THE VITALIST METAPHYSICS OF BERGSON AND NIETZSCHE

JOHN S. MEECHAN

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Contents

Abstract

This thesis presents a comparative study of Henri Bergson and Friedrich Nietzsche through the lens of vitalism. Despite being two of the most provocative and original thinkers of life, few studies exist on Bergson and Nietzsche's philosophical affinity: apart from appearing in close connection in the work of Gilles Deleuze and Keith Ansell Pearson, only Elizabeth Grosz has dedicated a full-length study to their thinking, which takes place alongside Darwin and in view of a contestatory politics (*The Nick of Time: Politics, Evolution, and the Untimely*, 2004). I look to highlight in a focused and comprehensive way the multiple points of intersection across their philosophical projects, with particular reference to their overlapping metaphysical orientations. I do this through vitalism not only because it serves to foreground life as a key reference point in their work – a reference point that has received recent treatment in Nietzsche scholarship and merits further attention in the literature on Bergson – but because the vitalist tradition provides an especially generative methodological platform for their comparative study. The history of vitalism, surveyed in Chapter One, indicates a series of concerns and commitments that go beyond the narrow effort to outline a concept of life or defend a vital kingdom within a kingdom, and this broad scope makes of it a useful lens through which to appreciate the complex ways in which the concept of life functions in Bergson and Nietzsche's work, to articulate the problematics and trajectories of their philosophical projects, and to permit a comprehensive analysis of their philosophical kinship. I argue that, on the basis of three vitalistic platforms, the core components of Bergson and Nietzsche's shared metaphysical visions can be seen to emerge across a range of philosophical issues. A heuristic 'appeal to life' (Chapter Two) anchors their engagements with epistemology, science and Darwinism, and discloses their discernment of a kind of activity that is irreducible to mechanism (duration and will to power). An 'anti-reductionist' ethos (Chapter Three) informs the 'transhuman' scope of key methodological tropes, naturalising and reversing, and underlines the role of immanence within their thinking. And the search for an alternative 'empiricism of the irreducible' (Chapter Four) converges, through their unorthodox perspectives on duality, time and causality, on a notion of 'prodigality' that forms the centre of their metaphysical intuitions, and gives onto the transformative aspects of their philosophies of life. Across these four chapters, the optic of vitalism allows for a close comparison of the two thinkers according to a rubric that both elucidates their significance within post-Kantian philosophy and enriches vitalism itself by inscribing their thinking within the recent return to that tradition under the 'new vitalism'.

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I researched and wrote this thesis part-time over seven years. During that period I have moved country three times, developed a career as a chef, and become part of a family. These things combined made life a bit of a juggling act, but on the whole they helped my philosophical outlook to develop in the service of life, and enriched my appreciation of Bergson and Nietzsche's work. It took a while for the eventual format of the comparative study to take shape, and I was fortunate to have a supervisor who allowed that process to evolve in its own time: I owe a great deal of thanks to John Mullarkey for his patience and guidance, not to mention his encyclopaedic knowledge of Bergson. Neil McGinness read and commented on a draft, for which I am extremely grateful. Ross McAllister, Helen Palmer, and Eric Bergman – my favourite vitalist – discussed bits and pieces along the way, and their input and support were highly valuable. Many kitchen colleagues contributed in less obvious ways over the years, and I have a lot to thank Sarit Packer, Yotam Ottolenghi, Trish Hilferty and Rory Shannon for in particular. And I thank Ella Killingley, for her faith in my ability to get it finished, and for being the unmoveable object I sometimes needed when the thesis got to thinking of itself as unstoppable force.

