1904 debate, asked his rival:

> Does Mr. Durkheim think that social reality is anything other than individuals or individual acts or facts? If you believe that, I understand your method, which is pure ontology. Between us is the debate between nominalism and scholastic realism. I am a nominalist. There can only be individual actions and interactions. The rest is only a metaphysical entity, mysticism.
> (quoted in Czarniawska, 2009. p.2)

For Tarde to accuse Durkheim of mysticism is a remarkable reversal of a charge oft-levelled at Tarde by Durkheimians throughout the 20th century. But, it is this question of the existence of society as an entity in itself that defines the disagreement between the two, and it is Tarde's nominalism which so appeals to contemporary theorists like Bruno Latour. In his Actor-Network Theory 'textbook', *Reassembling the Social*, Latour writes:

> Against his younger challenger, he [Tarde] vigorously maintained that the social was not a special domain of reality but a principle of connections; that there was no reason to separate 'the social' from other associations like biological organisms or even atoms; that no break with philosophy, and especially metaphysics, was necessary in order to become a social science; that sociology was in effect a kind of inter-psychology; that the study of innovation, and especially science and technology, was the growth area of social theory; and that economics had to be remade from top to bottom instead of being used as a vague metaphor to describe the calculation of interests. Above all, he considered the social as a circulating fluid that should be followed by new methods and not a specific type of organism.
> (2005, p.13)

And cutting to the heart of the matter, Latour writes:

> The shibboleth that distinguishes their attitudes is not that one is "for society" while the other is "for the individual actor." (This is what the Durkheimians have quite successfully claimed so as to bury Tarde into the individual psychology he always rejected.) The distinction is drawn by whether one accepts or does not accept that a structure can be qualitatively distinct from its components. In response to this test

question, Durkheim answers "yes" for both kinds of societies. Tarde says "yes", for natural societies (for there is no way to do otherwise), but "no" for human societies. For human societies, and for only human societies, we can do so much more.

(2010c, p.149)

We will see what more we can do in due course, but first a few words on Tarde's return to prominence.[36]

Tarde's rediscovery began in the early 2000s after the publication in French of the first four volumes of the *Oeuvres de Gabriel Tarde* in 1999. The appearance of these volumes and the sensation they caused led to 1999 being dubbed 'Tarde's Year' in the edition of the *Revue d'Histoire des Sciences Humaines* which was devoted to his work (Alliez, 2004, pp.50-51) and the coining of the term 'Tardomania' by Laurent Mucchielli (Borch, 2014, p.2). It is not difficult to see the appeal of his work given the challenge it presents to longstanding sociological theory and methodology: he is cast as an – albeit now rather elderly – *enfant terrible* or, to borrow Alliez's phrase, '*philosophical spoilsport'* (2004, p.49). He is also in tune with a key post-modern concern in the social sciences – the collapse of the distinction between structure and agency – in his observation that society is not a social being that stands over and above the individual but rather the social world is a network of individuals and their individual relations with one another: in other words, society is immanent not transcendent. As one prominent sociologist noted:

> His renewed presence can enliven almost every aspect of current work on political communication, on diffusion of innovation, on social network theory, on public opinion, on collective behaviour, and on the deliberative democracy of the "public sphere".
> (Katz, 2006, p.263)

However, it is not quite correct to state that Tarde had been completely forgotten. It is no exaggeration to say that Tarde lurks quietly over the shoulder of Giles Deleuze, particularly *Difference and Repetition*, a work whose name is derived from a Tardean formulation: that 'repetition is therefore the process by which difference . . . '*is different*' and '*is its own goal'* (Deleuze quoted in Alliez, 2004, p.50). But Deleuze never directly discusses his debt

---

[36] A prominence within certain circles, of course. Tarde's renaissance has yet to arrive at my own university: the only book on Tarde held in Glasgow University Library is M. Davis' 1906 *Essay in Sociological Theory*, a work that is highly critical of Tarde.

to Tarde, despite the long shadow cast by Tarde over his work – unlike Latour who is only too happy to proclaim:

> But I have decided to share with the readers the good news that ANT actually has a forefather, namely Gabriel Tarde, and that, far from being marginalised orphans in social theory, our pet theory benefits from a respectable pedigree.
> (Latour, 2002, p.1)

And:

> I had to delve into social theory and to propose, with Michel Callon, under the horrible name of actor network theory, an alternative possibility - which, I later discovered, had actually been entertained by Gabriel Tarde at the beginning of sociology.
> (2010, p.603)

As we will see, the similarities between Tarde's and Latour's thinking are clear: the collapse of the micro-macro distinction, the idea that power arises from the forging of networks between actors, and, as Czarniawska observes, 'the idea that the social and not society is the clue to sociality' (2009, p.9). Indeed, the two concepts to bear in mind during our discussion of Tarde's work are, in Latour's own words: 'a) the nature and society divide is irrelevant for understanding the world of human interactions; b) the micro/macro distinction stifle any attempt at understanding how society is being generated' (2002, p.2).

The purpose of this chapter is to build on our discussion of Leibniz's monads and to discover how Tarde sets about transforming the monad into an open, dynamic, possessive entity. To accomplish this we will read through Tarde's *Monadology and Sociology*, a work dedicated to elucidating his sometimes tentative but always audacious theory of 'dynamic possession' (Debaise, 2008). Throughout, we will refer back to Leibniz and forward to Whitehead and Latour, with a view to interrogating Latour's adoption of Tarde as his intellectual grandfather.[37] [38] Much of Tarde's rehabilitation to date has occurred in the

---

[37] Latour has gone as far as playing Tarde in a reconstruction of a debate between Tarde and Durkheim (2007); an event which, according to Borch, played a central role in Latour's discovery of Tarde. Borch places 'discovery' in inverted commas, revealing a degree of scepticism about Latour's use of Tarde to strengthen ANT's pedigree. (2014, p.2) In my opinion, this scepticism says more about the reluctance of sociologists – particularly of the business school variety – to entertain Tarde's – and by extension, Latour's – more radical ideas, particularly those found in *Monadology and Sociology*.

[38] Not for the first time, I refer to Risan's words, which are, of course, particularly pertinent to this thesis:

social sciences and he has received significantly less attention from philosophers. As such, much of the work published on Tarde in recent years has concerned his theory of imitation. Significant as this is – and it will not be entirely neglected here – it is his neo-monadology that is of interest to us as it is directly derived from Leibniz's monadology and related to Latour's actor-network or actant-rhizome. The fact that Christian Borch – an economic sociologist – criticizes Latour for ignoring Tarde's imitative programme (2014, p.10) seems justification enough to follow Latour's lead, given that this thesis is concerned with the history of the monad and the 'philosophers of monadologies' (Risan, 2006, p.130).

* * *

Hypothesis fingo
(Tarde, 2012, p.5)

Unlike Newton, Gabriel Tarde makes hypotheses. He makes hypotheses in the Leibnizian tradition: prodigiously and with abandon. His first and primary hypothesis, from which all others flow, is that child of Leibniz: the monad. Bolstered by the findings of late 19th century chemists and physicists, it becomes, in Tarde's hands, the great hypothesis, implying:

> [T]he reduction of two entities, matter and mind, to a single one, such that they are merged in the latter, and at the same time a prodigious multiplication of purely mental agents in the world. In other words, it implies both the discontinuity of the elements and the homogeneity of their being.
> (Tarde, p.5)

Pointing to, among others, Newton, cellular theory, and the work of Pasteur – where 'parasites, too, have their parasites'[39] (Tarde, p.7) – Tarde enrols all branches of the natural sciences in support of the monad and the infinitesimal. Monads are the logical conclusion of 19th century positivism; inasmuch as, if all matter is aggregated atoms and there is no 'vital principal', then these atoms themselves become the *explanans*. Recast as Tardian

---

The STS embrace of Whitehead is part of a move to rediscover some "grandfathers" in the Western history of ideas. Included are the French sociologist Gabriel Tarde (Latour uses the metaphor of "grandfather" regarding Tarde), the British philosopher Whitehead, and, as the (usually) first mover in this story, G. W. Leibniz. These are philosophers of "monadologies." (2006, p.130)

[39] Or, as per the Siphonaptera: 'Big fleas have little fleas, upon their backs to bite 'em, and little fleas have lesser fleas, and so, ad infinitum.' Thanks to Susan Stuart for making the connection.

monads, they are innumerable, independent, infinitesimal agencies whose engagement with one another creates the beings and entities that we are able to perceive. Moreover, the scientific method itself is monadic. Because all scientific facts are contingent we are required to compose, as Toews writes, 'multiple temporary orders of reality' (2003, p.393). Here we can begin to sense a shift from the monadology to the sociology. The body of atoms is a social body. It finds its analogue in the nation. That human aggregate is, in the monadological view, just that: an aggregate. It is not a being in itself; it is a collection of beings whose individual actions create a contingent whole rather than a fixed entity. Clearly, Tarde's project is one of complication rather than simplification. Despite little being known about the atom's composition when Tarde wrote his *Monadology and Sociology* (hereafter, *M&S*), he assumes that it too is an aggregate of simpler substances. And, as we know from our discussion of Leibniz, divisibility is inherent in extension. So we arrive, only four pages in to *M&S*, at the geometrical point and nothingness; and to Tarde's great invention. This geometrical point is not nothing, it is a centre. Material reality is infused with these centres, points which provide a central focus for infinitesimal agency. Unlike Leibniz's monads, which enfold and envelope, these monads 'radiate indefinitely' (Tarde, p.9) and 'compose their own realities' (Toews, 2003, p.398).

What defines these centres and distinguishes them from one another is difference. Not the clear and distinct difference between, for example, an apple and an orange, but the infinitely small, imperceptible difference between, for example, one cell and another when viewed by the naked eye. The sum of these infinitesimal differences creates the finite distinctions we perceive when we look at, say, two people side by side or one person moving from one place to another. As we can see, this monadic formulation is not merely geometric but temporal too; change occurs in both time and space.[40] But change must occur at the level of the infinitesimal, not the finite. Otherwise, how are we to account for a

---

[40] Unlike Kant's understanding of space and time in the Transcendental Aesthetic – where space and time are given *a priori* – Tarde appears to follow Leibniz's relational account; that is to say, space as the relations – both possible and realised – between objects, and time as an order of successions. It is worth mentioning Kant here as Tarde himself refers to Kant as the 'most profound analyst' of space and time (p.17). However, while Tarde considers it possible that space and time are 'primitive concepts or continuous and original quasi-sensations', Kant has space and time as 'simply forms of our sensory experience' (p.17). This does not quite do justice do Kant's views on the subject of space and time, as we can see here: 'Inner sense, by means of which the mind intuits itself or its inner state, yields indeed no intuition of the soul itself as an object; but there is nevertheless a determinate form [namely, time] in which alone the intuition of inner states is possible, and everything which belongs to inner determinations is therefore represented in relations of time. Time cannot be outwardly
intuited, any more than space can be intuited as something in us.' (B27/A23) And: 'Space is nothing but the form of all appearances of outer sense. It is the subjective condition of sensibility, under which alone outer intuition is possible for us.' (A26/B42) Finally: 'Time is nothing but the form of inner sense, that is, of the intuition of ourselves and of our inner state.' (A33)

body that we perceive to have moved from point A to point B? As Tarde suggests (p.9-10), we should be just as amazed at the instant teleportation of a body over a distance of the smallest fraction of a millimetre as we would be at the instant transportation of a body over a distance of several miles. Change – and, *a fortiori*, difference – must occur in the infinitesimal rather than the finite.

The difference between the infinitesimal and the finite is not simply one of size. It must be a qualitative difference otherwise it succumbs to the same problem we encounter when trying to explain movement in finite terms. Therefore, to quote Tarde, 'movement has a cause distinct from itself; being is not exhausted by what appears in phenomena' (p.11). In other words, if we want to look beyond the world of appearance, we have to look for the monads; the monads are the substantial elements. The relationship between the monad and difference is a relationship between spatial and temporal modalities; it is the relationship between agency and activity. The agent is located in the monadic centre and activity is what radiates outwards from this point. Thus:

> [T]hese tiny beings which we call infinitesimal will be the real agents, and these
> tiny variations which we call infinitesimal will be the real actions.
> (Tarde, p.11)

The agents and their activity occur simultaneously: we cannot have an inactive agent or an agentless activity. These tiny beings and their tiny variations obstruct, obscure, displace and impede one another. The extent of their discord regulates the rate of change we observe in the finite world. Everything, from the basest impulse to the most sophisticated notion, originates in a single, solitary, autonomous infinitesimal agent. Its realization, through infinitesimal action, is slowed, shaped, and mediated by innumerable other infinitesimal actions radiating from other infinitesimal agents. For example, my decision to walk across a road does not result in my instantly appearing on the other side of the road. I have to navigate a stream of traffic, other pedestrians, street furniture; I may have to walk into the wind or up a slight incline; I may even be prevented from doing so altogether and referred to a nearby pelican crossing by an overzealous passing policeman. This navigation is both pre-reflective and reflective. Take, for example, a passage from Sartre's *Marxism and Subjectivity*:

> [I]f, as you go downstairs, you become conscious of what you are doing and if
> consciousness emerges to determine what you do, to intervene in this action, you

immediately stumble because the action no longer has the character it should. (Sartre, p.3)

But, more to the point, whether deliberately or not, consciously or unconsciously, my own activity collides with the activity of others and its ultimate success or realization is the result of a process of negotiation, competition, and cooperation. It is in this way that these infinitesimal agents and their activities aggregate to form the finite expressions which we can observe and perceive. We must infuse matter with agency and activity. As Tarde writes:

> To what may we ascribe the need for society which Perrier sees as the soul of the organic world, if not to tiny persons? And what could this transformation be, this direct, regular, and rapid process imagined by other thinkers, if not the accomplishment of hidden workers who collaborate in realizing some specific plan for reorganization previously conceived and willed by one among their number? (p.14-15)

Or, to put it another way, 'Everything comes from the infinitesimal and everything returns to it' (Tarde, p.11).

Belief and Desire

Having thus pulverized the universe into untold infinitesimal indeterminate beings, Tarde must explain the constitution of these 'tiny persons'. This follower of Leibniz has no time for Cartesian dualism, nor for vulgar physicalism or any variant of neutral monism's transformation of a duality into a trinity through the suggestion of a third element, neither mental nor physical. Instead, Tarde posits what he terms a universal psychomorphism; a theory now better known to us as pan-psychism but perhaps, following Alliez, better described as a vitalist materialism[41] that claims for itself the:

---

[41] Muldoon also situates Tarde's work in the vitalist tradition and notes, 'It is doubtful whether Bergson or Tarde's metaphysics will ever be completely disproven by contemporary science. The persistence of vitalism is its continual ability to return to current debates in a modified form' (2014, p.69). And Latour concurs with the description of Tarde's monadology as materialist: 'No spiritualism nor idealism to expect from this affirmation though, since monads are also completely materialist: they are guided by no superior goal, no grand design, no telos. Each of them, much like Richard Dawkins's genes or Susan Blackmore memes, fights for its own privately envisioned goal' (2002, p.4).

…machinic principles of a political ontology of difference: this is the indissociably *expressionist* (the vital expression of forces) and *constructivist* (the machinic connection of fluxes) lesson of Gabriel Tarde.

(2004, p.52)

Universal psychomorphism is the reduction of matter to mind. However, unlike idealism, which holds that the entire universe is a property of one's own mind, universal psychomorphism suggests that the entire universe is composed of mental entities; all of which have a certain, fundamental commonality or similarity – not unlike the partial similarity required between Leibniz's dominant and subordinate entelechies. This similarity permits us knowledge of other things. If there is nothing common to all beings then we must concede to the idealist that we cannot know anything of, to borrow Tarde's example, 'the being in itself of a stone' (p.15). But, following Tarde's reasoning, if we cannot know anything of the being in itself of a stone, then we cannot claim to know that it is[42]; as, for the idealist, the stone must exist purely as a mental state in our own minds. However, when we admit a fundamental similarity between all beings, we can affirm the existence of the stone, or anything else for that matter, as it becomes knowable. It may be knowable in an obscure, distant or primitive way, but it is nonetheless knowable as it shares a common composition, namely, the aggregation of mental entities. As we will see in the next chapter, Whitehead proposes something similar in *Process and Reality*:

They differ among themselves: God is an actual entity, and so is the most trivial puff of existence in far-off empty space. But, though there are gradations of importance, and diversities of function, yet in the principles which actuality exemplifies all are on the same level.

(1929, p.18 quoted in Debaise, 2008, p.4)

Moreover, there is a fundamental similarity in the composition of these mental entities themselves. Each consists of two forces, belief and desire, from which derive affirmation and will.[43] These twin forces of belief and desire are present in every being. By recognizing and translating these other beings' 'degrees and modes of belief and desire' (p.17), we are able to have knowledge of them. Tarde proposes belief and desire – in a

---

[42] Like Dickens' observation in *A Tale of Two Cities*, 'that every human creature is constituted to be that profound secret and mystery to every other.' (p.11)

[43] Note the similarity to Leibniz's system of derivative force.

distinctly Humean formulation[44] – as the origin of all judgements and concepts. In this way, belief becomes the partner of space and desire the companion of time – belief is a belief about things, it is an intentional belief and locates us in a universe of things we hold beliefs – consciously, unconsciously, and infinitesimally – about; desire drives movement, the succession of orderings of those things we stand in relation to.

According to Tarde, in anticipation of William James' depsychologized experience, what prevents psychomorphism from becoming an anthromorphism is the fact that neither belief nor desire requires a conscious state. We hold unconscious desires; we make unconscious judgements. These things precede sensation: we cannot sense without feeling, a state that requires consciousness, though we can have sensations that we do not discern, for example, Leibniz's petit perceptions. As such, belief and desire are present in all beings, human and non-human. As Toews notes, the human / non-human divide is sometimes viewed as the widest form of difference but, he writes:

> [W]e know from our relationship with animals that it can also very often involve very subtle, even imperceptible degrees of difference. In fact, it is not too hard to see that the continuity of any identity is actually just a practical matter of accepting a certain range of small differences as negligible for some particular purpose. Humans, then, can be seen as connected to non-humans by a chain of such identities.
> (2003, p.396)

With the static force, belief, and the dynamic force, desire, Tarde has two 'irreducible concepts' (p.20). Belief and desire are not products of the mind but forces which, 'with their reciprocal combinations, passions and intentions, … are the perpetual winds of history's tempests, and the waterfalls which turn the mills of politics' (p.21). They are to be found everywhere and, as a universal commonality, proclaim the commensurability of all things. Take the humble protoplasm, which Tarde cites as proof of his discovery: it is capable of capturing and digesting animalcules, which implies a desire to capture and an ability to perceive the object of its desire. That this soup of molecules within a single cell seems capable of greater mental exertions than the dull bodies they form a part of – for example, a houseplant or loaf of bread; both of which are composed of such cells and we

---

[44] Humean in the sense that one finds a similar schema in the beginning of the Treatise: where everything proceeds from the distinction between impressions and ideas rather than, but strikingly akin to, Tarde's belief and desire.

would ordinarily regard as unconscious and immobile – is further proof of Tarde's radical programme of complication.

Therefore, we can envisage, with Tarde, the great cities, populated by tiny minds, which form even a single cell within an organism. It is our prejudice, Tarde suggests, in believing that we are superior to all other beings that prevents us from accepting this monadological hypothesis.[45] Tarde's, it is worth repeating, is a project of complication. It is a project to explode agency, to show that concealed within any given action of any given actor there are an infinite number of infinitesimal agents[46] working to produce that action. In brief, simplicity is explained by ever-increasing complexity. A lengthier example in Tarde's own words is worth quoting in full:

> Since the accomplishment of the simplest and most banal social function, which has persisted unchanged over centuries (for example, the reasonably regular coordinated movement of a procession or a regiment) demands, as we know, so much preparatory training, so many words; so much effort, and so much mental force spent almost all in vain – then what torrents of mental or quasi-mental energy must be necessary to produce these complex manoeuvres of simultaneously accomplished vital functions, by not thousands but billions of different actors, all of them, we have reason to think, essentially egotistical, and all as different from each other as the citizens of a vast empire!
> (p.23)

All of this is not to suggest that activity or agency at the level on which we perceive it – for example, the actions of an individual person – is illusory. Instead, it is to suggest that such activity is an abstraction. It is the signifier not the referent. The referent is infinitesimal, multitudinous, and far more intelligent than we suppose.[47] Perhaps it is the term 'individual' that obscures Tarde's meaning for, as Latour reminds us, 'the individual

---

[45] 'Our mind as it were blows out all the lights of the world for the sole benefit of its own little spark.' (Tarde, 2012, p.22)

[46] It is worth adding a reminder here that the infinitesimal is qualitative not quantitative; it is not simply 'tiny', as Tarde says, as even tiny things are divisible. It is, in mathematical terms, a value between zero and a finite number.

[47] This is, of course, both a reference to and bastardisation of Saussure's semiotics. The purpose of the reference is to make clear that we are not talking simply of the difference between appearance and reality. We are talking about different levels of reality. Just as the word 'horse' is the signifier of the four-legged equine (the signified), with the referent being the thing that kicks you; when we discuss agency, the individual human agent is what is signified, while the referent – the force driving the whole thing forward – is to be found in the infinitesimal. And in the same way that signs are real, so are the agents we perceive in the world even if their *causa sine qua non* is to be found in the infinitesimal.

element is a monad, that is, a representation, a reflection, or an interiorization of a whole set of other elements borrowed from the world around it' (2010, p.156).[48]

Socialising the Monad

However, with so many, to borrow Tarde's wonderful phrase, 'invisible and innumerable little gods' (p.26), how are we to account for the appearance of order rather than utter chaos in our universe? As Tarde notes, Leibniz's monads enjoy a pre-established harmony. But this is a leap too far for Tarde: his monads are not to be dependent on God.[49] [50] There can be no omniscient being who, knowing the concepts contained within each monad, knows precisely how each monad will unfold. For Tarde, knowing everything there is to know about the present and the past does not mean one can know the future as we simply cannot account for 'unknown and unpredictable inventions' (Geiger, 1972, p.115 quoted in Czarniawska, 2009, p.6). Nor can we rely on the universal laws of the materialists for these laws only serve to veil elemental agency behind any 'mystical commandment' which:

> … all beings would obey and which was not produced by any being, a kind of ineffable and unintelligible word which, having never been pronounced by anyone, nonetheless would be heard everywhere and forever.
> (p.26)

Tarde's solution is to explode the monad, to knock down its walls, open its windows and turn the closed Leibnizian monad into an open monad fit for the 'modern'[51] scientific

---

[48] Alongside this reminder, Latour makes the claim, with which I agree, that: 'This is where the word "network" – and even actor network – captures what Tarde had to say much better than the word "individual." Contrary to what is often said, there is not even a hint of "methodological individualism" in this argument. There is no psychologism, nor of course any temptation toward "rational choice."' (2010, p.156)

[49] Kalyniuk notes in the essay *Jurisprudence of the Damned* that:

> Without God, the natural state of the world is not one of compossibility, but incompossibility: the monads are left free to desire beyond the artificial limits of what was formerly thought to be pre-established, and the world multiplies into as many variations of itself as there are desires willing them into existence. (2013, p.218)

The consequence of this notion is that rather than an unfolding of *a priori* concepts within an individual, these concepts are rationalised *a posteriori*.

[50] Latour quips: 'Tarde is probably the most systematic atheist there has ever been since he rejects even the transcendence of a "collective self" emerging *ex abrupto* from its associates' (2010, p.157).

[51] I use the term in its Latourian sense, conscious of the connotations of an implied human/nature or, more accurately, human/non-human dualism. But, as we will see, Tarde uses the discoveries and methods of modern science to look beyond itself, thus pointing towards a resolution of this dichotomy; a move which obviously endears him to Latour. Indeed, in his essay *Coming Out as a Philosopher,* Latour writes:

age.[52] And here we find another of Tarde's key innovations: the monad is not a point but a sphere of action. The implications of this innovation are significant. We have discussed Leibniz's conception of time and space as opposed to Newton's; Tarde's sphere-of-action monads necessitate the rejection of both. Whereas both Leibniz and Newton posit a single space – one relational, the other absolute – Tarde's sphere-of-action monads each constitute their own spatiality in the enaction of their agency. These trajectories overlap and interpenetrate, but they are the distinguishable domain of each element. That element is the centre of the sphere; or, to be more exact, the properties that define that element. But the essence of the element is diffused, by virtue of its activity, throughout the sphere of action: in other words, each element 'exists in its entirety in the place where it acts' (p.27). The element or 'centre' of the sphere is a point, but it is only a point in virtue of being the 'centre' of the sphere of action.[53] In this way, each monad is constituted of the properties of belief – its point or its anchor – and desire – its activity or trajectory in the world. Given the interrelated nature of all things, the monad becomes the *milieu universel*, the universal medium; or is forever in the process of becoming by virtue of its activity. And so, while Leibniz's monad contains a reflection of the universe as a whole, Tarde's *is* the universe as a whole, the interrelation of all beings and trajectories 'vanquished and absorbed by a single being'. Latour alerts us to the remarkable fact that this anticipates Whitehead's work some three decades later on the notion of bifurcation:

> Tarde tries to find a solution to the 'bifurcation of nature'. Instead of having two vocabularies, one for the agent and one for the causes that make the agents act, one can do with only one, on the condition of allowing the agent to concentrate the whole under some sort of point of view or folding
>
> (2002, p.14)

What was clear to me, at least, was that the two master narratives of 'nature' and 'society' with which modernism had built what I called its Constitution, have always been only the most superficial part of what had happened to them. Something else had happened that required a double-edged critique of Nature and Society. For criticizing the latter, I had to delve into social theory and to propose, with Michel Callon, under the horrible name of actor network theory, an alternative possibility - which, I later discovered, had actually been entertained by Gabriel Tarde at the beginning of sociology. (Latour, 2010b, p.603)

[52] Both Leibniz and Tarde, however, are, as John Law points out, very much philosophers of the baroque inasmuch as – in contrast to the romantic – they favour the heterogeneous, the complexity within, specificity and the lack of any totality (2003, p.9-10).

[53] For clarity, there are of course innumerable spheres of action, which have innumerable centres, which spread out and infuse reality rhizomatically.

The same applies to time as to space: each desire produces its own time. The order that we perceive in the universe is produced by the domination and subjection – later to become in the hands of Latour, 'enrolment' – of one monad or set of monads by another. When we discern a similarity between or repetition[54] of certain phenomena it is because there are monads which have imposed themselves on others, reproducing their forms and fulfilling their desires. The universe is therefore made up of countless interwoven realities engaged in incessant activity to reproduce themselves and their beliefs and desires.

So, from the cloistered Leibnizian monad, we have moved to a voracious, capacious monad, which gobbles up its fellow monads – and their space and time – whole and creates dominions pursuant to its will. The monad does this by enveloping its fellow monads in its sphere of action, engendering imitative activity in its subjects. As Tarde puts it, 'What do we place within the ultimate discontinuity if not continuity? We place therein … the totality of other beings. At the basis of each thing are all real or possible things' (p.27).

Clearly, we are continuing our movement from monadology to sociology. Tarde's monads ooze sociality – they are thoroughly social beings that engage in social activity. And as these monads are the *milieu universel*, we must follow Tarde and affirm that, 'everything is a society, that every phenomenon is a social fact', and that, 'All sciences seem destined to become branches of sociology' (p.28).[55] 'Everything' includes both the living and the inorganic; the two bridged by their inextricably intertwined existence and the fact that characteristics of both are to be found in the evolution of society, that is the shift from organic (living) subsistence to technological (inorganic) dominion. Almost a century on, Latour and his fellow actor-network theorists have begun formulating similar arguments on the human / non-human divide. However, whereas the prime concern of actor-network theorists – such as Michal Callon and his scallops of St. Brieuc Bay (1984) – was accounting for the consolidation and propagation of certain scientific truths through an account of the interactions and negotiations between the various actants and points of obligatory passage, etc., Tarde is engaged in a more speculative, ontological investigation

---

[54] This repetition is imitative rather than replicative, it results in similarity not identity.

[55] Conversely, for Tarde, sociology is the science *par excellence*, as the process of quantification – key to the scientific method – begins with the individual, as Latour explains:

> the very heart of social phenomena is quantifiable because individual monads are constantly evaluating one another in simultaneous attempts to expand and to stabilize their worlds. The notion of expansion is coded for him in the word "desire," and stabilization in the word "belief" (more on this below).3 Each monad strives to possess one another. Most social scientists remain limited to the study of qualities when they handle only one entity, and quantification begins, so to speak, once they have collected large numbers of those entities. (2010c, p.150)

directed at beings themselves rather than the realities they produce.[56] Take, for example, Tarde's defence of the assimilation of organisms and inorganic bodies within societies. His argument is, ultimately, one of organisation. Where a being is well organised, it appears well-defined and symmetrical. Where it is decentralized and disorganised, it appears amorphous and asymmetrical. For example, a large, sprawling empire like China in the late 19th century exhibits little symmetry and regularity.[57] The same is true of certain slime moulds or, to borrow Tarde's example, the ill-defined and asymmetrical contours of lichen when it 'takes the form of a thin layer of widely spread cells' (p.31).[58] However, consider the symmetry of an orchid or coral and the high degree of definition and symmetry found in a centralized city-state or a strictly run barracks.[59] The more tightly organised the organism or social group, the higher degree of symmetry. But all of this is mere prologue. Tarde's argument is that this tendency towards symmetry in both organisms and social groups results, 'not from a competition of intermingled plans which clash together, but from an individual's design executed without hindrance' (p.32).[60] Where we find symmetry and regularity in human endeavours, we usually credit a single, strong mind, which has been able to execute its plans in full. 'Every despot has a love of symmetry'[61] (p.32). But Tarde argues that the ability of every individual to execute their plans in full is a sign of social progress. And if this is indeed the case, then we must admit that organisms

---

[56] Tarde is, of course, interested in these realities too, inasmuch as there exists a recursive process whereby the realities produced by any given body define that body, i.e. the sphere of activity.

[57] Tarde – writing at the end of the 19th century, it must be remembered – points out, in what we could charitably call a colourful example, that China is many thousands of kilometres in length and breadth, but only one or two metres tall, 'since the Chinese are rather short and their buildings low' (p.30). The point, however, could equally be made of most nations: there exists, in terms of dimensions, a disproportionality that is not often found in nature. The point is not that an organism is like a nation; but that where a nation – or any social group, for that matter – begins to approach the proportionate dimensions found in nature, it also begins to exhibit the same degree of symmetry as found in nature.

[58] It is worth noting that this is not quite the case: as Philip Ball points out in Branches: Nature's Patterns, the seemingly random nature of certain organisms and particular aggregates can be analysed mathematically by employing fractal geometry (Ball, 2007, section titled 'Urban Sprawl'). This is not, I believe, critical to Tarde's argument as he clearly conceives of symmetry and regularity as having the appearance of simplicity – a simplicity which conceals a great deal of complexity. Or, to paraphrase Leibniz, the simplest laws with the maximum possible variety.

[59] And if we are to treat every phenomenon as a social fact, we can look well beyond cities, which we are already reasonably well versed in understanding as abstractions. As Lewis Mumford writes, 'Habitually, people treat the realities of personality and association and city as abstractions, while they treat confused pragmatic abstractions such as money, credit, political sovereignty, as if they were concrete realities that had an existence independent of human conventions.' (Mumford, 1942, p. 7)

[60] Crucially, this is a tendency which will never be realized given the competition between individual's designs and the explosion of diversity from symmetry.

[61] A view confirmed in the 1930s in Hitler's Germany and Mussolini's Italy. As pointed out by the external examiner of this thesis, Martin Savransky, it is ironic to say the least that Tarde should make this observation in quite this way, given the centrality of the principle of generalised symmetry to ANT.

exhibit a far greater degree of social progress than any human society in their 'high degree of perfection … and the enlightened despotism to which they are subject' (p.32).[62]

Nevertheless, social progress requires society[63]. To be social requires the interaction of more than one individual. The idea of the unfettered plans of the single great mind, executed to perfection, obscures the contributions of all those who lay the foundations for these plans or create the conditions in which they can be realised or, indeed, those who seek to inhibit and impede. The monadological sociology which Tarde is proposing is based on this one truth: that the monad is, by necessity, a social entity. Let us quote a key passage from part IV of Monadology and Sociology:

> The obscure labourers who, by the accumulation of tiny facts, prepare the appearance of a great scientific theory formulated by a Newton, a Cuvier, or a Darwin, compose in some sense the organism of which this genius is the soul; and their labours are the cerebral vibrations of which this theory is the consciousness. Consciousness means in some sense the cerebral glory of the brain's most influential and powerful element. Thus, left to its own devices, a monad can achieve nothing. This is the crucial fact, and it immediately explains another, the tendency of monads to assemble. … Let us also observe that the obscure labourers I mentioned above may sometime have as much merit, erudition, and force of thought, as the celebrated beneficiary of their labours, or indeed even more. I make this remark in passing, to address the prejudice which leads us to judge all external monads inferior to ourselves. If the ego is only a director monad[64] among the myriads of commensal monads in the same skull, why, fundamentally, should we believe the latter to be inferior? Is a monarch necessarily more intelligent than his

---

[62] We are not to be too downhearted: whereas a city may be only a few hundred years old and have only a few million citizens; a single organism can be many times older and composed of an inconceivably large number of constituent elements.

[63] As a caveat to the use of the term 'society' I will quote Toews who writes:

> It is, in the end, of course impossible to will away the need to speak of social concepts that transcend our individual desires. Even a desire for unconditional world peace has to be qualified by hard thinking at times. But it may very well be possible, and indeed crucial, to avoid attributing a universal representational quality to those socially useful concepts that filter through to us in this process. (2013, p.396)

This is an important point: we can problematize and complicate society, refuse to conceptualise it as an entity independent of its parts but we must retain the concept of the social, even if we continue to refer to it from time to time as society.

[64] The director monad occupies its position by virtue of being the one monad within the body which is held in some direct chain of relation to all other monads within the body, rather like the head of a family tree.

ministers or his subjects?

(pp.34-35)

This final 'passing remark' is what gives Tarde's work much of its appeal. It allows us to break apart genius, hierarchies, power, nations, aggregates in all their forms and instead of finding simple entities or vulgar explanations and laws, we find even more complexity. But more than that, it allows us to question the very ontological foundations of those aggregates. Is it really true to say, Tarde wonders, that the aggregation of a number of separate beings results in the creation of a new being? If true, we are admitting that one plus one equals three, not two. For example, the nation. Sweden is a nation of 9,875,378 beings.[65] To that, are we to add another 1 – the new entity called the Swedish nation?[66] Or, on a smaller scale, the individual human being is made up of innumerable elements. By virtue of their organization and relation is a new element created, namely, me? This mode of thought, where relation leads automatically to creation, actually generates hierarchy by claiming that through aggregating smaller elements we get a larger, superior being. Of course, this is antithetical to Tarde's project which, at its heart, is an attempt to complicate the parts rather than the whole. As Tarde notes in *Les Lois Sociales*:

In general, there is more logic in a sentence than in a talk, in a talk than in a sequence or group of talks; there is more logic in a special ritual than in a whole credo; in an article of law than in a whole code of laws[67], in a specific scientific theory than in the whole body of a science; there is more logic in each piece of work executed by an artisan than in the totality of his behaviour.'

(Tarde, *Les Lois Sociales*, p.115 quoted in Latour, 2002, p.8)

---

[65] According to the official March 2016 estimate.

[66] Another example is the Scientist notion of the sciences. As Latour and Lépinay write, 'the sciences do more than just know: they add themselves to the world, they involve it, they fold it, they complicate it on numerous points all while simplifying it on others' (2009).

[67] Tarde's training as a lawyer and occupation as a judge meant he had a deep understanding of the nature of the French legal system, particularly its peculiar role of *juge d'instruction*. Latour astutely suggests that this understanding has a significant influence on Tarde's work:

For a judge, the Code (or the case law) is never seen as more than a reference, a summary, a memory, a "composite photograph," a guide; it is not a structure from which one could deduce any individual motif or to which individual behaviour should obey. The law sits side by side with a multiplicity of cases and precedents. Son of a judge and a judge himself for most of his active life, Tarde could feel the gap between rules and individual behaviour every day. … When Tarde heard the words "laws of society" in Spencer or even Durkheim, or "laws of nature" when reading natural scientists, he knew, first hand, that this was, at best a loose legal metaphor, and that it could never truly be the way that elements and aggregates would conspire together (2010c, pp.154-155).

What Tarde proposes as an alternative is a model that makes absolutely clear that – to fall back on the Leibnizian vocabulary – while the director-monad may direct, it is still a monad like any other; it is still a member of the aggregate like any other. As Sartre writes in *Words*, 'A whole man, made of men, worth all of them, and any one of them worth him' (1977, p.158).

By shifting the focus to relation itself rather than the results of relation, Tarde necessitates a sociological monadology: a mode of enquiry that is fundamentally concerned with the relations between agents rather than the actions of an agent, actions that are really a manifestation or simplification of the complexity of the relations an agent finds itself enmeshed in. An example from, as Tarde notes, the only social world we can know 'from the inside', is human language. Historically, as individual human beings within certain social groups have accumulated more and more knowledge, the language used to communicate this knowledge has become more regular, standardised, and universal. In the law, too, we tend to see an increase in regularity and standardisation as the constituents of the society that is being governed become increasingly differentiated on a variety of social levels, for example, as a result of increasing specialisation in the division of labour. In other words, the standardisation – in effect, the simplification – of collective social functions is correlated with the complication and differentiation of the individuals who inhabit that collective; homogeneity arises from heterogeneity. The social world that we know from the inside shows us that there is a tendency for complexity to be a property of the individual, the agent, while simplicity tends to be a property of the collective, the action. Before we move on, let us consider for a moment the implication of such an idea. Positing the individual as the agent and the collective as the action is not a metaphorical device. It is a key consequence of Tarde's ontology. All action is and must be social. An individual cannot act alone. Therefore, when an individual acts on or with another, in doing so they form a collective. All action is collective but, more importantly, all collectives depend on action for their existence.[68] Adding up the population of Sweden or all the things that are Swedish does not result in a new entity – Sweden – springing to life. But the activity of the Swedish populace at an individual level – as messy, contradictory, apathetic, or enthusiastic as that activity may be – creates and sustains the aggregate. The aggregate is the action. Should the activity cease, so does the aggregate. As Latour memorably wrote, 'If a dancer stops dancing, the dance is finished' (Latour, 2005, p.37). We should also note

---

[68] There is something of the Hegelian dialectic about all of this, where the individual is the universal, and the universal exists through the individual.

the significance of the idea of 'knowing from the inside'. Our position within the human social world affords us a privileged vantage point as students of human society that cannot be attained by, for example, students of geology or molecular biology. We do not have to rely on abstractions such as laws or structure, we can trace the associations of individual agents and their movements and interactions as we are 'in' not 'part of' the human social world, as the urban flaneur is 'in' not a 'part of' the city[69] (Dörk et al, 2014, p.1543). When we do propose structures, it is because we have to separate the entity from its context due to a lack of knowledge of the attributes of which that entity is composed (Latour et al, 2012, p.595). By the same token, causality is not located in abstract structural forces but in the 'specific contexts of human interdependence and interaction' (Santana-Acuña, 2015, p.214). To quote Latour again:

> Given the immense privilege of having proximity to their objects of study, sociologists should not be (mis)led into imagining that there could be a strict distinction between structural features and individual or sub-individual components. If they are, they have been engaged in the rather silly task of becoming voluntarily estranged from the societies they are studying. It implies that they are attempting to grasp them in the same way that astronomers deal with stars or biologists with cells. And yet, if the latter must handle their subject matter from far away, it is not because it is especially "scientific" to do so. It is because they have no other way to reach their objects of investigation.
> (2010, p.148)

Difference

Now we must move on to Tarde's next innovation. So far, we know of the difference between agents and actions, the aggregate and the infinitesimal, the foundational forces of belief and desire, but to this we must add another concept: difference. If belief and desire are the foundational forces, then difference is the foundational substance. Leibniz begins with identity – 'A is A', subject 'A' has the properties of 'A' – but Tarde starts with

---

[69] There is a similarity to Wittgenstein's differentiation between theoretical and non-theoretical understanding. As Ray Monk puts it, 'Scientific understanding is given through the construction and testing of hypotheses and theories; philosophical understanding, on the other hand, is resolutely non-theoretical. What we are after in philosophy is "the understanding that consists in seeing connections."' (1999)

difference, a concept that is a great deal harder to express in the form 'A is *n*', as we will see. Again it is worth quoting Tarde at length, for both explanatory and literary reasons:

> To exist is to differ; difference is, in a sense, the truly substantial side of things; it is at once their ownmost possession and that which they hold most in common. This must be our starting point, and we must refrain from further explaining this principle, since all things come back to it – including identity, which is more usually, but mistakenly, taken as the point of departure. For identity is only the minimal degree of difference and hence a kind of difference, and an infinitely rare kind, as rest is only a special case of movement, and the circle only a particular variety of ellipse. To begin from the primordial identity is to posit at the origin of things a prodigiously improbable singularity, an impossible coincidence of multiple beings, at once distinct from and similar to one another; or else the inexplicable mystery of a single simple being, which would subsequently, for no comprehensible reason, suffer division. It is to commit a similar error to that of the ancient astronomers who, in their chimerical explanations of the solar system, began with the circle and not with the ellipse, on the basis that former is more perfect. Difference is the alpha and omega of the universe; everything begins with difference, with the elements whose innate diversity (which various reasons make probable) can in my view be the only justification of their multiplicity; everything ends with difference, where, in the higher phenomena of thought and history, it finally breaks free of the narrow circles in which it had bound itself, namely the atomic vortex and the vital vortex, and transforming the very obstacle it faced into a fulcrum, surpasses and transfigures itself. It seems to me that all similarities and all phenomenal repetitions are only intermediaries, which will inevitably be found to be interposed between some elementary diversities which are more or less obliterated, and the transcendent diversities produced by their partial immolation. (2012, pp.40-41)

This is a quite extraordinary passage and requires considerable unpacking. We will begin at the beginning. 'To exist is to differ'. This formulation moves beyond Leibniz's 'identity of indiscernibles'[70] or Hegel's 'identity of identity and non-identity'[71], although it certainly

---

[70] '[I]t is not true that two substances may be exactly alike and differ only numerically, solo mimero'. From Leibniz's Discourse on Metaphysics, §9.

[71] 'The analysis of the beginning would thus yield the notion of the unity of being and nothing — or, in a more reflected form, the unity of differentiatedness and non-differentiatedness, or the identity of identity and non-identity.' From Hegel's Science of Logic, §112. The former form – the unity of differentiatedness and

owes a debt to both. It substitutes difference for identity with the result that we must reconceptualise our whole notion of ontology as being concerned with being *qua* being; and indeed, as we will soon see, Tarde does just that with his theory of dynamic possession. But however we formulate identity, with Leibniz as *A is A* or with Hegel and his dynamic of contradiction and negation[72], then we start, at least, with *A*. How are we to formulate difference? We cannot simply state that *A is not-B*, because that would require an identity, *B*, for there to be a *not-B*. It is also not necessary but rather contingent that *A is not-B*; *not-B* could also be *not-C* or *not- D*. Can we say then that *A is not-everything other than A*, the negation of everything that is *not-A*; or, to put it in its classic Hegelian form, *A is not-not-A*? Perhaps not, as when we start with identity, we start with the notion that there exists something, *A*, which has all the properties of *A*. These properties may include the negation of their negation, *A is not-not-A*, and may be defined by their difference to other beings, *A is not B or C or D*. But this is the negation of difference to establish identity. On the other hand, if we begin with difference surely it should be identity that is negated. Therefore, a truly radical ontology of difference would take the form of *A is not-A*. When we begin with difference we replace substance with relation. We start with the relation and discover the substances that are related instead of starting with the substance to discover to what it is related. If we begin with relation it means that 'association is not what happens after individuals have been defined with few properties, but what characterize entities in the first place' (Latour et al, 2012, p.598). As Roth writes in his essay *Realizing Marx's Ontology of* Difference, 'each instance of A is a singularity and, as such, inherently is different from other singularities … each singularity is itself heterogeneous, because it is what it is only through the plurality of singularities' (2008, p.88). This is what Tarde means when he writes, 'identity is only the minimal degree of difference and hence a kind of difference, and an infinitely rare kind'. This minimal degree of difference is found in the infinitesimal – identity occupies the smallest margin between difference and yet more

non-differentiatedness – is perhaps more appropriate when discussing Tarde but would ruin the symmetry between Hegel's postulate and Leibniz's!

[72] For Tarde, the key problem with Hegel – and the reason that Deleuze is so staunchly anti-Hegelian – is that in Hegel's formulation difference is always negated. One begins with identity; identity is negated (by difference); and, finally, the negation is negated to restore identity. In the process, difference is obliterated. This use of negation and the negation of the negation to define identity moves beyond classical logic's empty statement of A = A but does so at the expense of difference which must, as Deleuze says, always be 'crucified' (2004, p.174). So, while Hegel defines identity by difference, it is difference which he goes on to sacrifice. Tarde would much rather sacrifice identity. All of this deserves a much more detailed discussion but sadly there is not the space, nor the time, here for a lengthy detour through the 'architectural and magisterial grandeur' of Hegel's 'ruined work' (Tarde, 2012, p.20).

difference, it is but a point in a process of incessant, unravelling difference. This is related to Leibniz's view of motion and rest, expressed clearly in *Specimen Dynamicum*:

> Nothing more foreign to nature can be conceived, moreover, than to seek firmness in rest, for, there is never any true rest in bodies, and nothing but rest can arise from rest.
>
> (in Bussotti, p.38)

For Leibniz, motion itself is absolute while, in actuality, the motion of any given body is relative. The inertial tendency of matter is overcome by the dynamic tendency of the entelechy (the expression of absolute motion): the two are engaged in a tug of war that neither can win outright, a body will never come to a complete halt nor will it break free of inertia. If we continue Tarde's substitution of identity with difference, we find it is difference that expresses absolute motion and identity (the analogue of the entelechy) that expresses inertia.

Accordingly, rather than difference constituting the space between discrete identities (beings), difference is the relational plain upon which identity is to be found. Difference, for Tarde, is akin to Leibniz's 'primary matter', and whereas Phemister's Leibniz infuses primary matter with entelechies, Tarde infuses difference with identity. Identity is an instantiation of difference: it is the particular to difference's universal, the circle to the ellipse.[73] Identity is also an event, the fulcrum or momentary point of obligatory passage between the differential alpha and omega – to use a suitably Latourian phrase – which transfigures and surpasses itself, and a way of punctuating, periodizing, or dividing up the 'differential continuum'.[74] Identity is a manifestation of stability, a freeze frame or cross-section of difference which is always in motion.[75] To put it another way:

---

[73] Reminiscent of Kant in the Second Preface: 'Hitherto it has been assumed that all our knowledge must conform to objects. But all attempts to extend our knowledge of objects by establishing something in regard to them a priori, by means of concepts, have, on this assumption, ended in failure. We must therefore make trial whether we may not have more success in the tasks of metaphysics, if we suppose that objects must conform to our knowledge.' (Bxvi)

[74] Not unlike the way Mondrian divides up space, for example: https://en.wikipedia.org/wiki/Piet_Mondrian#/media/File:Piet_Mondriaan,_1930_-_Mondrian_Composition_II_in_Red,_Blue,_and_Yellow.jpg

[75] Deleuze makes a similar claim in *Difference and Repetition*: We know that each one of these completed notions (monads) expresses the totality of the world: but it expresses it precisely under a certain differential relation and around certain distinctive points which correspond to this relation. It is in this sense that the differential relations and distinctive points already indicate centres of envelopment within the continuum, centres of possible implication or involution which are brought about by individual essences. It suffices to show that the continuum of affections and properties in a sense precedes the

> The essence of things is not in their being and certainly not in their collective manifestations, but in their individuality and interaction through communication. There is no such thing as personal identity apart from the external influences on thought, behaviour and desire that the individual assimilates from the outside world. 'The identity of the person is only an avidity which is satisfied by an incessant appropriation from without. The "I" is only a word, or is only "mine" constantly enlarged'.'
>
> (Niezen, 2014, p.49; quotation from Tarde, *La Philosophie Pénale*, 2006, p.120)

Where Hegel seeks to obliterate difference in the service of identity, Tarde obliterates identity – 'more or less' (Tarde, p.41) – in the service of difference. Or, to be more precise, in the service of producing higher forms of difference or, as Tarde himself puts it, 'transcendent diversities' (p.41). Tarde's project stands apart from the two dominant modes of contemporary identity theory: the Foucault school who see alterity as something which is excluded in order to produce identity; and, as already touched upon, the post-Hegelian's who see difference as the negation in the dialectic. Tarde, on the contrary, affirms difference; an idea taken up by few theorists, with the exception of Deleuze and, of course, Latour who would speak of differentiation and identification instead of identity and alterity (Czarniawska, 2009, pp.11-13). The interplay between the two can be thought of in terms of the relation of a wave to the sea:

> The wave—an individual brain—is a fold caused by the movement of the sea, this space of associated brains. The wave folds in and returns to the sea, but the movement continues. Thus, it does not make sense to speak of the sea as 'influencing' or 'determining' the waves, but it does make sense to speak of waves as forming the sea, and of the sea as forming the waves.
>
> (p.13)

When we consider the production of higher diversities, a similar process is evident in the evolution of language. Languages tend to move from diversity to uniformity through the formulation of rules of grammar and the smoothing out of differences in accent and dialect.[76] However, that uniformity allows greater clarity in the exchange of ideas, which

---

constitution of these individual essences (which amounts to saying that the distinctive points are themselves pre-individual singularities; this in no way contradicts the idea that individuation precedes the actual determination of species, even though it is preceded by the whole differential continuum). (p.47)

[76] For example, the increasing ubiquity of *T*-glottalization and *th*-fronting in British English. The following article is overly simplistic in its explanation (*T*-glottalization most likely travelled south from Scotland

results in a greater diversity of ideas. Tarde uses Victor Hugo's 'prosody with its subtle rules' (p.41) as an example of regularization through the formation of laws and rules as a means to greater complexity; although, of course, not all laws and rules are institutionalized. We can only speculate as to what Tarde would have made of the turn to free verse and the abandonment of meter and rhyme in 20th century poetry. But it is certainly the case that the best of free verse poetry has its very own subtle rules – as T.S. Eliot said, 'No verse is libre for the man who wants to do a good job'[77] – and the worst clearly shows the effect of too many rules; inasmuch as the abandonment of meter and rhyming forms does not mean the abandonment of rules, but the substitution of a clear, simple set of rules with a messy, confused multiplicity of competing rules derived from common language and social convention. The result is a journey from the complex to the simplistic, rather than the desired move from the simple to the complex. This is strikingly similar to Leibniz's maxim, quoted in the previous chapter, that perfection is, 'that which is simultaneously simplest in theories and the richest in phenomena.' Tarde puts Leibniz's maxim in to motion by setting it upon the wheels of a refashioned Hegelian dialectic. To borrow a Marxian formulation, Tarde's ontology can be described as D-I-D',[78] where difference is transformed into identity only to be transformed into a greater form of difference. Where the traditional dialect aims for a reduction to a single opposition, Tarde, to use Muldoon's term, 'depolarizes' the dialectic and affirms a 'multiplicity of forces' (2014, p.63). And, in this formulation, we find the dynamism of Tarde's, in Didier Debaise's words, theory of 'dynamic possession' (2008). We will come to the 'possession' shortly, but in the meantime let us focus on the dynamism of Tarde's theory. Identity sits between difference and a greater difference and, on the level of the aggregate, order and

---

rather than north from London), but it illustrates the general trend away from a plurality of distinct regional accents: http://www.telegraph.co.uk/technology/2016/05/26/revealed-how-london-accents-have-killed-off-local-dialects-acros/

[77] From Eliot's lecture *The Music of Poetry*, delivered as the 1942 W.P. Kerr Lecture at the University of Glasgow.

[78] As opposed to Marx's general formula for Capital, M-C-M', where money (M) is transformed into commodities (C) which are then transformed back into money plus the surplus value extracted from the process (M'). Of course, Marx posits an alternative formula: where M-C-M' produces exchange values; the form C-M-C produces only use values, that is to say the cycle ends with the production of a use value which is consumed. Thus we have the dual nature of commodities, containing both use values and exchange values. This is interesting, in my opinion, because of the similarity to Tarde's formulation. For Marx, money is the universal equivalent whereas a commodity is a particular product of labour. The formulation M-C-M is then comparable to Tarde's D-I-D' – both move from a universal – in Marx's case money, in Tarde's difference – to a particular – the commodity or identity – in order to accumulate more money / greater difference and diversity. The contradiction inherent in commodities (between use and exchange value) takes in Tarde the form of an inherent contradiction in the nature of identity: identity both negates and is negated by difference. That both Tarde and Marx are using Hegel in a similar way – completely independently of one another, as far as I am aware – is quite striking and deserves further examination; but, again due to time and space, not here.

simplicity interpose between diversity and greater diversity: 'order and simplicity are simply mediating terms, alembics in which elementary diversity is potently transfigured and, as it were, sublimated.' (p.43) Order, simplicity, identity; these are but points of obligatory passage for difference, complexity, diversity.

This point of obligatory passage could be interpreted as a period of time in which identity is fixed as a state. However, this is not the case. On the contrary, the only state is the state of difference: identity is, like rest is to movement, merely a special kind of difference. Identity is an abstraction, a punctuation or periodization of difference, a point without extension. One finds a similar strand of thinking in Bergson's *Creative Evolution*:

> [T]here is no essential difference between passing from one state to another and persisting in the same state. If the state which "remains the same" is more varied than we think, on the other hand the passing from one state to another resembles, more than we imagine, a single state being prolonged; the transition is continuous. But, just because we close our eyes to the unceasing variation of every psychical state, we are obliged, when the change has become so considerable as to force itself on our attention, to speak as if a new state were placed alongside the previous one. … Discontinuous though they appear, however, in point of fact they stand out against the continuity of a background on which they are designed, and to which indeed they owe the intervals that separate them; they are the beats of the drum which break forth here and there in the symphony.
> (1998, p.3)

Difference, not identity, is the alpha and omega of the universe. Difference is constitutive of identity, it is not simply the relation between two identities. In other words, it is the difference between things that makes them individuals. As opposed to Hegel, Tarde does not accept that 'difference is grounded in an underlying identity' (Stern, p.23). On the contrary, the underlying identity is wholly grounded in difference. Difference is primary, difference comes first. Only in this way can we account for variety, for if we begin with identity we will always smooth over differences in an attempt to integrate individuals into general categories. Unlike identity, difference is irreducible. As Tarde writes, 'If everything comes from identity and returns to identity, what is the source of this dazzling torrent of variety?' (2012, p.46) The laws and forces which govern our universe do not apply to an inert, passive, apathetic substance, fixed in its identity and state; the laws and forces are only the brakes and dykes:

…erected in vain against the overflowing of revolutionary and civil dissensions, in which the laws and forms of tomorrow secretly take shape, and which, in spite of the yokes upon yokes they bear, in spite of chemical and vital discipline, in spite of reason[79], in spite of celestial mechanics, will one distant day, like the people of a nation, sweep away all barriers and from their very wreckage construct the instrument of a still higher diversity.

(pp.46-47)

This call to arms places difference at the heart of things rather than identity. Laws and forces do not motivate, they constrain; and, in so doing, produce higher and higher forms of difference. Difference is the *élan vital*. In society, this takes the form of imitation: the association and assimilation of social beings to produce new diversities. Of course, this social imitation is not mechanical; it is not mere replication but something more akin to influence (Katz, 2006, p.264). In fact, as Latour claims in a passage which would not have endeared him to the sociologists among Tarde's followers:

> [I]t is important to understand that imitation is not an obsession of [Tarde's]. Nor is his point a psychological argument about how humans imitate one another, as if Tarde had generalized from some observations to the rest of his social psychology. The situation was rather the opposite. He was searching for a route by which to bypass the ill-conceived notion of structure when he stumbled upon a plausible vocabulary, borrowed in part from medicine, and later from psychology. Imitation, that is, literally, the "epidemiology of ideas." With this notion, he could render the social sciences scientific enough by following individual traits, yet without them getting confused when they aggregated to form seemingly "impersonal" models and transcendent structures. The term "imitation" may be replaced by many others (for instance, monad, actor-network or entelechy), provided these have the equivalent role: of tracing the ways in which individual monads conspire with one another without ever producing a structure.
>
> (2010, p.152)

Latour correctly identifies Tarde's monadology as the dominant mode of Tarde's thought, with imitation placed in its proper place – as part of the vocabulary of Tarde's monadology.

---

[79] It is worth pausing at 'reason' to quote Katz, who writes: 'for Tarde, reason is better thought of as a product of conversation, in the sense that participants in Tardean conversation emerge with more considered opinions than the ones with which they entered' (2006, p.268)

It is therefore impossible to understand Tarde's social laws and laws of imitation without first understanding his monadology – it cannot be set aside as many writers on Tarde have attempted to do, explicitly or otherwise (Borch, 2014; Katz, 2006; Niezen, 2014; Scott, 2007). To return to the production of higher diversities, in the organic world, it takes the form of generation: molecular, cellular, sub-cellular and so on. Both begin with difference and result in greater difference.[80] For Tarde, the monad becomes a functional concept – its function is to produce:

> …a variation or a difference inside a continuous movement. It is an agency of variation that goes 'differing,' that is to say, that has step by step repercussions *on the whole universe*, although according to variable degrees of intensity. (Debaise, 2008, p.3)

Possession

Now we must turn to possession. Possession is the next of Tarde's innovations. Whilst difference animates, motivates, and constitutes the elements, possession is the glue that holds together the aggregate. Relations of possession constitute society, for example, my father, my son, my mother, my city, my country, my party, and so on. These relations have different characters; some are unilateral – a master and a slave, for example – while others are reciprocal – two lovers who possess one another. Others still are mediated through a complicated series of cultural, legal, and political institutions. But we must not get ahead of ourselves, Tarde's point is more fundamental than this:

> All philosophy hitherto has been based on the verb *Be*, the definition of which was the philosopher's stone, which all sought to discover. We may affirm that, if it had been based on the verb *Have*, many sterile debates and fruitless intellectual exertions would have been avoided. From this principle, *I am*, all the subtlety in the world has not made it possible to deduce any existence other than my own: hence the negation of external reality. If, however, the postulate *I have* is posited as the fundamental fact, both that which *has* and that which *is had* are given inseparably

---

[80] Even atoms composed of the same substance are sufficiently differentiated to join to create a new substance, hydrogen hydride, for example (2012, p.50).

at once.

(2012, p.52)

Furthermore, 'being', as a concept, is dependent on possession as 'being' itself is a property. Something is or it is not. Something which 'is' has (possesses) the property of being. What is more, a shift from 'being' to 'possession' allows the emergence of a new continuum heretofore excluded by the binary nature of 'being'. There is nothing between being and non-being, one cannot 'be' more than something else; there is however something between having and not having as one can have more or less of something. One can gain and lose possession in a way that one cannot with being, even accounting for the concept of becoming which, after all, has no satisfactory opposite.[81] Another distinction between 'being' and 'having' is that one is, in effect, a stationary and fixed concept while the other is, by its very nature, active and dynamic. One 'is' until one 'is not'. Whereas one 'has' and can 'have' more and more again; or less, or any combination or series of gains and losses directed towards multiple elements and aggregates.[82]

The philosophical shift entailed in this innovation is significant.[83] Tarde writes, 'Instead of the famous *cogito ergo sum*, I would prefer to say: *I desire, I believe, therefore I have.*' (p.52) While by no means the first or last to reject Descartes *cogito*, as we saw, for instance, in the previous chapter[84]; Tarde is attempting a clean break with the whole concept of ontology. In its place, he posits an echontology[85], a logic of having.

---

[81] Something may be unbecoming but it makes no sense to speak of something *un-becoming*. One may object that such a complaint results from an inability to think beyond contradiction – affirmation and negation *etc.* – but 'becoming' connotes a linear, accumulative process where one moves forward into the world; as opposed to possession which is necessarily a social relation with no fixed direction and is capable of including accumulation and dissipation, accretion and erosion, folding and unfolding without contradiction.

[82] In addition to the similarities in language (All philosophy hitherto…), there is another echo of Marx in Tarde's writing; specifically, the 11th theses on Feuerbach: 'Philosophers have hitherto only *interpreted* the world in various ways; the point is to *change* it.' Both Tarde and Marx are attempting to formulate a philosophy grounded in activity and dynamism.

[83] There is potentially a significant political shift too, as Latour observes: 'Nothing is more sterile than identity philosophy —not to mention identity politics— but possession philosophy —and maybe possession politics? — create solidarity and attachments that cannot be matched (2002, p.15). Latour, in my opinion, is correct on the question of identity politics which, in Deleuzian terms, absorbs the notion of difference while completely ignoring that of repetition – or in Tardian terms, difference is affirmed while possession is overlooked.

[85] From the Greek ἔχοντος (echontos), the genitive present participle of ἔχω, 'I have' or 'I possess'. Despite constructing this term after a significant time spent with Woodhouse's *English-Greek Dictionary*, I was slightly disappointed to find that Theo Lorenc had arrived at it first in a footnote to his Afterword on Tarde's *M&S*. However, he feels that its similarity to 'ec(h)ology' would be distracting. I do not share

Historically speaking, this logic of having emerges from the logic of being; it is implied by 'being' inasmuch as 'being' is a property of something. The key ontological opposition can therefore be mapped onto an echontological opposition which reveals it to be, in fact, non-contradictory: 'being' becomes 'having', 'not-being' becomes 'what is had'. One cannot both 'be' and 'not-be' but one can simultaneously have and be had, possess and be possessed. For example, I have a brother and my brother has me as his brother. One also 'has' in the plural, one 'has' in a multiplicity of directions and intensities. Similarly, one is 'had' or possessed from a multiplicity of directions and in varying degrees of intensity. These multiplicities result in multiple worlds, centred on multiple actor-monads so that when Tarde 'reassembles the social' he finds a multiplicity within a multiplicity of worlds (Marrero-Guillamón, 2013, p.419). As observed earlier in this chapter in relation to identity, the substitution of being with possession explodes activity. Action is not simply something performed by an agent on other agents or objects. Action consists of the having and being had, the reciprocal possessions which, combined with a concept of agency based on difference rather than identity, constitutes a truly social relationality, a sociological monadology.

The consequence of this social relationality is to reveal that, in the natural world, the property of any given proprietor is itself a proprietor or set of proprietors of one another. For example, extension is not a property but a description of the relation between one proprietor and all others: something is extended by virtue of its relation to other things; something is in motion by virtue of its changing relation – its spatiotemporal relation – to other things. Possession is reciprocal in this case. However, we find another type of possession, a unilateral possession. As mentioned above, this form of possession is like the relation of a master to a slave. Tarde describes this latter form of possession as extra-social, and the former, the reciprocal, as intra-social. This may appear counterintuitive but is perfectly in keeping with his radically social relational echontology. It is a question of abstraction. At the level of the elemental, the infinitesimal, it is true to say that every thing possesses and is possessed by every other. However, if we speak, as Tarde does, of the mind, we can say with confidence that whilst the mind possesses thoughts, these thoughts do not possess the mind. With less confidence, Tarde sketches a distinction between the real domain of an element and the conditionally necessary domain:

---

this view. In fact, I believe the similarity is serendipitous and the term useful inasmuch as it makes clear Tarde's break with ontology.

> They mean, I think, that beyond the real domain of every element, there is its conditionally necessary domain, that is certain although unreal, and that the ancient distinction between the real and the possible, in a new sense, is not a chimera. (2012, p.54)

It is problematic to describe the unilateral relation as unreal – after all, the relation between master and slave is all too real for the slave. What Tarde is getting at here is the question of proximity. For the individual element or monad, its nearest neighbours (its real domain) are its fellow elements within a certain being. For example, if a monad belongs to a cactus, it will be immediately surrounded by other cactus monads. Its relations with these other monads is therefore intra-social as it is a relation between elements of a single social form. When these elements are aggregated – when their intra-social relations create a social form – then that being is able to enter into a relation with other aggregated beings. For the monadic element, that relation constitutes an extra-social relation which takes place in its conditionally necessary domain. As discussed earlier in this chapter, these extra-social relations – where elements reach beyond their own social form – is, as Leonard Cohen would have said, the crack through which the light gets in. It is the extra-social relations that drive difference into social forms; whether the form is a plant, a human being, or a human society. As we know, Leibniz did not allow for extra-social relations in his monadology; their inclusion in Tarde's is a significant innovation which creates a radical sociality both within and without the monadic element.

However, we must also take into account the complexities of Tarde's manifold and overlapping societies. It is true to say that the relation of a cactus to me is extra-social. I, in ordinary circumstances, perceive the cactus as a whole. Within it is, no doubt, a thriving monadic community but it is one to which I have no access. On the other hand, when I speak to a friend I do so as one member of a social group to a fellow member of that group. We, as Tarde writes, 'reciprocally grasp each other.' (2012, p.55) My ego-monad stands in an intra-social relation with the other monads belonging to me; but it is also part of a larger social form – a particular human society – and therefore also stands in an intra-social relation with the ego-monad of my friend. The distinction is clear: the relation I have with my friend is one of reciprocal possession; my relation to the cactus is unilateral. This is why systemized slavery or bigotry requires the 'othering' of a particular social group. Yet, even this is subject to complication and is inherently unstable. In their restless and indefatigable sociality, monads will find one another. There is something even in my relation to a cactus that is reciprocal, affirmed by our mutual organic life and all that

entails. 'The element, already, intuits the element; the girl who tends a flower loves it with a devotion which no diamond could inspire in her.'[86] (2012, p.56) The reciprocal relation also produces an emergent harmony – as opposed to Leibniz's pre-established harmony – by concretising relations of belief and desire and allowing further relations to be built on those foundations. For example, in terms of technological development, the steam train is a harmonic relation between the steam engine, pistons and iron; all of which are inventions which occurred independently of one another. The steam train in turn enters into relations with the railway system, the movement of goods and passengers and all the social, political and economic developments that entails. Thus, we find the 'unceasing tendency of internal small harmonies to exteriorize and to progressively amplify' (Tarde, 1999, p.107 quoted in Debaise, 2008, pp.11-12).

Reciprocal possession is the superior relation, it is the relation *par excellence*:

> … [relations are] the paradigm of possession of which all others are only sketches or reflections. By persuasion, by love and hate, by personal prestige, by common beliefs and desires, or by the mutual chain of contract, in a kind of tightly knit network which extends indefinitely, social elements hold each other or pull each other in a thousand ways, and from their competition the marvels of civilization are born.
> (2012, p.56)

It is also the creative relation, the fertile exchange of one element with another. Its opposite, unilateral possession, is destructive. The two form a dialectic. The extra-social relation introduces the difference necessary to sufficiently transform any given social form to the point where it can absorb another – or elements of another – social form, thus creating a new set of intra-social relations. Difference leads to greater unity, which allows for still greater diversity. For example, imagine a walled society with its own particular social form. A foreign element coming upon this walled society will only be able to perceive it and interact with it as a whole.[87] However, if that foreign element is able to effect some change on the society, breach its walls, intuit a fellow element within it; then, the introduction of a new diversity can transform that walled society into, if not an open society, a society at least capable of understanding this foreign element sufficiently to

---

[86] Of course, if she were a geologist she might see that the diamond too is, in its own way, teeming with life.

[87] For an example of that kind of closed society think of the Japan's *Sakoku* policy during the Edo period.

grasp it reciprocally. In introducing diversity the possibility of reciprocity is introduced, which in turns allows ultimately for the absorption of that diversity and the foreign element into a larger social form, filled with reciprocal relations and all the social and creative possibilities that occasions. This is a form of creative destruction which should not be thought of as an annihilation or opposition but:

> a) one of combining elements that, in their varying repetition, are scattered by destruction and re-integrated in the new, b) an initiator of the translational processes precipitated by the new, and c) an opportunity for associations of actors to take shape.
> (Rothe, 2012, p.180)

Tarde writes, 'We must see every spontaneous modification of a living species, even the most fleeting, as *aiming* towards another species, which it would attain if exaggerated sufficiently.' (p.59) The attainment or possession of the other is the telos embedded in each element, it is a kind of restive acquisitiveness; or, as Tarde terms it, an avidity. In sociological terms, this avidity is realised through imitation. Innovations are imitated and thus elements are absorbed into the social programme of the innovator.[88] For the innovator to innovate, to create something truly new, they must stand outside these relations of imitation. But, as we know, no one can truly stand apart from the relations in which they find themselves enmeshed – any such claim amounts to an egotistical denial of the 'obscure labourers' cited by Tarde. And so, instead of conceptualising a hierarchy where the innovations of the innovators are imitated by the imitators, we must understand that the social reality is more akin to a web traversed by countless monads who, by virtue of their movements and relations to one another, act as both innovators and imitators.[89]

---

[88] Muldoon, writing about the work of Lazzarato, describes the similarity of this notion to Deleuze's difference and repetition:

> On the basis of this analysis of infinitesimal psychic forces, Tarde defines the most basic social fact as the action at a distance of one brain on another (Lazzarato, 2002: 31). The two elemental ways in which an action may occur are either through innovation or imitation. Lazzarato reveals how Tarde's two basic social tools of analysis mirror that of Deleuze's difference and repetition: innovation (difference) describes the power of social forces to invent, differentiate and compose the social world, whereas imitation (repetition) refers to the capacity to reproduce and diffuse that which is innovated, not according to a repetition of the same but through a production of something altogether new in the process (Lazzarato, 2002: 42). When one brain interacts with another it imprints or receives certain desires and beliefs through the encounter. On a social level, organisms are continually engaged in such encounters through various connections and within a general flux of psychic forces. (2014, p.64)

[89] This, in my opinion, is why Tarde's monadology is not an afterthought to his theory of imitation but key to fully understanding its complexity. Unfortunately, without his monadology Tarde is fodder for business

Again, we must be conscious of the various levels at which Tarde's metaphysics operate. While there is a telos at work within the element, there is no teleology present in the aggregate or the world as a whole.[90] This is not because avidity is restricted to the element only, but rather because avidity is necessarily expressed through each individual element and, consequently, comes into competition and conflict – or accord and alliance – with other elements when aggregated. An element's appetite can never be sated, its 'telos' can never be realised. In other words, while a lone element is driven by the need to possess, the element within an aggregate or social form is forced to compete with all the other elements within that aggregate, thus ruling out any one essential telos inherent to the aggregate. The nature of this universal avidity is that, 'every possibility tends towards its realization, every reality tends towards its universalization.' (p.60) What prevents the universalization of any given social form is the presence of external rival social forms and internal elemental dissidents. Therefore, due to the presence of these competing elements with their conflicting aims, there can be no teleology of history or indeed, for example and contra Aristotle, an oak tree. External reality becomes, in this model, something we push against, push into, and absorb and so on. It frustrates and resists; it is for this reason that the characteristic of, for example, solidity is necessarily a relation between an object and a subject, not a relation that makes any sense for the object in relation to itself. (p.61) Solidity is a form of resistance to our avidity, rather than an intrinsic property. The irony of this is that when universalization of a particular reality occurs, it increases the complexity and diversity of the elements within that social form whilst also increasing the number of elements whose avidity will ultimately be stifled. For example, in early human societies, we can reasonably suppose that it was not overly difficult for an individual to impose their will on their tribe or social group; for no other reason than in a smaller social group, there are fewer competing individual plans that need to be overcome. In modern society, the degree of universalization in society makes it extremely unlikely that one individual will be able to impose their will on the whole of society. Having said that, there is still one 'tiny mind' whose idea or plan has triumphed by the process described earlier in this chapter, whereby any state of affairs has its genesis in a lone 'tiny mind' or element that is, through a combination of possession and mimesis, ultimately successful in imposing its 'plan' on the rest of the social aggregate it inhabits. In one sense, it is a question of ratios: a large

---

school innovators and entrepreneurs who wish to separate in a Randian fashion the innovators from the mass of imitators.

[90] On teleology, Latour *et al* comment, 'When we say, for instance, that interacting ants unwittingly produce a perfectly designed ant nest 'without' being themselves aware of the 'overall plan', we might have unwittingly confused two different observing points of view: that of the ant and that of the ethologist' (2012, p.602).

number of small societies will see, say, a ratio of one fulfilled individual plan to 100 stifled plans, but the larger society the greater the ratio. That means, if we persevere with the example of human society, that a single universal human society would be moving towards the realization of a 'unique individual plan' (p.61) which has its origin in one mind at the expense of billions of unrealized plans. A world of smaller, fragmented social groups could see the realization of thousands of unique individual plans within each group at the expense of fewer unrealized plans. Here we can see how universalization does not result in uniformity but, rather, a greater degree of diversity.[91]

This may give the impression that Tarde's monadological society is a nightmarish Hobbesian state of nature. This is not the case at all. It is clearly impossible to identify from which element any idea or action originates and, regardless, its realization is ultimately dependent on the collaboration of its rivals. Tarde writes:

> [I]n reality there exist an infinite number of centres and foci, from different points of view and to varying degrees. To consider only the most important of these centres, there still exists, we maintain, at the heart of the sun, the conquering atom which by its individual action extended by degrees to the whole primordial nebula, disrupted the contented state of equilibrium which, we are told, the latter enjoyed. Little by little, its attractive influence created a mass, while around it other atoms, its crowned vassals, followed its example in separately gathering together several fragments of its vast empire, and shaped the planets. And, since this first beginning of time, have these triumphant atoms, imitated by their slaves who exert their own attractive power, ever ceased for an instant their attraction and vibration? In spreading like a contagion through infinite space, has their condensatory power

---

[91] To indulge Tarde on this theme outside the main body of the text, he writes at length but rather beautifully in *An Outline of Sociology*:

> Disharmonies are to harmonies what dissymmetries are to symmetries and variations to repetitions. It is from the midst of exact repetitions, absolute contrasts, and perfect harmonies, that the best examples of general diversity, picturesqueness, and disorder appear, namely, the individual characteristics of things. The expression of a man or woman's face, refined by the influences of the social life and the intense, complex, and ceaseless life of imitation, is a small and fleeting phenomenon. Yet there is nothing so important as just this fugitive shade of expression. And no painter has succeeded in catching it; no poet or novelist has recalled it to life, no matter how hard he has striven in the attempt. The thinker has no right to smile at sight of their long-continued endeavours to grasp this almost tangible thing, which never has been, and never can be, recalled. There is no science of the individual, but art is wholly of the individual. And the scientist, remembering that the life of the universe depends entirely on the fruition of personal individuality, would be compelled to reflect on the artist's labour with a humility mingled with some envy, did he not himself, by stamping his personal seal on his own general notion of phenomena, always impart to that notion an aesthetic value, the real raison d'être of his thought. (1899, p.91)

diminished? No, for its imitators are not only its rivals, but its collaborators. (p.62)

Setting aside the heliocentrism of that passage, we can still appreciate the model that is on offer, one which applies not just to the universe but human, cellular, atomic, and so on, societies too. Within this model, we find our twin universal forces of belief and desire.[92] The force of belief[93] in an element generates an idea, the force of desire transforms that idea into an intention. These intentions are communicated between elements, by whatever means, and when the intention of one element is adopted by another, the adopting element is transformed. In *The Laws of Imitation,* Tarde renders these as 'invention and imitation' which take possession of belief and desire in order to organise and use the 'real social quantities' of belief and desire (1903, pp.144-146). In the language of religion or politics, these processes would be described as propaganda and conversion (p.63). The metaphor is a useful one for it elucidates the difference between unilateral possessions and reciprocal possessions. For example, the invading army tends to land at one point, a beachhead or suchlike, and conquer from that point outwards. A proselytizing religion, on the other hand, tends to spread its followers far and wide, conquering by persuasion rather than force. Soldiers are conscripted to fill a certain number of positions and ranks, disciplined and sent to forcibly impose the will of some imperial ruler on foreign populations. Evangelists are motivated by conviction, convert through propaganda and have no limit to the number of converts they seek. Armies confront one another as wholes and triumph by the destruction of the other; religions also confront one another as wholes, their rituals indecipherable to the other, but they endure and expand by absorbing elements of the other. Of course, these are just metaphors for the processes of unilateral and reciprocal possession – we know from history the difficulty of separating the religious from the military and the complicity of almost any religion you can think of in violence and conquest – but they serve to illustrate in their ideal, abstract forms the difference between the two modes and, crucially, their differing resilience: most military outfits enter and exit history's stage in the blink of an eye compared to the longevity of the major religions. (pp.64-65) The superior relation, the relation *par excellence,* is the reciprocal relation; the one found most readily in the highly developed, unified yet diverse, ancient cellular and organic societies.[94] Therefore,

---

[92] Discussed at the beginning of this chapter.

[93] To reiterate for clarity, belief is not necessarily conscious rational belief but includes pre-noetic belief.

[94] As pointed out in a previous footnote, our human society, young in comparison to these millennia old communities, still struggles.

we must not view nature with Darwin, as a battlefield where the survival of one is conditional on the demise of the other. Instead, we can view nature as an arena in which different forms of life absorb and assimilate one another, where aggregates are discarded and renewed but elements and, crucially, difference endure. This is a not a destructive process but a creative one; a creative evolution, to borrow Bergson's phrase.

Recall the quotation from Pauline Phemister in the previous chapter:

> Apparent death is the separation of the person (or corporeal substance) from the larger part of their physical body. A visible and divisible corpse is left behind. The corporeal substance itself, however, comprising the core body and indestructible soul, remains a living, indivisible (although now to all practical purposes invisible) being.
> (Phemister, 2005, p.99)

Tarde follows Leibniz, writing:

> Non-life is not necessarily non-being, any more than is non-ego … Perhaps life is nothing but a time of trials, a drudgery of schoolboy exercises undergone by the monads who, on graduating from this hard and mystical school, find themselves purged of their former need for universal domination.
> (pp.65-66)

Taking the whimsical latter half of the quotation at face value, the obvious question is, can we attain such a heaven here on earth? But one must suspect Tarde has fallen victim to his literary flair here, for he neglects one half of his thesis.[95] It may be true that each monad desires universal domination, but each monad also requires the domination and imperious ambitions of other monads. When we begin with difference, when we place relation, in the form of possession, at the heart of metaphysics, we find a system centred on process, not substance. The schoolboy exercises are not only undergone by the monads, but the monads too are undergone by the schoolboy exercises. The exercises, the process of possession, dispossession and repossession, of being possessed, released and possessed once more;

---

[95] True, I think, in this case but worth noting Niezen's assertion in relation to Tarde's literary style that 'Indeterminacy was a principle in his work precisely because the foundations of social life as he conceived them were indeterminate' (2014, p.46).

these relations define the monads, without them they are nothing, they have no properties, they are subjects without predicates.

* * *

The boldness and radicalism of Tarde's echontology is striking. For a politically conservative criminologist and judge, Tarde is an unlikely iconoclast. But a radical streak does run through his work. Czarniawska points to Tarde's 1896 science fiction novel, *Fragment d'histoire future* (published in English as *Underground Man*), wherein he describes, 'a completely egalitarian society, people are free of needs and develop an intense 'interspiritual' life, consisting of the circulation of ideas—all barriers to conversation gone' (2009, p.5).[96] And Latour points out that what emerges in Tarde's work is an:

> Extraordinary picture of a social order constantly threatened by immediate decomposition because no component is fully part of it. Every monad overspills the artificial being of any 'superior' order, having lend for allowing its existence only a tiny part, a *facade* of itself! You can enrol some *sides* of the monads, but you can never dominate them. Revolt, resistance, break down, conspiracy, alternative is everywhere. Doesn't have one the impression of reading Deleuze and Guattari *Mille Plateaux*? The social is not the whole, but a part, and a fragile one at that! (2002, p.9)

Marrero-Guillamón also notes that, 'it is useful to make an explicit link between Tardian monads and Deleuze and Guattari's concept of assemblage as a "constellation of singularities"' (2013, p.413). For him, Tarde can usefully be enrolled into contemporary political activism, as the Tardian monad allows us to 'rethink the left as a "symbiotic" or "sympathetic" articulation of difference and disagreement', and because the monad 'allows us to conceptualize the "disjunctures between the actual and the possible" i.e. the power of invention and disruption that collectives have' (p.413). The Italian autonomist Maurizio Lazzarato also cites Tarde as offering us a 'unique perspective from which to view the operation of capitalism within this framework of societies of control' (Muldoon, 2014, p.67). What is becoming apparent is the ease with which Tarde's thought is enrolled into a diverse crowd of philosophical and political traditions. As we have seen, Tarde is claimed

---

[96] Although, I must admit, *Underground Man*, is a very strange novel and does contain some thoroughly bizarre ideas concerning sex and sexuality and is downright reactionary in terms of notions of gender.

as a pan-psychist, a vitalist materialist, even a speculative empiricist (Debaise, 2008, p.12). His work is taken as anticipating the digital age – Niezen writes:

> He seems to have anticipated – before the advent of radio broadcasting – some of the complex relationships between communication and social belonging … the connections between print capitalism and the rise of nationalism … his concept of publics seems more appropriate for the age of the Internet than for the time of mass production of newspapers.
> (2014, p.55)

Tarde also finds himself employed by computer scientists and network analysts, for example Dörk *et al* who are, 'inspired by the concept of the monad, which offers a relational perspective on the world by shifting emphasis from aggregation of the whole to movement among particular points of view' (2014, p.1535).

In other words, Tarde is everyone's favourite, in Latour's words, 'not totally respectable grandfather' (2002, p.2); which leads Latour to clarify that his claim on Tarde is 'not for the sake of genealogy building, but because, on a few technical points of horrendous difficulty, Tarde possessed solution we have been looking in vain for so long' (2002, p.3). This solution is arrived at through asking the following question, which is absolutely fundamental to Tarde's thought:

> how does Leibniz's Monadology allow us to rethink the nature of individuals in a way that makes them useful again to themselves, not as privileged, humanized subjects, but as actors seeking order? Can we eschew the modern myth of sacrifice, humiliation, and the lowest common denominator, and realize a more vigorous scientific conception of active social life?
> (Toews, 2003, p.401)

The answer is found in his echontology, his theory of dynamic possession and vitalist materialism, and his rejection of identity in favour of difference. This final point, the issue of identity, is the foremost technical point of horrendous difficulty to which Latour refers. As we have discussed, the notion of the individual in Tarde's work contains no trace of psychologism or psychological individualism. The individual, as Latour proudly points out, is a network, even an actor-network (2010, p.156). And, as such, Tarde provides the justification for the inclusion of non-human actors within Latour's own programme. The

'missing masses' can be included by shifting from the notion of being to the notion of possession, 'ending a hypocrisy that claims to say what non-humans are —their identity— and abstaining meticulously from saying what they want —their avidity, possession or properties' (Latour, 2002, p.15). Putting this idea to the test in a digital setting, Latour argues that in tracing relations of possession:

> The point of this navigation is that it does not start with substitutable individuals … but individualizes an entity by deploying its attributes. The farther the list of items extends, the more precise becomes the viewpoint of this individual monad. It begins as a dot, a spot, and it ends (provisionally) as a monad with an interior encapsulated into an envelope. Were the inquiry to continue, the 'whole world', as Leibniz said, would be 'grasped' or 'reflected' through this idiosyncratic point of view.
> (Latour *et al*, 2012, p.599)[97]

In this chapter, we have continued to build our library of concepts: adding possession, imitation, innovation, difference and our twin forces of belief and desire to appetition and apperception, compossibility and continuity, and, of course, the embodied monad. Indeed, it is that last of these concepts which represents the golden thread running through the work of Leibniz, Tarde, Whitehead and Latour; a thread we will continue to unpick in the next chapter on Whitehead before we turn our gaze to Latour's actant-rhizome ontology, equipped with our library of concepts from our troika of 'philosophers of monadologies'.