List of Abbreviations

The following abbreviations are used for citations of Bergson's works:

DSMR	*Les deux sources de la morale et de la religion*
Essai	*Essai sur les données immédiates de la conscience*
EC	*L'évolution créatrice*
ES	*Énergie spirituelle*
MM	*Matière et mémoire*
PM	*La pensée et le mouvant*

When citing from *ES* and *PM*, I also indicate the name of the particular essay from which citations are drawn, using the following abbreviations:

'AC'	*L'âme et le corps*
'CV'	*La conscience et la vie*
'EI'	*L'effort intellectuelle*
'FR'	*Le souvenir du présent et la fausse reconnaissance*
'FV'	*'Fantômes de vivants' et 'recherche psychique'*
'R'	*Le rêve*
'I1'	*Introduction (première partie). Croissance de la vérité. Mouvement rétrograde du vrai.*
'I2'	*Introduction (deuxième partie). De la position des problèmes.*
'IM'	*Introduction à la métaphysique*
'IP'	*L'intuition philosophique*
'PC'	*La perception du changement*
'PCB'	*La philosophie de Claude Bernard*
'PR'	*Le possible et le réel*
'VOR'	*La vie et l'œuvre de Ravaisson*
'WJ'	*Sur le pragmatisme de William James. Vérité et réalité.*

The following abbreviations are used for citations of Nietzsche's works:

A	*The Antichrist*
BGE	*Beyond Good and Evil*
BT	*The Birth of Tragedy*
CW	*The Case of Wagner*
D	*Dawn*
EH	*Ecce Homo*
GM	*The Genealogy of Morality*
GS	*The Gay Science*
HH	*Human, All Too Human*
TI	*Twilight of the Idols*
TSZ	*Thus Spoke Zarathustra*
UDHL	*On the Uses and Disadvantages of History for Life*
WP	*Will to Power*

Citations from Nietzsche's unpublished writings refer to his *Sämtliche Werke: Kritische Studienausgabe (KSA)*, compiled under the general editorship of Giorgio Colli and Mazzino Montinari (Berlin: Walter de Gruyter, 1980). I follow the standard reference procedure of providing the volume number, followed by the relevant fragment number and any relevant aphorism (e.g., KSA 10:12[1].37 refers to Volume 10, Fragment 12[1], Aphorism 37).

Introduction

Few philosophers of the modern era have been as diversely appropriated, pilloried, praised and misunderstood as Henri Bergson and Friedrich Nietzsche.[1] Whether anticipating a revolution in the study of matter or foreshadowing the collapse of Western moral institutions, being blacklisted by the Catholic Church or adopted by National Socialism,[2] or directly influencing aesthetic and intellectual movements like modernism, existentialism and process ontology, their shared capacity for prophecy, notoriety, and creative incitement makes them two of the most unique, and uniquely similar, figures in philosophy. Both contributed, with brilliant originality, to questions at the heart of philosophical inquiry, encompassing ontological, scientific and ethical matters, and revaluating our metaphysical heritage in equal measure to reorienting its prospects. Both are united in their affirmation of becoming as a creative reality, their pursuit of thought beyond intellectual schemas and moral oppositions, and their commitment to an immanent, naturalistic perspectivism. There are, certainly, a number of striking differences. On a personal level, Bergson was the philosopher of the academy, frequently crowding out public lecture halls, discussing peace with the American President, receiving flowers and a Nobel Prize; Nietzsche, philosopher of the mountains, retired from academia at 35, published prodigiously to little acclaim, and ended a life traversed by illness and itineracy in madness and paralysis. On an ideological level, where Nietzsche spent his career warning against a 'misarchistic' culture of democratic equality and honing a devastating critique of Judaeo-Christianity, Bergson outlined a conception of human rights that would 'initiate all human beings into love',[3] considered Christian mysticism as the embodiment of the vital impulse itself, and died of pneumonia contracted while dutifully registering as a Jew under Nazi occupation, despite having converted to Catholicism. What's more, while Nietzsche could not have read Bergson – whose first work, *Time and Free Will* (1889), was published in the year of Nietzsche's mental collapse – Bergson appears to have taken little notice of Nietzsche's, briefly criticising in his last book what he perceived to be an exclusionary distinction between master and slave moralities.[4]