---

[97] For context, the following is one of Latour and his colleagues' examples of a digital test:

> We all have had the experience of preparing a meeting by searching on the web the name of the person we are soon to meet. If for instance we look on the web for the curriculum vitae of a scholar we have never heard of before, we will stumble on a list of items that are at first vague. Let's say that we have been just told that 'Hervé C.' is now 'professor of economics at Paris School of Management'. At the start of the search it is nothing more than a proper name. Then, we learn that he has a 'PhD from Penn University', 'has written on voting patterns among corporate stake holders', 'has demonstrated a theorem on the irrationality of aggregation', etc. If we go on through the list of attributes, the definition will expand until paradoxically it will narrow down to a more and more particular instance. Very quickly, just as in the kid game of Q and A, we will zero in on one name and one name only, for the unique solution: 'Hervé C.'. Who is this actor? Answer: this network. What was at first a meaningless string of words with no content, a mere dot, now possesses a content, an interior, that is, a network summarized by one now fully specified proper name. The set of attributes – the network – may now be grasped as an envelope – the actor – that encapsulates its content in one shorthand notation. (2012, p.592-594)

Chapter 3: Whitehead

> It could be one of those little games journalists play on television talk shows about books: "Who was the greatest philosopher of the twentieth century whose name begins with W?" Most learned people in America would answer "Wittgenstein." Sorry. The right answer is "Whitehead".
>
> (Latour, 2005b, p.223)[98]

There is always a temptation to dwell on philosophical categories and labels. The two preceding chapters indulge such accusatory taxonomizing: Leibniz charged with 'pan-psychism'; Tarde with 'vitalism'. Yet both charges will require reappraisal in light of Whitehead's philosophy of organism. And what of Whitehead? A monist, for sure, but so were Leibniz and Tarde. Perhaps it is best to introduce Whitehead as a philosopher of relations or, even better, a monadologist.[99] The term is more than adequate for our trio – perhaps Latour will make it a quartet – but the term monadologist gives little away beyond a preoccupation with internal relations and the identification of the subject with its object and vice versa. As for the reappraisal of Leibniz and Tarde, it may well be possible to avoid such pejoratives as 'vitalist' and 'pan-psychist' by appealing to Whitehead's use of the Jamesian depsychologized category of experience (Stengers, 2011, p.202): the actual occasion. Looking forward, depsychologized experience affords us a valuable perspective from which to understand the societies of actants Latour is attempting to anthropologize and is a term Latour quotes favourably in his introduction to Stengers' *Thinking with Whitehead*.[100]

But first, a few biographical remarks. Most philosophers have an early, middle, and late period but there are few for whom those periods are so markedly distinct as Alfred North

---

[98] Latour adds later in the same article, 'As to the other ''W'' [Wittgenstein] and those who have totally abandoned cosmology and metaphysics in order to retreat into language, they should remain where they are and where they belong: silent in the shelter of the various university campuses where they reside.' (p.229)

[99] Didier Debaise argues that Whitehead is in fact a 'speculative empiricist' as 'his ultimate aim is not to say what reality really is like, as it is from nowhere, but, rather, to provide more adequate and coherent interpretations of experience through a method of speculative and descriptive generalization.' (Weber, p.521)

[100] As an aside, tt is Isabelle Stengers who first introduces Latour to Whitehead's work, based on her discernment of a similarity in the concerns of the two writers. (Schmidgen, 2015, p.82)

Whitehead.[101] Whitehead was born in 1861 in Kent. He entered Trinity College, Cambridge, in 1879 on a mathematics scholarship and was elected Fellow in 1884 on completion of his undergraduate degree. Beginning his working life as a Cambridge mathematician, Whitehead taught and then collaborated with Bertrand Russell; a union which ultimately produced *Principia Mathematica*, published between 1910 and 1913. He left Cambridge in 1910, the result of a controversy regarding a friend and that friend's extra-marital activities, and moved his family to London, eventually securing a position as a lecturer at University College London in 1911. In 1914 he was appointed Professor of Applied Mathematics at Imperial College and, despite the *Principia* attaining canonical status and becoming one of the most influential works in the study of logic, Whitehead began to move away from his earlier mathematical logicism. During this period he mostly dedicated himself to teaching and administrative duties, while developing an interest in pedagogy, the philosophy of education, and the philosophy of science. It is during this stage of his career that the seeds for his later metaphysical works are sown, but it is not until he is appointed Professor of Philosophy at Harvard University in 1924 that he begins to realise a body of thought which reaches its zenith in *Process and Reality: An Essay in Cosmology*. The move to Harvard was precipitated by strict rules regarding mandatory retirement which would, by the early 1920s, have shortly put an end to Whitehead's academic career in England. The significance of the move and the break it represented with his career to date was not lost on Whitehead when he himself remarked that the first philosophy lecture he ever attended was the first he delivered at Harvard (Halewood, p.2).[102] Whitehead taught at Harvard until his retirement in 1937 and died in 1947, all his notes and manuscripts burnt, as per his instructions, by his wife, Evelyn. As for his essay in cosmology, published in 1929, *Process and Reality* (referred to henceforth as *PR*) began life as Whitehead's Gifford Lectures, delivered at the University of Edinburgh in 1927 and 1928. The work is, to use Whitehead's own term, an exposition of 'organic realism' (PR, p.309): we will unpack and interrogate this term throughout the chapter to come,

---

[101] Though some argue that there is a continuity to Whitehead's thought. John Lango argues that, 'A peculiarity that sets it apart from most writings on *Process and Reality* is the use of logic – in particular, the logic of relations – to define the types of entity. This indicates that, even though Whitehead's career is often divided into periods, there is no hiatus between his later metaphysical speculation and his earlier writings in mathematics, logic, physics, and the philosophy of science. In short, this indicates that the Whitehead of *Principia Mathematica*, is at work in *Process and Reality*.' (Lango, 1972, preface)

[102] This is not to suggest that Whitehead did not have a solid grasp of the philosophical canon; as Pomeroy notes, 'the philosophy of organism takes its subjectivism from Descartes, the communication between existents from Locke, the notion of repetition from Hume, and from Kant, the relational conditioning of experience by the subject.' (2004, p.28)

particularly given our introduction of Tarde (see previous chapter) as a thoroughgoing nominalist.

PR 'is concerned with the becoming, the being, and the relatedness of 'actual entities'' (PR, p.xiii). The doctrine at the heart of Whitehead's essay is this: 'the creative advance of the world is the becoming, the perishing, and the objective immortalities of those things which jointly constitute stubborn fact' (PR, p.xiii). In other words, 'The many become one, and are increased by one' (PR, p.21). The meaning of this phrase will become clear through the following chapter: it serves as something of a Whiteheadian mantra, yet in it one can read a Tardean dialectic, difference as the alpha and omega with unity as an intermediary stage, and it captures something of the locomotive force of Whitehead's process metaphysics. As for Whitehead's relationship to Leibniz and Tarde; Whitehead is not a Leibnizian and he would likely never have encountered Tarde's work.

Whitehead's relationship with Leibniz is peculiar inasmuch as Whitehead is both indebted to, and, in a way he is towards no other philosopher, vehemently critical of his fellow mathematician. Two quotes demonstrate something of this complex relationship: pre-established harmony is denounced as a 'magician's trick' (quoted in Stengers, 2011, p.279) while he proposes, in *Modes of Thought*, 'there is a book that should be written, and its title should be *The Mind of Leibniz*' (p.3). The latter is often read as a tribute but can reasonably also be understood as having a double-edge. However, there is a similarity in approach identified by Stengers who argues that:

> Perhaps only Leibniz, another mathematician, has adopted a perspective on experience similar to Whitehead's. In his Philosopher's Confession, Leibniz proposes, as the only general piece of advice he has to give, to always ask the question "Dic cur hic" (say why here). The point is to "say," not to "know." Leibniz demands that when we have to define a "purpose," we not obey general reasons, a conformity indifferent to circumstances, a blind norm, but that we submit such generalities to the test of the "hic."
> (2011, p.207)

The 'hic' is the concrete, the 'dic' is the abstract – Stengers is absolutely correct to highlight this similarity between Leibniz and Whitehead as, as we will see, the dialectic between the concrete and the abstract is central to process philosophy.

The relationship between the work of Tarde and the work of Whitehead is also complex. Whitehead the mathematician would have been wary of Tarde's grandiloquence and his

fast and loose approach to the natural sciences but they are both theorists who take the primacy of difference and the interpenetration of subject and object as their starting point. They also share an understanding of abstraction – take this quote from Stengers' *Thinking with Whitehead* and consider the striking similarity to Tarde's views on the relation between the whole and its parts: 'For Whitehead, the parts do not constitute the whole without the whole infecting the parts. In other words, the identity, or the enduring pattern, of the whole and the parts are strictly contemporary' (2011, p.174). There is also a shared interest in the notion of repetition and imitation, and the genetic analysis of ideas. For Whitehead, crucial to social science is the understanding of the transmission of, as Stengers puts it, 'the abstractions without which we cannot think.' (2011, p.333)

The following chapter will consist, largely, of a close reading of Whitehead's *PR*. We will also draw periodically on Whitehead's *Modes of Thought*, *Science and the Modern World* and *The Concept of Nature*, all but the last of which were written during his Harvard period. In fact, it is worth noting that all these works are based on lecture series for this provides an insight into both Whitehead's temperament – the first editions of *PR* were notoriously error-strewn as Whitehead was not one for revisiting a work once he had finished it[103] – and his pedagogical approach[104] – where ideas are presented and then, through a process of iteration, developed, elaborated, clarified, placed in different contexts, until one becomes conceptually conversant, almost like the repetitive process of learning a new language.[105] There is a certain tension here between novelty and repetition – both concepts at the heart of Whitehead's metaphysics, as we will see, and the latter, repetition, something we are familiar with from our discussion of Tarde– which gives a clue as to the dipolar, dialectic nature of Whitehead's thought.[106] There is a dearth of relevant secondary

---

[103] As Peter Simons notes, 'A comparison between the concurrent British and American editions reveals a slew of major and minor discrepancies, and it is clear that Whitehead's evident disinterest in the mechanics of proofreading will leave a nasty legacy of misprints and inconsistencies. These will only be remedied by the heroic but as yet unpublished Corrected Edition of David Ray Griffin and Donald W. Sherburne. No other edition should be used'. The Sherburne and Griffin edition is used throughout this chapter and all references are to it.

[104] Given the complexity and originality of Whitehead's thought during this period, one must feel for the audience of these lectures who, in the majority, cannot but have been rather bemused. Indeed, Victor Lowe, in his biography of Whitehead, claims that the first of Whitehead's Gifford Lectures was attended by 600; the subsequent lectures, by half a dozen. (1990, p.250)

[105] The entire contents of Whitehead's system are more or less to be found in Part I, Chapter II of *Process and Reality* in the dozen or so pages he titles 'The Categoreal Scheme.' The remaining 350 pages serve to tease out this scheme that he presents at the beginning of the book; the scheme itself only really comes to life when one returns to it having studied the remainder of the work.

[106] There is insufficient space to fully explore the argument, but one could perhaps claim that Whitehead's God is the dialectic, that God and the dialectic are one and the same. Take, for example, the following passage: 'Thus the universe is to be conceived as attaining the active self-expression of its own variety of opposites – of its own freedom and its own necessity, of its own multiplicity and its own unity, of its own imperfection and its own perfection. All the 'opposites' are elements in the nature of things, and are

literature on Whitehead in relation to the significance of his work; that is secondary literature that is concerned with philosophy rather than theology. As Latour writes in his review of Stengers' *Thinking with Whitehead*, 'Among his many misfortunes, Alfred North Whitehead had the very bad one of provoking too much interest among theologians and too little among epistemologists' (Latour, 2005b, p.223).[107] However, beyond Whitehead's own work, this chapter will make extensive use of Stenger's masterly *Thinking with Whitehead: A Free and Wild Creation of Concepts* and Pomeroy's heterodox reading of Whitehead's process philosophy, *Marx and Whitehead: Process, Dialectics, and the Critique of Capitalism*. This chapter will work through the key concepts contained within *PR* with reference to Tarde and Leibniz, before presenting a view of Whitehead's metaphysics as a monadological ontology which, not only provides a foundation for Latour's actant rhizome ontology but also the tools for its critique.

On a final biographical note, there is a popular notion that Whitehead's break with Russell and his embrace of a relational philosophy – with its concepts of solidarity, God, feeling, enjoyment, and objective immortality – is the result of personal tragedy, the loss of his son in the First World War. In fact, these terms are not to be understood in their everyday sense. Whitehead is one of those philosophers, like Marx before and Deleuze after, for whom language as it exists is insufficient for the complexity and nuance of their ideas. One of the greatest challenges in thinking with Whitehead is learning his language; in a sense that constitutes the central task of this chapter. On the notion that Whitehead's metaphysics is the result of grief and confusion, Stengers puts it best when she writes:

> To my knowledge, only Bertrand Russell, who always found ways to denigrate what he did not understand, ventured such an interpretation of the philosophical turn taken by his friend: it was, he suggested, the death of his son Eric, a fighter pilot, in 1918, that led Whitehead to reject a purely mechanistic universe and turn toward philosophy. No comment.
> (2011, p.4)

<center>* * *</center>

Process and Reality is a work of speculative philosophy. This is neither an admonition nor does it constitute words of warning, as it might have done in many twentieth century

---

incorrigibly there. The concept of 'God' is the way in which we understand this incredible fact – that what cannot be, yet is.' (*PR*, p.350)

[107] We might say 'ontologists' rather than 'epistemologists', since this distinction provides a clue as to the perspective of Latour's reading of Whitehead.

Anglo-American academic circles; yet it is a term which requires some explanation. Whitehead dedicates a section of *PR* to a 'Defence of Speculative Philosophy', which is less a defence and more a redefinition – both in light of the physics of Einstein and against the positivism of the likes of Russell. Within this defence, Whitehead's 'Nine myths and fallacious procedures' (PR, p.xiii) identifies, first and foremost, 'the distrust of speculative philosophy'. It is this fallacy which frames, contextualises, even historicizes, the other eight. Here they are in full:

(i)   The distrust of speculative philosophy

(ii)   The trust in language as an adequate expression of propositions

(iii)   The mode of philosophical thought which implies, and is implied by, the faculty-psychological

(iv)   The subject-predicate form of expression

(v)   The sensationalist doctrine of perception

(vi)   The doctrine of vacuous actuality

(vii)   The Kantian doctrine of the objective world as a theoretical construct from purely subjective experience

(viii) Arbitrary deductions in *ex absurdo* arguments

(ix)   Belief that logical inconsistencies can indicate anything else than some antecedent errors.

We will not dwell on each individual proposition, but it is worth highlighting one or two and considering their effect as a whole. These nine procedures contain the seeds of Whitehead's organic realism, his relational monadology. The dismissal of Wittgenstein's language games, the denial of the Cartesian subject-predicate, the rejection of Kantian idealism, are all crucial to Whitehead's project. Furthermore, his commitment to avoiding what he terms 'vacuous actuality' results in the most difficult, and for many philosophers most problematic, of Whiteheadian concepts: the eternal object and the primordial, consequent, and superjective natures of God. However, it is the last of these procedures which is of particular interest in the wider context of our history of monadologies. Whitehead, much later in *PR*, expands on this, writing:

> The conception of propositions as merely material for judgements is fatal to any understanding of their role in the universe. In that purely logical aspect, non-

conformal propositions are merely wrong, and therefore worse than useless. But in their primary role, they pave the way along which the world advances into novelty. Error is the price which we pay for progress.

(PR, p.187)

It is this that appears to form at least part of the basis for Latour's claim that 'Whitehead has a gift of the most extraordinary rarity: he is not a creature of the culture of critique. "He knows no critique," as one could say of a saint "she knows no sin"' (Latour, 2005b, p.236). However, in order to claim Whitehead as part of Latour's anti-critique project one must only see one side of Whitehead's philosophy. That is to say, one must read Whitehead solely as an anthropologist of actual entities and not also as a critical theorist of relations of power. Take, for example, this passage from *Science and the Modern World*:

> You cannot think without abstractions; accordingly, it is of the utmost importance to be vigilant in critically revising your modes of abstraction. It is here that philosophy finds its niche as essential to the healthy progress of society. It is the critic of abstractions. A civilization which cannot burst through its current abstractions is doomed to sterility after a very limited period of progress. An active school of philosophy is quite as important for the locomotion of ideas, as is an active school of railway engineers for the locomotion of fuel.
> (p.36)

These are not the words of a philosopher who 'knows no critique'; on the contrary, these are the words of a philosopher for whom the critique of abstraction – which amounts to the critique of all thought, theorising, conceptualisation – is absolutely central to their philosophical project. When Whitehead denies the belief that logical inconsistencies can indicate anything other than some antecedent error, he is not denying the power of critique; rather he is denying the power of that particular mode of critique, one which effectively subordinates philosophy to mathematics and ignores the play between the abstract and the real, the subject and the object. When Latour insists we have never been modern we can agree with his rejection of both the positivism of the modernists and the subjectivism of the post-modernists – and the fact that both are based ultimately on the bifurcation of nature. However, by insisting on a flattening of (a)social relations, a tracing and charting of networks of actants in their localities and on a human (or whatever actant one is pursuing) scale, abstraction is dismissed as totalizing and disabling rather than something that one cannot think without. We find a similar understanding of abstraction in Tarde and Leibniz, both of whom assign abstraction a role which it is not afforded by Latour, but we will

discuss this in greater depth in the final chapter where we confront Latour's monadology with those of Leibniz, Tarde and Whitehead.

A few final remarks on this subject before we move on to the substance of Whitehead's process philosophy. Whitehead writes, in the early pages of PR, 'Philosophy is explanatory of abstraction, and not of concreteness' (p.20). This is a statement Latour could agree with, at least in part. Concreteness is not there to be explained, it is present, immanent, traceable but, ultimately, irreducible. It can also be acted upon – crucial for Latour as a theorist of agency. We can intervene in the concrete; one can act in one's own locality, on objects within one's grasp; but one cannot intervene in the abstract; to attempt such an intervention is tantamount to chasing phantoms. For Latour, the spectral quality of abstraction is grounds for its rejection in favour of an anthropological metaphysics – taking the world as one finds it. For Whitehead, on the contrary, abstraction has, to borrow a phrase from Marx, a spectral objectivity. Whitehead is very clear – everything must be somewhere (*PR*, p.46). This is as true of the abstract as it is of the concrete. On the question of abstraction, Stengers also cites Marx, writing:

> [Whitehead] might also be considered a Marxist without knowing it, for the domination of abstraction is what is presupposed and realized by the process of commodification, when all concrete production is reduced to its exchange value in a regime of generalized equivalence, and when the living labour of human beings is evaluated as "labour force."
> (2011, p.136)[108]

In reading the following passage from *Science and the Modern World* we may be inclined to agree:

---

[108] There are a number of writers who draw parallels between Marx and Whitehead's work. This is not a new phenomenon, as Marsh and Hamrick (1984, p.191) note Ernst Bloch's social theory was grounded in process philosophy. However, it is an area ripe for further study as all too often the understanding of Marx's philosophy is inadequate. Halewood, for example, provides a Whiteheadian account of capitalism which is entirely consistent with Marx, despite what he may think: '…it will be possible to move beyond the base-superstructure model to an account of capitalism as comprised of a certain quality of processes which infect contemporary society. It will be argued that, in a technical, Whiteheadian sense, capitalism does not exist; it does not subtend or determine the elaboration of social relations; instead it is constituted in and through the manner of these relations. Hence process, facticity, potentiality, limitation, productions are all interlinked as operations of the ongoing, ever-renewing dynamics which occur in a specific manner: the manner of capitalism. To claim that capitalism has no substantial existence is not to deny or lessen its pernicious effects. Rather it is to point to the insidious way in which it inhabits, inheres in, proscribes and prescribes contemporary existence.' (Halewood, 2013, p.149) Of course, Latour makes the same point, albeit in a different way, when he writes in *Irreductions*, 'Like God, capitalism does not exist.'

In regard to the aesthetic needs of civilized society the reactions of science have so far been unfortunate. Its materialist basis has directed attention to *things* as opposed to *values*. The antithesis is a false one, if taken in a concrete sense. But it is valid at the abstract level of ordinary thought. This misplaced emphasis coalesced with the abstractions of political economy, which are in fact the abstractions in terms of which commercial affairs are carried on. Thus all thought concerned with social organisation expressed itself in terms of material things and of capital. Ultimate values were excluded.

(SMW, pp.202-203)[109]

Values and valuation – and therefore abstraction – are central to process philosophy and the processive reality it seeks to explain. In *PR*, in two passages on the Category of Transmutation, Whitehead writes '[I]ntellectuality consists in the gain of a power of abstraction. The irrelevant multiplicity of detail is eliminated, and emphasis is laid on the elements of systematic order on the actual world' (p.254) and 'Apart from transmutation our feeble intellectual operations would fail to penetrate into the dominant characteristics of things. We can only understand by discarding' (p.251).[110] The question of what is excluded ties in with Latour's notion of exteriority – the main difference being that while what is excluded for Whitehead remains in the realm of potentiality, for Latour what is excluded exists in exteriority and can return, as Fraser puts it, 'at any moment knock at the door of the good common world and, in demanding to be taken into account, not only modify the 'inside' but also, necessarily, invoke a new definition of the outside.' (Fraser,

---

[109] The phrase 'ultimate values' opens a space for a consideration of alternative values and systems of valuation, unlike systems which alienate and obfuscate like capitalism. Benjamin Noys, in his critique of Latour, writes:

> Marx's analysis reveals the complexity of what we take for granted as, precisely 'objects', deflated into our 'concrete' experience. In fact, 'objects' take on value only in relation to other objects, and we treat this 'value' as a natural or, dare we say, psychological fact. The result is that 'things take on a life of their own' (Heinrich, 2012, p. 73) but not in the sense Latour supposes. This is because this is a 'real' situation, one not generated by us or by the objects but by the form of value that inheres in them. Therefore, our interactions with the world are not illusory but formed in social processes which constitute a social reality and necessity which dominates us. Therefore, contra Latour, it is social relations that produce the reification of capital, which is nonetheless real for all that. We can't wish away or dismantle these relations by the fiat of network analysis but rather have to grasp capitalism's constitution of itself as 'automatic subject [automatisches Subjekt]' (Marx, 1976, p. 255). (Noys, pp.205-206)

What Noys describes here captures the play between the concrete and the abstract, aversion and adversion, the spectral and the real, all that is at the heart of Whitehead's metaphysics. Latour only appears to be interested in one half of this metaphysics: the concrete, adversion, the real.

[110] Whitehead also writes that 'the notion of complete abstraction is self-contradictory. For you cannot abstract the universe from any entity ... so as to consider that entity in isolation' (*PR*, 28). Here we again see the nuance of Whitehead's metaphysics and his determination to account for the subtle interplay of subject and object within each entity through a dialectical logic rather than Latour's one-sided 'taking the world as it is' empiricism.

2006, p.63) In terms of metaphysics, Whitehead's understanding of abstraction, value and potentiality is clearly more nuanced and consistent with a monadological tradition which maintains that, 'all the elements in the same world are in contact with or connected to each other; there are no gaps, and there is no outside.' (Fraser, 2006b, p.130) [111] We can also compare Whitehead's approach here with that of Leibniz who views perception as a sliding scale between the clear and the confused. Whitehead, on the other hand, in allowing for the fact that that which is excluded is also at the same time included – through the concept of negative prehension – allows the actualisation of any given potentiality not merely a viewpoint or perspective on the world, but 'involved in a world, thus and not otherwise.' (Stengers, 2011, p.213)

In this section, as we are interrogating Latour's own metaphysics and his claims of association with Whitehead, we have framed Whitehead's work in our own terms and not in Latour's. Before we move on to consider the actual entity let us return to the question of speculative philosophy and draw this section to a close with one final quotation from Whitehead which renders crystal clear the purpose of his philosophy: 'Speculative Philosophy is the endeavour to frame a coherent, logical, necessary system of general ideas in terms of which every element of our experience can be interpreted.' (*PR*, p.3)

Actual entities

All modern philosophy hinges round the difficulty of describing the world in terms of subject and predicate, substance and quality, particular and universal. The result always does violence to that immediate experience which we express in our actions, our hopes, our sympathies, our purposes, and which we enjoy in spite of

---

[111] On the question of abstraction – framed in terms of ethics – Fraser draws out the difference between Latour and Whitehead as follows:

Like Whitehead, Latour would certainly agree that what is excluded is part and parcel of enduring entities (in Whitehead's terms, enduring shapes of value). But herein lies a crucial difference between them, because what is excluded for Whitehead is not an exterior composed of things or even of propositions, but rather the potential for division or differentiation (for becoming); the potential, that is, to become differently. The price of becoming, as the discussion of abstractions and specialized knowledges earlier implied, is 'the exclusion of the boundless wealth of alternative potentiality' (Whitehead, 1938: 207–8). '[B]y the nature of the case', Whitehead writes, 'you have abstracted from the remainder of things. In so far as the excluded things are important in your experience, your modes of thought are not fitted to deal with them' (Whitehead, 1985: 73). This is the rub: excluded potentiality is important, but it cannot be grasped in thought. This suggests that it is not abstractions *in themselves*, whether they are internalized or externalized, which are relevant to ethics, but rather the relation of those abstractions to the unrealized potentialities, 'the remainder of things', that they necessarily exclude but whose significance cannot be refused.

our lack of phrases for its verbal analysis. We find ourselves in a buzzing world, amid a democracy of fellow creatures; whereas, under some disguise or other, orthodox philosophy can only introduce us to solitary substances, each enjoying an illusory experience: "O Bottom, thou art changed! what do I see on thee?" (*PR*, pp.49-50)

The actual entity is Whitehead's monad. It is the 'stubborn matter of fact' (*PR*, p.239), the foundational element, the building block of reality. The centrality of actual entities and experience is clear:

'Actual entities' – also termed 'actual occasions' – are the final real things of which the world is made up. There is no going behind actual entities to find anything more real … these actual entities are drops of experience, complex and interdependent.' (*PR*, p.18)

And, 'Apart from the experiences of subjects there is nothing, nothing, nothing, bare nothingness' (*PR*, p.167). The actual entity resolves the contradictions of subject and predicate, particular and universal, becoming and being. Moreover, it is a concept which delineates the individual experience whilst preserving the fluidity of experience: the many become one, and are increased by one. In other words, we find, in the actual entity, a dialectic of experience; a becoming and a perishing, an immortal object and transient subject, a unity of difference which produces still greater diversity. The Jamesian 'buzzing world' which Whitehead describes in the quote above perfectly captures this idea, the 'vibratory experience', of the vibration between the one and the many, the universal and the particular (Pomeroy 2004, pp.37-38). Let us now look at the actual entity in more detail, and in doing so, introduce some of Whitehead's other vital concepts.

To be clear, like Tarde, Whitehead may have taken the Leibnizian monad as a model but it undergoes a significant transformation under him. With Tarde, the monad is no longer windowless, and this is also true of Whitehead's monad – indeed we might go so far as to say that for Whitehead the monad is 'all window' (Simons, p.301); yet, Whitehead goes still further. The crucial difference between Whitehead's monad and Leibniz's – and Tarde's for that matter – is that Leibniz's monads change. Whitehead's do not.[112] Rather, they 'merely *become*' (Whitehead's emphasis):

---

[112] This may appear surprising but all will become clear as the chapter unfolds.

Each monadic creature is a mode of the process of 'feeling' the world, of housing the world in one unit of complex feeling, in every way determinate. Such a unit is an 'actual occasion'; it is the ultimate creature derivative from the creative process. (*PR*, p.80)

Once the actual entity becomes, it perishes. Leibniz's monads are able to change through time, but only as a result of pre-established harmony. The result is, as Bell notes, that:

Leibniz forecloses any possibility for novelty, which leads Deleuze, despite his admiration for Leibniz in many other respects, to this harsh conclusion: 'he [Leibniz] assigns to philosophy the creation of new concepts provided that they do not overthrow "established sentiments"'
(Bell, 2010, p.20)

Put another way, in Whitehead's system, 'monads no longer function as intermediaries between states of the world but are rather the very becoming of the world itself.' (Bell, 2012, p.135) As a result, Whitehead rejects the principle of sufficient reason. The universe, for Whitehead, is not a problem or equation that can be worked out. There is no divine being, ensuring everything is in its right place. For that matter, Whitehead writes in *Religion in the Making*:

The Leibnizian theory of the "best of possible worlds" is an audacious fudge produced in order to save the face of a Creator constructed by contemporary, and antecedent, theologians. Further, in the case of those actualities whose immediate experience is most completely open to us, namely, human beings, the final decision of the immediate subject-superject … is the foundation of our experience of responsibility, of approbation or of disapprobation, of self-approval or of self-reproach, of freedom, of emphasis.
(p.46-47)

But still the question remains: what is an actual entity? Hooper, in his impeccably lucid 1941 article on Whitehead for the journal *Philosophy* writes:

You may wish me to point out an actual entity to you, so that you may see it with your eyes. I am afraid I cannot do that because they are too microscopic for the eyes to see, and in addition are as a rule, swiftly transitory. The table at which I am writing, and the lamp which enables me to see, are not actual entities in the sense of the Organic Philosophy. Neither is the dog at my feet, or the walnut tree in my garden, whose leaves are now dropping. They certainly are composed of actual

entities in great number, but it is better to regard them as "societies" of actual entities with varying degrees of complex order, than actual occasions. Indeed, an actual entity or "occasion" in the physical world is much more like a vibration than a table or lamp, dog or tree. In the realm of conscious life an actual occasion is the passing experience of a pleasure or pain, the experience of an emotion, such as anger or fear, or an aesthetic thrill of delight evoked by the contemplation of a beautiful object. All these examples are "occasions" or units of experience. (p.286)

We have come as far as we can in describing the general character of Whitehead's organic philosophy and must now release a torrent of concepts, many of which, in the Leibnizian fashion, originate in Whitehead's work as the result of his grasping for an adequate vocabulary with which to describe and interrogate the world but, contra the Leibnizian fashion, do overthrow 'established sentiments'.

The first of these, beyond the actual entity, is prehension. The actual entity itself is composed of prehensions. These prehensions can be characterised by three features. First, a prehension is prehended by a subject – the actual entity; it is thus relational. Second, the object of prehension is the datum which is prehended; it is thus intentional. Finally, the prehension has a subjective form; in other words, the subject prehends in a particular way. The datum is that particular aspect of a preceding actual entity which is objectified in the prehending actual entity. To put it another way, datum are derived from the universe of past actual entities (the many) and united in the process of the becoming of the prehending actual entity (the one). This process is known as concrescence. It is a multi-phased process which we will discuss in more detail but first let us return to the prehension and its place in the process.

There are both positive and negative prehensions. Negative prehensions function as an eliminative process: a means of focussing on particular aspects of the many. The positive prehension is a feeling which effects a concrescence (*PR*, pp.220-221). In this sense, the negative prehension is subordinate to the positive prehension or feeling. The term 'feeling' is, of course, used in a technical sense but is deliberately chosen to give some sense of the interplay between subject and object, the grasping of things in experience. Whitehead describes it in the following terms:

Each actual entity is conceived as an act of experience arising out of data. It is a process of 'feeling' the many data, so as to absorb them into the unity of one individual 'satisfaction.' Here 'feeling' is the term used for the basic generic

operation of passing from the objectivity of the data to the subjectivity of the actual entity in question.

(*PR*, p.40)

Again, this concept of feeling can be characterised by several features. There is the feeling subject which is the actual entity; the initial data which present themselves to the prehending entity, that is, the data prior to any eliminative process; the negative prehensions which focus the feeling through elimination; the objective datum, which is felt; and finally the aforementioned subjective form, which is the response of the actual entity to the felt datum, that is how the datum is valued, compared, the role of consciousness, and so on. This subjective form is defined by its novelty. In other words, it is particular to the prehending subject and the objective datum that is being prehended. Each instance of prehension, each concrescence produces something new – it is a creative advance into the world, the many become one, *and are increased by one*. Novelty is of immense importance to Whitehead's system. Without novelty there can be no movement, no creativity, no progress. Novelty is achieved through repetition; through the inheritance of objective datum viewed from a particular and unique perspective. This particular perspective necessarily creates something new, something novel, which, in turn, becomes the initial data for further novelty: 'the world around us is a familiar home and a continual surprise' (Pomeroy, p.38). Whitehead writes,

> Order is not sufficient. What is required, is something much more complex. It is order entering upon novelty; so that the massiveness of order does not degenerate into mere repetition; and so that the novelty is always reflected upon a background of system.
>
> (*PR*, p.339)

As Tarde begins with difference, so Whitehead begins with novelty: it is Whitehead's 'alpha and omega', with order entering the space between.

This process of prehension, of feeling and elimination, continues until there is a concrete unity of feeling, which is to say that 'all indetermination as to the realization of possibilities has been eliminated' (*PR*, p.211). This is termed the 'satisfaction'; the 'culmination of the concrescence into a completely determinate matter of fact' (*PR*, p.212). The actual entity therefore has a dual character. It is both the subject of its own becoming and the object, in its being, of the becoming of other actual entities. Whitehead describes this as the subject/superject character of the actual entity. The actual entity becomes, it is the prehending subject; it achieves satisfaction through concrescence; and finally perishes

to live on in objective immortality as the initial data presented to further actual entities and the seam from which objective datum is mined.

The consequence of this is that the actual entity is simultaneously intensive and extensive, nontemporal and temporalized. Furthermore the actual entity is both passive and active: active in its own becoming and passive as data for the becoming of other actual entities. These two states are not consecutive but contemporaneous. In a similar fashion to Leibniz's primary matter, Whitehead employs the extensive continuum. This continuum constitutes the raw stuff in which the actual entity is located. Whitehead writes:

> Actual entities atomize the extensive continuum. This continuum is in itself merely the potentiality for division; actual entity effects this division […] with the becoming of any actual entity what was previously potential in the space-time continuum is now the primary real phase in something actual.
> (*PR*, p.67)

Again, we see here the interplay between the abstract and the concrete, the atomic and the continuum. The actual entity is, in effect, what Deleuze would call a fold; or Latour a periodisation.

The essential duality of the abstract entity results in the possibility of two form analysis. The first is a genetic analysis; that is to say, an intensive analysis of the actual entity as subject, its 'adventure of becoming that subject' (Pomeroy, p.31). The second is coordinate analysis; that is, the extensive analysis of the actual entity as superject, its analysis as a concrete fact. Crucial to our understanding of both these modes of analysis is the fact that both are abstractive of the actual entity which is always at the same time both intensive and extensive, subject and superject. We ought not to see these two modes of analysis as a form of dualism, but rather as a duality, a unity of difference; in other words, a dialectic, which is to say an internal relation of difference, of opposing dualities. If we take the dialectical nature of the actual entity as our starting point it becomes far less likely that we will impose a one-sided or dualistic concreteness on to the actual entity as a result of one or other mode of analysis. We will, in other words, not privilege one or the other – which is to say, either the genetic or coordinate analysis, or the subjective or superjective nature of the entity – or effect such a partition through our analysis as to render it impossible to reunite the dual natures back into the one entity. To do so would be to indulge in a form of

misplaced concreteness, an error which, as Pomeroy writes, 'Whitehead himself warned against ... often enough' (p.31).[113]

The radically relational nature of Whitehead's process philosophy is beginning to emerge. Tarde grasps for a truly relational monadology, one that does not require reflections and the hand of God, like Leibniz's. He finds a social and relational monadology but one which is psychologized. Whitehead adopts the Jamesian depsychologized category of experience and, in doing so, moves beyond the concepts of belief and desire which lead to the characterization of Tarde's work as pan-psychist and vitalist. When discussing Leibniz's concepts of perception and apperception Whitehead cautions that these terms are 'too closely allied to the notion of consciousness which in my doctrine is not a necessary accompaniment.' (*Adventures of Ideas*, p.234) Indeed, we have to be careful not to read terms like feeling and satisfaction as being conscious mental states. It is a mistake frequently made and has led writers like Peter Simons[114] to disparage Whitehead's work as pan-psychist when it patently is not. On the contrary, as Ford correctly observes, 'Whitehead is not a pan-psychist. All of Whitehead's occasions are physical as well as mental, which he came to see were subjective in their present immediacy but objective in their pastness.' (Ford, p.145)

It is worth quoting Pomeroy at length here as she provides a clear and concise account of the relational nature of the actual entity:

> Process philosophy is based on the conception of the constitution of each actual entity by its unique perspective on and integration of the data provided for it by its settled actual world. Thus, each occasion inherits a settled past that provides the datum for the physical and conceptual feelings that are its nontemporal self-actualization. Each actual entity is its self-creative activity of physical inheritance from a unique spaciotemporal perspective on the datum and conceptual valuation of that inherited datum; it constitutes itself by the way in which it is related to and relates itself to its world: each actual entity is its internal relations to all other

---

[113] Pomeroy astutely observes that 'misplaced concreteness lies at the heart of capitalism's form of social relations' (p.10) and 'Thus capitalism itself appears as a form of misplaced concreteness in which human beings are literally ruled by abstractions, particularly the abstraction of value. As we labour within capitalism, we allow our very being/becoming to be dominated by the reiterative dative inheritance, we allow ourselves to be constituted by past value and thereby misplace our concrete processive activity in abstract commodity value.' (p.171)

[114] Who takes the position that Stengers describes as '*so you think electrons "think like we do"?*' (2011, p.202)

entities.

(p.43)

For now, we will let Whitehead have the last word on the actual entity, although, as we will see, the interdependency of these concepts is such that more is added to the familiar concepts with the introduction of each new concept – another example of a philosophical system reflecting the world it describes rather than taking the world as one finds it.

> It is fundamental to the metaphysical doctrine of the philosophy of organism, that the notion of an actual entity as the unchanging subject of change is completely abandoned. An actual entity is at once the subject experiencing and the superject of its experiences. It is subject-superject, and neither half of this description can for a moment be lost sight of.
>
> (*PR*, p.29)

Eternal objects

The eternal object is among the most difficult of Whitehead's concepts. Reminiscent of the Platonic Forms, but in fact substantially different, the eternal object is pure potential.[115] Unlike Plato's Forms, Whitehead's eternal objects are not determinant themselves but rather provide the conditions for determination. As Stengers explains, 'they explain nothing, justify nothing, guarantee nothing, privilege nothing, especially not intellectual operations in search of abstraction.' (2011, p.302)

Eternal objects are necessary to account for novelty, for creativity; in other words, for change. However, as we will see, they lead inexorably to another of the most difficult Whiteheadian concepts: God. 'Everything must be somewhere; and here 'somewhere' means 'some actual entity.'' (*PR*, p.46) Eternal objects are not exempt from this, even general potentiality must be actualized; and so, we require God, in its[116] primordial nature, as the non-temporal actual entity. But, for the moment, let us put God to one side and return to the eternal object.

---

[115] In fact, Whitehead writes that, 'if the term 'eternal objects' is disliked, the term 'potentials' would be suitable.' (PR, 149) As Latour observes, the term 'eternal objects' causes its fair share of discomfort and anxiety but 'potentials' does not quite communicate the significance and novelty of the concept, affording, perhaps, an escape from the difficulty and complexity of the notion itself.

[116] We will use the neutral pronoun to refer to God to make clear it is God as concept rather than God as Judaeo-Christian being.

As tricky a concept as eternal objects may be, they are indispensable. On this, Latour is right when he writes: 'Try to take eternal objects out, as so many embarrassed readers would like to, and, immediately, Whitehead's argument becomes another theory of emergence, another form of naturalization, or even worse, some type of pan-psychism.' (p.235)

There is more to the philosophy of organism than the isolated, atomized subject. The actual entity must realize its potential(s) in order to differentiate itself from its fellow actual entities. These potentials must exist independently, to be realized or unrealized, in order to allow the possibility that something might have been otherwise, that 'whatever component is red, might have been green; and whatever component is loved, might have been coldly esteemed.' (*PR*, p.149) Without the possibility of unrealized potentialities, the notion of potentiality itself becomes meaningless; with the undesirable result being a 'static monistic universe.' (*PR*, p.46)

The eternal object is present in the actual entity through ingression. It is akin to the relation between the universal and the particular; although one must remember that following Whitehead's principle of relativity – that is, that being is a potential for every becoming – that actual entities also function as universals in their objective immortality. Thus, we can understand the eternal object as a particular universal and the actual entity as a universal particular.[117]

Therefore, in light of the above, we must understand the ingression of an eternal object into an actual entity not as the transformation of the eternal object from a state of non-being to being, but as the difference between indetermination and determination. (*PR*, p.149) We also ought to heed Stengers when she points out that it is not that, as Whitehead's quoted example above, that colour itself is an eternal object, but rather that the experience of colour testifies to the ingression of an eternal object. (2011, p.209) For Stengers, the eternal object simply 'is what it is.' (2011, p.211) It cannot be discussed in reference to itself but only in reference to something else, that is, something it is not. This is a highly pragmatic reading of Whitehead, and indispensable if we are to avoid becoming lost in his labyrinthine system.

Eternal objects are felt by actual entities through conceptual prehension. This form of prehension differs from the simple causal feeling of an actual entity for some other

---

[117] 'The contrary opinion led to the collapse of Descartes' many substance into Spinoza's one substance; to Leibniz's windowless monads with their pre-established harmony; to the sceptical reduction of Hume's philosophy.' (*PR*, p.48)

antecedent actual entity. The difference is that while an actual entity in its objective immortality can be prehended positively and negatively, it can never be completely dismissed; even a negative prehension entails a relation. Conversely, eternal objects can be dismissed; they do not have to enter into the concrescence of the actual entity. It is this distinction that leads Whitehead to remark that 'the one is stubborn matter of fact; and the other never loses its 'accent' of potentiality.' (*PR*, p.239) Conceptual prehension is the feeling of an actual entity of its capacity to be settled matter of fact; to be, in other words, an object. In this way we find the actual entity is grasping in two directions. It grasps the eternal object as immanent realized determinant; and it reaches out beyond itself to future actual entities as transcendent capacity for determination.

The other crucial point to note is that by insisting that one cannot help but prehend every antecedent actual entity, one is insisting – *contra* Aristotle and the notion that a substance is not present in a subject – on the principle of universal relativity. That is, that every preceding actual entity is present in the emergent actual entity. It is remarkable that Tarde, more or less, arrives at the same conclusion with his assertion that the entire universe is present in each individual monad. Of course, Tarde is working on the principles of late 19th century science whereas Whitehead, only a few decades later, is standing on a foundation of what is recognisable as modern physics. This principle of universal relativity is what Whitehead means when he writes of the solidarity of the universe. Eternal objects are essential to this solidarity as through their dual function as both a determinant of the datum – in other words, the cause – and a determinant of the subject form – the effect – they provide the relational link: within the eternal object one finds the union of the objective and subjective, the cause and effect. (*PR*, p.164)

If, as Latour notes, the concept of eternal objects has the capacity to embarrass readers of Whitehead – as one of the more egregious examples of his having indulged in metaphysics, 'something one is no longer supposed to do after the edicts of the first "W," [Wittgenstein]' (2005b, p.224) – Stengers is unabashed. She writes, 'If the eternal objects do not bother me in *Process and Reality* – quite the contrary – it is, here once again, thanks to the distinction Deleuze proposes between virtual and potential.' (2011, p.215)

Latour also picks up on this point (2005b, p.235), and to illustrate the similarities between Deleuze's notion of virtuality and Whitehead's eternal objects it is worth examining the relevant passage from *Difference and Repetition.*

> We have ceaselessly invoked the virtual. In so doing, have we not fallen into the
> vagueness of a notion closer to the undetermined than to the determinations of

difference? It is precisely this, however, that we wished to avoid in speaking of the virtual. We opposed the virtual and the real: although it could not have been more precise before now, this terminology must be corrected. The virtual is opposed not to the real but to the actual. The virtual is fully real in so far as it is virtual. Exactly what Proust said of states of resonance must be said of the virtual: 'Real without being actual, ideal without being abstract';[118] and symbolic without being fictional. Indeed, the virtual must be defined as strictly a part of the real object - as though the object had one part of itself in the virtual into which it plunged as though into an objective dimension.

(2004, pp.208-209)

So, for Deleuze the virtual is real in the same way that for Whitehead the eternal object is real: both are, 'Real without being actual, ideal without being abstract.' The eternal object is actualized in the actual entity but, as noted above, this is not a case of it going from a state of not-being to being; rather, the eternal object was always real, just not actual: in Deleuze's parlance: virtual.

With this in mind, we can further distance ourselves from the idea that Whitehead's eternal objects bear any meaningful similarity to Plato's forms. Stengers writes convincingly that:

When I say "it is blue," but also "it is a circle," I am not naming a blue object, or a circular one, but I testify to the ingression into my experience of an "eternal object." Whitehead is not mad enough to calmly announce that "red" as we perceive it existed before the biological invention of the visual organs. This is why he speaks of "eternality," a neologism that enables him to avoid "eternity." "Eternality" designates a dimension of the concrete, complete fact that must belong to the job specifications.

(2011, p.154)

Again, like Deleuze's insistence that 'the virtual must be defined as strictly a part of the real object,' Whitehead insists that the eternal object must be fastened to stubborn fact.

---

[118] The full quote from Chapter III of *Time Regained* reads: 'But let a sound, a scent already heard and breathed in the past be heard and breathed anew, simultaneously in the present and in the past, real without being actual, ideal without being abstract, then instantly the permanent and characteristic essence hidden in things is freed and our true being which has for long seemed dead but was not so in other ways awakes and revives, thanks to this celestial nourishment. An instant liberated from the order of time has recreated in us man liberated from the same order, so that he should be conscious of it.'

In fact, this provides a further sense of the necessity of the eternal object. Stubborn fact alone is not sufficient. Not everything emerges from the general flux; the ingression of an eternal object is required in order to determine what Stengers refers to as 'the mode of taking into account,' which is to say, 'the mode of "how" an event takes another event into account, that which allows prehension to be said to be the prehension of something else.' (2011, pp.188-189)

Whitehead writes in *Science and the Modern World*:

> Wherever such objects have ingression into the general flux, they interpret events, each to the other. They are here in the perceiver; but, perceived by him, they convey for him something of the total flux which is beyond himself.
> (p.151)

In this quotation we can identify Stengers' notion of 'taking-into-account' in the interpretation of events; but we also get a further sense of the eternal object's two-fold character. It is, to reiterate, both a determinant of the datum and a determinant of the subject form. It is both 'here in the perceiver' and there in the perceived, but that relation is always being turned around upon itself so that the perceiver becomes the perceived and the perceived the perceiver. There is, as Whitehead notes, a 'reciprocity of aspects.' (*SMW*, p.103) Facilitating that reciprocity is the panoply of eternal objects. An actual entity cannot determine for itself how it is to be prehended, but it must be prehended in a determinate mode nonetheless. Thus, prehension and ingression are mutually dependent. Stengers expands on this notion:

> Prehension and ingression thus cannot be defined separately. Prehension without ingression would be reduced to some determinate relation of cause to effect. As far as the ingression of an eternal object is concerned, if it were conceivable independently of prehension – always that prehension – whose "how" is to be determined, it would confer upon eternal objects a power of explanation that would relegate the concrete fact, the event that determines itself to be this event and no other, to the realm of appearances. We would then fall into what Whitehead defines as the paradigmatic philosophical error: trying to explain a particular fact on the basis of universals.
> (2011, p.189)

God

However, there is something missing from this account: after setting it aside a mere handful of pages ago, we must bring God back in. It is that aspect of Whitehead's work which is the most challenging as, like with a lot of Whitehead's terminology, it is a word which has a tangled web of association. The embarrassment Latour speaks of is often to be found when Whitehead's God is discussed, when it is discussed at all by anyone other than the theologians.[119]

Latour writes that, 'No more than you can choose in nature to eliminate either primary or secondary qualities[120] can you choose, in Whitehead, between his epistemology and his theology.' (Latour, 2005b, p.236) Latour is correct that Whitehead's God cannot be ignored. However, the distinction between epistemology and theology is a false one. The philosophy of organism is not an epistemological system – indeed, Whitehead writes that the very use of the term actual entity instead of 'sensible object' is to avoid the need for becoming bogged down in an 'epistemological theory as to sense-perception' (*PR*, p.73) – and neither is there a theology inherent in the philosophy of organism. When Latour refers to the notion of a 'crossed-out God' that is inherent is all modernist philosophy, he could just as well be referring to a 'crossed-out dialectic' or a 'crossed-out organism' for that matter. The point is that God in Whitehead is important because Whitehead's God has a series of functions as the embodiment – if the metaphor can be excused – of process, of the many becoming one and being increased by one; and not as a theological construct or *deus ex machina* that can be deployed to explain everything away.[121] God, in *Process and Reality*, has effectively been secularized. God is not 'the being to whom one may say "Thou," for he has no other value than the difference he will make in the occasional experience that will derive from its initial aim.' (Stengers, 2011, p.477)

---

[119] Which is not to say that there is no merit whatsoever in the work of theologians. Catherine Keller writes compellingly of Whitehead's God as being akin to laughter, referencing Deleuze's words in *Difference et Repetition*, 'Two believers cannot observe one another without laughing.' Keller writes: And sometimes that becoming-subject, caught off guard, in the sudden surprise of the unknown, breaks open as laughter. Hence Bataille develops what we could call an apophatics of laughter. In his contemplative proposition from 1953, coining the term "atheology": "God is an effect of un-knowing. He can nevertheless be known as an effect of un-knowing- like laughter, like the sacred.' (Keller, p.15)

[120] To be clear, Latour is not arguing here that we ought to split the world into primary and secondary qualities. He agrees with Whitehead wholeheartedly on the question of the bifurcation of nature. Rather he is referring to any tendency which seeks to elevate one at the expense of the other.

[121] Of course, Whitehead is claiming that the modernists allow God to lurk in the shadows of their systems of thought in order to explain away – however, in doing so he implies that Whitehead's God plays the same role – explaining away – except it does so out in the open.

Remember, everything must be somewhere. God's role here is to prevent eternal objects from being reduced to 'mere undifferentiated nonentities.' (*PR*, p.257) In the same passage, Whitehead continues:

> [T]he differentiated relevance of eternal objects to each instance of the creative process requires their conceptual realization in the primordial nature of God. He does not create eternal objects; for his nature requires them in the same degree that they require him. … The general relationships of eternal objects to each other, relationships of diversity and of pattern, are their relationships in God's conceptual realization. Apart from this realization, there is mere isolation indistinguishable from nonentity.
> (*PR*, p.257)

It is tempting to pause for breath here but let us go on. We have eternal objects and we have God. They arise contemporaneously. Let us envisage an explosion – a 'big bang' if you like – of eternal objects. At the same time, the becoming of God. Because eternal objects must exist somewhere, they cannot become without the simultaneous becoming of God. The reverse also holds true as there can be no God without eternal objects. God, therefore, functions as the 'primordial superject of creativity,' achieving:

> …in its unity of satisfaction, the complete conceptual valuation of all eternal objects. This is the ultimate, basic adjustment of the togetherness of eternal objects on which creative order depends. It is the conceptual adjustment of all appetites in the form of aversions and adversions. It constitutes the meaning of relevance. Its status as an actual efficient fact is recognized by terming it the 'primordial nature of God."
> (*PR*, p.32)

This 'complete conceptual valuation' provides each actual entity with its conceptual feeling of subjective aim in the earliest stages of concrescence: in other words, 'God and the actual world jointly constitute the character of the creativity for the initial phase of the novel concrescence.' To avoid any hint of the teleological, Whitehead continues: 'The subject, thus constituted, is the autonomous master of its own concrescence into subject-superject.' (*PR*, p.245)

So, let's unpack this. Remember that 'there is nothing which floats into the world from nowhere. Everything in the actual world is referable to some actual entity.' (*PR*, p.244) God, in its primordial nature, is the actual entity that provides that initial aim to each actual

entity, thereby sparking its process of self-determination. This operates in an actual entity as follows. Every actual entity has a threefold character. First, there is a past that is given for each actual entity. Second, there is the subjective character of the actual entity; this arises through the process of concrescence and the conceptual valuation of the given past. The process of conceptual valuation is the positive and negative prehension of eternal objects, the result being the ingression of a particular eternal object into actual entity; in other words, the actualisation of a particular potentiality, the determination of the subjective form. The third character is in the satisfaction, the actual entity as superject. God is also an actual entity. However, given its primordial nature, God has no past. Instead, God has eternal objects. The eternal objects function as datum for God. At the same time, God functions as the actual entity in which all eternal objects are actualized. God is therefore the 'outcome of creativity, … the foundation of order, and … the goad towards novelty.' (*PR*, p.88) God, then, has a second nature; the consequent nature of God. In other words, God also prehends the temporal world of actual occasions. In doing so, God effectively guarantees the objective immortality of the actual entity which has completed the process of becoming. Finally, there is a third nature to God: the superjective nature, whereby objective immortality passes back into the world as the raw datum for emerging actual entities. As with Leibniz,[122] God does not stand above or apart from the world; God is, therefore, simultaneously prior to, contemporary with, and consequent to the temporal world of actual entities.

Furthermore, as Whitehead writes:

> In the first place, God is not to be treated as an exception to all metaphysical principles, invoked to save their collapse. He is their chief exemplification. Viewed as primordial, he is the unlimited conceptual realization of the absolute wealth of potentiality. In this aspect, he is not before all creation, but with all creation.
> (*PR*, p.343)

With this in mind, we can, as already tentatively proposed, understand God as the dialectic at work: the thesis, antithesis and synthesis all at once. There is a passage on the final page of *Process and Reality* which not only captures Whitehead's notion of God – and indeed the character of his entire philosophy of organism – but also gets to the heart of that sense of longing that permeates Whitehead's work and renders it so compelling; a rare and truly human mode of understanding the world:

---

[122] See p.38 for a discussion of Leibniz's conception of God.

There are thus four creative phases in which the universe accomplishes its actuality. There is first the phase of conceptual origination, deficient in actuality, but infinite in its adjustment of valuation [the primordial nature of God]. Secondly, there is the temporal phase of physical origination, with its multiplicity of actualities [the temporal world of actual occasions]. In this phase full actuality is attained; but there is deficiency in the solidarity of individuals with each other. This phase derives its determinate conditions from the first phase. Thirdly, there is the phase of perfected actuality, in which the many are one everlastingly, without the qualification of any loss either of individual identity or of completeness of unity [the consequent nature of God]. In everlastingness, immediacy is reconciled with objective immortality. This phase derives the conditions of its being from the two antecedent phases. In the fourth phase, the creative action completes itself. For the perfected actuality passes back into the temporal world, and qualifies this world so that each temporal actuality includes it as an immediate fact of relevant experience. For the kingdom of heaven is with us today [the superjective nature of God]. The action of the fourth phase is the love of God for the world. It is the particular providence for particular occasions. What is done in the world is transformed into a reality in heaven, and the reality in heaven passes back into the world. God is the great companion – the fellow sufferer who understands. (*PR*, pp.350-351)[123]

Concrescence

We will now return to concrescence and, as promised, look at the process in more detail. Whitehead's tenth Category of Explanations states:

(x)   That the first analysis of an actual entity, into its most concrete elements, discloses it to be a concrescence of prehensions, which have originated in its process of becoming. All further analysis is an analysis of prehensions. Analysis in terms of prehensions is termed 'division'.
(*PR*, p.23)

Therefore, when we discuss the process of concrescence, we are in fact discussing the process of becoming of an actual entity; in other words, the actual entity, as a processive event, and the concrescence are one and the same. The process of concrescence consists of

---

[123] It may seem premature to quote this passage here but it is indispensable in understanding Whitehead's God.

a succession of phases whereby prehensions arise under different conditions before being drawn together in to a unity of feeling. This drawing together is known as the satisfaction and constitutes the completion of the actual entity; its passage into objective immortality. To put it all another way, recall the expression 'The many become one, and are increased by one' – this, in a nutshell, is the process of concrescence. Prehensions arise in a number of different ways – the many – before being drawn in to a unity of feeling in the satisfaction – the one – at which point the actual entity, having completed the process of becoming, perishes and is added to the universe of actual entities – the many – to become the datum for some new cycle of concrescence.

There are three phases to the process of concrescence: the conformal phase, the conceptual phase, and the comparative phases. Whitehead characterises the latter two as the 'supplemental' phase; the first phase is concerned with emergence of prehensions in 'disjunctive diversity' (*PR*, p.21) while the second and third are concerned with the passage of that disjunctive diversity of entities into 'conjunctive unity' (*PR*, p21).

Before discussing each phase it is worthwhile taking a brief step back to reiterate just what Whitehead is hoping to achieve by this system. Rather than laboriously expositing on Whitehead's intentions, let us instead consider the following account Whitehead himself provides in Section II of 'The Categoral Scheme':

> 'Creativity,' 'many,' 'one' are the ultimate notions involved in the meaning of the synonymous terms 'thing,' 'being,' 'entity.' … [The term 'one'] stands for the singularity of an entity. The term 'many' presupposes the term 'one,' and the term 'one' presupposes the term 'many.' The term 'many' conveys the notion of 'disjunctive diversity'; this notion is an essential element in the concept of 'being.' There are many 'beings' in disjunctive diversity.

> 'Creativity' is the universal of universals characterizing ultimate matter of fact. It is that ultimate principle by which the many, which are the universe disjunctively, become the one actual occasion, which is the universe conjunctively. It lies in the nature of things that the many enter into complex unity.

> 'Creativity' is the principle of novelty. An actual occasion is a novel entity diverse from any entity in the 'many' which it unifies. Thus 'creativity' introduces novelty into the content of the many, which are the universe disjunctively. The 'creative advance' is the application of this ultimate principle of creativity to each novel situation which it originates.

> 'Together' is a generic term covering the various special ways in which various sorts of entities are 'together' in any one actual occasion. Thus 'together' presupposes the notions 'creativity,' 'many,' 'one,' 'identity' and 'diversity.' The ultimate metaphysical principle is the advance from disjunction to conjunction, creating a novel entity other than the entities given in disjunction. The novel entity is at once the togetherness of the 'many' which it finds, and also it is one among the disjunctive 'many' which it leaves; it is a novel entity, disjunctively among the many entities which it synthesizes. The many become one, and are increased by one.
>
> In their natures, entities are disjunctively 'many' in process of passage into conjunctive unity. This Category of the Ultimate replaces Aristotle's category of 'primary substance.'
>
> Thus the 'production of novel togetherness' is the ultimate notion embodied in the term 'concrescence.'
> (*PR*, p.21)

The inclusion of this lengthy quotation is essential, it provides the fullest context for the notion of concrescence, and it is concrescence which reveals the actual entity as a buzzing booming world, one which explodes into multiplicity before imploding into a single unity, only to be cast into yet another creative explosion as the next actual entity processes into its' becoming.

The explosion into multiplicity itself, however, requires further explanation. In other words, where do new actual entities come from? In the quote above we have creativity as the 'universal of universals', creativity as the 'principle of novelty', and the notion of the 'creative advance'. The actual entity does not just emerge from the world of settled fact; it emerges because creativity, as Cloots argues, '[permeates] the whole of reality, transcending what is and yet carried by it, leading to ever new becoming' (2001, p.42). Cloots argues that to truly appreciate the centrality of creativity to Whitehead's system[124] – and to avoid either having to resort to God as the supplier of creativity in the world or to the unsatisfactory explanation that activity somehow emerges from a passive, settled state

---

[124] Michael Halewood claims that Whitehead coins the term 'creativity' and is responsible for the terms use in the modern sense. It is difficult to prove this. Certainly the OED uses two examples of Whitehead's use of the word, both from *Religion in the Making*, but also cites an earlier example from 1875 where the critic A.N. Ward refers to Shakespeare's 'poetic creativity', suggesting the term was understood in that sense, and not just in the sense of divine creation, already.

of affairs – one must look to the following passage in Adventure of Ideas, published four years after *PR*. Writing about the deficiency of the terms 'object' and 'data' inasmuch as they suggest that 'an occasion of experiencing arises out of a passive situation which is a mere welter of many data', Whitehead continues to say:

> The exact contrary is the case. The initial situation includes a factor of activity, which is the reason for the origin of that occasion of experience. This factor of activity is what I have called "Creativity" The initial situation with its creativity can be termed the initial phase of the new occasion. It can equally well be termed the "actual world" relative to that occasion. It has a certain unity of its own, expressive of its capacity of providing the objects requisite for a new occasion, and also expressive of its conjoint activity whereby it is essentially the primary phase of a new occasion. It can thus be termed a "real potentiality" The "potentiality" refers to the passive capacity, the term "real" refers to the creative activity, where the Platonic definition of "real" in the Sophist is referred to. This basic situation, this actual world, this primary phase, this real potentiality -- however you characterize it -- as a whole is active with its inherent creativity, but in its details it provides the passive objects which derive their activity from the creativity of the whole. The creativity is the actualization of potentiality, and the process of actualization is an occasion of experiencing. Thus viewed in abstraction objects are passive, but viewed in conjunction they carry the creativity which drives the world. The process of creation is the form of unity of the Universe.
> (Whitehead, 1933, p.179)

The Conformal Phase

The first phase of concrescence is that of conformal feelings. In essence, a conformal feeling is the transformation of objective content into subjective feelings. This transformation involves two actual entities: the perceiving subject actual entity that is in the process of becoming and the antecedent object actual entity that has passed into objective immortality. The becoming actual entity cannot prehend the past actual entity in its entirety but rather prehends a particular aspect of it. If we understand actual entities to be bundles of prehensions, we can say that the relation, in terms of conformal feeling, between the becoming entity and the past entity is the grasping of one prehension by another. In other words, the becoming entity positively prehends a particular prehension in

the past entity while discarding or negatively prehending the rest. Thus that particular prehension comes to represent the past entity as a whole. The antecedent entity – as a whole – constitutes the initial datum of which the prehending entity seeks to objectify an aspect of. In other the words, the whole cannot be grasped in its entirety but only in part. The aspect or part which is prehended constitutes the objective datum.

What we are talking about here is perspective. Perspective is the means by which the object is felt, by which the objective content is transformed into subjective feelings. The antecedent actual entity does not determine how it is perceived, but it does provide a determinate range of prehensions for the becoming actual entity to positively or negatively prehend. In this space resides the agency of the subject. As Whitehead writes, 'the 'power' of one actual entity on the other is simply how the former is objectified in the constitution of the other.' (*PR*, p.58)

This process of simple physical feeling is a complex causal act. The antecedent entity is the cause; the prehension the effect. But the prehending actual entity is also the effect as it is conditioned by its prehension. The simple physical feeling provides the link between the antecedent entity and the becoming entity. It is termed a 'conformal' feeling because it is the conformation of the immediate present to the past. (*PR*, p.238) It is the appeal to the facts that sits at the heart of Whitehead's philosophy of organism.[125] (*PR*, p.117)

It is also strikingly similar to Leibniz's perspectivism, discussed in Chapter 1. Recall that Deleuze writes of Leibniz: 'He has to go all the way to a theory of point of view such that the subject is constituted by the point of view and not the point of view constituted by the subject.' (1980) However, with Whitehead we can see that in the complex causal relation between antecedent actual entity and becoming actual entity, the subject is constituted by the point of view *and* the point of view is constituted by the subject.

---

[125] The process is further complicated by the fact that antecedent actual entities can present themselves in different ways. Whitehead explains: 'Any actual entity, which we will name A, feels other actual entities which we will name B, C and D. Thus B, C and D all lie in the actual world of A. But C and D may lie in the actual world of B, and are then felt by it; also D may lie in the actual world of C and be felt by it. … Now B, as an initial datum for A's feeling, also presents C and D for A to feel through its mediation. Also C, as an initial datum for A's feeling, also presents D for A to feel through its mediation. Thus, in this artificially simplified example, A has D presented for feeling through three distinct sources: (i) directly as crude datum, (ii) by the mediation of B, and (iii) by the mediation of C. This threefold presentation is D, in its function of an initial datum for A's feeling of it, so far as concerns the mediation of B and C.' The manner in which this threefold presentation is integrated is governed by three categoreal conditions: (i) the category of subjective unity, (ii) the category of objective identity, and (iii) the category of objective diversity. Space does not permit a sustained discussion of these and it is not strictly necessary in order to grasp the essence of Whitehead's system, yet, we can see again in these three categoreal conditions the process of the many (the objective diversity) becoming one (the subjective unity) and being increased by one (the objective identity).

The Conceptual Phase

The second phase of concrescence is that of conceptual feelings. Earlier in this chapter we described Whitehead's philosophy as dipolar. This refers to the twofold character of each actual entity and, therefore, the twofold character of the world. Each actual entity has two aspects, its mental pole and its physical pole. In the previous section we provided a sketch of conformal feelings, the simple physical feelings that constitute the physical pole of the actual entity from present to past. We will now consider its opposite, the mental pole: conceptual feelings. Every actual entity has a physical and a mental pole, although the importance of each differs from entity to entity: one entity may place more weight on the physical pole, another on the mental. However, both must be present as the integration of the physical and mental poles into a single unity of experience as part of the process of concrescence.

This is where the eternal object and the notion of ingression makes its return. According to Whitehead's category of conceptual valuation, from every simple physical feeling is derived a conceptual feeling that takes as its datum the eternal object that is present in the actual entity through ingression. Moreover, according to the category of conceptual reversion, there is a further generation of conceptual feelings from the datum which are partially identical to and partially distinct form the eternal object referred to by the category of conceptual valuation. In other words, the process of conceptual feeling has two phases. The first is the straightforward reproduction of the physical feeling in the conceptual mode. The second is the emergence of conceptual feelings that take as their datum other relevant eternal objects that have not played a determining role in the actual entity. The purpose of this distinction between conceptual valuation and conceptual reversion is to allow novelty in to the system. Unlike Hume's principle that conceptual experience is derived from physical experience, Whitehead insists that conceptual experience can be derived from the contrast of relevant conceptual experience. As a result, we are able to think beyond the simple physical feelings and engage creatively with the objective datum.

Just as the character of the conformal feeling is one of causation, the character of the conceptual feeling is one of valuation. Valuation takes the form of adversion, a positive valuation, and aversion, a negative one. The valuation determines the importance of the datum for the next phase of concrescence. This valuation further augments the creativity and agency afforded to the subject during the process of concrescence.

It is important to understand that according to Whitehead's category of subjective unity and category of subjective harmony, 'no prehension can be considered in abstraction from its subject, although it originates in the process creative of its subject.' (*PR*, p.27) That is to say, the superject, which is the outcome of the process of concrescence, is also the subject in its own process of determination. Whitehead points out that a key aspect of this process, particularly when we consider moral and political responsibility, is that the actual entity determines its own ultimate definiteness.

The Comparative Phase

Like the previous two phases, the comparative phase can itself be broken down into a number of phases. As Sherburne (1966, p.39) points out, the comparative phase could really be said to be two distinct phases: the process of comparison and the comparison of comparisons. Beginning with the process of comparison, this is simply the comparison between phase one and phase two of concrescence. It is the feeling that compares the simple physical conformal feeling with the conceptual feeling, where the conceptual feeling can derive either from valuation or reversion. This feeling is an integrative process which unites the mental and physical poles of the actual entity in a single feeling.

There are two kinds of basic comparative feelings. The first is physical purpose. Physical purposes arise from 'the integration of a conceptual feeling with the basic physical feeling from which it is derived, either directly [through conceptual valuation] … or indirectly [through conceptual reversion]' (*PR*, p.266). Put another way, where an eternal object is both an element in the determination of the datum of the simple physical feeling, and the datum of the conceptual feeling, it loses its indetermination, its universality. The result is a physical purpose which, depending on whether the subjective form of the conceptual feeling is one of adversion or aversion, will become more or less important to future occasions. When this occurs the process of integration and concrescence is over. The resulting actual entities are primitive in nature – not unlike Leibniz's bare monads – and belong to those objects which we generally designate as inanimate.

The second are propositions. Propositions are what Whitehead terms as 'lures'[126] for feeling (*PR*, p.184). These are the comparative feelings which generate still more feelings.

---

[126] God is the ultimate 'lure': 'He is the lure for feeling, the eternal urge of desire. His particular relevance to each creative act as it arises from its own conditioned standpoint in the world, constitutes him the initial 'object of desire' establishing the initial phase of each subjective aim.' (*PR*, p.344)

Unlike the physical purposes, where, to put it crudely, the eternal object present in the conceptual feeling and the eternal object present in conformal feeling are one and the same, thus terminating the possibility of any further novelty; propositional feelings arise when a conformal feeling is integrated with a conceptual feeling which has as its datum an eternal object which is referent to any actual entity, not simply the one from which the integrated simple physical feeling arises. (*PR*, p.257) Through the integration of the simple physical feeling with a conceptual feeling which takes for its datum this sort of free-floating, universal eternal object, the eternal object is in fact restricted to acting as a determinant for the actual entity provided by the simple physical feeling. In other words, the simple physical feeling provides the logical subject of the proposition; the conceptual feeling provides the potentiality of the eternal object. This leads Whitehead to write that, 'in a proposition the logical subjects are reduced to the status of food for a possibility.' (*PR*, p.258) Put another way:

> There is nothing in the real world which is merely an inert fact. Every reality is there for feeling: it promotes feeling; and it is felt. Also there is nothing which belongs merely to the privacy of feeling of one individual actuality. All origination is private. But what has been thus originated, publicly pervades the world.
> (*PR*, p.310)

The proposition is dependent on the actual world for its logical subjects and therefore maintains a relation with the actual world. The result is that a proposition can be true or false. Where a proposition conforms to the actual world, the result is, effectively, the conformation of feeling to fact, what Whitehead refers to as the abrupt emphasis of one form of definiteness illustrated in fact. (*PR*, p.187) On the other hand, when a proposition fails to conform to the actual world, the result is something novel. The actual world and the proposition are distinct; and when united within the conformal feeling something new has been created rather than simply a particular intensity of feeling towards something already existing. The significance of this conception of propositions becomes clear in the following passage:

> The conception of propositions as merely material for judgements is fatal to any understanding of their role in the universe. In that purely logical aspect, non-conformal propositions are merely wrong, and therefore worse than useless. But in their primary role, they pave the way along which the world advances into novelty.

> Error is the price which we pay for progress.
>
> (*PR*, p.187)

The propositional prehension is the prehension of 'theories'. These theories are not there to be judged true or false – though, of course, they are one or the other – but rather to motivate, provoke, elicit further feeling. The following passage clarifies the distinction between propositions as judgement and propositions as 'lures' for feeling:

> It is evident, however, that the primary function of theories is as a lure for feeling, thereby providing immediacy of enjoyment and purpose. Unfortunately theories, under their name of 'propositions,' have been handed over to logicians, who have countenanced the doctrine that their one function is to be judged as to their truth and falsehood. … The doctrine here laid down is that, in the realization of propositions, 'judgement' is a very rare component, and so is 'consciousness.' The existence of imaginative literature should have warned logicians that their narrow doctrine is absurd. It is difficult to believe that all logicians as they read Hamlet's speech, "To be, or not to be: …" commence by judging whether the initial proposition be true or false, and keep up the task of judgement throughout the whole thirty-five lines. Surely, at some point in the reading, judgement is eclipsed by aesthetic delight. The speech, for the theatre audience, is purely theoretical, a mere lure for feeling.
>
> (*PR*, pp.184-185)

The final kind of comparative feeling is the intellectual feeling. An intellectual feeling is the contrast between an actual entity and a proposition which has as its logical subject the same actual entity. As Whitehead writes:

> It is the contrast between the affirmation of objectified fact in the physical feelings, and the mere potentiality, which is the negation of such affirmation, in the propositional feeling. It is the contrast between 'in fact' and 'might be,' in respect to particular instances in this actual world. The subjective form of the feeling of this contrast is consciousness.
>
> (*PR*, p.267)

In this conception of consciousness, Whitehead is very much thinking along similar lines as both Leibniz and Tarde, both of whom incorporate one form or other of the *petit perceptions* into their ontologies. To quote from *Process and Reality* once more, the above passage continues:

> Thus in experience, consciousness arises by reason of intellectual feelings, and in proportion to the variety and intensity of such feelings. This account agrees with the plain facts of our conscious experience. Consciousness flickers; and even at its brightest, there is a small focal region of clear illumination, and a large penumbral region of experience which tells of intense experience in dim apprehension. The simplicity of clear consciousness is no measure of the complexity of complete experience. Also this character of our experience suggests that consciousness is the crown of experience, only occasionally attained, not its necessary base.
> (*PR*, p.267)

In his earlier writing, Whitehead characterises human experience as having three facets: the enjoyment in experience, the achievement of that enjoyment as an aim, and the participation in a dynamic process through creativity. (Pittenger, pp.14-15) This is strikingly similar to Sartre's account of Marx's thinking on existence where, 'he has in mind the total man, a being defined by a dialectic with three terms: need, work and enjoyment.' (2014, Sartre) Marx's 'need, work and enjoyment' can be mapped to Whitehead's 'aim, creativity and enjoyment.' The comparison is more profound when we consider what Sartre writes next: 'The three elements form a kind of explosion of the self into 'outside being' and, at the same time, a return to and reappropration of the self.' (2014, Sartre) What is being described here is none other than the superject. Whitehead himself writes that, 'For Kant, the world emerges from the subject; for the philosophy of organism, the subject emerges from the world— a 'superject' rather than a 'subject.'' (PR, p.88)

The term enjoyment is discussed by Steven Shaviro in a paper on Whitehead and Levinas which makes the useful observation that one cannot understand enjoyment without its correlate, concern. Enjoyment is necessarily self-enjoyment: it is therefore auto-affective. Concern – and Whitehead, as he reminds us in *Modes of Thought*, uses the term in the Quaker sense, that is being affected by the other, bearing a weight upon one's spirit (p.167) – is hetero-affective. Concern is the result of Sartre's 'explosion of the self' and is itself a kind of enjoyment. As Shaviro points out, 'it is precisely when "engaged in its own immediate self-realization" that an occasion finds itself most vitally "concerned with the universe" that lies beyond it.' (p.249)

The process of concrescence finishes with the satisfaction of the actual entity and its passage in to givenness, or objective immortality. The satisfaction can be of greater or lesser intensity depending on whether the process of concrescence terminates with a physical purpose, conformal proposition, or intellectual feeling. The intellectual feeling

can be further valued in terms of its usefulness in the future. Let us allow Whitehead the last word on this:

> In the conception of the actual entity in its phase of satisfaction, the entity has attained its individual separation from other things; it has absorbed the datum, and it has not yet lost itself in the swing back to the 'decision' whereby its appetition becomes an element in the data of other entities superseding it. Time has stood still – if only it could.
>
> (*PR*, p.154)

The Nexus

So far, we have been discussing the process of concrescence at the level of the individual actual entity. Being familiar with Leibniz and Tarde, we know that there must be the possibility of aggregation in order for the ontological account to reflect the world as we perceive it. The nature of this aggregation is key. Leibniz has his bare, perceiving and ego monads; Tarde his tiny minds and insistence that the parts are greater than the whole. Whitehead has the nexus, or nexūs in the plural. The nexus is what confronts us in most cases: the human being, the tree, the stone and so on. These beings are aggregates of a multiplicity of actual entities but are prehended as a unity rather than as an aggregate. Once more, we have the many becoming one. This process, in regard to the nexus, is governed by Whitehead's category of transmutation. It is much the same process that Leibniz explains with his theory of confusion, whereby the monad perceives the world as a whole but, for the most part, in a confused or indistinct manner. However, 'confusion' is too psychological a term for Whitehead and is not compatible with the Jamesian depsychologized category of experience. Whitehead, through the process of transmutation, proposes in its place abstraction. There is a forward thrust to Whiteheads monadology which is absent from Leibniz's. The present is but the stuff of the future. When we consider the nexus, the emphasis is not on the internal relations of that particular nexus – although that does exist by virtue of the prehension of each actual entity of the other in what Whitehead terms a togetherness or mutual immanence – but rather on the perception of the nexus by the prehending subject.

In perception, the nexus is the substitute for the actual entities from which it is composed. This process of substitution is the process of transmutation. It is, as Whitehead writes, 'the gain of a power of abstraction.' In effect, we have, the elimination of the 'irrelevant

multiplicity of detail.' (*PR*, p.254) As Whitehead notes, without this ability to abstract, 'our feeble intellectual operation would fail to penetrate into the dominant characteristics of things. We can only understand by discarding.' (*PR*, p.251) The way in which this works in practice is that, from the simple physical feelings of the entities which constitute the nexus originates an impartial conceptual feeling. In the prehending subject this conceptual feeling is held in contrast to the transmuted physical feelings, that is to say the physical feelings of a multiplicity of actualities felt as one physical feeling. The conceptual feeling is impartial because it stands in relation to all the actualities in the nexus by virtue of their common relation to the same eternal object. It is this common relation to the same eternal object that holds the actual entities together as a nexus. Furthermore, the conceptual feeling brings in the possibility of valuation, and the notions of aversion and adversion, introduced earlier, constitute a sort of decision making and 'the first step towards intellectual mentality, though in themselves [adversion and aversion] do not amount to consciousness.' (*PR*, p.254)

As we have seen, a nexus is a group of entities held together by their mutual immanence. There is more than one kind of nexus; some nexūs are more tightly bound than others. A special type of nexus is a society, which is simply a nexus with a social order. These relate in the manner of familial relation, with some direct relations, others not so direct (the father-in-law, aunt by marriage, third cousin twice removed and so on). In this case we have a nexus but not necessarily a society. For a nexus to be a society it is necessary for there to be some defining characteristic which is held in common by all members of the nexus. Moreover, this common element of form must be self-sustaining or, put another way, autopoietic. As Whitehead writes, 'The members of the society are alike because, by reason of their common character, they impose on other members of the society the conditions which lead to that likeness.' (*PR*, p.89) There is something of Tarde's theory of imitation in this, whereby societies are held together by likeness and the reproduction of the conditions for likeness. This is, essentially, Whitehead's conception of the notion of power. He writes in reference to Locke's *Essay*:

> The reason why the doctrine of power is peculiarly relevant to the enduring things, which the philosophy of Locke's day conceived as individualized substances, is that any likeness between the successive occasions of a historic route procures a corresponding identity between their contributions to the datum of any subsequent actual entity; and it therefore secures a corresponding intensification in the

imposition of conformity.
(*PR*, p.56)

It must be said, at this point, that while the society is exclusive by necessity, it does not exist in isolation. There will always be a larger society to which the society belongs, one with a more general defining characteristic. To put it another way, 'every society requires a social background of which it is itself a part.' (*PR*, p.90) There is then different kinds of societies in the same way that there are different kinds of nexūs. We can differentiate between the structured and unstructured society, the structured society being one which includes subordinate societies which display a 'definite pattern of structural inter-relations.' (*PR*, p.99) An example, provided by Whitehead, would be the molecule within a living cell; a series of societies nested within a larger society with a very definite structure. Whitehead provides a strikingly Latourian method of analysis for these kinds of structured societies where he writes:

> The first stage of systematic investigation must always be the identification of analogies between occasions within the society and occasions without it. The second stage is constituted by the more subtle procedure of noting the differences between behaviour within and without the society, differences of behaviour exhibited by occasions which also have close analogies to each other. The history of science is marked by the vehement, dogmatic, denial of such differences, until they are found out.
> (*PR*, p.100)

Of course, Whitehead has a particular understanding of science and the scientific method. He is not opposed to the scientific method, a charge, for example, levelled at Latour by Alan Sokal and Jean Bricmont in *Intellectual Impostures* and elsewhere, but rather he puts it in its place. The notion of 'how' and 'why' are bifurcated in the scientist mode of thought, where the 'hows' are fixed, real, objective and the 'whys' are what is yet to become a 'how'. '[T]he "how" follows the advance of scientific territories and designates the "why" as what is left over, what is not scientifically demonstrable but is relative to the tastes and passions of an epoch; and it will pass, like an epoch.' (*PR*, p.13) As Stengers writes,

> For Whitehead … science must be understood as an adventure, and an adventure never enables us to draw a general lesson. When the adventurer is perplexed, when the adventure turns out badly, the question to ask is rather "what has happened to

us?"

(2011, p.13)

We can also now account for the persistence of a being through time. This form of society is said to enjoy 'personal order' and to constitute an 'enduring object.' The endurance and personal order of a society result from 'the genetic relatedness of its members … 'serially'.' (*PR*, p.34) In other words, the defining characteristic which unites the nexus can be traced in a linear fashion, much like a line of inheritance, and similar to the conformal feeling from present to past. However, we are not yet at the level of personhood. The enduring object is not necessarily conscious; for personhood to arise requires a particular form of relations between members of the enduring object. Enduring objects are simply, as Whitehead puts it rather charmingly, those 'permanent entities which enjoy adventures of change throughout time and space.' (*PR*, p.35)

There is, however, something of a paradox in the character of enduring objects. This relates to the degree to which the enduring object is specialized, which is to say the degree of flexibility the enduring object has in terms of its structure. An unspecialized society, flexible in its structural pattern, will not provide particularly fertile ground for the satisfaction of its component actual entities. On the other hand, a specialized society, highly structured and complex, will require a very particular environment for its survival. As Whitehead puts it,

> Thus the problem for Nature[127] is the production of societies which are 'structured' with a high 'complexity,' and which are at the same time 'unspecialized.' In this way, intensity is mated with survival.
>
> (*PR*, p.101)

Whitehead proposes two resolutions to this paradox. The first is, in effect, homogenisation. A society like a stone or a pebble is able to persist with its own individual 'life-history' because it has eliminated all detailed diversity of its members. The second is appetition, whose purpose is:

---

[127] 'Nature' for Whitehead is not opposed to society; as Halewood writes, one of Whitehead's great achievements is 'his insistence that science, philosophy, the humanities, and social theory all require a renewed conception of nature (in the broadest sense of the word), one that goes beyond strict scientific limitations, beyond any form of biological essentialism or reliance upon some notion of the ultimate laws of physics or nature. Through his philosophy of organism, Whitehead aims to develop a concept of nature that is able to incorporate all existence, thereby bringing together the empirical, the material, the social, the aesthetic, and thinking beings.' (Halewood, 2005, pp.57-58)

> [T]o receive the novel elements of the environment into explicit feelings with such subjective forms as conciliate them with the complex experiences proper to members of the structured society. Thus in each concrescent occasion its subjective aim originates novelty to match the novelty of the environment.
>
> In the case of the higher organisms, this conceptual initiative amounts to *thinking* about the diverse experiences; in the case of lower organisms, this conceptual initiative merely amounts to thoughtless adjustment of aesthetic emphasis in obedience to an ideal of harmony. (*PR*, p.102)

The difference between the first and the second resolution is the difference between the inorganic being and the living being. A living society will necessarily contain both living and inorganic nexūs – after all, the human body is fundamentally composed of the same stuff as a stone, that is electrons, quarks, leptons, bosons; the fundamental particles. However, with the living nexus regnant, the living society, with its living and inorganic nexūs, is able to do something that the inorganic society alone cannot. That something is the production of novelty. This gets us to the heart of Whitehead's system:

> Life is a bid for freedom: an enduring entity binds any one of its occasions to the line of its ancestry. The doctrine of the enduring soul with its permanent characteristics is exactly the irrelevant answer to the problem which life presents. That problem is, How can there be originality? And the answer explains how the soul need be no more original than a stone.
>
> (*PR*, p.104)

We can therefore see that the real paradox is between endurance and novelty. How does an entity both persist and change? The answer lies in the interplay of the society with its environment and the introduction of novelty conceptually in the process of concrescence. This introduction of novelty amounts to the conceptual valuation of the simple physical feelings. Through valuation the entity produces something new, something that is not already contained in the simple physical feeling. Societies, living or inorganic, respond to external stimulus. The effect of conceptual valuation is to disrupt a mere mechanistic response; to allow the emergence of something original. Whitehead describes the same process, from a slightly different perspective, as:

> Ideals fashion themselves around two notions, permanence and flux. In the inescapable flux, there is something that abides; in the overwhelming permanence, there is an element that escapes into flux. Permanence can be snatched only out of

flux; and the passing moment can find its adequate intensity only by its submission to permanence. Those who would disjoin the two elements can find no interpretations of patent facts.