Beneath these superficial similarities, differences and intersections, however, lies a deep philosophical kinship – what one scholar has called their 'star friendship', and what this thesis aims to elucidate and characterise as 'vitalistic' – as well as a conspicuous lack of scholarly attention. Bergson and Nietzsche remain two of the most provocative and original thinkers of life, yet few studies exist on their remarkable philosophical affinity.[5] This affinity

is witnessed, no doubt, in their mutual interest in a wide range of philosophical phenomena – including memory, myth, will, and language – and manifest in their common practice of defying the style, stakes and milieu of philosophy. Their lack of shared attention remains the case despite their frequent mention in relation to similar topics – from *Lebensphilosophie* to phenomenology, animality to transhumanity – and their recurrent overlapping in the work of joint admirers like Gilles Deleuze and Keith Ansell Pearson: outside of a handful of dedicated studies, their combined visions and parallel trajectories remain largely untapped. A look at the exceptions to this trend introduces some of the prominent concerns they share, and indicates that fuller accounts of their kinship remain in the waiting.

Foremost among the existent studies of Bergson and Nietzsche is Elizabeth Grosz's *The Nick of Time: Politics, Evolution, and the Untimely* (2004), in which she combines them with Darwin in the search for a conception of time that would underpin a 'contestatory' politics. Grosz views all three as 'misunderstood, wayward, or neglected figures' (244) who championed the irreducibility of time to abstract representation, and proposed instead, in their various ways, theories of becoming that affirm time as an active, positive phenomenon. By dislocating duration and dynamising the past, each makes of time a creative, virtual force capable of problematising and rupturing the present; time thus supplies not only an indispensable way of understanding natural and cultural systems, but a transformative resource for challenging prevailing ontologies of being in social, political and biological discourse, and for overcoming forms of domination and oppression. For Grosz, politics and transformation alike consist in those activities that disrupt, rather than merely critique, the values of the present by leaping into and reactivating the unactualised potential of the past in order to invent the future. She ultimately connects Bergson, Nietzsche and Darwin with the politics of sexual difference associated with Luce Irigaray and with Derridean deconstruction, insofar as both are 'invested in noncalculable differences, differences-to-come rather than merely with distinctions and oppositions that presently exist' (160).

Aside from Grosz, a handful of essays have brought Bergson and Nietzsche together.[6] Pierre Montebello (2000) argues that a close attention to the given facts of psycho-organic experience allows both Bergson and Nietzsche to attain an understanding of reality that no mathematical, mechanical or intellectual reconstruction ever could, and to affirm a 'univocity of being' that comprehends that experience as the most complex and most transparent expression of duration- and power-based monisms. For Montebello, Bergson and Nietzsche

both resist the orthodox tendency of reducing life to a special essence, and maintain instead that the real must be understood according to a wholescale ontological vitality which traverses us – a continuous, plastic power of creation – and which must be re-differentiated according to something other than a (now collapsed) distinction between the organic and inorganic. Arnaud François (2007) presents Bergson and Nietzsche as the first philosophers to understand life in terms of will, and explores how these two concepts intertwine, without becoming identical, in their work. Through a series of acute observations that highlight their shared views on the double movements of life and matter, François' essay converges on Bergson and Nietzsche's perspectives on sickness, particularly how this pertains to the difficulties both encounter in reconciling the continuous (creative) and discontinuous (fixed) aspects of duration and will to power. Lastly, Keith Ansell Pearson and Jim Urpeth (2012) have compared Bergson and Nietzsche on religious grounds, arguing that both offer not only naturalistic critiques of religion, but also a 'naturalistic revalidation' of religion, in which it is accorded a role in processes of life-enhancement, alongside a 'radical reconfiguration of 'natural religion'' on the basis of shared philosophico-biological principles. Rejecting the presumed primacy of a functional-utilitarian conception of life, that is, Bergson and Nietzsche advance an active-creative conception of life instead, and identify the religious with those aspects of nature in which this creative becoming is apparent. The hallmarks of the religious are thus associated with that which 'exceeds the categories of instrumental thought' and 'occurs in and as an affective state ("joy") phenomenologically identifiable as "religious"'(27). These qualities of natural religion lead both thinkers towards the conclusion that natural life 'has its own indigenous religion of self-affirmation, its own necessity to reassert itself against mere self-preservation in celebratory gestures of creative becoming'.[7]