(*PR*, p.338)

The other characteristic of the appetitive living society is quite literally appetite: the living society, unlike the inorganic society, requires food.[128] The living society sustains its life through the destruction of other societies. Whitehead provides the following short summary of a living cell:

> (i) an extremely complex and delicately poised chemical structure; (ii) for the occasions in the interstitial 'empty' space a complex objective datum derived from this complex structure; (iii) under normal 'responsive' treatment, devoid of originality, the complex detail reduced to physical simplicity by negative prehensions; (iv) this detail preserved for positive feeling by the emotional and purposive readjustments produced by originality of conceptual feeling (appetition); (v) the physical distortion of the field, leading to instability of the structure; (vi) the structure accepting repair by food from the environment.
>
> (*PR*, p.106)

We can see clearly in this account how the high degree of complexity of the living society places such a strain on the structure of that society that it breaks down and needs repaired. The materials for these repairs come from its external environment, through the living society's appetite for food, that is to say, its entering into associations with other societies. We can also see that life is not a property of the living cell but rather, as Whitehead puts it elsewhere, 'life lurks in the interstices of each living cell and in the interstices of the brain.' (*PR*, p.105-106)

There is one further twist to Whitehead's account before we arrive at the 'living person'. As the living nexus is entirely dependent on its complex social environment, it cannot itself be considered social. It does not have what Whitehead describes as 'the genetic power' inherent to societies. Therefore, the living person requires for its immediate environment a living, non-social nexus. The living person endures as a 'thread of personal order along some historical route of its [the nexus'] members.' (*PR*, p.107) The constitution of the thread is the transmission of hybrid prehensions from one occasion to the next. These

---

[128] 'In a museum the crystals are kept under glass cases; in a zoological garden the animals are fed.' (*PR*, p.105)

hybrid prehensions are the prehension by a subject of a conceptual prehension of another subject. In other words, it is the prehension of novelty. This novelty, through its transmission, is intensified but within the limits set for it by its own genetic inheritance and the material organism that it is dependent on. An unlimited novelty would be unsustainable, it would destroy itself; the nature of novelty being, fundamentally, destructive as well as creative. Through this process the social is recovered, life becomes society through the thread of the living person, its serial occasional (in Whitehead's sense of the term) iterations. In this account, the physical and the conceptual are inseparable. The physical feeling is required in order to give rise to the conceptual feeling which can, in turn, give rise to further conceptual feelings. The resulting satisfaction, the passage into objective immortality, sees the conceptual reintegrate with the physical. Life is therefore to be understood as being both novel and immediate, while also being derived from its physical inheritance. As Whitehead writes in the final part of *Process and Reality*:

> It is by reason of the body, with its miracle of order, that the treasures of the past environment are poured into the living occasion. The final percipient route of occasions is perhaps some thread of happenings wandering in 'empty' space amid the interstices of the brain. It toils not, neither does it spin. It receives from the past; it lives in the present. It is shaken by its intensities of private feeling, adversion or aversion. In its turn, this culmination of bodily life transmits itself as an element of novelty throughout the avenues of the body. Its sole use to the body is its vivid originality: it is the organ of novelty.
> (*PR*, p.339)

These questions of endurance, continuity, novelty and the materiality of the body constitute a nascent metaphysics of sociology. Whitehead, like Latour, does not limit his sociology to the human world – a society is simply that which endures, though as we have seen there is a clear hierarchy of cognition in Whitehead's system, with conscious human beings at the summit – but, as Halewood notes, clearly what applies to wider modes of existence will also apply to, 'what are normally considered to be human societies.' (Halewood, 2014, p.140)

We will finish this section with one more quote from *PR*, a long but crucial passage which encapsulates the exquisite sadness and sense of longing which pervades Whitehead's work and imbues it with such compelling force, vigour and relevance.

> The world is thus faced by the paradox that, at least in its higher actualities, it craves for novelty and yet is haunted by terror at the loss of the past, its

familiarities and its loved ones. It seeks escape from time in its character of 'perpetually perishing.' Part of the joy of the new years is the hope of the old round of seasons, with their stable facts – of friendship, and love, and old association. Yet conjointly with this terror, the present as mere unrelieved preservation of the past assumes the character of a horror of the past, rejection of it, revolt:

> To die be given, or attain,
> Fierce work it were to do again.

Each new epoch enters upon its career by waging unrelenting war upon the aesthetic gods of its immediate predecessor. Yet the culminating fact of conscious, rational life refuses to conceive itself as a transient enjoyment, transiently useful. In the order of the physical world its role is defined by its introduction of novelty. But, just as physical feelings are haunted by the vague insistence of causality, so the higher intellectual feelings are haunted by the vague insistence of another order, where there is no unrest, no travel, no shipwreck: 'There shall be no more sea.' (*PR*, p.340)

Perception

So far, we have considered Whitehead's fundamental categories, the eternal object and the actual entity, the process of concrescence, and the process of aggregation. We will now turn to the question of perception, a question we considered in great depth in our discussion of Leibniz's work.

There are three modes of perception in Whitehead's process system. The first is perception in the mode of causal efficacy. This is similar to Leibniz's petit perceptions, or the perceptive abilities of the bare monad: it is the basic transmission of vague conformal feelings found in the first phase of concrescence. The second mode is the mode of presentational immediacy. This mode of perception is to be found in the later phases of concrescence and, again, can be compared to the perceptive abilities of the soul or animal soul monad; which is to say, a sophisticated mode of perception but lacking in causal efficacy. The third and final mode of perception is the mode of symbolic reference. This is the mode into which human perception falls. The basis for perception in the human body, and the body of most organic beings, is the perception of the various bits of that body which transmit and enhance their experiences to one another and, ultimately, up, as it were,

to the living regnant nexus and the living person. The parallels with Leibniz's system are clear, yet, Whitehead's account is more sophisticated. He borrows from the study of electromagnetism the notion that the human body ought to be seen as a 'complex amplifier' (*PR*, p.119), and this brings to mind the 'buzzing world', though here we have the buzzing body, each actual entity transmitting to the dominant occasions and, ultimately, being integrated within the enduring personality. What is inherited, is what Whitehead describes as: 'feeling-tone with evidence of its origin: in other words, vector feeling-tone.' (*PR*, p.119)

Returning to the three modes of perception, the first is straightforward enough but the second and third require further explication. Beginning with the second, there are two metaphysical assumptions presupposed by perception in the mode of presentational immediacy. First of all, it is presumed that the actual world – that is, the given world of actual entities which have already become – provides the 'objective content' for each new actual entity and that the actual world limits and conditions the potential for novelty of each new actual entity. There is, therefore, a real potentiality of each actual entity that is conditioned by the given world, as opposed to the general potentiality of the eternal objects. Secondly, it is presumed that these real potentialities are 'coordinated as diverse determinations of one extensive continuum.' (*PR*, p.66) This is an important point and one that can be illuminated if we look at it from the point of view of the actual entity. The actual entity, like Leibniz's monad to primary matter, atomizes the extensive continuum. We are now able to see the significance of this concept. The extensive continuum 'underlies the whole world, past, present, and future.' (*PR*, p.66) There is dialectic at work here. On the one hand, the actual world as perceived is continuous; on the other, the actual world is atomic, divided as it is into definite actual entities. The process of becoming is a pulling to and from the continuous and the atomic. We should also say that there is a consequence for the definition of contemporaneousness in this. Two contemporary actual occasions stand in relation to one another by virtue of being coordinate points on the same extensive continuum but they do not contribute to one another's datum. To put it another way, actual entity A does not belong to the actual world of actual entity B when the two entities are contemporaneous. They are, as Whitehead puts it, neighbours. Classical Newtonian physics has a serial view of time whereby two contemporary actual entities would define the one actual world. The view of relativity theory, however, corresponds to Whitehead's position, that 'no two actual entities define the same actual world.' (*PR*,

p.66)[129] Following on from this, we can say that actual entities are not divisible into other contemporary actual entities; therefore, all contemporary actual entities are divided from one another. Thinking back a few pages to our discussion of the 'living person,' there is a parallel between the logic of asocial sociality we find in the composition of the living nexus and the logic of asocial sociality we find in the relations between contemporary actual entities. But in this case the social is recovered by virtue of the fact that despite being divided, contemporary actual entities atomize the same extensive continuum. As a process, we can imagine this as the fleeting emergence of the particular from the general, the flicker of the individual before it remerges into the mass. Crucially, however, it is a changed mass as a result of that flicker of individuality, of novelty. The atomization of the extensive continuum is also the temporalization of the extensive continuum. We can see here a potential metaphysical underpinning for Latour's notion of periodization. Whitehead writes:

> The extensive continuum is that general relational element in experience whereby the actual entities experienced, and that unit experience itself, are united in the solidarity of one common world. The actual entities atomize it, and thereby make real what was antecedently merely potential. The atomization of the extensive continuum is also its temporalization; that is to say, it is the process of the becoming of actuality into what in itself is merely potential. The systematic scheme, in its completeness embracing the actual past and the potential future, is prehended in the positive experience of each actual entity. In this sense, it is Kant's 'form of intuition'; but it is derived from the actual world qua datum, and thus is not 'pure' in Kant's sense of the term. It is not productive of the ordered world, but derivative from it.
>
> (*PR*, p.72)

Perception in the mode of presentational immediacy then is the perception of the extensive continuum. In other words, it takes the vague and imprecise data of perception in the mode of causal efficacy and gives it clarity and definition, yet, it can only do so in an atomised form and is therefore akin to a burst or flicker of perception which is temporally isolated.

---

[129] Whitehead notes that: 'the differences between the actual worlds of a pair of contemporary entities, which are in a certain sense 'neighbours,' are negligible for most human purposes. Thus the difference between the 'classical' and the 'relativity' view of time only rarely has any important relevance.' (*PR*, p.66)

Time is atomic, 'nature knows no such thing as an instant without thickness.' (Stengers, 2011, p.193)[130]

Both perception in the mode of causal efficacy and perception in the mode of presentational immediacy are forms of primitive perception. The third mode is a mixed mode of perception and is akin to what we think of when we think of the experience of perception. Perception in the mode of symbolic reference is the bringing together of the two primitive modes of perception, and this operates as follows:

> [S]ymbolic reference, though in complex human experience it works both ways, is chiefly to be thought of as the elucidation of percepta in the mode of causal efficacy by the fluctuating intervention of percepta in the mode of presentational immediacy.

> The former mode produces percepta which are vague, not to be controlled, heavy with emotion: it produces the sense of derivation from an immediate past, and of passage to an immediate future; a sense of emotional feeling, belonging to oneself in the past, passing into oneself in the present, and passing from oneself in the present towards oneself in the future; a sense of influx of influence from other vaguer presences in the past, localized and yet evading local definition, such influence modifying, enhancing, inhibiting, diverting, the stream of feeling which we are receiving, unifying, enjoying, and transmitting. This is our general sense of existence, as one item among others, in an efficacious actual world. … The percepta in the mode of presentational immediacy have the converse characteristics. In comparison, they are distinct, definite, controllable, apt for immediate enjoyment, and with the minimum of reference to the past, or to future. We are subject to our percepta in the mode of efficacy, we adjust our percepta in the mode of immediacy. But, in fact, our process of self-construction for the achievement of unified experience produces a new product, in which percepta in one mode, and percepta in the other mode, are synthesized into one subjective feeling. For example, we are perceiving before our eyes a grey stone. (Whitehead, *PR*, pp.178-179)

The synthesis of perception in the mode of symbolic reference, in simple terms, allows us to see an object and locate it in the contemporary world, while also perceiving it as an

---

[130] For Latour it is not the instant that is thick but the text: There is no tool, no medium, only mediators. A text is thick. That's an ANT tenet, if any. (2005, p.137)

object which persists, which has a future and a past. This is where Whitehead's rejection of Humean empiricism is most evident. Whitehead effectively views Hume's position as one-sided; one which only takes into account perception in the mode of presentational immediacy and thus one which cannot allow for any causal dependence between actual entities. In other words, presentational immediacy is a 'cross-section of the universe' which tells us nothing of the past or the future. (*PR*, p.168) Perception in the mode of causal efficacy brings causation, or more precisely, causal influence back in. In the mode of symbolic reference there is an interplay, an interpenetration of the modes of causal efficacy and presentational immediacy. This interplay is necessarily interpretive, hence the fact that symbolic reference is found in the later stages of concrescence. It is interpretative because it requires the recognition of some element in common between the objects of the two modes of perception in order for those prehensions to be brought into a unity of feeling. This, therefore, introduces the possibility of error in human perception. Indeed, Whitehead remarks that, 'error is the mark of the higher organisms, and is the schoolmaster by whose agency there is upward evolution.' (*PR*, p.168)

Furthermore, there is a necessary connection between the two modes by virtue of the ingression of some common eternal object in both. This commonality, however, can only be uncovered by perception in the mode of presentational immediacy, coming, as it does, in the later stages of concrescence. Presentational immediacy is therefore, in Whitehead's words, 'the enhancement of the importance of relationships which were already in the datum, vaguely and with slight relevance.' (*PR*, p.173) In other words, the primary fact of perception is causal efficacy with presentational immediacy emerging as an 'outgrowth'. Ultimately, both causal efficacy and presentational immediacy rely on the same datum and it is this which provides the 'common ground' for symbolic reference.

So, what we have is a reversal of Hume and Kant's assumption that presentational immediacy is primary. Whitehead holds instead that it is causal efficacy that is primary. In terms of practical example, Whitehead gives the following account of perception in the mode of causal efficacy:

> But animals, and even vegetables, in low forms of organism exhibit modes of behaviour directed towards self-preservation. There is every indication of a vague feeling of causal relationship with the external world, of some intensity, vaguely defined as to quality, and with some vague definition as to locality. A jellyfish advances and withdraws, and in so doing exhibits some perception of causal relationship with the world beyond itself; a plant grows downwards to the damp

earth, and upwards towards the light. There is thus some direct reason for
attributing dim, slow feelings of causal nexus, although we have no reason for any
ascription of the definite percepts in the mode of presentational immediacy.
(*PR*, pp.176-177)

An example of pure perception in the mode of presentational immediacy – a mode which is
only to be found in the higher organisms – would be a hallucination or an illusion, in other
words a perception without reference in the settled world of actual entities.[131] We can see
then how the interplay of the two primitive modes of perception through symbolic
reference results in what we recognise as ordinary perception. Take sight, for example.
When we see a stone we perceive in the mode of presentational immediacy the image of
the stone (that is, visual sensa) and the slight straining of the eye inherent in any act of
sight. This second aspect of perception in the mode presentational immediacy provides a
locus of perception. However, without the vague perception of the antecedent settled world
of actual entities (that is, the immense presence of the past) we cannot perceive the stone as
anything other than a burst or flash of grey, a vague shape or outline. The two intermingled
and interpreted through symbolic reference provide us with a perception of the stone as an
object located in spatial relation to ourselves that has both a past and a future. Thus,
Whitehead describes perception as 'the catching of a universal quality in the act of
qualifying a particular substance'. (*PR*, p.158)

Of course, this account has significant consequences in terms of our understanding of
consciousness. In the philosophy of organism, the subjectivist principle defines the nature
of consciousness; that is, that consciousness emerges from experience rather than being the
foundation of experience. Or, as Stengers puts it, 'the mind is no longer "the ultimate," but
that which obliges us to think.' (2011, p.221) The subjectivist principle is 'that the whole
universe consists of elements disclosed in the analysis of the experiences of subjects.
Process is the becoming of experience.' (*PR*, p.166) Again, as is often the case with the
philosophy of organism, this is only one side of the coin. The other is the objectivist
principle, which is that the datum for experience (that is, the actual entities which have
passed into objective immortality) constitute objective content. Thus, Whitehead avoids
slipping into solipsism. Furthermore, in contrast to the philosophy of substance of

---

[131] Whitehead insists that this sort of occurrence is real, in the mode of presentational immediacy at least. We
cannot be mistaken in our perception of a hallucination; we really do perceive it. Our mistake comes at
the point of symbolic reference. Whitehead therefore rejects the notion of the human being as a rational
being. He writes, 'It is said that 'men are rational.' This is palpably false: they are only intermittently
rational – merely liable to rationality. The intellect of Socrates is intermittent: he occasionally sleeps and
he can be drugged or stunned.' (*PR*, p.79)

Descartes (and of Aristotle and most Western philosophy), the philosophy of organism does not begin with a subject that then comes upon some datum. In Whitehead's system, the datum comes first.[132] As a result, and as we have stated above, the creation of the 'thinker', the conscious being, in the end result of the process, not the beginning. Put simply, the datum gives rise to feeling which results in thought which produces the thinker.

* * *

The philosophy of organism, the philosophy of process, is one of movement: and as Marx wrote in *The Poverty of Philosophy*, 'There is nothing immutable but the abstraction of the movement – *mors immortalis*.' (p.119) Whitehead captures this shift from the understanding of the world as a world of things which interact with one another, stuff which is set in motion; to a world where stuff *is* motion, where movement *is* the basic stuff of reality. 'We speak of the subject of the experience in necessary and useful abstraction but there is, in the final synthetic unity, only the movement itself.' (Pomeroy, p.54) Here we have a philosophy which is truly in step with the physics of relativity, which seeks to explain the world in all its complexity; unlike the positivist and analytic philosophers who seek to explain the complexity away, to explain all in terms of the philosophy of substance. Whitehead writes:

> The Cartesian subjectivism in its application to physical science became Newton's assumption of individually existent physical bodies, with merely external relationships. We diverge from Descartes by holding that what he has described as primary attributes of physical bodies, are really the forms of internal relationships between actual occasions, and within actual occasions. Such a change of thought is the shift from materialism to organism, as the basic idea of physical science.

> In the language of physical science, the change from materialism to 'organic realism' – as the new outlook may be termed – is the displacement of the notion of static stuff by the notion of fluent energy. Such energy has its structure of action

---

[132] Latour writes that, 'One of the key discoveries of Stengers's Whitehead is that an emphasis on perspective, far from celebrating the point of view that a given subject ''has on'' some state of affairs, is rather a telling witness of what perception offers to the living organism. … Thus, perspective is no longer a proof of subjectivity but a proof of the grasp of reality of what Whitehead calls ''the passage of nature'': ''The passage is neutral, the point of view does not belong to you, except that you occupy it, but it is much more accurately described as what keeps you busy rather than what you own''. There are many more interesting questions to ask about science than that of its degree of certainty.' (Latour, p229) Stenger's tease out this aspect of Whitehead's thought admirably but this understanding of perspective is readily apparent in *Process and Reality* itself and indeed the notion is developed so as not to simply be 'what keeps you busy' but a complex threefold mode of perception as described in this chapter. With that in mind, the last sentence in the Latour quotation here reads as something of a *non sequitur*.

and flow, and is inconceivable apart from such structure. It is also conditioned by 'quantum' requirements. These are the reflections into physical science of the individual prehensions, and of the individual actual entities to which these prehensions belong. Mathematical physics translates the saying of Heraclitus, 'All things flow,' into its own language. It then becomes, All things are vectors. Mathematical physics also accepts the atomistic doctrine of Democritus. It translates it into the phrase, All flow of energy obeys 'quantum' conditions.

But what has vanished from the field of ultimate scientific conceptions is the notion of vacuous material existence with passive endurance, with primary individual attributes, and with accidental adventures. Some features of the physical world can be expressed in that way. But the concept is useless as an ultimate notion in science, and in cosmology.
(*PR*, p.309)

Michael Epperson describes it as both 'fortunate and remarkable' that Whitehead's metaphysical scheme 'so precisely mirrors the hypothetical deductions and inductions made by the physicists who have contributed to the development of the event-ontological, 'historical process' interpretations of quantum mechanics.' (2004, p.xiv)

After all, the role of metaphysics, as Whitehead argues, is to investigate the generic principles under which the specific principles of science fall, with the role of science being the investigation of particular species. (*PR*, p.116) The problem is, as we know, the bifurcation of nature implied by substance philosophy; in other words, most post-Lockean modern philosophy. As Latour himself point outs, ever the keen critic of modernism, it is impossible to ascribe to a living organism the notions of primary and secondary qualities; the separation is absurd as there is an endless blurring of the two in any living organism. (2005b, p.227) The question then is how to develop a metaphysics which can accommodate the organism. Indeed, the very concept of the organism poses once more the necessity of metaphysics itself. Whitehead's philosophy of organism, by uniting the subjectivist and objectivist principles within the organism, frees scientific activity from, in Latour's words, 'the rather absurd choice of having to choose between 'being of this world' and 'being of another world.' Rather, science adds its knowledge to the world, folding itself, so to speak, into it one more time.' (2005b, p.231)

Of the three monadologists – Leibniz, Tarde and Whitehead – Whitehead presents the most complex and challenging system of metaphysics. Leibniz provides a suite of concepts, a history, and the monadic principles, but he belongs safely to the past and can be

paraphrased, mutilated, employed metaphorically – there is no contemporary Leibnizism to speak of and there are few Leibnizists to object. Tarde's work is similarly malleable and plastic, coming at the tail end of the era of Newtonian physics, grasping towards the alternative but finding it just out of reach. Recall that he has to embrace philosophy of possession because he cannot find a satisfactory opposite to 'becoming'. The dialectical being-becoming, the subject-superject and the concept of valuation, of positive and negative prehension; all allow for the radical relationality, the folding and unfolding, loss and acquisition that Tarde was looking for.

Whitehead, on the contrary, inhabits our own world. His philosophy of organism, as presented in *Process and Reality*, is rigorous, exhaustive, intricate. It is not easily understood except as a whole; much as a piece of music cannot be explained note by note. This is not to say that Whitehead presents in *Process and Reality* the last word in speculative philosophy. But, for our era at least, it is the first word.

What ties Latour so tightly to Whitehead is a shared preoccupation; namely, the resistance of the bifurcation of nature and a commitment to a non-hierarchical ontology. For both Whitehead and Latour, God, human beings, telephones, stones, ideas and so on have the same ontological status. Recall the quote from earlier in this chapter that begins, 'There is no going behind actual entities to find anything more real.' It continues:

> They [actual entities] differ among themselves: God is an actual entity, and so is the most trivial puff of existence in far-off empty space. But, though there are gradations of importance, and diversities of function, yet in the principles which actuality exemplifies all are on the same level. The final facts are, all alike, actual entities; and these actual entities are drops of experience, complex and interdependent.
> (*PR*, p.18)

However, Actor-Network theory runs the risk of reinforcing the very bifurcation it seeks to resist by committing the sin that Whitehead warns us of so often, the fallacy of misplaced concreteness. As Weber notes, with Actor-Network Theory:

> As a method of tracing networks of relations becomes a metaphysical principle, it is severed from its pragmatism and empiricism and becomes an instrument in the service of a bifurcation, treating other forms of explanation as mere illusions, obstructions to a greater reality. The bifurcation has been turned on its head: now, instead of primary qualities as real and secondary qualities as mere appearances,

ANT institutes relations as primary and transforms stable entities into secondary phenomena. (pp.523-524)

Recall Whitehead's warning in *Science and the Modern World*: 'You cannot think without abstractions; accordingly, it is of the utmost importance to be vigilant in critically revising your modes of abstraction.' (p.36) This is the distinction which leads Stengers to claim that Whitehead is a constructivist, but not in the sense that things are 'mere constructions'. (2011, p.18) The abstract and the concrete are inextricably intertwined – more than that, they are utterly dependent on one another. As Pomeroy writes, 'All being, top to bottom, simultaneously subject and substance, simultaneously conceptual and material. All being relational. All being life and movement. All being free.' (p.18) It is in this way that Whitehead's metaphysics can sidestep the charge of being totalizing in the manner of Hegel: 'It is thus not a unifying vision of the world that is proposed with the organism, but what Whitehead designates as a new mode of abstraction, capable of reconciling science and philosophy.' (Stengers, 2011, p.130)

The many become one and are increased by one. Stengers unfolds this refrain admirably, writing:

> The being-world, a veritable Leibnizian monad, a producer-product enjoying the adoption-of-a-position that has actualized "its world," can no longer be the syntactic subject of a process, since every process corresponds to a becoming-determined. Definition, the soul of actuality, has been produced. Henceforth, being what it is, the occasion perishes qua subject-superject, qua subjective immediacy, to become a "that which": that which others will feel.
> (2011, p.296)

The result is the solidarity of the universe; as Whitehead describes in *Modes of Thought*:

> In fact, the world beyond is so intimately entwined in our own natures that unconsciously we identify our more vivid perspectives of it with ourselves. For example, our bodies lie beyond our own individual existence. And yet they are part of it. We think of ourselves as so intimately entwined in bodily life that a man is a complex unity – body and mind. But the body is part of the external world, continuous with it. In fact, it is just as much part of nature as anything else there – a river, or a mountain, or a cloud. Also, if we are fussily exact, we cannot define where a body begins and where external nature ends.
> (p.21)

And it is this question of solidarity that so concerns Latour. In his Spinoza Lecture at the University of Amsterdam in 2005, titled *What is the Style of Matters of Concern?*, Latour told the audience:

> In a nature that as bifurcated, it's in vain that the nightingale sings: the singing is entirely in our mind, or even in our brain. If we could look directly at nature, it would be soundless: the throat of the nightingale would simply agitate the air, the waves of which will strike our eardrums triggering some electric effects in our neurons, and somewhere in the auditory folds of our cortex a pure invention will emerge which has no correspondence whatsoever with anything of a similar tone in nature: the song of the soundless nightingale.
>
> (p.11)

The bifurcation of nature, the separation of primary and secondary qualities, of the why and the how, the concrete and the abstract, is not a scholastic question but fundamental to our understanding of the world and fundamentally conditions our social and political environments. 'Meaning without reality' or 'reality without meaning' (Latour, 2008, p.26) – such is the choice offered by a bifurcated nature. Using this concept of bifurcation allows Latour to pose the question, 'how come we have, for three centuries, discounted what is given to us through experience and replaced it instead with something never experienced that philosophers have nonetheless the nerve to call "empirical" and "matters of fact[ual]".' (2008, p.35)

The other key synergy between Whitehead and Latour is, of course, the refusal to draw any *a priori* distinction between the human and non-human. This flows from Whitehead's depsychologized experience, which for Latour affords an existentialism extended to all things. It is the granting of historicity – inherent in the notion of the occasion – to all things that is key here.[133] Without Whitehead's philosophy of organism, Latour has no means of resisting the distinction between human and non-human, nature and society without a mere sociological explanation (as in, for example, the account of the hotel room key); in other words, there is a reliance on the very methodology he seeks to overturn. He acknowledges as much, writing in *Do Scientific Objects Have a History*:

---

[133] Once again, it is quite extraordinary to think that Whitehead, by all accounts, never read Hegel; although it is likely that, through F.H. Bradley, he would be familiar with Hegel's system. Harry K Wells' laments in his preface to *Process and unreality: A criticism of method in Whitehead's philosophy* that 'Whitehead *should* have gone directly to Hegel, himself.' (1950, p.viii)

Whitehead's metaphysics allows us to help the philosophy of the history of science – blocked for some time on the question of the role that ought to be given to nonhumans – to take a small step forward. It is perfectly possible to reconcile scepticism and realism, provided historicity be thoroughly granted to nonhumans as well. A little historicity spawns relativism, a great deal engenders realism. (p.91)

Finally, in Whitehead's very system we can see the monad in action. Like God and the 'most trivial puff of existence' the concept too has an ontological status; one that is explored, as we will soon see, further by Latour. A concept as an actual occasion, or more precisely, as a society of actual occasions, is characterized, like any Whiteheadian society, by the genetic relatedness of its members. The monad has come a long way from Leibniz but Whitehead shows us that it cannot but be remade, reassembled every time it is picked up and used by another philosopher. Like everything else the concept of the monad in all its instantiations belongs to the world of settled fact, waiting to be taken up by the next subject on 'its adventure of self-formation.' (*PR*, p.308)

Chapter 4: Latour

> And do I have a metaphysics? No, I don't think I have a metaphysics, that's the
> problem.
> (Latour, 2011, p.46)

Leibniz gives us a concept, the monad, from which a torrent of ideas gush forth; like water surging through the mills that powered early modernity.[134] Tarde's *Monadology and Sociology* reads like the fever dream of someone on the cusp of 20th century modernism; while Whitehead diagnoses the cancer at the heart of that modernism, the bifurcation of nature. Latour tells us we have never been modern after all, all the while sketching a body of work which, in its self-effacing modesty, its warm sarcasm, evades canonisation – its very essence rebukes the notion.

Bruno Latour is, as he writes in *The Pasteurization of France*, 'Christian, philosopher, intellectual, bourgeois, male, provincial, and French' (1988, p.163). He trained first as a philosopher then as an anthropologist, before combining the two approaches in his first book with Steve Woolgar, *Laboratory Life*. Associated from the outset with Science and Technology Studies, by the 1990s he was best known for his work on a controversial new set of social theories and practices, termed Actor-Network Theory (ANT). Ignored by philosophers and reviled by sociologists, ANT was slow to produce a school of thought; there was Actor-Network Theory, but beyond Bruno Latour, John Law, and Michael Callon, there were few actor-network theorists. Even they were reluctant to promote ANT, with Latour in 1996 himself writing a paper titled, *The Problem with Actor-Network Theory* (1996b).[135] In it he addresses some of the 'misconceptions' stemming from the term 'network'[136] and its various uses, particularly in relation to the internet, and reminds

---

[134] Recall from the *Monadology*: 'If we imagine that there is a machine whose structure makes it think, sense, and have perceptions, we could conceive it enlarged, keeping the same proportions, so that we could enter into it, as one enters into a mill.'

[135] Published in English as, *On actor-network theory. A few clarifications plus more than a few complications.*

[136] Schmidgen explains that in Latour's view, 'the openness and accessibility of the Web invalidated in the long term the notion of the network as developed together with Callon and others:

> At the time, the word network, like Deleuze's and Guattari's term rhizome, clearly meant a series of transformations – translations, transductions – which could not be captured by any of the traditional terms of social theory. With the new popularization of the word network, it now means transport

readers of ANT's 'quaint ontology,' but by 1999 he announces his rejection of the term 'ANT' entirely, writing, 'there are four things that do not work with actor-network theory; the word actor, the word network, the word theory and the hyphen! Four nails in the coffin.' (1999, p.15) But one cannot be an actor network theorist while also holding that one has the power to simply dispose of an entire theory. By 2005, Latour writes *Reassembling the Social: An Introduction to Actor-Network-Theory*, where he systematically presents what ANT had been attempting to do, in the process making peace with the term itself:

> Why not use actor-network? I know this expression remains odd because it could mean just the opposite as well, namely a solution to the actor/system quandary we have just rejected. But we have the word already at hand, and it's not that badly designed in the end.
> (2005, p.217)

What he presents is the bundling together of an array of concepts that had been developed and explored over seventeen years of study and observation. At its heart is the insistence that when we talk about something being 'social' – as in, teenage pregnancy is a social problem, as opposed to how to stop a building from falling down which is a problem for science – we are designating a 'stabilized state of affairs, a bundle of ties that, later, may be mobilized to account for some other phenomenon.' (Latour, 2005, p.1) This is not necessarily a problem, provided that what has been designated 'social' has been properly assembled, without any assumptions as to the nature of the material used in the assembly.

However, sociologists and social scientists do not use the term 'social' in the sense of a 'movement[137] during a process of assembling' (2005, p,1) but rather as a term to designate a particular kind of material. By separating the social from everything else, the social scientist is able to provide 'social explanation' of something else. Latour argues that while this has clearly had its uses, it is long past its best and now serves to obscure the

---

without transformation, an instantaneous, unmediated access to every piece of information. That is exactly the opposite of what we meant. (On Recalling ANT, p.15)

[137] Movement is an important part of Latour's thinking, being the very lure to enquiry: 'When a famous soprano says, 'It is my voice who tells me when to stop and when to begin', how quickly should the sociologist jump to the conclusion that the singer offers here a 'typical case' of 'false consciousness', artists being always too ready to take what is of their own making as the fetish that makes them do things? Is it not abundantly clear that this singer should not be listened to but instead 'freed from her own delusion' by the courageous exposition of her lies. Down with Muses and other undocumented aliens! And yet, the soprano did say that she shared her life with her voice that *made her do* certain things. Are we able to treasure this odd way of speaking or not? It was very precise, very revealing, very telling, and also very moving. Is not being moved, or rather, *put into motion* by the informants exactly what we should mean by an enquiry? (2005, p.48)

assemblage of multifarious materials in the process of assembling the social; that the social is to be explained rather than provide the explanation. This leads to ANT's most famous claim, that both the human and the non-human have to be taken into account in the composition of a social world. It is not, as Latour points out, 'the establishment of some absurd 'symmetry between humans and non-humans',' but rather, 'simply means not to impose *a priori* some spurious asymmetry among human intentional action and a material world of causal relations.' (2005, p.76)

It is these sort of views, and the sometimes wilful misreading of them, that has landed Latour in trouble over the years; most notably during the so-called 'science wars' of the 1990s when he became one of Alan Sokal's prime targets. Latour writes in *The Pasteurization of France*,

> "Science" -in quotation marks-does not exist. It is the name that has been pasted onto certain sections of certain networks, associations that are so sparse and fragile that they would have escaped attention altogether if everything had not been attributed to them.
> (1988, p.216)

It is not difficult to see what bothered Sokal, and earned the approval of the social constructivists. Yet the irony is, Latour rejects both modernists and post-modernists with equal scorn and vigour. He is an empirical philosopher and a realist, no more believing that everything can be reduced to signs, representations or language than the most hard-headed positivist. But he reserves equal scorn for those who simply want the opposite: to excise semiotics, representation, language from the natural world, to bifurcate nature and place the natural in one pile, and the social in another. Far from being a social theory or philosophy of technology, ANT is an Actant Rhizome Ontology. We will discuss this term in due course, but for now it is worth making absolutely clear, as Latour does, that;

> [Y]ou can provide an actor-network account of topics which have in no way the shape of a network—a symphony, a piece of legislation, a rock from the moon, an engraving. Conversely, you may well write about technical networks—television, e-mails, satellites, salesforce—without at any point providing an actor-network account.
> (2005, p.131)

This final chapter returns to the work of Latour to find the monad reassembled as the 'actor-network'. It will describe and detail his ontological scheme – as presented primarily

in *Irreductions*, *We Have Never Been* Modern, and *Reassembling the Social* – presenting the actor-network (or actant-rhizome) as a reiteration/renewal of the monad and an ontology that itself demands to be renewed each and every time it is deployed. The chapter closes with the argument that, firstly, Latour pays insufficient heed to Whitehead's understanding of abstraction with the result that, despite Latour himself developing the through his work, he fails to fully embrace the ontological reality of the abstract. Secondly, that this in turn leads to his preference for litany over critique and results in a philosophy with a great deal of descriptive power but little or no transformational power. Finally, the thesis concludes arguing that the 'compositionist' politics that emerge from Latour's Actant Rhizome Ontology are ambiguous and utopian, and that Latour's democratization of the monad must be extended to include its radicalization, to move beyond explanation toward transformation, to rediscover critique.

The approach in this chapter is consistent with that taken throughout the thesis. It is an empirical and hermeneutic approach, in the spirit of ANT itself.

> What makes Latour's work stand out is his style of doing 'empirical philosophy'. Like Peguy's Clio, Latour "applies that of which he speaks". Concepts are introduced as tools and discarded when more useful ones are found; precursors in philosophy and social science are pragmatically introduced to help convey the message. When writers with better ideas and concepts are found, former ones are kindly invited to leave the stage.
> (De Vries, 2016, p.20)

Similarly, John Law writes,

> And ANT? I think we might imagine that, like its objects of study, ANT cannot be told. Cannot be told as a single narrative. As an overall story about the growth of a centred network with its successes and reverses. And instead imagine that it can only - and best - be represented as a set of little stories, stories that are held together (if they are) by ambivalences and oscillations. In which case, as representatives, we might then embrace an art of describing, an art of describing the patterns and textures that form intellectual patchwork.
> (2003c, p,8)

That is precisely what we are attempting here: not the construction of a metaphysics – as per the chapter's opening quotation – but the art of describing the patterns and textures of Latour's intellectual patchwork.

Irreducibility

Latour's metaphysical system is launched with the words, 'Nothing is, by itself, either reducible or irreducible to anything else' (Latour, 1988, p.158). So begins the second part, titled *Irreductions*, of his *The Pasteurization of France*. Encountered on its own and at first glance, this text appears as a slightly anachronistic work of speculative metaphysics; we might conceive of it as a Leibnizian philosophy in the language of Nietzsche – the entelechy rendered synonymous with force, the monad with weakness, all set out in numbered paragraphs. It is in fact much stranger than that. Punctured with literary biographical digressions Latour labels 'interludes' – 'It was a wintry sky, and a very blue. I no longer needed to prop it up with a cosmology, put it in a picture, render it in writing…' (1988, p.163) – it follows a painstaking account of Pasteur's discovery of the microbe. This first section, titled *War and Peace of Microbes*, is an attempt at an 'anthropology of the sciences': an account of this history of microbes that includes all of the actors involved, including the microbes themselves. Along with the obvious reference in the title, Latour quotes Tolstoy's *War and Peace* early in this first section in what can be read as a something of a Latourian *cri de coeur*:

> So long as histories are written of separate individuals, whether Caesars, Alexanders, Luthers or Voltaires, and not the histories of all – absolutely all – those who take part in an event, it is impossible not to ascribe to individual men a force which can compel other men to direct their activity towards a certain end. And the only conception of such a kind known to historians is the idea of power.
> (Latour, 1988, p.14; Tolstoy, 1952, p.679)

It is the histories of all – of *absolutely all* – that must be accounted for if we are to understand any given event. While Tolstoy was writing about men, Latour takes him at his word when he says, 'absolutely all'; and so we have a history titled *The Pasteurization of France* that is as much about 'hygienists, drains, Agar gels, chickens, farms, insects of all kinds,' not to mention scientific instruments, medical journals and the Ministry of Agriculture, as it is about Pasteur himself. This is a radical new way of seeing the world which requires a systematic philosophical reorientation. *Irreductions*, far from being a peculiar appendix to a history of science book, provides that reorientation; it is Latour's attempt to provide a philosophical basis for this new way of looking at the world, where every actor, human and nonhuman, has to be taken into account, where belief is no longer

distinct from knowledge, where we have never been modern, and where nothing is reducible to anything else.

Graham Harman identifies four key principles[138] to Latour's *Irreductions* era metaphysics (Harman, 2009, pp.14-15) but there is in fact one key principle from which a further three are derived. That principle is the principle of irreduction - 'Nothing is, by itself, either reducible or irreducible to anything else' (Latour, 1988, p.158). We have already found something similar in Whitehead – 'There is no going behind actual entities to find anything more real' (*PR*, p.18) – and a striking feature of the four monadologies under discussion in this thesis is the way in which each unfolds from a fundamental principle or set of principles, and the fact that the very concepts themselves behave in accordance with the laws of the world they seek to describe – from the monad a universe unfolds; much as, for Leibniz, from the concept of the simple substance an entire universe of concepts – that is, the monadology – unfolds. This unfolding is of a different character to the logical progressions we find in, for example, Descartes *Meditations*. *Cogito ergo sum* contains almost nothing – it is, as Milan Kundera remarks, the words of an intellectual who has never experienced toothache.[139] It merely states that there exists a thinking subject. Nothing follows from this, hence the need for Descartes to make a leap and carve the world in two – the 'out there' and the 'in here'. There is no need for such a leap for Leibniz, Tarde, Whitehead, or Latour. Leibniz's monad contains the world, albeit as a reflection. Tarde's contains the world quite literally, or rather it *has* the world.[140] Whitehead's actual entity is the feeling, the prehension, of the settled world of fact. Latour, as we will now see, has the actant.

---

[138] First, that the world is made up of actants; second, the principle of irreduction; third, translation as the means of relation; and fourth, alliance as power. (Harman, 2009, pp.14-15)

[139] '*I think, therefore I am* is the statement of an intellectual who underrates toothaches. I feel, therefore I am is a truth much more universally valid, and it applies to everything that's alive. My self does not differ substantially from yours in terms of its thought. Many people, few ideas: we all think more or less the same, and we exchange, borrow, steal thoughts from one another. However, when someone steps on my foot, only I feel the pain. The basis of the self is not thought but suffering, which is the most fundamental of all feelings. While it suffers, not even a cat can doubt its unique and uninterchangeable self. In intense suffering the world disappears and each of us is alone with his self. Suffering is the university of egocentrism.' (1998, *Immortality*, p.225) Clearly this owes a lot to Schopenhauer but the notion of 'I feel therefore I am' has an interesting Whiteheadian ring to it.

[140] Latour makes a similar point, referencing Descartes, in his discussion of Tarde's philosophy of having: 'Here goes Hamlet, as well as Descartes with his cogito, Heidegger with his Being qua Being, together with thousands of homilies about the superiority of what 'we are' above what 'we have'. Quite the opposite, Tarde instructs us. Nothing is more sterile than identity philosophy —not to mention identity politics— but possession philosophy —and maybe possession politics?— create solidarity and attachments that cannot be matched.' (Latour, 2002, p.15)

The Actant

Latour's universe of concepts unfolds from the principle of irreduction; and the first concept we come upon is the actant. Like Leibniz and Tarde's monads or Whitehead's actual entities, the actants are the stuff of reality. Where Latour differs from his three antecedents – a little less so from Tarde – is in his refusal to make any ontological distinction between substance and aggregate. A university, a hat, a football match, a water molecule, a dog – there is no *a priori* distinction to be made between these actants. Obviously, one actant may act with more force than another, be more significant or have a greater impact on the world of actants – a university will act with greater force than a hat – but none can claim any greater reality than any other. Neither can there be any distinction between the human and the nonhuman, as the scientist in the lab, the microscope through which she peers, and the cultures on the slide are all actors. Or a distinction between essence and accident – there is no 'real' you, only the you that is in the world now, 'a force utterly deployed in the world at any given moment, entirely characterized by its full set of features.' (Harman, 2009, pp.14-15) Such are the consequences of the principle of irreduction.