Grosz's book-length study leaves room for a more focused comparison between Bergson and Nietzsche across a broader variety of issues. Her comparison of Bergson and Nietzsche is explicitly premised on mobilising them towards broader political ends, and of course takes place alongside a third figure. While she succeeds in foregrounding their work on time – incorporating Bergson's accounts of memory, qualitative heterogeneity, and virtual-actual dynamics, alongside Nietzsche's thinking on history, eternal recurrence and 'overcoming' – it does invite a more thorough and direct comparison across other issues. Her project requires Bergson and Nietzsche (and Darwin) to be held apart, as separate components contributing to an overall thesis, and the 'points of resonance or similarity between their work' (157) tend to remain, understandably, subservient to her further aim, and at times underexplored. This

dynamic, moreover, occasionally generates passages which verge on reading Bergson and Nietzsche into one another.[8] The essays by Montebello, François, and Ansell Pearson & Urpeth, on the other hand, consider Bergson and Nietzsche through highly specific issues and, while fully consonant with, and indeed influential on, my own interests in them, work within necessarily brief remits, and thereby invite, in their own way, a study which probes their similarities on a fuller scale. These two angles on pre-existing works comparing Bergson and Nietzsche inform the principal aim of this study: to provide a more comprehensive presentation of the multiple points of intersection between Bergson and Nietzsche's philosophical projects.

A series of important methodological questions quickly follow concerning the most effective way to conduct such a study. These bear on the nature of comparing the two subjects, and the arrangement of the compared material. I will address the former of these two concerns first, since it allows for an overview of individual scholarship on Bergson and Nietzsche.

Investigating the parallels between two thinkers can reveal unexpected and previously unnoticed consonances, as well as provide fuller illumination of each side. This is something that Foucault, for instance, claimed to experience in reading Nietzsche alongside Heidegger[9]. Thus, while Bergson and Nietzsche quite evidently share a number of philosophical concerns – engaging with issues like evolution, time and creativity, for instance – I have found that some of the deeper connections between them only became manifest by virtue of reading them in tandem, such as their 'residual' conception of mechanical activity (Chapter Two), their 'quantal' accounts of nature (Chapter Three), or their 'split' conceptions of time (Chapter Four). The one, that is, most often assisted in bringing into relief the other, and in drawing out some of their sharpest edges. While the thesis is structured according to shared concerns of the former sort, the primary value of the comparative study consists in how these disclose a more detailed and nuanced affinity: their critical angles on mechanistic materialism, mereology, and organic nature, for instance, under the rubrics of science (Chapter Two), reversing (Chapter Three) and duality (Chapter Four) respectively.

Comparative studies conducted for their own sake, however, run the dual risk of appearing overly descriptive and ultimately inconclusive, and of potentially reducing the unique force of each thinker. Tamsin Lorraine (1999) has recognised this in her study of Deleuze and Irigaray[10]. It is for this reason that I have chosen to employ an optic through which to focus

their comparison, with a view to promoting these benefits and mitigating these risks. Such an optic, if well chosen, can provide a platform that both maximally exhibits their commonality and brings out the best in each – accentuates, that is, what is most unique and challenging in their thought. Such a platform, moreover, might not only provide enabling conditions for a productive comparison, but allow for a mutual catalysis between conditions and conditioned: elicited parallels between the subjects in question, that is, might act back on and illuminate the optic itself. It is in this spirit that I approach Bergson and Nietzsche through the role played by 'life' in their work. But why life, specifically? There are several reasons for this, regarding the contemporary research climate, the recent history of Bergson and Nietzsche scholarship, and the particular suitedness of the vitalist tradition to illuminating their philosophical outlooks. Considering these in turn will help explain the context and framework of the thesis.