If you have world of entities, none of which can be reduced to any other, then you have a world where Bruno Latour, the Professor at Sciences Po Paris, has the same ontological status as the skin cells in his writing hand or the electrical synapses firing away in his brain; or indeed the very concept of the actant that came into the world from the common endeavour of his brain and his hands – and the keyboard on which he typed, the conferences at which he tested his ideas, the coffee that kept his mind sharp, the cup that held it and so on. Bruno Latour cannot be explained by his brain activity or a psychological profile, his biographical history or a history of contemporary French public intellectuals – he is irreducible, he simply is what he is at any given moment. At the same time, a scan of his brain or a report on the state of his mind, a book on his childhood or an undergraduate seminar on *We Have Never Been Modern*, all of these are just as real as the man himself.

Yet when we talk about a person or an event we constantly seek to reduce things to other things. Trump was elected because of the embattled, embittered middle class of rust belt America. The Higgs bosun was discovered as a result of the work of scientists at CERN. We are not wrong when we make these statements or attempt these explanations. But we do underestimate the amount of work they require: after all, 'Explanation does not follow

from description; it is description taken that much further.' (Latour, 1990, p.121) And this brings us to the next concept: translation.

Translation and Alliance

Translation is the process by which the – to borrow a phrase from Whitehead – the actual world is produced. It is Latour's concrescence. Trump's election is not simply the change in status of sociopathic businessman to sociopathic president. It is the casting of millions of ballots, the thousands of miles walked by canvassers, the bits of paper, the counting machines, the police escorted ballot boxes, the commentary on cable news, the newspaper headlines, the protest rallies, the FBI investigations and so on and so forth. If this looks like a typical Latourian litany[141] it is because it is – there is simply no other way to account for absolutely all of those who take part in an event. The Latour litany is never long enough, it can never contain enough actants, because, as we have seen, the universe of actants is infinite – if no actant can be reduced to any other then there is no such thing as the fundamental substance, the building block of the universe: it's turtles all the way down. However, there is a way of linking things with one another, and that is through translation. When Trump 'takes office' we have in mind the image of a man striding to a desk, sitting down and immediately getting to work – scribbling notes, giving orders, making phone calls. In reality, when Trump takes office an enormous network of actants are mobilised besides the man and the desk. Take the example of the infamous proposed US/Mexican border wall – an example which both demonstrates the power and impotence of Latour's ontology in that it hinders any attempt to move beyond description and litany towards critique and praxis. When Trump orders the wall to be built a process of translation begins, one which starts with the order and may or may not end with the building of a wall. In between, innumerable actants acts as mediators – geographers map the proposed route of the wall, economists estimate costs, local communities form groups in support and opposition, border agencies write memos and reports on its effectiveness, NGO's hold press conferences to denounce it, firms build concrete prototypes in anticipation of lucrative government tenders, and people hoping for a better life continue to cross the border where and when they can. Trump's order is, in other words, translated. Each actant takes it and moves with it in a particular way. Some resist, some help it along. In the end,

---

[141] A term coined by Ian Bogost. On his website he has created a 'Latour Litanizer' which automatically generates lists of things using Wikipedia's random page API: http://bogost.com/writing/blog/latour_litanizer/

when we say, 'Trump built a wall' or, preferably, 'Trump failed to build the wall', our statement is shorthand for a long and complicated process of translation involving a world of actants. Later in his thinking Latour builds on this concept with the notion of mediation.

Alliance is the third concept to tumble from the principal of irreduction. To put it simply, an actant is only as strong as the alliances it constructs. There is a difference between Trump saying, 'Build a wall,' on the campaign trail and saying, 'Build a wall,' in the Oval Office. In the first instance he does not have the necessary allies to carry through his will. In the second he might; though, as he is finding out, building chains of alliances is not a simple task. The same goes for any programme of action, no matter how simple or how inevitable it may, in retrospect, now seem. When Latour describes the spread of hygiene in the first section of *The Pasteurization of France*, he writes:

> Although their words were marked by absolute idealism and although they always spoke of "progress" and "diffusion," the hygienists knew very well in practice that they needed to form alliances with active groups if a gesture or technique were to spread into every corner of French society.
> (1988, p.134)

Progress, diffusion, science – they are not enough. Alliances need to be built, translations made, and actants mobilised. We can see more clearly what irreducibility entails now: an anti-substance metaphysics. Over time, Latour speaks more of 'associations' than alliances, the former having a more neutral less martial ring to it while also removing any hint of it being necessarily the work of a conscious human agent. Thus, Latour comes to define his own work as a 'sociology of association' rather than a 'sociology of the social', the main difference being that the latter takes the social as substantial while the former views it as being relational. Latour writes:

> [I]t is possible to remain faithful to the original intuitions of the social sciences by redefining sociology not as the 'science of the social', but as the tracing of associations. In this meaning of the adjective, social does not designate a thing among other things, like a black sheep among other white sheep, but a type of connection between things that are not themselves social.'
> (2005, p.3)

The concept of association is allied to Tarde's notion of possession – that is, it is less to do with what something is and more to do with what it has. As opposed to being, with having 'you know neither the boundary nor the direction: to possess is also being possessed; to be

attached is to hold and to be held.' (Latour, 2005, p.217) In other words, subjectivity is to be found in the gathering of relations; it is the 'thing' in its original sense, as a parliament. (Ingold, 2007, p.5) However, every parliament takes a particular form, has a particular character. Muldoon argues that:

> One of the key functions of debt is to produce subjects that are capable of promising and standing as guarantors of themselves as debtors. For Lazzarato, the production of subjectivity is one of the most important components of capitalism, which guarantees its ability to reproduce itself. The production of 'indebted' subjects serves a double purpose: it both creates an economic dependence in the subject and acts as a security mechanism by making subjects less risk averse, more docile and malleable, and reducing the uncertainty of their future behaviour.
> (2014, pp.68-69)

The production of subjectivity is therefore produced in a certain way. We are not talking about a context that stands behind the world of actants, but rather a way or a mode of gathering that results in the production of a particular kind of subjectivity. It remains to be seen whether or not Latour's system can accommodate this kind of analysis.

The other difference between a substantial and a relational social is that one, the substantial, presumes sociality as a property, while the other, the relational, demands that it is accounted for. The result is that to be social is no longer a safe, static property but a movement which, crucially, can succeed or fragment and fail. There is no longer a readymade world for us to inhabit, but rather the world must be made anew each instant. The actant is like Tim Ingold's 'wayfarer', which is defined in the following way:

> Wayfaring, I believe, is the most fundamental mode by which living beings, both humans and non-human, inhabit the earth. By habitation I do not mean taking one's place in a world that has been prepared in advance for the populations that arrive to reside there. The inhabitant is rather one who participates from within in the very process of the world's continual coming into being and who, in laying a trail of life, contributes to its weave and texture. These lines are typically winding and irregular, yet comprehensively entangled into a close-knit tissue.
> (2007, p.81)

John Law describes it as 'ontological choreography', with its dance-like nature where a 'set of connections is made for a moment, a reality that might hold together for a time.' (2003c, p.10) And as Latour wrote, 'If a dancer stops dancing, the dance is finished'

(Latour, 2005, p.37) – alliances persist only in movement, only so long as they are made, remade and maintained.

Concreteness and endurance

If nothing is irreducible to anything else then everything is absolutely concrete. But if everything is concrete then there can be no distinction between essence and accident or a substance and its qualities, as both essence and accident, substance and quality would be concrete. In other words, if such a distinction could be made then the accident would be reducible to the essence and the quality to the substance. There would then be an ontological hierarchy where some things are concrete and irreducible and others are not. In a world made up only of actants, fully deployed in the world at any given time, this cannot be. Instead, we have a world of actants which are wholly defined by their relations; as Harman puts it, 'All features of an object belong to it; everything happens only once, at one time, in one place.' (2009, p.17) What then of endurance? As for Whitehead, for Latour endurance is a genetic matter. A person does not persist in time as a substance to which things happen, things are added and taken away. A person happens 'only once, at one time, in one place.' When we refer to the persistence of a person – for example yesterday Trump said one thing, today he said the opposite – we are, as discussed earlier, engaging in a kind of shorthand. The reality is that each Trump is fully deployed in the world at each moment. There is nothing left over to persist. Instead, the succession of Trumps are tied together genetically. Again like Whitehead reality and the succession of time are atomic; just as for Godard the frames of a film produce truth twenty-four times a second.[142] But again like Whitehead, and like a film, we can abstract by linking these frames together: 'time has stood still, if only it could.' (*PR*, p.154) Latour's entreaty is to ensure we do the necessary work to trace these links and pay the necessary price. That work and that price is translation; without which we only have entities that are only themselves – singular and concrete events. As we can see, it is to Whitehead that Latour is most closely allied. As Harman notes, what ties Latour to Whitehead – and distinguishes him from Bergson and Deleuze – is his insistence that 'entities are so highly definite that they vanish instantly with the slightest change in their properties' (2009, p.6). While all four adhere to what can broadly be considered a process metaphysics, Bergson and Deleuze hold to the notion of generalized becoming, while, for Latour and Whitehead, substance must be understood

---

[142] 'Photography is truth. The cinema is truth twenty-four times per second.' *Le Petit Soldat*, 1963.

atomically. The defining nature of their difference is that Latour and Whitehead – and Leibniz and Tarde – adopt a monadological process philosophy as opposed to a process philosophy of flux.

If we pause to consider the ontological status of Latour's monadology itself we will see that:

> There is no central point in the network where we encounter the very heart of Latour and his philosophy. There is no inner Latour-essence wrapped in transient wool or chaff, but only a network of allies mobilized by his philosophy. Most of this network lies outside Latour's personal control, and much of it even remains unknown to him.
> (2009, p.20)

Harman understates the significance of this. Every time Latour's work is read, conceptualized, drawn-on, cited, it is created anew. Each instance of Latourian thought bears a genetic resemblance to Latour's own thought which we can trace – with some difficulty – through a series of translations. When we talk of the power of a particular school of thought, we are talking about the fact that a concept has gained allies who translate and extend it in to the world. Therefore, when we attempt to go back to that thought we are engaging in historical anthropology as much as we are in philosophy – the thought has passed into objective immortality; it can only be reassembled, never relived. However, when enough actants ally themselves with an idea, a certain durability arises. Time is created by the alliance of actants – the time of Copernicus, of Galileo, of Newton, of Darwin – these actants punctuate and periodize history not by the truth of their ideas but the mobilization of allies. Truth itself can no longer be considered as anything other than one more actant among a universe of actants:

> A sentence does not hold together because it is true, but because it holds together we can say it is "true." What does it hold onto? Many things. Why? Because it has tied its fate to anything at hand that is more solid than itself. As a result, no one can shake it loose without shaking everything else.
> (Latour, 1988, pp.185-186)

And on time Latour writes:

> Each entelechy generates times for others by allying with or betraying them. "Time" arises at the end of this game, a game in which most lose what they have staked. … Is this moment before or is it after? Is it overtaken, prophetic, obsolete,

> decadent, contemporary, provisional, or eternal? This cannot be determined in advance. It has to be negotiated. … Time is the distant consequences of actors as they each seek to create a fait accompli on their own behalf that cannot be reversed. In this way time passes. …

> Time does not pass. Times are what are at stake between forces. Of course, one force may overtake the others, but this can only be local and temporary because permanence costs too much and requires too many allies.
> (1988, pp.164-165)

'Time passes. … Time does not pass.' Yet later Latour writes, 'Since nothing is inherent in anything else, the dialectic is a fairy tale. Contradictions are negotiated like the rest. They are built, not given.' (1988, p.180) How can time both pass and not pass without the kind of dialectic we find in Whitehead's process philosophy? Whitehead writes, 'Time has stood still – if only it could.' (PR, p.154) But for this to be true requires the ingression of eternal objects, the 'mode of taking account' discussed in the previous chapter. Recall the quote from *Science and the Modern World*:

> Wherever such objects have ingression into the general flux, they interpret events, each to the other. They are here in the perceiver; but, perceived by him, they convey for him something of the total flux which is beyond himself. (p.151)

Or the following passage from *Process and Reality*:

> Ideals fashion themselves around two notions, permanence and flux. In the inescapable flux, there is something that abides; in the overwhelming permanence, there is an element that escapes into flux. Permanence can be snatched only out of flux; and the passing moment can find its adequate intensity only by its submission to permanence. Those who would disjoin the two elements can find no interpretations of patent facts.
> (PR, p.338)

Perhaps Latour is guilty of disjoining these two elements. Yet he acknowledges both permanence and flux by saying both that time passes and does not pass. In fact, by positing a metaphysics which views actants as being concrete instants, time becomes a succession of concrete instants but a succession that has to be ordered, negotiated, created by the actants themselves. This represents a democratisation of process philosophy, whereby reality is conceived of as the product of deliberation, negotiation, cooperation, compromise, and antagonism between actants. Harman argues that Latour is the 'Anti-

Bergson', that 'Latour holds that time is merely the result of negotiations among entities, not what makes these negotiations possible.' (2009, p.30) He is right inasmuch as, for Latour, time is the result of negotiations among entities but it is not *merely* the result of negotiations among entities. If time is a result, a creation, then it is an actant like any other.

Along with time, potentiality is also the creation of actants:

> [T]alk of possibilities is the illusion of actors that move while forgetting the cost of transport. Producing possibilities is as costly, local, and down to earth as making special steels or lasers. Possibilities are bought and sold like anything else. They are not different by nature. They are not, for example, "unreal"
> (1988, p.174).

While it is no longer novel to reject the potential/reality distinction in favour of an alternative – like virtual/actual – it is still, three decades on, novel to do away with the distinction entirely. When we say, 'this might have happened instead of that', the idea itself becomes an actant, as do the sound waves if we vocalize it, the activity in our brain if we don't and the words on the page if we choose to write it down. As Latour writes,

> Each word is accurate and designates exactly the networks that it traces, digs, and travels over. Since no word reigns over the others, we are free to use all metaphors. We do not have to fear that one meaning is 'true' and another 'metaphorical'. There is a democracy, too, among words
> (1988, p.189).

This is not simply a metaphysics of power – power is also the creation of actants. Instead, it is monadology is its purest form. There is no pre-established harmony, no best of all possible worlds; no *élan vital* or tiny minds; no primordial God or eternal objects. And yet there all these things, they are just no different from any other actant. This is a monadology with nothing but monads.

The Black Box

By the time we reach 1987's *Science in Action* another concept has emerged from the principle of irreduction. The problem with having a universe full of actants – none of which can be reduced to anything beyond themselves – is we are left unable to do a lot of the things we take for granted. For example, before someone might say, 'I'm just going to the ATM to get cash.' But what a mistake they have made; they have forgotten their

Latourian litany. They are not *just* going to the ATM to get cash. There are a multitude of computer programmers, bankers, security personnel, drivers, economists, politicians, printers, designers – and those are just some of the human actants – all demanding to be taken into account; not to mention the security marks in the notes, the buttons on the ATM, the mile after mile of wiring along which electrical signals race, causing bank balances around the world to rise and fall. And this only scrapes the surface of the infrastructure that supports the transfer of money: money itself is the ultimate nexus of social relations, and the most obscure and opaque black box of them all. As Marx notes, writing on the 'whole mystery of commodities, all the magic and necromancy that surrounds the products of labour on the basis of commodity production,' it is the 'finished form of the world of commodities – the money form – which conceals the social character of private labour and the social relations between the individual workers'. (1990, pp.168-169)

But what a tiresome friend they would be if they *had* remembered their Latourian litany. Instead, they have swapped a multitude of actants for one: a black box. The black box functions as an abstraction, a container of actants and their relations – relations which have been assembled and reassembled over an indefinite period of time – obscuring the mind-boggling volume of labour and stuff required to withdraw twenty pounds from a cash machine. Black boxes are everywhere. They are those things that appear stable in the world, that persist; those things that allow us to move in and make sense of the world on a day to day basis. They are social structures, provided we remember to treat social structure as a verb rather than a noun. (Law, 2003, p.8) They are above all functional. Indeed, functionality is of their very essence, as when the black box breaks down it breaks open, spilling out actants for all the world to see. When the cash machine stops working and the engineer arrives to fix the fault she reveals the contingency of that black box we refer to as the 'ATM'. Of course, Latour is not entreating us to open up black boxes for the sake of drawing back the veil to reveal the truth as he does not believe there is such a thing as a hidden reality waiting to be uncovered. For Latour, nothing is less real than anything else and so his demands are quite different from Marx's demand in *The Communist Manifesto*: 'All that is solid melts into air, all that is holy is profaned, and man is at last compelled to face with sober senses his real conditions of life, and his relations with his kind.' Latour wants everything to be taken into account rather than a process of sorting things into opposing piles: real and unreal, true and false. Yet, Latour acknowledges the impossibility of trying to take everything into account all of the time. In *Aramis* Latour describes a scene where someone has effectively become unable to place things in their black boxes:

My mentor's behaviour worried me a little. He insisted on our doing " lab work" on the most ordinary machines. " We have to find the mistake," he would mutter. "A crime has been committed against Aramis, and we now know where to locate it: in the reinscription, the folding. " Carried away with this logic, he routinely thanked the automatic ticket machines at highway toll booths. He queried automatic tellers at banks about communication problems. He had long conversations with electric staplers.

(1996, pp.210-211)

Black boxes are like Heidegger's distinction between present-at-hand and ready-at-hand: so long as the black box remains closed we remain unaware of its contents; we do not observe or theorize it but simply use it. And, it must be remembered, black boxes are actants themselves. In this way Latour's thinking diverges from Tarde's. For Tarde, the aggregation of entities does not result in the creation of a new entity. From the population of Sweden there does not arise another entity, namely, Sweden. For Latour, this is precisely what happens. Sweden is assembled through the trials of a multitude of actants and becomes itself a black box which will endure so long as the world of actants it contains are, as Harman puts it, 'congeal[ed] into a stable configuration' (2009, p.34). This endurance is something that has to be attained, it is not derived from any substance or substrate. (Latour, 2000, p.49) Stir up a secessionist movement in the north or an expansionist Denmark to the south and cracks may begin to appear in the box.

If Sweden is an actant just like any Swedish person then clearly we have an entity, the actant, capable of functioning as, at different times and in different circumstances, either form or matter. At a United Nations assembly, Sweden functions as matter, as a solid entity; to its citizens however, it is the form given to the citizenry of the country. But with both of these entities being afforded the same status in Latour's democratic ontology there arises the question of just how these entities are related. Given that no actant can be reduced to any other, and therefore no actant can really be said to contain another, all actants must be understood as being external to one another and any divisions or distinctions between things must be understood as effects or outcomes. (Law, 1999, p.3) They are therefore only able to act on each other at a distance. This 'action at a distance' is described by Latour in the following way:

The history of technoscience is in a large part the history of all the little inventions made along the networks to accelerate the mobility of traces, or to enhance their

faithfulness, combination and cohesion, so as to make action at a distance possible.
(1987, p.254)

Action at a distance is the long rhizomatic chain of transformations that are necessarily undertaken to solidify and stabilise a black box. For example, at the ATM numbers appear on the screen. The user translates their desired number into the corresponding button and with a tap a whole chain of series of events across a far reaching network of actants begins, all translating and mediating as the user's command passes through each point in the network. If the customer's chain of associations is sufficiently strong – if their bank card is in good condition, they have sufficient funds, their bank's electronic infrastructure isn't subject to a cyber-attack at that very moment, there is no one lurking behind them to swoop in when the cash appears (and, of course, with everything being contingent, all of these things and more have to be the case at that very instant) – they will leave with their twenty pounds. Of course, they may leave with twenty pounds as the result of a fault that coincides with their attempt to withdraw that same sum but is in no way the result of their actions: in a world of infinite contingency, direct causal relations are beside the point. The simple act of making a cash withdrawal is the result of a painstaking assembly of actants and is by no means a guaranteed success. And there is no central or initiating actant: the actants are organised rhizomatically:

A rhizome has no beginning or end; it is always in the middle, between things, interbeing, intermezzo. The tree is filiation, but the rhizome is alliance, uniquely alliance. The tree imposes the verb "to be" but the fabric of the rhizome is the conjunction, "and ... and ... and..."This conjunction carries enough force to shake and uproot the verb "to be." Where are you going? Where are you coming from? What are you heading for? These are totally useless questions.
(Deleuze, Guattari, 1987, p.25)

Even if we want to open up the black box out of sheer curiosity as to how money can suddenly materialise from numbers on a screen to cash in hand, the closer we look the more black boxes we find: boxes within boxes within boxes. In our dealings with the world we are like a delegate at an international conference who is completely reliant on interpreters: everything is translated.

The concept of the black box is also inextricably linked with Latour's notion of mediation. For Latour, there are two ways in which meaning and force is transported across the rhizome. The first is by intermediaries. There are the entities which transport meaning without changing it, where what you put in will determine what comes out. These

intermediaries are themselves black boxes – like the ATM, where pressing the button beside '£20' results in a twenty pound note. The second is by mediators. Mediators do not simply transport meaning, no questions asked, they 'transform, translate, distort, and modify the meaning or the elements they are supposed to carry.' (Latour, 2005, p.39) They cannot be conceived of as counting just for one, like an intermediary can – even an enormously complex one which actually is composed of a great many actants but functions as though it were one, providing it is working. Instead, they count for one or many or none at all. One cannot predict where meaning will end up when it is being transported by a mediator. Latour explains:

> A properly functioning computer could be taken as a good case of a complicated intermediary while a banal conversation may become a terribly complex chain of mediators where passions, opinions, and attitude bifurcate at every turn. But if it breaks down, a computer may turn into a horrendously complex mediator while a highly sophisticated panel during an academic conference may become a perfectly predictable and uneventful intermediary in rubber stamping a decision made elsewhere.
> (2005, p.39)

Once again we also see that the entity is not defined in the same way as a substance is – with properties, essential and accidental – but purely by its relations. As Whitehead wrote, 'life lurks in the interstices of each living cell and in the interstices of the brain.' (PR, p.105-106) The other thing to note is that nothing is ever really simply an intermediary, though some things may appear that way. Recall, in the previous chapter, that for Whitehead 'monads no longer function as intermediaries between states of the world but are rather the very becoming of the world itself.' (Bell, 2012 p.135) The same is true for Latour and the consequence is that all of the action, all of the agency goes into the mediation. An intermediary transports meaning or force without changing it. With a mediator, all manner of unexpected things could come out the other side. To underline the significance of this point, along with the conceptual generative power of the principle of irreduction, Latour writes:

> This is what I dubbed the 'principle of irreduction' and such is the philosophical meaning of ANT: a concatenation of mediators does not trace the same connections and does not require the same type of explanations as a retinue of intermediaries transporting a cause.
> (2005, p.107)

Mediators relate with one another through the process of translation. This relation is not causal, rather it is a relation of coexistence. Mediators are engaged in 'making do' rather than causation: the relationship is one of translation, duplication and dislocation, (Latour, 2005, p.217) and instead of having actors and causes, there are simply actors who can fold and unfold the whole. (Latour, 2002, p.14) Where relations appear to be causal – as in the case of meaning transported by an intermediary – all this tells us is that there is an established connection of mediators already in place ensuring that everything runs smoothly. All translations leave their trace, but these associations have to be mapped and rendered visible, as we will discuss further on. Of course, there are some things that are so well established it is almost impossible to see the trace of their translations. Latour is right to observe that the traditional objects of philosophical discussion – the chair, the stone, the mug, the hammer; these things for which it is all but impossible to see as anything other than intermediaries of meaning, as ready-to-hand – are 'boring, routine, millenary old matters of fact … that were basically things Neanderthals could have been using already.' (2005, p.114) Instead of these matters of fact, we should be looking at matters of concern: those things that still leave traces, for example, bioengineering instead of chairs, climate change instead of the stone, an aircraft carrier instead of a mug or the collapse of a high street department store instead of the hammer. These things provide the setting for a new empiricism: 'livelier, more talkative, active, pluralistic, and more mediated than the other.' (2005, p.115)

A final observation on this particular aspect of Latour's work. Like Whitehead before him, Latour refuses to privilege the distance between human beings and the world and the distance between any other two actants. (Harman, 2009, p.51) The process of translation, mediation and assembly is one that can be undertaken by any actant, human or non-human. And it is by its very virtue a form of abstraction, though again like Whitehead, it is never *mere* abstraction. To move actants, to act on them at a distance, they must be abstracted from the instant of their full deployment in the world. The abstraction undertaken by actants is akin to the prehension of actual entities. Latour writes:

> If by 'abstraction' is meant the process by which each stage extracts elements out of the stage below so as to gather in one place as many resources as possible, very well, we have studied (and continue to study) the process of abstraction, exactly as we would examine a refinery in which raw oil is cracked into purer and purer oils. (Latour, 1987, p.241)

However, as we can already sense, the question of abstraction is one which sits uncomfortably in Latour's system – we will return to this point later. Meanwhile, we can already begin to see how Latour mobilises Leibniz, Tarde, and Whitehead in ways not unlike the mobilization of global financial systems, networked computers and systems of legal tender by the ATM user. As Harman notes:

> Instead of substances, there are black boxes that are not permanent, natural, or durable, and are always at risk of being reopened during future controversies. And instead of harmless relations that affect nothing, relations are always violent abstractions made from actants that would otherwise be trapped in a single place and time. Black boxes and action at a distance will provide Latour's answer to the central problem of modern philosophy.
> (2009, p.55)

The relations between these monadologies are 'violent abstactions' made from concepts that would be otherwise 'trapped in a single place and time'. By appealing to these thinkers, to the idea of the monad, Latour is constructing his own black box.

Modernity

> What I am essentially protesting against is the bifurcation of nature into two systems of reality, which, in so far as they are real, are real in different senses. One reality would be the entities such as electrons which are the study of speculative physics. This would be the reality which is there for knowledge; although on this theory it is never known. For what is known is the other sort of reality, which is the byplay of the mind. Thus there would be two natures, one is the conjecture and the other is the dream.
> (Whitehead, 1920, p.30)

Latour takes Whitehead's bifurcation of nature and conceptualizes it as an attempt by modernity to cleave the world in two in an act of purification; putting on one side the human and on the other nature to create two realms which are not simply separate but actively opposed to one another. By historicizing the act of bifurcation and taking into account the institutions and instruments which are necessary to sustain it, Latour is able to develop bifurcation as a political concept; though not one he has been able to use effectively, as we will discuss later. However, one thing to make clear from the outset is

that Latour's view of modernity – neatly encapsulated in the title of his 1991 monograph, *We Have Never Been Modern* – is not in the mould of Heideggerian anti-modernism. He is just as comfortable with the skyscraper as he is with the Black Forest farmhouse. For Latour, modernists, anti-modernists, and postmodernists all work on the basis of purification. Anti-modernists merely mimic the modernists in mirror image, while postmodernists beat a retreat to marginality, reinforcing the idea of the totalitarian centre in the process. As Latour notes, 'discourse is not a world unto itself but a population of actants that mix with things as well as with societies, uphold the former and the latter alike, and hold on to them both.' (1991, p.90)

The irony of the failure of the moderns to cleave the world in two lies in the fact that the modern period has, like no other, proliferated the very entities which demonstrate its failure: the hybrids. These quasi-objects are the things which refuse to be categorised into 'social' or 'natural'. They are all around us but cannot be easily pinned down. As quasi-objects – which, of course, also means quasi-subjects (1991, p.139) – they are occasions rather than substances. And like Whitehead's occasions they do not endure – they are fully deployed in the world in an instant; specific, definite, singular. However, and again like Whitehead, there is a problem in accounting for the ontological status of those things that appear to persist through time. Harman argues that this is something Latour never resolves:

> And here is the paradox: in one sense, Latour's objects are utterly imprisoned in a single instant; in another sense, they burst all boundaries of space and time and take off on lines of flight toward ever new adventures.
> (2009, p.65)

Yet the word 'adventures' in the quote above suggests a potential resolution to this paradox. Latour posits the 'trajectory' as the thing that persists through time. Each entity is fully realised in a specific place and time, each moment is thoroughly novel, and there is no sense in which we can talk about something 'changing' as that would imply there is an enduring entity capable of undergoing change. However, when we consider a succession of entities we are able to discern a trajectory. Harman views this as a paradox but this is only the case if one views the occasion in abstraction. When properly situated in the network, we can see the occasion for what it really is: the configuration of that network at a particular point in time from a particular place. Passing into the next instant and the next and so on, we can see the actor-network as traversing the network of actors, creating itself anew with each movement but with a genetically traceable trajectory. Pluck the actor from

the network or try to conceptualise the network without actors and the result is the paradox which Harman describes. The adventures of the actor-network is like the adventures of ideas described by Whitehead. In a passage quoted from *Adventures of Ideas* in the previous chapter, Whitehead writes:

> Viewed in abstraction objects are passive, but viewed in conjunction they carry the creativity which drives the world. The process of creation is the form of unity of the Universe.
> (Whitehead, 1933, p.179)

Translated into Latour's system, the trajectory of actors is traced along the network; it is the network of actors that carries the creativity which drives the world. At this point, it is not difficult to see why Latour prefers the term 'actant rhizome'. The term 'network' lacks the dynamism, the sense of heterogeneous multiplicity of the 'rhizome' – not to mention the sense, from its botanical origins, of something living, subterranean, moving yet hidden. Meanwhile 'actor' denotes the human, autonomous agency, the enduring entity; not the singularity of the actant nor the collapse of the distinction between human and non-human.[143] The title of this thesis uses the term 'actant rhizome ontology' to make it clear that this work is concerned with Latour's metaphysics[144] however, as Latour himself notes in *Reassembling the Social*, what he put into the world was 'Actor-Network Theory' – it cannot simply be recalled as a manufacturer might recall a faulty product because the concept itself has a status as an actant whose traces and trajectories can be rhizomatically mapped. All knowledge is realized in the world, not about the world. (de Vries, 2016, p.67) Or as Latour puts it, 'it is all quite simple: knowledge is added to the world; it does not suck things into representations or, alternatively, disappear in the object it knows. It is added to the landscape.' (1999c, p.104)

Returning briefly to the actant-rhizome, the concept is characterised not just by what we have described so far, what John Law refers to as 'relational materiality' (1999, p.4), but

---

[143] Though as Latour notes in *Reassembling the Social*, there is something useful in the term:

> To use the word 'actor' means that it's never clear who and what is acting when we act since an actor on stage is never alone in acting. Play-acting puts us immediately into a thick imbroglio where the question of who is carrying out the action has become unfathomable. As soon as the play starts, as Irwin Goffman has so often showed, nothing is certain: Is this for real? Is it fake? Does the audience's reaction count? What about the lighting? What is the backstage crew doing? Is the playwright's message faithfully transported or hopelessly bungled? Is the character carried over? And if so, by what? What are the partners doing? Where is the prompter? If we accept to unfold the metaphor, the very word actor directs our attention to a complete dislocation of the action, warning us that it is not a coherent, controlled, well-rounded, and clean-edged affair. (2005, p.46)

also 'performativity'. Every actant is a performance in the world – whether that actant is human or not. In taking up Leibniz's notion of the *vinculum* and combining it with Tarde's theory that relation precedes substance, Latour argues that:

> We start from a continuous and hazardous existence … and not from an essence; we start from a presenting, and not from permanence. We start from the *vinculum* itself, from passages and relations, not accepting as a starting point any being that does not emerge from this relation that is at once collective, real, and discursive. We do not start from human beings, those latecomers, nor from language, a more recent arrival still. The world of meaning and the world of being are one and the same world, that of translation, substitution, delegation, passing.
> (1991, p.129)

The performative character of this ontology, beginning with presenting, refusing to distinguish between meaning and the world results in a ontological system which allows Latour to write that 'Modernism was not an illusion, but an active performing' (1991, p.144) despite the very name of the book being 'We Have Never Been Modern'. He writes, 'if we link together in one single picture the work of purification and the work of mediation that gives it meaning, we discover, retrospectively, that we have never been truly modern.' (1991, p.91) Perhaps *We Have Never Been* Truly *Modern* would have been a more fitting title, given that we spent much of the last century performing as though we were. While we have never been truly modern, there has nonetheless been a performance of modernism every time someone tries to separate the social from nature. It is a concept whose trajectory we can trace across the rhizome and one which, like any other concept, has ontological equality with every other thing in the world: car, desk, Bruno Latour, tree, and so on. This is why Latour is not embarrassed by Whitehead's eternal object or Whitehead's God. In *Rejoicing: Or the Torments of Religious Speech*, Latour writes that religious speech is 'a form of speech that evokes beings who appear and disappear depending entirely on *how they are said*' (Latour's emphasis, 2013, pp.120-121, quoted in Schmidgen, 2015, p.119). God presents no problems for Latour because God is an actant like any other, just as Whitehead's God is an actual entity like any other for Whitehead. For Latour, God is there to be enrolled, translated, substituted in the same way as the telephone network or the idea of freedom or the thermometer. Nothing can be reduced to anything else – there is nothing that sits above or at the base of the world, nothing essential, nothing which can be used to explain away something else. Whitehead wants to explain things in all their complexity rather than explaining them away like the

philosophers of substance, but Latour goes further. He argues that all explanation is description. When we add an explanation we are in fact extending the description to include some other actant. (Latour, 2005, p.137) Recall that Tarde asks if from the population of Sweden we are to add another entity, Sweden itself, and Latour says yes. But it is not an entity that sits above the population of Sweden – although clearly some actants, nationalists and the like, attempt to substitute Sweden as a homogenous entity for the heterogenous Swedish population – it is an entity that is performed like any other, created anew every time it is deployed. There is no distinction between the abstract and the concrete here, abstraction in its performance is concretised; just as all actual entities pass into objective immortality. Yet, issues arise in Latour's account and we will return to these towards the end of this chapter in our discussion of concrete abstraction.

The Modern Paradoxes

The constitution of the moderns is defined by four paradoxical guarantees. The first is ontological: the moderns hold that nature is transcendent while society is immanent; nature is what is given, society is what we construct. The second is epistemological: nature is what we discover in the laboratory, that is to say, it is immanent; society consists of social facts to be investigated by social scientists, it is transcendent. Already these first two guarantees present a paradox. Nature is constructed in the laboratory but as it exists, it is as if we do not construct it. On the other side, while we construct society, society is as if we do not construct it. This is reminiscent of Engels' letter to Lavrov on Darwin where he writes:

> The whole Darwinian theory of the struggle for existence is simply the transference from society to animate nature of Hobbes' theory of the war of every man against every man and the bourgeois economic theory of competition, along with the Malthusian theory of population. This feat having been accomplished … the same theories are next transferred back again from organic nature to history and their validity as eternal laws of human society declared to have been proved.
> (Engels, 1875)[145]

---

[145] The full reference is: Engels, 1875. *Engels to Lavrov, 12 November 1875*. Available at https://www.marxists.org/archive/marx/works/1875/letters/75_11_12.htm Last accessed February 15 2019.

In a similar fashion the constitution of the moderns paradoxically declares: even though we construct Nature, Nature is as if we did not construct it. And a similar paradox applies at the other side: though we do construct Society, Society is as if we do not construct it. Bringing these two paradoxes together yields the third guarantee: that nature and society are absolutely distinct, there can be no mixing of the work of purification – that is, the ontological and transcendent status of nature and society – and the work of mediation – that is, the construction of nature in the laboratory and the construction of society through social activity. (Latour, 1991, pp.32-33) Latour warns against perceiving too perfect a symmetry between the two sides of the paradox; there is a fourth guarantee which allows one or other side to gain the upper hand. The fourth guarantee removes God from the construction of nature and society whilst, simultaneously, keeping him in reserve to be used in an emergency. This is the crossed out God, rejected but present, just in case. God is transcendent, and thus infinitely distant; but even still, it is a transcendence to which we can appeal.

> He disturbed neither the free play of nature nor that of society, but the right was nevertheless reserved to appeal to that transcendence in case of conflict between the laws of Nature and those of Society. Modern men and women could thus be atheists even while remaining religious. They could invade the material world and freely re-create the social world, but without experiencing the feeling of an orphaned demiurge abandoned by all.
> (1991, p.33)

The 'forked tongue' of the moderns allows them to hold that nature is governed by a set of laws, discoverable by us but fixed and certain; and that society is wholly the creation of human activity. At the same time, the moderns, afraid of their impotence in the face of a transcendent nature and terrified of their freedom in society, simply reverse this formulation without acknowledging any contradiction. Nature becomes tameable, exploitable, something that can be measured and known; whereas the social becomes obscure, social laws proliferate, social relations are objectified, and, as Marx reminds us, our very creativity, our labour-power, is objectified and becomes a commodity like any other.[146] Thus, nature is both remote and central to social relations, while the social is

---

[146] In her book on Marx and Whitehead, referred to in the previous chapter, Pomeroy provides an excellent account of this process, of the subjective objectified in the process of exchange:

> The sad fact of the matter is that, in order for the exchange to take place, the person selling labour-power had to be treated as a non-living, noncreative thing. Otherwise the exchange could not have taken place because there would be no commensurability. There would be no commensurability because there can, in reality, be none: there cannot be a quantitative measure of creative activity.

constructed at the same time as being subject to exactly the same kind of absolute laws that govern nature. It is only the moderns who believe that something cannot be both 'constructed' and 'real' – a notion rendered ridiculous when one speaks of 'a 'well constructed' house, a 'well designed' software, or a 'well sculpted' statue.' (Latour, 2005, p.90) Whitehead writes of 'stubborn fact' but Latour refocuses our attention on just how fact becomes stubborn, how the house becomes well constructed. The moderns take facts to be the building blocks, while ignoring the fact that even bricks have to be moulded and fired.

> The etymology[147] itself should have made them shudder: How could a fact be that solid if it is also fabricated? As the shortest inquiry in the most primitive laboratory shows, and as Ludwik Fleck proved long ago, facts are about the least primitive, the most complex, the most elaborated, and the most collective makeup there is! (2015, p.112)

Latour writes that 'By separating the relations of political power from the relations of scientific reasoning while continuing to shore up power with reason and reason with power, the moderns … have become invincible.' (1991, p.38) The result is that science becomes politics by other means. (1991, p.111) Of course, the problem remains of how to keep the two poles, nature and society, apart. The proliferation of quasi-objects makes this

---

There is no, can be no "common" measure of the activity as such because the activity as such is always unique, always just this activity. It obtains even its temporal duration only in retrospect. The moment the labour was offered up for exchange, it compromised its essence. The moment the exchange took place, the creativity of that labour was handed over gratis to the capitalist who, while greedily snatching this offering keeps repeating her or his mantra: "the exchange was equal, the exchange was fair."

Unfortunately, once the exchange has taken place, the cards are dealt. Once the human being has been purchased, his or her use-value belongs to the purchaser. Yet the heart of what is essential to all human labour processes is the productivity above and beyond mere self-reproduction. The use-value for the capitalist of the being that has been purchased is precisely this excess creativity, this creative novelty. Within the capitalist production process, capitalist labouring activity produces value.

…

Here then is the critique of capitalist labour from the standpoint of labour. It is not that the labourer is not being fairly compensated for his or her labour; it is that persons cannot be fairly compensated for their labour if such "compensation" involves exchange for money as the universal medium of commodity exchange. The sale and purchase of labour within capitalism is where the injustice takes place and must take place and it is the general feature of the creativity of labour which makes this case. This is why any discussions of better of fairer wages or appropriation of surplus value by the proletariat miss the mark. Such measures certainly may help to decrease the suffering occurring within capitalism. … At the same time, we need to be aware that the implementation of these measures does not constitute the overcoming of capitalism itself or of the fundamental injustice of the sale and purchase of labour power. The essence of its, and hence our, contradiction lies in the exchange of labour for objectified value. It is such exchange that must be eliminated for capitalism to be overcome. (2004, pp.97-99)

[147] As early as 1979 Latour's is reminding us of the word's etymology: 'a fact is derived from the root *facere*, *factum* (to make or to do).' (1979, p.174)

all but impossible. Modernism views time as the journey from ignorance to enlightenment. In actual fact, this journey is one of purification: sorting the things from the signs, the natural from the social. But as the moderns keep working according to the four guarantees of the modern constitution, they keep producing the very quasi-objects that defy categorisation. The result is the emergence of two lines of a trajectory: one points up and is labelled progress; the other points down and is labelled decadence. (1991, pp.71-72)

The crisis this contradiction provokes in the moderns leads to the emergence of the postmodernists who celebrate and entrench the contradiction. Latour writes, 'I have not found words ugly enough to designate this intellectual movement – or rather, this intellectual immobility through which humans and nonhumans are left to drift. I call it 'hyper-incommensurability'. (1991, p.61) For Latour, the postmodernists repeat the mistakes of the moderns by accepting the absolute division between the material world and the 'linguistic play of speaking subjects,' (1991, p.61) even though they prefer, unlike the modernists, the latter to the former.

Transcendence

Latour's solution to the modernist paradox is to rethink immanence. He writes, 'Who told us that transcendence had to have a contrary?' (1991, p.128) Unlike the moderns, we do not have to construct or deconstruct immanence. Instead, our existence is traversal, processual – it is in the movement, the passage, the interstices: as Ingold observes, 'relation has to be understood quite literally, not as a connection between pre-located entities but as a path traced through the terrain of lived experience.' (2005, p.90) Latour terms this transcendence without contrary 'delegation.' This is what it means to start from the *vinculum* itself; it is to start from difference rather than identity, as Tarde would have said; to admit that the world of being and the world of meaning are the same world. What happens as a result is that we cease to look for essence –Whitehead's substance-quality – and begin looking for the mediators, the translations and substitutions that give our world of quasi-objects meaning. We still have immanence but it is no longer the contrary of transcendence; in other words, we have immanence as transcendental immanence, as inseparable, indivisible processes. (Williams, 2010, p.102) Deleuze explores a similar concept in *Pure Immanence* where he writes about a 'wild and powerful' transcendental empiricism where 'transcendence is always the product of immanence' (2001, p.31), where

the transcendental field is defined by the plane of immanence.[148] For Latour, to speak of immanence without transcendence has no meaning – all immanence is produced through delegation: 'The utterance, or the delegation, or the sending of a message or a messenger, makes it possible to remain in presence - that is, to exist.' (1991, p.129) The modernist attempt to construct only immanence is effectively an attempt to cut the lines of communication. Instead, we must accept that we are in those lines, that we are in the delegation. As Latour says, 'Of course it is not a thing, but things are not things either.' (1991, p.138) Ontologically, this is more akin to the interconnectedness of *this* thing than the interconnectedness of *all* things, but that is entirely in keeping with a metaphysics which takes nothing for granted and demands that, 'The full cost of every connection is now entirely payable. If a site wants to influence another site, it has to levy the means.' (Latour, 2005, p.174) In this way Latour can maintain that reality is composed of lines rather than surfaces – though as we will see, the space between the lines is filled in when we come to the concept of plasma – where every connection can be traced. This is why Latour is so opposed to the notion of totality. A net can never truly cover a surface, there will always be spaces in between. Transcendental immanence – like the interconnectedness of *this* thing – also suggests that each actant has its own metaphysics and the job of the actant rhizome ontologist is to trace and render visible its associations with other actants: to '*deploy* actors as networks of mediations'. (Latour, 2005, p.136)[149]

> If we call metaphysics the discipline inspired by the philosophical tradition that purports to define the basic structure of the world, then empirical metaphysics is what the controversies over agencies lead to since they ceaselessly populate the world with new drives and, as ceaselessly, contest the existence of others. The question then becomes how to explore the actors' own metaphysics.
> (2005, p.50)

By exploring the hinterland beyond the metaphysics of the actant, that is, the world of its associations, we shift from metaphysics to ontology, to a world of beings from the singular

---

[148] Ideas Latour is well acquainted with. In a footnote to *Reassembling the Social* he quotes from Deleuze's book on Leibniz, *The Fold*: 'As Deleuze said, 'Relativism is not the relativity of truth but the truth of relation.' (2005, p.95)

[149] Even if it may remain obscure to the actant itself and exceedingly difficult for the ontologist – as Latour says:

> Agency is about the most difficult problem there is in philosophy. How could enquirers listen to a housewife, a clerk, a pilgrim, a criminal, a soprano, and a CEO and still succeed in following what they express if they had no Hegel, no Aristotle, no Nietzsche, no Dewey, no Whitehead to help them? (2005, p.51)

world of the actant. Thus, 'to raise again the question of what the real world is really like' (2005, p.117) is to avoid falling back into solipsism or idealism.

For Latour, as opposed to the moderns, 'the work of producing a nature or producing a society stems from the durable and irreversible accomplishment of the common work of delegation and translation.' However, 'at the end of the process, there is indeed a nature that we have not made, and a society that we are free to change; there are indeed indisputable scientific facts, and free citizens.' (1991, p.140) In this sense Latour can be seen to be in agreement with Dewey when the latter wrote:

> It is not that there is no public, no large body of persons having a common interest in the consequences of social transactions. There is too much public, a public too diffused and scattered and too intricate in composition.
> (1946, p.187)

Latour offers to ratify the first two guarantees of the moderns but only on the basis that they are not separated. The transcendence of nature and the immanence of society is now the result of mediation, not separation. As for the third and fourth, they are for the scrap heap. In their place are two new guarantees. First, a commitment to the ability to combine our associations without having to split the world in two: between nature and society, modern and archaic, global and local, relative and universal. Second, a commitment to the visibility of the hybrids: to bring them out of the shadows, 'to replace the clandestine proliferation of hybrids by their regulated and commonly-agreed-upon production.' (1991, p.141)

Relational realism

Like Leibniz, in his correspondence with de Volder, Latour's monad is always embodied; and like Whitehead, Latour is a realist. However, Latour's commitment to irreducibility means that there is, unlike most realisms, no final substance, no building block of reality. Every actant-rhizome is composed, every black box can be opened. Yet, this does not rule him out as a monadologist because at the same time every actant is as real as any other: Sweden is as real as each of the citizens who compose it who are, in turn, as real as the cells and sinews of their body. Open one black box and you will always find another: it is the monad as infinite matryoshka doll. When a black box is deployed it becomes a quasi-object; in other words, it functions as an object even though it is actually the result of

complex composition, a composition that can fall apart without the necessary effort to maintain it. As we are always able to open up the black box there is no sense in which we can meaningfully talk about a substance having essential and accidental properties; there is simply nowhere for the essence to go. In this way Latour's actants are always public (Harman, 2009, p.72), and since actants are always public, the Kantian *Ding an sich* makes no sense: how can there be things in themselves that are independent of observation when everything is observable, everything is public? But there is a further reason why Latour's actants cannot be things in themselves, and it is that the very nature of any entity is to be found in its relations, in its *vinculum*. Latour's realism is therefore a relational realism.

In epistemological terms, the relation also assumes primary importance. As Latour writes in *Pandora's Hope*:

> It is hardly surprising that philosophers have been unable to reach an understanding on the question of realism and relativism: they have taken the two provisional extremities for the entire chain, as if they had tried to understand how a lamp and a switch could "correspond" to each other after cutting the wire and making the lamp "gaze out" at the "external" switch.
> (1999b, p.73)

We gain access to truth through the chains of translations linking one actant with another. When these chains break down, something becomes less true and vice versa when the chains hold under pressure. To say something is true is akin to saying, 'downtown expressway moving smoothly this morning' (Latour cited in Harman, 2009, p.76-77). Truth can also be understood through the Whiteheadian concept of 'proposition'. Things are not true or false in and of themselves; rather an actant can propose itself to other actants to become translated into a new entity. (de Vries, 2016, p.134)

> Those who talk of synthetic a-priori judgments deride the faithful who bathe at Lourdes. However, it is no less bizarre to claim that a conclusion lies in its premises than to believe that there is holiness in the water.
> (1988, p.176)

There remains the question of the relation itself. Relation is always mediated; in other words, there is always a third actant that links the two which stand in relation to one another. Harman refers to this as 'local occasionalism' (2009, p.77) but it could just as well be understood as a form of ingression in the Latourian concrescence. The key difference with Whitehead's concept of ingression is that for Latour the eternal objects are simply

other actual entities; they have no distinct ontological status.[150] There is support for this view in *Pandora's Hope* when Latour argues that, 'Each element is to be defined by its associations and is an event created at the occasion of each of those associations.' (1999b, p.165) Each element is therefore a moment of becoming and perishing. Where this view differs from Harman's is on the question of occasionalism in both Whitehead and Latour. For Harman, the fact that the ingression of eternal objects in the process of concrescence is essential for the becoming and passing into objective immortality of the actual entity, and the fact that those eternal objects are to be found in God, means that Whitehead is an occasionalist as God intervenes in each and every concrescence. Following that logic, Latour is also an occasionalist though an occasionalist who has no God. Harman terms this 'secular occasionalism.'

> Bruno Latour is the first secular occasionalist: the founder of what I have called vicarious causation. Any entity is able to form the link between others that previously had no interactions at all. Latour also concedes that local causes may fail in their efforts: an interesting tragic side of causation that was always denied, for obvious reasons, to God. Joliot might succeed in linking politics with neutrons, or like Pouchet he might end his days as a discredited flop. Links are not easy to create, even though they happen everywhere all the time.
> (2009, p.115)

We can agree that any entity is able to form the link between others and that links can fail. However there are problems with both terms: 'secular occasionalist' and 'vicarious causation.'[151] Firstly, Whitehead is not an occasionalist. God does not simply intervene in

---

[150] There is another interpretation which is worth mentioning at least in passing. Schmidgen argues that the third entity takes on a McLuhan-esque character: in other words, the mediator is the message. Drawing on Serres he argues:

> [F]or Serres noise is by no means a background phenomenon but a central dimension of every act of communication: without noise, no signal; without chaos, no order. It is this idea that at the end of the book [The Parasite] carries over into a theory of the collective. At its centre is the concept of a "quasi-object," which in turn refers to a central point. Serres explains this using the model of ball games: "the game doesn't need persons," he says with sports like rugby or football in mind; it is not the players who control the game but the ball. When it circulates among the subjects in a game, "the ball isn't there for the body; the exact contrary is true: the body is the object of the ball; the subject moves around this sun." In his view a similar central position is taken up by the role of the third entity – the interference in communication. (2015, pp.71-72)

One suspects these are the words of someone who has never played or seriously watched football. By taking a similar position to Harman in privileging the mediator over the mediated one loses the democratic ontology Latour works so hard to establish. The point is that the ball is both there for the body and the body there for the ball.

[151] Harman, as he himself acknowledges, is dependent on this interpretation as foundational for his object-oriented ontology: 'Thanks to Latour, an object-oriented philosophy has become possible.' (Harman,

every prehension. God is just as much produced by the world as the world is produced by God (see Chapter 3): Whitehead's God is simultaneously prior to, contemporary with, and consequent to the temporal world of actual entities. As we also argued in the previous chapter, Whitehead's God is itself already secularized. God is not the being to whom one may say "Thou," or the being that is hidden out of sight, like the 'crossed out' God Latour finds in modernism. Overstating the role of God in Whitehead also ignores the importance of the past, a past that is given to each occasion as 'an actual world … [that] must be conceived not as a passive inheritance, but as superjects who are dynamically acting in a subsequent subject.' (Henning, 2000, p.155)

Similarly, for Latour, the entity that forms the chain, the mediating actant, is itself an actant. It is as much mediated as mediator. It does not intervene in the classical occasionalist sense as something that transcends the actual. 'Vicarious causation' just as problematically suggests that the links between entities are caused by the mediating entity. What Harman is trying to do here is rescue the object from Latour's relational reality, to isolate the actant from the rhizome. By abstracting the role of the mediator he is attempting to objectify the relation, to claim that the object must precede the relation. As we have seen from Whitehead, Tarde, and even Leibniz to a degree (even if he relies on his 'audacious fudge'), relation comes first. This is what holds these three thinkers together with Latour, who is the relativist relativist (1991, p.113) *par excellence*. Transforming mediation into vicarious causation removes any agency from the actant-rhizomes themselves and turns them into the passive subjects of the mediating object. The result would be a weakening of Latour's democratic ontology.

A final word on Latour's relational realism: a dual understanding of time results from it; it is not sufficient to view time as simply linear progression. There is also a sedimentary time where each actant can be deployed over and over, made anew on each occasion. Caesar crossed the Rubicon in 49BC but the event is produced over and over again each time it is deployed as an actant in the present world. And each time it is deployed it is changed. The crossing of the Rubicon is a point of no return – it has perished like any other moment. But for Latour, time can be reversible. Time is not a 'fine laminary flow' but 'a turbulent flow of whirlpools and rapids.' (Latour, 1991, p.73) He writes:

> [N]o interaction is synchronic. The desk might be made of a tree seeded in the
> 1950s that was felled two years ago; the cloth of the teacher's dress was woven five

---

2009, p.228) A critique of 'OOO' is beyond the scope of this thesis but clearly any doubts about the foundations has consequences for the structure built on top.

years ago, while the firing of neurons in her head might be a millisecond old
[etc.] … Time is always folded. So the idea of any synchronic interaction where all
the ingredients will have the same age and the same pace is meaningless.
(2005, p.200-201)

When Latour writes about the discovery of lactic yeast in 1858, he reminds us that the
lactic yeast of Pasteur and the lactic acid bacteria of today have to be viewed through the
lens of both linear and sedimentary time. Viewed as such we can understand time as
something which is produced by the actants themselves.[152] Linear time is carved out from
sedimentary time by actants who are attempting to 'create irreversible situation[s]' (Latour,
1988, p.50). In other words, we cannot explain the movement of actants in terms of times
and dates; instead we ought to explain time itself on the basis of the translations conducted
by those actants.

> [W]hereas the temporal framework merely registers after the event the victory of
> certain agents. If we really wanted to explain history, we would have to accept the
> lesson that the actors themselves give us. Just as they made their societies, they also
> made their own history. The actors periodize with all their might. They give
> themselves periods, abolish them, and alter them, redistributing responsibilities,
> naming the "reactionaries," the "moderns," the "avant-garde," the "forerunners,"
> just like a historian – no better, no worse.
> (1988, p.51)

This is how Latour can answer the question, 'Did the microbe exist before Pasteur?' with
'It did not.' (1988, p.80) The point is not that before Pasteur there were nothing where now
there are microbes. Rather, the point is that, in Latour's own words: 'To discover is not to
lift the veil. It is to construct, to relate, and then to "place under".' (1988, p.81) Pasteur
does not discover the microbe any more than Christopher Columbus discovers America.
The microbe is produced in the laboratory as much it is found in nature. Human awareness
of the microbe and the designation of the microbe as such does not conjure the microscopic
organism into existence but it does produce it as a 'microbe'. It is not a microbe to a dog

---

[152] We can see a trace here of Péguy, who writing on the storming of the Bastille suggested that it was
effectively a spontaneous event that was without cause:

> The Bastille had never done anything to them [the French people]. The storming of the Bastille …
> was actually a party, it was the first celebration, the first commemorative ceremony and the first
> anniversary, so to speak, of the storming of the Bastille. (Cited in Schmidgen, 2015, pp.16-17)

because a dog does not divide the world up in that way; but a dog's stomach teems with microbial flora just as does a human's.

What prevents this from collapsing into a purely epistemological point is the primacy of relation. The monadological account insists that the monad is a relational entity while at the same time having an ontological status in its own right. Harman argues that this is a form of 'verificationism', but again this might be conceived as an attempt to bring in objects by the back door. He argues that Latour's position amounts to the assumption that 'the reality of a thing is defined by the ways in which it is registered by other entities.' (2009, p.112) But this presupposes that the 'thing' pre-exists its relations. Rather, the thing is not defined by its relations with other entities, it *is* its relations with (or rather its translations of) other entities – it is an actant-rhizome, not an actant that also happens to be part of a rhizome. The problem is that Harman reads Latour as being of the view that everything is relational which, of course, is akin to saying that everything can be reduced to its relations. For a philosophy of irreduction this simply cannot be. In Latour and Harman's debate at the LSE in 2011, Latour says, '[Y]ou say that I associate myself with the doctrine that "everything is relational." And that I don't get, I simply don't get.' (2011, p.43) Each entity is an irreducible singularity, but one that is fully deployed in a network of associations, associations that have to be built through the process of mediation. This is why Latour is not a relativist; rather he is a relationist.[153]

We can put it one more way, perhaps less elegantly but more suited to the present thesis: monadologism. The monad, singular yet enveloped in relations, is the model for the actant-rhizome, not a philosophy of occasionalism. Harman writes, 'Whitehead's ontological principle denies that we can pass beyond concrete entities when explaining anything and this element of the Whiteheadian program is one from which Latour never veers.' (2009, p.127) But the notion that everything can be reduced to its relations, as Harman suggests of Latour's position, and the proposed solution, that for every relation there exists a third entity that effects the link, passes beyond concrete entities in their explanations, the first by reducing the reality of things to relations, the second by introducing an ontological distinction between the entities that are mediated and the entities that do the mediating and insisting that the object precedes the relation. The other point is that to view Latour's theory as simply being a form of verificationism is to miss the point that epistemology and ontology go hand in hand: to know reality it must first be made visible – 'doing science

---

[153] 'Relativist relativism – or, to put it more elegantly, relationism – … will become one of the essential resources for relating the collectives that will no longer be targets for modernization [i.e. bifurcation].' (Latour, 1991, p.114)

means being engaged in both epistemological and ontological work' (de Vries, 2016, p.36) – and '[a]n invisible agency that makes no difference, produces no transformation, leaves no trace, and enters no account is not an agency.' (Latour, 2005, p.53) Any attempt to separate epistemology from ontology is doomed to failure. As Latour writes, 'Epistemologists, like generals, are always one war too late.' (1988, p.6)

Plasma

We must now say a few words about an under-discussed concept in Latour's actant-rhizome ontology. Absent from his *Irreductions* and not introduced until *Reassembling the Social*, plasma plays a similar role to primary matter in Leibniz's monadology and the datum of Whitehead's process philosophy.[154] Like primary matter and datum, plasma cannot be accessed directly yet is required for the production of the actual world at any given instant. It is, as Latour puts it, 'the strange figure … which takes the bottom out of any bottom line when accounting for action.' (2005, p.50) However, it is from Tarde that the concept is derived. Tarde maintains, as we discussed in Chapter 2, that the 'big is an amplification but also a simplification of the small.' (Latour, 2005, p.243) In other words, the state is both the sum of its citizens – for example, Sweden can exert more force and influence that one solitary Swede – and the reduction of that aggregate of diverse citizens to a homogenous identity – that is, Swedish. In that sense, Sweden is not the entity that encompasses all Swedes; but an individual Swede is a multiplicity of irreducible singularities, some of whom will lend a façade of themselves to construct a provisional whole, in this case Sweden. However, other parts will make up other wholes, in much the same way as one could be Swedish, a Malmö FF supporter, a vegetarian, and so on. In this way, the whole emerges from the part – it is encompassed by the part, not the other way around. These irreducible singularities provide the landscape, the canvas for action. The aggregates and the wholes emerge from them and return to them. They are the missing masses, those things not yet accounted for or allied with. Latour explains:

> How big is it? Take a map of London and imagine that the social world visited so
> far occupies no more room than the subway. The plasma would be the rest of

---

[154] Recall that for Leibniz, primary matter is to the entelechy what resistance is to motion, the entelechy is not made of primary matter but rather folds it, and with Whitehead's datum, only an aspect of it can be felt through prehension.

London, all its buildings, inhabitants, climates, plants, cats, palaces, horse guards. (2005, p.244)

Plasma is that which has not yet been brought into the social world. It is not hidden behind reality, but rather in the space between the actants we have associated with. This is how Pasteur can 'discover' the microbe, it is what leads the authors of the *Revue* to declare '"There are more of us than we thought."' (Latour, 1988, p.35) It is less a discovery than a socialisation or a making visible – much as map must transform a terra incognita into something visible in order to be of use. (2016, de Vries, p.11) It is like the shift in focus that is required to pick out the drops of water that form the wave, like placing a microscope over the petit perceptions in order to bring them into conscious relief. The plasma is a 'vast hinterland providing the resources for every single course of action to be fulfilled, much like the countryside for an urban dweller.' (2005, p.244) And it is not just a resource for humans to exploit, it is the means by which all activity is translated and interpreted. Latour describes it as an outside but it is only an outside in the sense that there is an inside and an outside to the Leibnizian fold. It is there, it is part of the fabric of the universe; it just has not been enveloped yet. There is not balance sheet of 'inside' and 'outside' with an addition to one necessitating a subtraction from the other; rather multiplying our connections with the outside gives us a richer understanding of the inside. (Latour, 2005, pp.215-216) In the same way, the notion of a hidden reserve of actants is not quite right, it is more akin to what Foucault is describing here:

> For a long time one has known that the role of philosophy is not to discover what is hidden, but to make visible precisely what is visible, that is to say, to make evident what is so close, so immediate, so intimately linked to us, that because of that we do not perceive it. Whereas the role of science is to reveal what we do not see, the role of philosophy is to let us wee what we see.
> (Foucault, 1994 cited in de Vries, 2016, p.4)

Plasma is not hidden; or if it is, it is hidden in plain sight. Latour writes:

> Why do fierce armies disappear in a week? Why do whole empires like the Soviet one vanish in a few months? Why do companies who cover the world go bankrupt after their next quarterly report? Why do the same companies, in less than two semesters, jump from being deep in the red to showing a massive profit? Why is it that quiet citizens turn into revolutionary crowds or that grim mass rallies break down into a joyous crowd of free citizens? Why is it that some dull individual is suddenly moved into action by an obscure piece of news? Why is it that such a stale

academic musician is suddenly seized by the most daring rhythms? Generals, editorialists, managers, observers, moralists often say that those sudden changes have a soft impalpable liquid quality about them. That's exactly the etymology of plasma.

(2005, p.245)

And further he adds, 'To every action I have described so far, you have to add an immense repertoire of missing masses. They are needed to balance the accounts, but they are missing.' (2005, p.245) There is an account of activity in here that does to agency what James did to experience. There is an unknown quantity in activity and it is not simply a matter of its discovery by a conscious social actor: activity is assembled from the world – it is distributed[155] and 'not done under the full control of consciousness; [but rather] felt as a node, a knot, and a conglomerate of many surprising sets of agencies that have to be slowly disentangled.' (2005, p.44)

Latour writes, 'Hermeneutics is not a privilege of humans but, so to speak, a property of the world itself.' (2015, p.245)[156] And it is in this way that plasma is the strange figure that takes the bottom out of any bottom line; in the same way that Tarde's innumerable monads are each themselves greater than the whole to which they lend an aspect of themselves. Without plasma there can be no movement, no change, and no activity: in other words, plasma provides the grounds for novelty and is the indistinct, undetermined yet real mass, the primary matter of the actant-rhizome ontology. It functions as Whitehead's eternal objects do, providing a lure for feeling.

Concrete abstraction

In *Irreductions* Latour writes:

It has often been said that "capitalism" was a radical novelty, an unheard-of rupture, a "deterritorialization" pushed to the ultimate extreme. As always, the Difference is

---

[155] Latour writes: 'Action is overtaken or, as one Swedish friend transcribed this dangerous Hegelian expression, action is other-taken! So it is taken up by others and shared with the masses. It is mysteriously carried out and at the same time distributed to others. We are not alone in the world. 'We', like 'I', is a wasp's nest; as the poet Rimbaud wrote: 'Je est un autre'.' (2005, p.45)

[156] There is an emphasis on hermeneutics as being embedded in things throughout Latour's work. For example, in his essay on Pasteur, Latour describes a text as 'a little machine for displacing interests, beliefs, and aligning them in such a way as to point the reader, almost inevitably, in a particular direction.' (1988, p.19)

mystification. Like God, capitalism does not exist. There are no equivalents; these have to be made, and they are expensive, do not lead far, and do not last for very long. We can, at best, make extended networks. Capitalism is still marginal even today. Soon people will realize that it is universal only in the imagination of its enemies and advocates. (1988, p.173)

It is true that capitalism does not exist in the same way it is true to say that we have never been modern. But it is also true to say that capitalism is just as much of an active performing as modernism is. Capitalism is not a totality but capital seeks to totalize, even if, ultimately, it fails – in this sense Latour is right when he argues that 'no place dominates enough to be global and no place is self-contained enough to be local.' (2005, p.204) However, as an actant like any other it traverses far more of the rhizome than most; enrolling here, translating there. In other words, whenever and wherever there is a performance of the capitalist mode of production, that performance extends further through the network than, say, a performance of some obscure druidic ritual by an enthusiastic group of modern pagans. As an actant, capital has many more allies than the monument at Stonehenge. As a black box it is voracious in its attempts to enclose and envelope. As a trajectory it has burned its trace across the rhizome; as Harman writes, 'An actant is an instantaneous event, but also a trajectory that outstrips any given instant.' (2009, p.68)

Latour's rejection of critique, taken to task by Noys in his essay, *The Discreet Charm of Bruno Latour*, is a step back from Latour's commitment to the concrete abstract; the ontological equality of the world of meaning and the world itself. Marx is not a figure Latour has much time for, as demonstrated in the following passage from *We Have Never Been Modern*:

> The invincible moderns even found themselves able to combine the two critical moves by using the natural sciences to debunk the false pretensions of power and using the certainties of the human sciences to uncover the false pretensions of the natural sciences, and of scientism. Total knowledge was finally within reach. If it seemed impossible, for so long, to get past Marxism, this was because Marxism interwove the two most powerful resources ever developed for the modern critique, and bound them together for all time (Althusser, 1992). Marxism made it possible to retain the portion of truth belonging to the natural and social sciences even while it carefully eliminated their condemned portion, their ideology. Marxism realized - and finished off, as was soon to become clear - all the hopes of the first

Enlightenment, along with all those of the second.

(1991, p.36)

However, as Noys points out, Latour's understanding of critique is as a 'melange of Enlightenment reductionism, Marxist economism, and Nietzschean barbarity.' (2011, p.4) It is telling that Latour references Althusser rather than Marx himself in the quote above; but it was Althusser's structural Marxism that turned a generation of French intellectuals against Marx, many of whom were Althusser's former students, including Foucault, Derrida, and Rancière. The problem with Latour's account is that while it is exemplary in terms of tracing small scale networks – think of the classic ANT projects on the Aramis personal rapid transit programme or Michael Callon's work on the scallops of St. Brieuc Bay – it struggles to account for something like the capitalist mode of production. In *We Have Never Been Modern*, Latour writes:

> Could the macro-actors be made up of microactors (Garfinkel, 1967)? Could IBM be made up of a series of local interactions? The Red Army of an aggregate of conversations in the mess hall? The Ministry of Education of a mountain of pieces of paper? The world market of a host of local exchanges and arrangements?
> (1991, p.121)

No doubt the Red Army is an aggregate of conversations in the mess hall, but only in one aspect, and the examples Latour gives are not themselves isolated from each other, when Trump imposes tariffs on Chinese steel, a link between a host of local (and not so local) exchanges and the Red Army comes into being. In *Reassembling the Social* Latour rows a little way back from this, writing:

> It's true that in most situations resorting to the sociology of the social is not only reasonable but also indispensable, since it offers convenient shorthand to designate all the ingredients already *accepted* in the collective realm. It would be silly as well as pedantic to abstain from using notions like 'IBM', 'France', Maori culture'…'
> (2005, p.11)[157]

---

[157] We will take Latour at his word when he describes the sociology of the social as indispensable but one cannot help but suspect he is being slightly generous here as elsewhere he writes: 'This does not mean that the sociology of the social is useless, only that it might be excellent for studying baboons but not for studying humans.' (2005, p.70) And later in the same text he concludes that, 'social theory has failed on science so radically that it's safe to postulate that it had always failed elsewhere as well. Social explanations cannot be 'extended' to science, thus they cannot expand anywhere else.' (2005, p.94)

Instead we must look to the 'situations where innovations proliferate, where group boundaries are uncertain, when the range of entities to be taken into account fluctuates' (2005, p.11) to deploy our actant rhizome ontology. Latour is correct when he says that IBM can be a convenient shorthand, but when is IBM ever not a situation where group boundaries are uncertain or the range of entities to be taken into account is constantly going up and down? The clue to resolving this problem is to look to actant rhizome ontology itself – and its own intellectual genealogy – to conceive of the 'social shorthand' as an actant itself, rather than simply a methodology that we can pick up and put down. In this sense, Latour's break with traditional sociology is not sufficiently clean. He still wants the sociologists to be able to go around counting, measuring and dividing things up because it means that we can still say things like, 'stopping smoking is good for you and for the NHS' or 'we can help stop climate change by cycling to work'. But of course neither of these things are strictly true and Latour has allowed us to clearly see why. Neither statement has paid the necessary cost. Even if they were backed up by years of quantitative and qualitative evidence, they still would not be true as neither have taken into account the full range of entities involved in the situation. There are plasmatic missing masses – tobacco companies, medical bodies, lab technicians, fields of tobacco, government policy, corporate taxpayers, lawyers, and so on in the first example for instance – everywhere. Indeed, Latour makes much the same point – leading one to question why he privileges the shorthand of the sociologists as 'indispensable' when it comes to the social over the shorthand of anyone else:

> Statistical aggregates obtained from a questionnaire and given a label—like A and B types in the search for the causes of heart disease—are as concrete as 'my red-faced sanguine neighbor who died last Saturday from a stroke while planting his turnips because he ate too much fat'. To say 'culture forbids having kids out of wedlock' requires, in terms of figuration, exactly as much work as saying 'my future mother-in-law wants me to marry her daughter'.
> (2005, pp.53-54)

Sociologists will be sociologists but the question is do we have to rely on their methodology to talk about IBM, France or Maori culture, or can we use these shorthands and talk about these things on the basis of them being contingent, fragile black boxes or power plays by a gang of actants regardless of whether they are accepted in the collective realm or not. In this way we see the sociologist of the social as just another actant trying to build alliances, thus 'any study of any group by any social scientist is part and parcel of

what makes the group exist, last, decay, or disappear' (2005, p.33) – while retaining the ability to talk meaningfully about capital, or the state, and so on.

Where Latour makes a further mistake, other than on relying on Althusser for an understanding of Marx, is to conceive of capitalism as necessarily being a universal, all-encompassing totality, while at the same time only being willing to account for small-scale local networks of commodity exchange and economic relation. The challenge for Latour is that in order to be able to fundamentally reconcile the natural and the social, to bring about his compositionist programme and the parliament of things – that meeting place of quasi-objects – he has to find a way to be able to extend these small scale networks beyond the workings of a particular transportation system or fishing community to understand the commonality and the relation, albeit at a great distance (in other words, action at a distance), between going to work in exchange for a wage in a bakery in Paris and going to work for a wage in a call centre in India, or handing over a ten pound note in exchange for a haircut in Glasgow and transferring several hundred million pounds to acquire a new tech company in California. Otherwise, the only change that can be effected is a local change which, in the language of an actant rhizome ontology, will lack the necessary allies to persist. Latour criticizes the sociologists for setting scale in advance, arguing that instead we ought to see scale as something actors achieve. (20015, p.184) In introducing the notion of emptiness, a prerequisite for his discussion on plasma, Latour writes that 'a connection leaves empty most of what is not connected, as any fisherman knows when throwing his net in the sea.' (2005, p.132) But as any fisherman also knows, a net can only hold so many fish. The fisherman decides what they want to catch – and in this respect the fish still set the scale – and select their net accordingly. The point here is that at times Latour seems to suggest that we go out in the world – notebook in one hand, Dictaphone in the other – and simply wander around, following actants as they traverse the rhizome. But not even the actant rhizome ontologist stands outside the network: we bid for allies, translate, substitute and delegate just like the rest. All actants want the world to be a certain way. The nuclear power plant wants a strong state with a security apparatus, as Langdon Winner points out in *Do Artifacts Have Politics,* just as much as the neo-con security hawk. In other words, if we are to 'deploy' rather than merely describe surely we can choose what to deploy and how, and with an aim in mind without being accused of 'totalizing' or 'explaining away'. What it comes down to is that despite the price that needs to be paid to establish a continuous relation, despite the fact that, more often than not, we do not have the means to foot the bill; there is still what Whitehead describes as 'the obvious solidarity of the world' (*PR*, p.7)

Indeed, when we talk about totality we ought to be speaking of the interconnection of all things – an idea present, even essential to Leibniz, Tarde, and Whitehead – not the absolute totality Latour is thinking of when he writes:

> What is to be done, then, with such sleek, filled-in surfaces, with such absolute totalities? Turn them inside out all at once, of course; subvert them, revolutionize them - such was the strategy of those modernists par excellence, the Marxists. Oh, what a lovely paradox! By means of the critical spirit, the moderns have invented at one and the same time the total system, the total revolution to put an end to the system, and the equally total failure to carry out that revolution - a failure that leaves them in total postmodern despair!
> (1991, p.126)

Of course, Latour's criticisms regarding the failure of twentieth century Marxism are perfectly astute, but only because most Marxists have held, to one degree or another, to the caricature of critique that Latour is criticising. Yet this is not a reason to abandon critique, nor is it a reason to believe that capitalism is sufficiently marginal to be of concern only to its enemies and its advocates.

> Those who were frantically emphasising the plurality and dispersion of capitalisms now seem happy to invoke a singular capitalism, qua global system, when it requires saving. Georg Lukàcs noted that: 'in periods when capitalism functions in a so-called normal manner, and its various processes appear autonomous, people living within capitalist society think and experience it as unitary, whereas in periods of crisis, when the autonomous elements are drawn together into unity, they experience it as disintegration.' In fact, we could argue that the appearance of 'autonomous' sub-systems characterises the kinds of analysis we have been tracing, which were paradoxically dependent on the 'unity' of capitalism. In this period of global capitalist crisis we now face a unity that appears as the disintegration of the life-world – no longer the 'happy' disintegration of autonomous systems and 'difference', but rather the more 'unhappy' disintegration of catastrophic collapse and withdrawal. In this case the everyday 'emergency' state of capitalism is revealed as its normal state through the extremity of crisis.
> (Noys, 2011, p.20)

What Noys and Lukàcs describe is effectively a black box, and one that operates in accordance with Latour's own ideas: it is a concrete abstraction, it relies on invocation, and it is thoroughly performative. Indeed, Marx's key concepts – money, capital, value,

commodity – are all performative and all multiplicitous. When Latour maintains that far from abandoning 'power and domination' he is simply insisting that they 'have to be produced, made up, composed' (2005, p.64), it is entirely consistent with the processual nature of Marx's philosophy. As is his insistence that power and domination are not some 'mysterious container that holds inside of it that which makes the many participants in the action move.' (2005, p.83) Consider the following from the *Grundrisse:* 'Capital exists and can only exist as many capitals, and its self-determination therefore appears as their reciprocal interaction with one another.' (1973, p.414) Or this longer passage:

> When we consider bourgeois society in the long view and as a whole, then the final result of the process of social production always appears as the society itself, i.e. the human being itself in its social relations. Everything that has a fixed form, such as a product etc., appears as merely a moment, a vanishing moment, in this movement. The direct production process itself here appears only as a moment. The conditions and objectifications of the process are themselves equally moments of it, and its only subject are the individuals, but individuals in mutual relationships, which they equally reproduce and produce anew. The constant process of their own movement, in which they renew themselves even as they renew themselves even as they renew the world of wealth they create. (p.712)

The emphasis on process, on relation and interaction, on reproducing and producing anew; these ideas demonstrate that both Marx and Latour start with the vinculum[158], as does Whitehead, hence Pomeroy's sterling efforts to bring the process philosopher together with Marx. When Latour writes in *Reassembling the Social*, 'It might be time to put Marx's famous quote back on its feet: "Social scientists have transformed the world in various ways; the point, however, is to interpret it"' (2005, p.42) he does himself and his work a disservice. The patient reassembly of chains of associations, the list of hybrids, the tracing of trajectories, the privileging of description over explanation; these are not neutral acts. They enter the world as actant-rhizomes in their own right. De Vries writes:

> Redescriptions are translations too, that is, ontological moves, passes in the world. They re-order; they establish or strengthen links, or weaken them to unite knots.

---

[158] In some ways, Marx is the very architype of an actor-network theorist, what with those long hours spent in the British Library piecing together the workings of the capitalist mode of production, all the while wishing he was somewhere else writing about his beloved Balzac. Even Latour concedes this grudgingly, writing, 'Even Karl Marx in the British Library needs a desk to assemble the formidable forces of capitalism'. (2005, p.175) He would also have concurred with Latour's approving statement that Tarde believed that 'economics had to be remade from top to bottom instead of being used as a vague metaphor to describe the calculation of interests.' (2005, p.13)

Redescriptions do not just provide interpretations or knowledge about the world, they are moves in the world; they change us, as well as the world that is addressed. (2015, p.199)

They correspond, in other words, exactly to Marx's eleventh thesis on Feuerbach – they have not just interpreted the world in various ways, but changed it.

We can also think back to our earlier discussion on abstraction in Whitehead's work. In the previous chapter we presented Whitehead as being a thinker for whom the critique of abstraction was at the heart of his philosophical method. He is not one who 'knows no critique' but one who 'cannot think without abstractions'. The connection between critique and abstraction is indissoluble. Critique simply cannot be carried on without abstraction as it involves valuing and discarding. It is an inherently destructive and, at the same time, creative act. Latour cannot accept the destructive aspect of critique – he likens critique to a hammer, forgetting that hammers can be used to build and construct too (Noys, 2011, p.20) – and so denies that anything can be discarded: everything must be taken into account. But by insisting that nothing can be discarded we end up overwhelmed by the sheer plenitude of actants across the vast writhing mass of rhizomes, paralysed and immobile, incapable of action while we carefully count and describe an infinite number of actants, their relations and their trajectories.[159]

> With critique, you may debunk, reveal, unveil, but only as long as you establish, through this process of creative destruction, a privileged access to the world of reality behind the veils of appearances. Critique, in other words, has all the limits of utopia: it relies on the certainty of the world beyond this world. By contrast, for compositionism, there is no world of beyond. It is all about immanence. (Latour, 2010, p.474-475)

This is not necessarily the case. Critique does not have to be a lifting of the veil, it can see the world as it is and act on it to recompose it just as much as Latour's compositionism

---

[159] Which is not to say that being careful, that taking care, cannot be a radical step itself. To demand an explanation is to take care. Schmidgen writes:

> The position that Latour takes up in each new study is neither that of an education professional nor a popularizer. It is in fact quite similar to the position described by Isabelle Stengers, following Deleuze, as that of the "idiot." Stengers says that the idiot is neither stupid nor a malcontent nor crazy. In the history of philosophy the idiot is frequently someone who doesn't understand Greek. Thus the "conceptual persona" of the idiot is the one who takes a stand against the consensual way that a situation and its inherent logic is presented. … "The idiot demands that we slow down, that we don't consider ourselves authorized to believe we possess the meaning of what we know."
> (2015, p.135)

can. Even Latour admits the existence of 'structuring templates' (2005, p.196) which, while they do not 'hide behind' reality, they nonetheless circulate through channels effecting action at a distance. Is capitalism, as a mode of production, not a structuring template; one with an extensive reach despite never realizing its need for totality? Is it not an actant like any other that takes on 'increasing ontological weight, growing increasingly 'universal' through extensions of the scale and reach of networks and alliances between humans and nonhumans.' (Tresch, 2013, p.302) The crucial difference with Latour's compositionism is that critique, through abstraction, can both read the world as it is and envisage an alternative, though the success of the alternative is in no way assured. Latour is correct that there is no certainty beyond this world but intellectual thought is by its very nature reflective: the movement to and from the mental and the physical pole – as described in the previous chapter – is necessarily a movement to and from the abstract and the concrete within the moment of the subject/superject, or in Latour's words, the quasi-object, becoming and perishing. Without the capacity for abstraction there is no connection between past, present and future: there is no means by which one moment could follow another. Latour uses the notion of plasma, of the missing masses, to account for the change in state of relations but these entities require mobilization, articulation and translation. The entity that provides the link between two actants is itself an actant: the mediator is also mediated. The present does not contain the future as potential – clearly it cannot if we hold that nothing can be reduced to anything else – nor does the past contain the present. Only the actants of the present can produce the present but in order to do so there must be some means of grasping[160] the past, some lure to the future; some means of charting the trajectory, getting our bearings and anticipating where we want to go. Harman claims that:

> Latour … cannot explain change. The problem is not that [he] defend[s] the actual over the potential, but that [he identifies] the actual with the relational. Only a non-relational version of actuality … can explain change or movement.
> (2009, p.130)

The relational aspect of Latour's ontology is not the issue. The problem is his decision to discard the dialectical movement at the heart of Whitehead's monadology, the mental and physical pole of the actual entity and the notion of 'real potentiality' which unites the

---

[160] Meant very much in this sense: 'Graspings: things whole and not whole, what is drawn together and what is drawn asunder, the harmonious and the discordant. The one is made up of all things, and all things issue from the one.' (Heraclitus, *Fragments*, B10)

actual world with the creative urge.[161] This is only possible through relation: 'viewed in abstraction objects are passive, but viewed in conjunction they carry the creativity which drives the world.' (Whitehead, 1933, p.179) Harman is wrong to claim that only a non-relational version of actuality can explain change, where objects can stand independent of their relations – on the contrary, it is only through relation that we get the very creativity that drives change. As Harman himself acknowledges, 'A thing changes by enrolling other actors, not by unveiling a pre-existent interior.' (2009, p.128) The actants produce their present by virtue of their relations with each other; and the actual world they produce is 'active with its inherent creativity' (1933, p.179).

Another difficulty with Latour's insistence on the concrete abstract is not its concreteness but rather the fact that its concreteness destroys its ability to function effectively as abstraction. For Whitehead, the abstract, like everything else, must exist somewhere but it is first and foremost an intellectual operation that is concerned with assigning value. As he writes in *Science and the Modern World*, in a passage quoted in the previous chapter but well worth repeating here:

> In regard to the aesthetic needs of civilized society the reactions of science have so far been unfortunate. Its materialist basis has directed attention to *things* as opposed to *values*. The antithesis is a false one, if taken in a concrete sense. But it is valid at the abstract level of ordinary thought. This misplaced emphasis coalesced with the abstractions of political economy, which are in fact the abstractions in terms of which commercial affairs are carried on. Thus all thought concerned with social organisation expressed itself in terms of material things and of capital. Ultimate values were excluded.
> (SMW, pp.202-203)

Once value is assigned it congeals in the object of valuation; in other words, it becomes concrete. But what is missing for Latour but present in Whitehead is the space in which

---

[161] To be clear, we are not talking about reestablishing a dialect between the social and material world but rather a dialectic between the concrete and abstract, physical and mental poles of each entity. It is not what Latour has in mind when he quite correctly writes:

> To get the right feel for ANT, it's important to notice that this has nothing to do with a 'reconciliation' of the famous object/subject dichotomy. To distinguish a priori 'material' and 'social' ties before linking them together again makes about as much sense as to account for the dynamic of a battle by imagining a group of soldiers and officers stark naked with a huge heap of paraphernalia—tanks, rifles, paperwork, uniforms—and then claim that 'of course there exist some (dialectical) relation between the two'. One should retort adamantly 'No!' There exists no relation whatsoever between 'the material' and 'the social world', because it is this very division which is a complete artefact. (2005, pp.75-76)

valuation and abstraction can take place; there is no 'mental pole' to the actor-rhizome like there is for the actual entity, the subject-superject of Whitehead has been replaced by the quasi-object/subject.

The phrase 'ultimate values' opens a space for a consideration of alternative values and systems of valuation, unlike systems which alienate and obfuscate like capitalism.

> Marx's analysis reveals the complexity of what we take for granted as, precisely 'objects', deflated into our 'concrete' experience. In fact, 'objects' take on value only in relation to other objects, and we treat this 'value' as a natural or, dare we say, psychological fact. The result is that 'things take on a life of their own' (Heinrich, 2012, p. 73) but not in the sense Latour supposes. This is because this is a 'real' situation, one not generated by us or by the objects but by the form of value that inheres in them. Therefore, our interactions with the world are not illusory but formed in social processes which constitute a social reality and necessity which dominates us. Therefore, contra Latour, it is social relations that produce the reification of capital, which is nonetheless real for all that. We can't wish away or dismantle these relations by the fiat of network analysis but rather have to grasp capitalism's constitution of itself as 'automatic subject [automatisches Subjekt]' (Marx, 1976, p. 255). (Noys, pp.205-206)

What Noys describes here captures the play between the concrete and the abstract, aversion and adversion, the spectral and the real, all that is at the heart of Whitehead's metaphysics. Latour appears to be interested in only one half of this metaphysics: the concrete, adversion, the real. Whitehead also writes that 'the notion of complete abstraction is self-contradictory. For you cannot abstract the universe from any entity ... so as to consider that entity in isolation' (PR, 28). Here we again see the nuance of Whitehead's metaphysics and his determination to account for the subtle interplay of subject and object within each entity through a dialectical logic rather than Latour's tendency towards a one-sided 'taking the world as it is' empiricism. For Latour, the dialectic is a fairy tale. 'Contradictions are negotiated like the rest. They are built, not given.' (1988, p.180) But what is a negotiation if not a dialectical process: a pulling to and fro followed by a settlement, even if the settlement lasts but an instant.

In one sense Latour is absolutely right to insist that, for the most part, there is a universe of discontinuities that must be patiently assembled; a price must be paid to bring them into continuity for sure, but sometimes Latour overestimates the cost. Without the ability to value – as violent, arbitrary and obfuscating an act as that can be – we are unable to

account for the ease with which a few taps on a keyboard in the office of a large financial institution can result, only a few short months later, in the destruction of several hundred hectares of Amazonian rainforest. While Latour carefully traces the steps[162], most of us are quite willing to take shortcuts. When he describes the shift to ANT being like the lazy car driver trying to climb a mountain, with no running or jumping allowed till they reach the top (2005, p.221), he underestimates how quickly we are capable of picking things up, of sorting the important from the unimportant, as Whitehead says: of making leaps. Latour writes in *Reassembling the Social* that:

> If what is to be assembled is not first opened up, de-fragmented, and inspected, it cannot be reassembled again. It does not require enormous skill or political acumen to realize that if you have to fight against a force that is invisible, untraceable, ubiquitous, and total, you will be powerless and roundly defeated. It's only if forces are made of smaller ties, whose resistance can be tested one by one, that you might have a chance to modify a given state of affairs. To put it bluntly: if there is a society, then no politics is possible.
> (2005, p.250)

But this presumes that politics is a technical problem – like a faulty connection in the wiring of a car or a leak in some pipework – rather than a question of value. This is why

---

[162] Here are the 'missing masses' involved even in the very first step of pressing a key on the keyboard:

> The keyboard sends an electrical signal, called a scan code, to the computer saying that a button was pressed.

> The keyboard controller interprets the scan code and determines that the letter pressed was an "M". It stores this "M" in a special memory location until the processor is ready to deal with it.

> The controller sends a signal to the processor, called an interrupt. An interrupt tells the processor that some part of the computer has information for it to process and wants its attention.

> The processor services interrupts based on their priority. When it is time to deal with the keypress, the processor routes it to the program for the operating system that you are using.

> The operating system software decides which window you pressed the key in and sends a message to that window telling it a key was pressed.

> The window decides what to do with the keypress. [If] in this case it's your word processor window, and the key you pressed was an ordinary letter, the word processor will add that letter to its working area for the file you have open. The letter will take one byte of your computer's memory (RAM).

> The window will then call the operating system to display the letter on the screen.

> The operating system will display the letter on the screen by adding it to your video card's video memory.

> The next time the video card refreshes your monitor the letter will appear on the screen. Most video cards refresh the monitor between 60 and 100 times per second.
> (http://www.pcguide.com/intro/works/exampl-c.html Last accessed February 13 2019)

As Latour remarks, 'Even the most modest study of the humblest scientific practice is enough to show the bewildering steps necessary to obtain reliable information through a cascade of transformations. Quite a steeple-chase!' (2009c, p.472)

Whitehead insists that, 'Apart from transmutation our feeble intellectual operations would fail to penetrate into the dominant characteristics of things. We can only understand by discarding' (*PR*, p.251), and later in the same text 'intellectuality consists in the gain of a power of abstraction. The irrelevant multiplicity of detail is eliminated, and emphasis is laid on the elements of systematic order on the actual world' (p.254) If we cannot eliminate the 'irrelevant multiplicity of detail' then for all the analytical, descriptive, democratic power of Latour's actant-rhizome ontology, it remains unable to move beyond litany. For a theorist so adept at dismantling and reassembling social agency, there is a striking lack of agency in terms of the Latourian political programme. In the *Politics of Nature* Latour suggests we ask for a 'tiny concession', to extend democracy to non-human actors. (de Vries, 2016, pp.146-147) But to whom do we address the request? If all translations are local, if we are to abandon all talk of capitalism and capitalists, who will grant these concessions? And what if you can find someone to ask and they say no? To speak of concessions is to admit that social explanation, while transforming the world through description and redescription, is not enough; it is not adequate to, '[a]s Marx did with Hegel's dialectics, … put social explanation back on its feet.'(Latour, 2005, p.64)

Latour is right when he calls for the 'regulated and commonly-agreed-upon production' (1991, p.141) of hybrids, for the extension of democracy to things themselves; but without any means of bringing this about Latour's politics remain effectively apolitical and hopelessly utopian.

In *The Compositionist Manifesto* Latour writes:

> The thirst for the Common World is what there is of communism in compositionism, with this small but crucial difference: that it has to be slowly composed instead of being taken for granted and imposed on all. Everything happens as if the human race were on the move again, expelled from one utopia, that of economics, and in search of another, that of ecology. Two different interpretations of one precious little root, *eikos*, the first being a dystopia and the second a promise that as yet no one knows how to fulfil. How can a liveable and breathable "home" be built for those errant masses?
> (2010, p.488)

In the age of Trump, Brexit, the sixth mass extinction, runaway climate change, millions of human beings forced to flee their homes from war, torture and famine in Syria, Yemen, Libya, soaring inequality, antibiotic resistance, and all of the other developing horrors of the twenty-first century, and despite having at our disposal more wealth, more resources,

more technology than ever before in human history; in light of the crisis of liberalism, of climate, of capitalism surely we can take some things for granted and impose a common world on some, namely those who benefit most from the present state of affairs. Latour insists we take care, that we look forward rather than fleeing from the past while continuing to look at it, and that the promise of the Common World is one that we do not yet know how to fulfil. The following anecdote from *Irreductions* perfectly sums up the danger of trying to take short cuts, of trying to create an 'irreversible situation' without the necessary actants:

> In the canteen we discussed the forthcoming elections. As long as there are only opinion polls, we can argue about the relative position of the Socialists and the Communists until the cows come home. These polls do not count. Like Dietrich's rats, their samples are too small. What is needed is a truly grand experiment in which all the votes are counted and everyone can see that everything is above board. Only then will we know whether the Communists are two percent weaker then the Socialists.
> (1988, p.223)

But this does not necessarily lead to the compositionist insistence on compromise. (Latour, 2010, p.478) And it need not entail us getting down on our hands and knees to slowly, cautiously piece together the actants who infuse our buzzing world, those missing masses; surely instead we remember the Leibnizian interconnectedness of all things, Tarde's insistence of having, Whiteheads valuing and abstraction and develop an actant rhizome ontology fit to both interpret and change the world. Latour reminds us that interactions are not isobaric: some participants push harder and speak louder. He also cautions that:

> …to insist that behind all the various issues there exists the overarching presence of the same system, the same empire, the same totality, has always struck me as an extreme case of masochism, a perverted way to look for a sure defeat while enjoying the bittersweet feeling of superior political correctness.
> (2005, p.252)

To casually say that the cause of both the war in Iraq and climate change is capitalism is clearly the kind of political correctness that Latour has in mind; and there is little doubt of the prevalence of this form of political correctness, as the decline of the political Left over several decades has shown. But just because many of those who repeat it as dogma hold it to be true does not mean that it is necessarily false. It is reasonable to hold that the interests of the same actors are at play in both, presuming you are able to demonstrate how – and

presuming you leave the door open to new actors. The demonstrating how is important as it results not in undefeatable totality and hegemony, but in the exposure of the fragile multifarious heterogeneity of the 'same system, the same empire' and its dependence on its associations. We can then exploit the 'weak ties' without having to 'genuflect before the Total'. (2005, pp.252-253) Issac Marrero-Guillamón demonstrates how this can be achieved in his discussion of the Can Ricart social movement in Barcelona, where ANT's 'certain obsession for understanding how things happen in minute detail, rather than why' (2013, p.406) can help produce an effective social movement.

In his discussion on climate change, *Telling Friends from Foes in the Time of the Anthropocene*, Latour writes about Frank Luntz's memo to the Republican party: "Should the public come to believe that the scientific issues are settled, their views about global warming will change accordingly. Therefore, you need to continue to make the lack of scientific certainty a primary issue." Latour comments, 'His success speaks volumes about the mass of money spent to foster climate deniers but it also speaks to the fragility of the immunological system of those who use the science-versus-politics repertoire.' (2013, p.149) There are two parts to this statement – a vast amount of money is spent on promoting climate change denial; and the science-versus-politics dichotomy is a false one, a bifurcation of nature – but Latour focusses on the second part, not pausing to ask why a mass of money is spent fostering climate deniers or who is spending the money. The result is a philosophically idealist politics, where change can literally be thought into existence, where a conceptual shift is sufficient to effect a political shift. Of course, the conceptual and the political – in other words, the theory and the activity – are two sides of the same coin: even Leibniz's monads, as we have seen, are embodied, engaged in both mental activity and movement. Latour, however, leads us to a position where only one side of the coin is taken into account. He himself acknowledges as much when he writes that persuading people of the reality of climate change would constitute 'a pedagogical gain — not a political one.' (2013, p,152) But no alternative is offered beyond the conceptual shift. And here we find a tension at the heart of Latour's politics: on the one hand, all of his actants are fully deployed in the world at every instant, all abstraction is concrete, all transcendence immanent, there are no worlds beyond this one, no veils to be lifted, everything must be taken into account. On the other, his actants are paralysed by the crushing weight of the relations they all bear, the consequence of a relational materialism that leaves no room for forms, modes, for the abstract valuation and characterisation of social and material forces in the service of some hypothesis, a desire for the world to be other than it is. As Noys says: Latour seems

…incapable of grasping the particular form of capitalism, which precisely lies between immanence and transcendence. The result is that while agency seems to become possible, this inflation of 'local' agency is bought at the cost of an inability to change or challenge any of the terms of the game. Capitalism seems to remain as an 'untranscendable horizon', contra Sartre's famous remark about communism. (2011, p.15)

Latour lays the foundation for a radical democratic ontology but, fed-up with the intellectually bankrupt Stalinism of the left, is unwilling to engage in the sort of valuation and abstraction which would allow him to transform ANT into an effective political tool; even though he himself proposes precisely what that could look like at the end of *Reassembling the Social*:

> Our distinctive touch is simply to highlight the stabilizing mechanisms so that the premature transformation of matters of concern into matters of fact is counteracted. ANT argues that it should be possible to clarify this confusion, to distinguish the two tasks of deployment and unification, to spell out the procedures for due process, thus modifying what it means for a social science to be more politically relevant and more scientific.
> (2005, p.261)

In 2018, Latour once again turns to the question of politics in the age of crisis, with his essay *Down To Earth: Politics in the New Climatic Regime*. In it he moves yet closer to a critical analysis of capitalism, identifying three historical strands to the post-Cold War period: deregulation; explosion of inequalities; denial of climate change. However, his analysis stops short of critique. His historical account of the post-Cold War period is in fact thoroughly ahistorical and presents a Whiggish view of history as being solely determined by the decisions of the ruling class of the period. He writes:

> From the 1980s on, the ruling classes stopped purporting to lead and began instead to shelter themselves from the world. We are experiencing all the consequences of this flight, of which Donald Trump is merely a symbol, one among others. The absence of a common world we can share is driving us crazy. (2018, p.2)

This presupposes that the post-1945 period of social democracy in Western Europe and the United States was an enlightened choice by an enlightened ruling class, rather than the result of a complex combination of the perceived threat of the Soviet Union, the strength of domestic labour movements and the long economic boom afforded by the decimation of

global industry and, indeed, the global population during the Second World War – a phenomenon characterised by Marx in the *Grundrisse* as the 'violent destruction of capital not by relations external to it, but rather as a condition of its self-preservation.' (1973, p.667) And it presupposes that the retreat from post-war social democracy was simply a crisis of leadership.

Latour takes a similar approach to the question of globalisation, emptying the term of its crucial semantic content and – rather than understanding it as a complex of cultural, economic and social colonisation which brings both progress and regression – instead casting it as a mode of thinking: to 'think' globally or 'think' locally. He defines a 'good' globalisation against a 'bad' globalisation (what he terms globalisation-plus and globalisation-minus), and a 'good' local against a 'bad' local (local-plus and local-minus), but in doing so fails to move beyond the conception of politics as something which only really takes place in the mind. Again, this is a failure of abstraction, a failure to see the 'wood for the trees'; a result of his insistence that the defining problem of social theory is the opposite, the failure to see the 'trees for the wood', when a more fruitful course would be to find a way to mediate between the two. This would allow an understanding of both globalisation and the local as being inherently plus/minus, as having a contradictory dipolar character, where the movement between the two poles and the intensity of each is determined by the historical circumstances of the moment.

Latour writes,

> Trump presides over the country that had the most to lose from a return to reality. Its material infrastructures are the most difficult to reorient quickly; its responsibilities in the current climatic situation are the most crushing. Most enraging, it possesses all the scientific, technological, and organizational capabilities that could have led the "free world" to take the turn toward the third attractor. (2018, p.38)

The analysis is sound as far as it goes but, as ever, it fails to go far enough. The notion of the 'third attractor' lays the ground for the familiar call: that '[e]verything has to be mapped out anew, at new costs.' (2018, p.33). This process is fleshed out some sixty pages later:

> What to do? First of all, generate alternative descriptions. How could we act politically without having inventoried, surveyed, measured, centimeter by centimeter, being by being, person by person, the stuff that makes up the Earth for

us? Without doing this we could perhaps utter astute opinions or defend respectable values, but our political affects would be churning in a void. Any politics that failed to propose redescribing the dwelling places that have become invisible would be dishonest. We cannot allow ourselves to skip the stage of description. No political lie is more brazen than proposing a program.' (2018, p.94)

However, this is the only stage outlined by Latour. He may argue that the next steps will emerge from the first stage of description but, given the likelihood that surveying the infinite 'stuff that makes up the Earth for us' would itself take an infinity, it seems logically impossible for us to ever move beyond the descriptive stage. This would not necessarily be a problem if we could take description to be a generative act, an act of creation, as well as an act of valuation, an act of critique; if description could include Hegel's judgement alongside comprehension. But this cannot but lead to the proposing of programs; critique would be a pointless exercise if it did not.

The limitations to Latour's political analysis stem from both the philosophical problems with his actant rhizome ontology – still the prevailing mode of thought employed in *Down To Earth*, despite being published five years after the unveiling of his alternative research protocol in *An Inquiry Into Modes of Existence* – but also the narrowness of his political horizons. Because critique is beyond the pale, there is no sense in which society can look anything other than, more or less, how Western European society has looked since the end of the Second World War. Latour's Left and Right is limited to the European tradition of competing traditions of Social as opposed to Christian Democrats. He holds the European Union aloft, writing, 'It is by the intricacy of its regulations, which are attaining the complexity of an ecosystem, that it shows the way. Exactly the sort of experience that one needs to approach the ecological mutation that is straddling all borders.' (2018, p.101) He maintains that 'Europe is again taking up the question of universality, but this time it is not rushing to impose its own prejudices on everyone else.' (2018, p.105) The 'way of seeing', to borrow a phrase from John Berger, that this represents is the very mode of politics that has both presided over the period of crisis we now find ourselves in and demonstrated itself incapable of finding a way out. With only description and composition, without valuation and critique, without according abstraction its proper role such that it allows us to grant what Badiou describes as the 'communist hypothesis', which is to say the dream of the common world beyond the horizons of our unhappy present, actant rhizome ontology is condemned to endlessly chasing actants, tracing associations, mapping the present without taking heed of the past or the unfolding future; in other words, reciting litany in the face of

global ruin in much the same way as Pope Gregory I decreed in 590 in desperate response to the horrors of the plague, and with much the same effect.

* * *

The point of this thesis has not been to prove that Latour is a Leibnizian or a Tardean or a Whiteheadian – though none of these philosophers have schools to speak of – nor was it to point out contradictions and slip-ups, to take Latour to task for suggesting that the actant is a monad, or Tarde is the grandfather of ANT, or Whitehead is an actor-network theorist – though in our encounters with these thinkers we have peeked in the black box Latour constructs each time he makes such claims. Rather, the point is to place four monadologies together in the same text, to let them speak for themselves – while, of course, always speaking through them – in the service of finding our way to an ontology fit for the myriad existential crises of the present.

We have suggested that a radical democratic ontology is now required to take Latour's democratic revolution one step further. To this end, the pressing question is how we can deploy such an ontology in not just our understanding of the composition of climate change or antibiotic resistance or global inequality, or, indeed, capitalism; but our attempts to choose an alternative path. Like Ingold's wayfarer, and in keeping with Latour's ontology, the path is necessarily composed as we move along it, not a predetermined route but the laying of a trail. This thesis has suggested that in understanding the actor-network as monad, while reintegrating Whitehead's conceptual valuation, we are able to overcome the idealism and inadequacy of Latour's compositionism. But we must remember that knowledge is always in the world, not of the world. And so we can go back in to the world with our renewed actant rhizome ontology but this time without Latour's agnosticism and instead with a hypothesis, or rather, the hypothesis of the common world. 'When the centaur of classical metaphysics is mated with the cheetah of actor-network theory, their offspring is not some hellish monstrosity, but a thoroughbred colt able to carry us for half a century and more.' (Harman, 2009, p.5) This thesis has attempted to accomplish that very union, although in a completely different way to Harman, and with a very different intention. The offspring is no colt. It increasingly looks like we do not have the luxury of another half century or more. Instead another union is needed to bring together the metaphysics of Leibniz, Tarde, Whitehead and Latour – in other words, a monadological

ontology – with the political economy and philosophy of Marx. As Pomeroy notes, 'We will not be done with Marx until we are done with capitalism' (2004, p.21), but the complexity of contemporary capitalism is impossible to understand without the descriptive power of an actant rhizome ontology – though description is no longer enough, as Sartre wrote in *Search for a Method*, 'it is not enough to describe the working of capital or the system of colonization.' (1963, p.180). In the age of crisis, the Latour litany increasingly resembles the religious supplication to which the term 'litany' alludes – the plea of an imperilled multitude to a mythological being of their own creation. In the face of compounding crises, we do not have time to painstakingly assemble and reassemble the actants, in the hope that in their reassembly we compose something new, something better. We must be able to critique, to conceptually value our actants – to situate our description and redescription in the context of the struggle against capitalism without using the infinite heterogeneity of that interminably complex system as a means of obscuring those actants who are most to blame for our present perilous state and muddying those sites of struggle which hold the greatest promise for finding a way out of that peril. This thesis is intended as preparation for that project: to truly harness the power of description as redescription to quench our thirst for the solidarity of one common world.

List of References

Alliez, É., 2004. The Difference and Repetition of Gabriel Tarde. *Distinktion: Journal of Social Theory*, 5 (2), pp.49-54.

Basile, P., 2017. Whitehead's *Metaphysics of Power: Reconstructing Modern Philosophy*. Edinburgh: Edinburgh University Press

Bell, J.A., 2010. Fear of Politics: Deleuze, Whitehead, and the Truth of Badiou. Roland, F., Krips, H., Pettus, D., eds., 2010. *Event and decision: Ontology and politics in Badiou, Deleuze, and Whitehead*. Newcastle: Cambridge Scholars, pp.138-169.

Bell, J.A., 2012. Modes of Violence: Deleuze, Whitehead, Butler and the Challenges of Dialogue. Farber, R., Halewood, M., Lin, D., eds., 2012. *Butler on Whitehead: On the Occasion*. Plymouth: Lexington Books.

Bergson, H., 1998. *Creative Evolution*. New York: Dover Publications.

Borch, C., 2014. Gabriel Tarde (1843-1904). In Helin, J., Hernes, T., Hjorth, D., Holt, R. eds., 2014. *The Oxford Handbook of Process Philosophy and Organization Studies*. Oxford: Oxford University Press.

Brighenti, A. M., 2014. *The Ambiguous Multiplicities: Materials, Episteme and Politics of Cluttered Social Formations*. Basingstoke: Palgrave Macmillan.

Bussotti, P., 2015. *The Complex Itinerary of Leibniz's Planetary Theory: Physical Convictions, Metaphysical Principles, Keplerian Inspiration*. Switzerland: Springer International Publishing.

Callas, M.B., Smircich, L., 1999. Past Postmodernism? Reflections and Tentative Discussions. *Academy of Management Review*, 24 (4), pp.681-696.

Callon, M., 1984. Some elements of a sociology of translation: domestication of the scallops and the fishermen of St Brieuc Bay. *Sociological Review*, 32, pp.196-233.

Carr, H. W., 1930. *The Monadology of Leibniz.* London: Favil, P.

Cloots, A., 2001. The Metaphysical Significance of Whitehead's Creativity. *Process Studies*, 30 (1), pp.36-54. [Online] Available at https://www.religion-online.org/article/the-metaphysical-significance-of-whiteheads-creativity/ Accessed January 13, 2019.

Czarniawska, B., 2009. Gabriel Tarde and Organization Theory. In Adler, P., ed., 2009. *The Oxford Handbook of Sociology and Organization Studies: Classical Foundations*. Oxford: Oxford University Press.

Davis, M., 1906. *Gabriel Tarde: an essay in sociological theory*. New York: Davis.

Debaise, D., 2008. The Dynamics of Possession: An Introduction to The Sociology of Gabriel Tarde. In Skribna, D., ed., 2008. *Mind that Abides. Panpsychism in the new millennium*. Amsterdam: John Benjamins.

Deleuze, G., 1980. *On Leibniz*. [Online] Available at http://deleuzelectures.blogspot.co.uk/2007/02/on-leibniz.html [Accessed April 15, 2015].

Deleuze, G., 1993. *The Fold: Leibniz and the Baroque.* London: Bloomsbury Academic.

Deleuze, G., 2001. *Pure Immanence: Essays on a Life* (New York: Zone Books).

Deleuze, G., 2004. *Difference and Repetition*. London: Continuum.

Deleuze, G., Guattari, F., 1987. *A Thousand Plateaus.* (Minneapolis: University of Minnesota Press).

Dewey, J., 1946. *The Public and its Problems* (Chicago: Gateway Books).

Dörk, M., Comber, R., Dade-Robertson, M., 2014. Monadic Exploration: Seeing the Whole Through Its Parts. *CHI 2014*, pp.1535-1544.

Duffy, S., 2012. The Question of Deleuze's Neo-Leibnizianism. R Braidotti and P Pisters, eds., 2012. *Revisiting Normativity with Deleuze.* London: Bloomsbury Academic.

Epperson, M., 2004. *Quantum Mechanics and the Philosophy of Alfred North Whitehead*. Fordham University Press.

Ford, L. S., 1997. Whitehead's Distinctive Features. Kasulis, T. P., Neville R. C. (eds), *The Recovery of Philosophy in America: Essays in Honor of John Edwin Smith*. Albany: State University of New York Press, pp.131-154.

Fraser, M., 2006. The ethics of reality and virtual reality: Latour, facts and values. *History of Human Sciences,* 19 (2), pp.45-72.

Fraser, M., 2006b. *Event. Theory, Culture and Society*, 23, pp.129-132.

Fraser, M., 2008. Facts, Ethics and Event. Jensen, C.B., Rödje, K., eds., 2008. *Deleuzian Intersections in Science, Technology and Anthropology*. Oxford: Berghahn Books.

Garber, D., 2004. *Oh, dear, what can the matter be?* [Online] Available at http://www.philosophy.ox.ax.uk/__data/assets/pdf_file/0018/846/L5Post.pdf Accessed April 15, 2015.

Garber, D., 2005. Leibniz and Idealism. D Rutherford and J A Cover [eds.]. *Leibniz: Nature and Freedom.* Oxford: Oxford University Press, pp.95-107.

Garber, D., 2009. *Leibniz: Body, Substance, Monad.* Oxford : Oxford University Press.

Halewood, M., 2005. On Whitehead and Deleuze: The Process of Materiality. *Configurations*, 13 (1), pp.57-76.

Halewood, M., 2013. *A. N. Whitehead and Social Theory: Tracing a Culture of Thought*. London: Anthem Press.

Halewood, M., 2014. *Rethinking the Social through Durkheim, Marx, Weber and Whitehead*. London: Anthem Press.

Harman, G., 2007. The Importance of Bruno Latour for Philosophy. *Cultural Studies Review*, 13 (1), pp.31-49.

Harman, G., 2009. *Prince of Networks: Bruno Latour and Metaphysics*. Melbourne: Re-press.

Hegel, G.W.F., 1977. *Phenomenology of Spirit*. Oxford: Oxford University Press.

Heraclitus, *B10: Graspings*. [Online] Available at
http://www.heraclitusfragments.com/B10/translation.html Accessed January 20, 2019.

Henning, B.G., 2000. 'Creative Love: Eros and Agape in Peirce and Whitehead.' Henning,
B.G., Myers, W.T., John, J.D., eds., 2000. *Thinking with Whitehead and the American
Pragmatists: Experience and Reality*, Lanham, Maryland: Lexington Books, pp.154-155.

Hooper, S.E., 1941. Whitehead's Philosophy: Actual Entities. *Philosophy*, 16 (63), pp.285-305.

Ingold, T., 2007. *Lines: A brief history*. Abingdon: Routledge.

Ishiguro, H., 1998. Unity Without Simplicity: Leibniz on Organisms. *The Monist*, 81 (4),
pp.534-552.

Kalyniuk, G., 2013. Jurisprudence of the Damned: Deleuze's Masochian Humour and
Anarchist Neo-Monadology. *Anarchist Developments in Cultural Studies*, 2013 (2),
pp.216-249.

Katz, E., 2006. Rediscovering Gabriel Tarde. *Political Communication*, 23 (3), pp.263-270.

Keller, C., 2007. Complicities: Folding the Event in Whitehead and Deleuze, paper
presented *to Event and Decision: Ontology and Politics in Badiou, Deleuze, and
Whitehead*, Claremonet, December 2007. [Online] Available at
https://whiteheadresearch.org/occasions/conferences/event-and-
decision/papers/Catherine%20Keller_Final.pdf Accessed May 12, 2017.

Kundera, M., 1998. *Immortality*. London: Faber and Faber.

Lango, J.W., 1972. *Whitehead's Ontology*. Albany: State University of New York Press.

Latour, B., Woolgar, S., 1979. *Laboratory Life: The Construction of Scientific Facts*.
Princeton: Princeton University Press.

Latour, B., 1987. *Science In Action*. Milton Keynes: Open University Press.

Latour, B., 1988. *The Pasteurization of France*. Cambridge, Mass.: Harvard University
Press.

Latour, B., 1990. Technology is society made durable. *The Sociological Review*, 38 (1),
pp.103-131.

Latour, B., 1991. *We Have Never Been Modern*. Cambridge, Mass.: Harvard University Press.

Latour, B., 1991. Technology is Society Made Durable. J Law, ed., 1991. *A Sociology of Monsters: Essays on Power, Technology and Domination.* London: Routledge, pp.103-131.

Latour, B., 1992. Where Are the Missing Masses? The Sociology of a Few Mundane Artifacts. Bijker, W., Law, J., eds., 1992. *Shaping Technology*. Cambridge, Mass.: MIT Press, pp.225-258.

Latour, B., 1996. *Aramis or the love of technology*. Cambridge, Mass.: Harvard University Press.

Latour, B., 1996. Do scientific objects have a history? Pasteur and Whitehead in a bath of lactic acid. *Common Knowledge*, 5 (1), pp.76-91.

Latour, B., 1996b. On Actor-Network Theory. *Soziale Welt*, 47, pp.369-381.

Latour, B., 1999. On Recalling ANT. *The Sociological Review*, 47(S1), pp.15-25.

Latour, B., 1999b. *Pandora's Hope: Essays on the Reality of Science Studies.* Cambridge, Mass.: Harvard University Press.

Latour, B., 1999c. A Textbook Case Revisited – Knowledge as a Mode of Existence. Hackett, E., Amsterdamska, O., Lynch, M., Wacjman, J., eds., 2007. *The Handbook of Science and Technology Studies –Third Edition*. Cambridge, Mass.: MIT Press, pp.83-112.

Latour, B., 2000. On the Partial Existence of Existing and Nonexisting Objects. In Daston, L., ed., 2000. *Biographies of Scientific Object*s. Chicago: Chicago University Press, pp.247-269.

Latour, B., 2002. Gabriel Tarde and the End of the Social. In Joyce, P., ed., 2002. *The Social Question. New Bearings in History and the Social Sciences*. London: Routledge, pp.117-132.

Latour, B., 2005. *Reassembling the Social: An Introduction to Actor-Network-Theory.* Oxford: Oxford University Press.

Latour, B., 2005b. What Is Given in Experience? *Boundary 2*, 32 (1), pp.223-237.

Latour, B., Karsenti, B., & Schaffer, S., 2007. *The Tarde Durkheim Debate*. [Online] Available at http://www.bruno-latour.fr/sites/default/files/related_content/TARDE-DURKHEIM-GB.pdf Accessed February 12, 2016.

Latour, B., 2008. What is the style of matters of concern? Two lectures in empirical philosophy. *Spinoza Lectures at the University of Amsterdam*. Amsterdam: Van Gorcum.

Latour, B., Lépinay, V.A., 2009. *The Science of Passionate Interests: An Introduction to Gabriel Tarde's Economic Anthropology*. Chicago: Prickly Paradigm Press.

Latour, B., 2009b. Spheres and Networks: Two Ways to Reinterpret Globalization. *Harvard Design Magazine,* 30, pp.138-144.

Latour, B., 2009c. Will non-humans be saved? An argument in ecotheology. *Journal of the Royal Anthropological Institute (N.S.)*, 15, pp.459-475.

Latour, B., 2010. 'An Attempt at a Compositionist Manifesto'. *New Literary History*, 41, pp.471-490.

Latour, B., 2010b. Coming out as a philosopher. *Social Studies of Science*, 40 (4), pp.599-608.

Latour, B., 2010c. Tarde's Idea of Quantification. In Candea, M., ed., 2010. *The Social After Gabriel Tarde: Debates and Assessments*. London: Routledge, pp.145-192.

Latour, B., Harman, G., Erdélyi, P., 2011. *The Prince and the Wolf: Latour and Harman at the LSE.* Winchester: Zero Books.

Latour, B., Jensen, P., Venturini, T., Grauwin, S., Boullier, D., 2012. 'The whole is always smaller than its parts' – a digital test of Gabriel Tardes' monads. *The British Journal of Sociology*, 62 (4), pp.590-615.

Latour, B., 2013. Telling Friends from Foes in the Time of the Anthropocene. Clive H., Christophe B., François G., eds, 2013. *The Anthropocene and the Global Environment Crisis – Rethinking Modernity in a New Epoch*. London: Routledge, pp.145-155.

Latour, B., 2018. *Down To Earth: Politics in the New Climatic Regime*. Cambridge: Polity Press

Law, J., 1999. After ANT: Complexity, naming and topology. Law, J., Hassard, J., eds., 1999. *Actor-Network Theory and After*. Oxford: The Sociological Review.

Law, J., 2003. *And if the Global Were Small and Non-Coherent? Method, Complexity and the Baroque*. [Online] Available at http://www.lancs.ac.uk/fass/sociology/papers/law-and-if-the-global-were-small.pdf Accessed April 24, 2017.

Law, J., 2003b. *Notes on the Theory of the Actor Network: Ordering, Strategy and Heterogeneity*. [Online] Available at http://www.comp.lancs.ac.uk/sociology/papers/Law-Notes-on-ANT.pdf, Accessed Jan 14, 2019.

Law, J., 2003c. *Traduction/Trahison: Notes on ANT*. [Online] Available at http://www.comp.lancs.ac.uk/sociology/papers/Law-Traduction-Trahison.pdf Accessed January 14, 2019.

Leibniz, G. W., 1985. *Theodicy: Essays on the Goodness of God, the Freedom of Man and the Origin of Evil.* Peru, Ill.: Open Court Publishing Company.

Leibniz, G. W., 1998a. Discourse on Metaphysics. R Francks and R S Woolhouse, ed., 1998. *G. W. Leibniz: Philosophical Texts.* Oxford: Oxford University Press.

Leibniz, G. W., 1998b. Principles of Nature and Grace, based on Reason. R Francks and R S Woolhouse, eds., 1998. *G. W. Leibniz: Philosophical Texts.* Oxford: Oxford University Press.

Leibniz, G. W., 1998c. Monadology. R Francks and R S Woolhouse, ed., 1998. *G. W. Leibniz: Philosophical Texts.* Oxford : Oxford University Press.

Leibniz, G. W., 2005. *New Essays on Human Understanding*. [Online] Available at http://www.earlymoderntexts.com/pdfs/leibniz1705book1.pdf Accessed April 16 Accessed April 16, 2015

Lodge, P. 2009. *Leibniz's Correspondence with De Volder*. [Online] Available at http://users.ox.ac.uk/~mans1095/devolder.htm Accessed April 16, 2015.

Look, B., 2002. On Monadic Domination in Leibniz's Metaphysics. *British Journal for the History of Philosophy*, 10 (3), pp.379-399.

Lopston, P. and Arthur, R. T. W., 2006. Leibniz's Body Realism: Two Interpretations. *Leibniz Review*, 21.

Lowe, V., 1990. *Alfred North Whitehead: The Man and His Work. Vol. 2: 1910-1947*. Schneewind, J. B., ed., 1990. London: Johns Hopkins U.P.

Madigan, P. S., 1975. Space in Leibniz and Whitehead. R C Whittemore, ed., 1975. *Studies in Process Philosophy II.* The Hague: Martinus Nijhoff.

Marrero-Guillamón, I., 2013. Actor-Network Theory, Gabriel Tarde and the Study of an Urban Social Movement: The Case of Can Ricart, Barcelona. *Qualitive Sociology*, 36, pp.403-421.

Marsh, J.L., Hamrick, W.S., 1984. Whitehead and Marx: toward a Political Metaphysics. *Philosophy Today*, 28 (3), pp.191-202.

Marx, K., 1973. *Grundrisse*. London: Penguin Books.

Marx, K., 1976. *Capital: A Critique of Political Economy. Volume One.* London: Penguin Books.

Monk, R., 1999. *Wittgenstein's Forgotten Lesson*. [Online] Available at https://www.prospectmagazine.co.uk/magazine/ray-monk-wittgenstein Accessed April 27, 2017.

Muldoon, J., 2014. Lazzarato and the Micro-Politics of Invention. *Theory, Culture & Society*, 31 (6), pp.57-76.

Mumford, L., 1942. *The Culture of Cities.* London: Secker & Warburg.

Niezen, R., 2014. Gabriel Tarde's publics. *History of the Human Sciences*, 27 (2), pp.41-59.

Noys, B., 2011. *The Discreet Charm of Bruno Latour, or the critique of 'anti-critique'*. [Online] Available at http://townsendgroups.berkeley.edu/sites/default/files/nottingham_paper.docx Accessed January 20, 2019.

Phemister, P., 1999. Leibniz and the Elements of Compound Bodies. *British Journal for the History of Philosophy*, 7 (1), pp.57-78.

Phemister, P., 2005. *Leibniz and the natural world: activity, passivity and corporeal substances in Leibniz's philosophy.* Dordrecht: Springer.

Phemister, P., 2011. Monads and Machines. J E H Smith and O Nachtomy, eds., 2011. *Machines of Nature and Corporeal Substances in Leibniz.* Dordrecht: Springer, pp.39-60.

Pittenger, N., 1969. *Alfred North Whitehead*. London: Lutterworth Press.

Pomeroy, A. F., 2004. *Marx and Whitehead: Process, Dialectics, and the Critique of Capitalism*. New York: SUNY Press.

Rescher, N., 1991. *G. W. Leibniz's Monadology: An Edition for Students.* London: Routledge.

Risan, L. C., 2006. Whitehead's Philosophy of Unities Explored in a Case of Social Democratic Cattle Breeding. *Configurations*, 14 (1-2), pp.127-156.

Roth, W.M., 2008. Realizing Marx's Ontology of Difference. *Mind, Culture, and Activity*, 15 (2), pp.87-92.

Rothe, K., 2012. Creative Destructions: Gabriel Tarde's Concept of a Passionate Economy. *Critical Studies*, 36 (1), pp.179-193.

Ross, G. M., 2007. Leibniz's Debt to Hobbes. P Phemister and S C Brown, eds., 2007. *Leibniz and the English Speaking World.* Dordrecht: Springer.

Sansi, R., 2013. The Latour Event: History, symmetry and diplomacy. *Social Anthropology*, 21 (4), pp.448-461.

Santana-Acuña, Á., 2015. Outside Structures: Smithian Sentiments and Tardian Monads. *Am Soc*, 46, pp.194-218.

Sartre, J. P., 1949. *Situations III.* Paris: Gallimard.

Sartre, J.P., 1961. *Marxism and Subjectivity: The Rome Lecture*. [Online] Available at https://newleftreview.org/II/88/jean-paul-sartre-marxism-and-subjectivity Accessed August 29, 2016.

Sartre, J.P., 1977. *Words*. London: Penguin Books

Savile, A., 2000. *Leibniz and the Monadology.* London: Routledge.

Saw, R. L., 1954. *Leibniz.* London: Penguin Books.

Schmidgen, H., 2015. *Bruno Latour in Pieces: An Intellectual Biography*. New York: Fordham University Press.

Schwebel, P. L., 2012. Intensive Infinity: Walter Benjamin's Reception of Leibniz and its Sources. *MLN*, 127 (3), pp.589-610.

Scott, J., 2007. Gabriel Tarde. In Scott, J., ed., 2007. *Fifty Key Sociologists: The Formative Theorists*. London: Routledge, pp.174-177.

Sebald, W.G., 2002. *The Emigrants.* London: Vintage Classics.

Shaviro, S., 2008. *Self-Enjoyment and Concern: On Whitehead and Levinas*. [Online] Available at http://www.dhalgren.com/Othertexts/Modes.pdf Accessed May 12, 2017.

Sherbourne, Donald W., 1966. *A key to Whitehead's Process and Reality*. Chicago: University of Chicago Press.

Simons, P., 2015. Alfred North Whitehead's Process and Reality. *Topoi*, 34 (1), pp.297-305.

Stengers, I., 2011. *Thinking With Whitehead: A Free and Wild Creation of Concepts*. Cambridge, Mass.: Harvard University Press.

Stern, R., 2007. Individual Existence and the Philosophy of Difference. In Leiter, B. and Rosen, M., ed., 2007. *The Oxford Handbook of Continental Philosophy*. Oxford: Oxford University Press, pp.379-408.

Tarde, G., 1899. *An Outline of Sociology*. London: Macmillan & Co.

Tarde, G., 1903. *The Laws of Imitation*. New York: Henry Holt & Co.

Tarde, G., 2012. *Monadology and Sociology.* Melbourne: re.press.

Toews, D., 2003. The New Tarde: Sociology after the End of the Social. *Theory, Culture & Society*, 20 (5), pp.81-98.

Toews, D., 2013. Tarde's sociology of difference: Its classical roots and contemporary meetings. *Journal of Classical Sociology*, 13 (3), pp.393-401.

Tresch, J., 2013. Another turn after ANT: An interview with Bruno Latour. *Social Studies of Science*, 43 (2), pp.302 –313.

Voltaire. 2009. Essai sur les moeurs et l'esprit des nations. Henri Duranton, ed., 2009. *Oeuvres completes de Voltaire.* Oxford : Voltaire Foundation.

De Vries, G., 2016. *Bruno Latour*. Cambridge: Polity Press.

Weber, T., 2016. Metaphysics of the Common World: Whitehead, Latour, and the Modes of Existence. *The Journal of Speculative Philosophy*, 30 (4), pp.515-533.

Whitehead, A., 1920. *The Concept of Nature*. Cambridge: Cambridge University Press.

Whitehead, A.N., 1926. *The concept of nature: Tarner lectures delivered in Trinity College*. Cambridge: Cambridge University Press.

Whitehead, A.N., 1927. *Symbolism: Its Meaning and Effect*. Cambridge: Cambridge University Press.

Whitehead, A.N., 1933. *Adventures of Ideas*. New York: The Free Press.

Whitehead, A.N., 1968. *Modes of Thought*. New York: The Free Press.

Whitehead, A. N., 1978. *Process and Reality: An Essay in Cosmology*. New York: The Free Press.

Whitehead, A.N., 1985. *Science and the Modern World*. London: Free Association Books.

Williams, J., 2010. Immanence and Transcendence as Inseparable Processes: On the Relevance of Arguments from Whitehead to Deleuze Interpretation. *Deleuze Studies*, 4 (1), pp.94-106.

Woolhouse, R. S., 1998. Editor's Introduction. R Francks and R S Woolhouse, eds., 1998. *G. W. Leibniz: Philosophical Texts.* Oxford : Oxford University Press.