Giuseppe Bianco has claimed that, 'in the last twenty years at least, "life" has become a privileged category with which the humanities in general, and philosophy in particular, have approached virtually all epistemological, political, ethical, and even ontological problems'. Borrowing from Sartre, he describes the concept of Life as 'the unsurpassable horizon of our time'.[11] This emphasis on life is evident in a number of contemporary research fields. As biotechnology rapidly reshapes the 'biosphere', new questions concerning 'bio-objects' and bio-ethics come to the fore, intersecting with questions of biopower (Giorgio Agamben) and the care of life (Keith Ansell Pearson).[12] Diverse brands of materialism, whether 'new' (Manuel DeLanda, Karen Barad), 'speculative' (Quentin Meillassoux, Levi Bryant), or 'transcendental' (Slavoj Žižek, Adrian Johnston), renegotiate the vitality of matter, the materiality of the living, and the emergence of the living from the material. A tradition of feminist thinking seeks to transform traditionally marginalised and exploited forms of life by steering between biological essentialism and social constructionism, insisting instead upon taking up embodied approaches to subjectivity (Luce Irigaray), mobilising the unsettling powers of difference (Rosi Braidotti), and appealing to virtual histories as resources for liberated futures (Elizabeth Grosz, who also identifies this conception of feminism with queer, postcolonial and antiracist struggles). The influence of Ilya Prigogine and Isabelle Stengers' seminal research into far-from-equilibrium dynamics in the 1970s continues to be felt in biological accounts of life according to non-linear systems (Brian Goodwin), self-organisation (Stuart Kauffman) and complexity (George Kampis). And new perspectives on human life have been sought from a variety of 'non-human' angles too, probing the human in

the direction of both its animal (Wahida Khandker, John Mullarkey, with roots in Heidegger and Derrida) and post-human or 'machinic' nature (Donna Haraway).[13] Approaching Bergson and Nietzsche – two figures not without relevance to several of the aforementioned trends and scholars – from the perspective of life therefore inscribes them within a particularly pertinent direction of contemporary inquiry.

The choice of life as optic can also be set against the background of the recent history of Bergson and Nietzsche studies. An overview of this history, indeed, provides further perspective on the contribution made by a comparative study of their thinking.

Not dissimilarly to vitalism, Bergson hovers intractably between perennially repressed and irrepressible, his influence on twentieth century philosophy – dubbed by one commentator 'a series of footnotes to Bergson'[14] – at once indubitable and unacceptable. His immense popularity and influence prior to the First World War was unparalleled: lauded on both sides of the Atlantic – William James described *Matter and Memory* as another Copernican revolution, while Jean Wahl ranked his significance on a par with Socrates, Plato, Descartes and Kant – he not only re-set the agenda of philosophy, but stimulated artistic and political movements from cubism to anarchism. Yet despite intersecting with pragmatism (James, Dewey), phenomenology (Heidegger, Merleau-Ponty, Levinas) and psycho-analysis (Jung), not to mention animating figures as diverse as Valéry, Benjamin and Reichenbach, Bergson soon became an awkward if not outright negative reference point for heirs and contemporaries alike. His extensive appeal and appropriation having diluted the radical implications of his thought, and his fluid, deceptively clear-minded presentation having rendered it refractory to prevailing philosophical taxonomy, Bergsonism descended into what one commentator has called 'comic-book' form – a gross simplification of an immensely complex and subtle thinker, barely acknowledged by those he mentored, left behind by Logical Positivism and the New Scientific Spirit, and scapegoated by the likes of Julien Benda, Bertrand Russell and Albert Einstein.[15] In this climate, Gilles Deleuze's call for a 'return to Bergson' in the 1960s raised no shortage of bewilderment. Re-appraising the methodological rigour and untimely relevance of Bergson's work, and ascribing him a prominent place within his alternative, 'minoritarian' tradition of philosophy, Deleuze reinvigorated an interest in Bergsonism that came to fruition in a wave of English-speaking scholarship towards the end of the twentieth century, largely directed by Pete Gunter, John Mullarkey and Keith Ansell Pearson.

This renewed focus was oriented by a number of commitments: to elucidate precise understandings of Bergson's thinking in place of totalised, ideologically driven stereotypes, and thereby contribute to 'the correction of Bergson's erasure from our image of post-Kantian philosophy' (Ansell Pearson 2002; During 2004); to show that his ideas can play a central role in staging contemporary philosophical problems, and thereby retrieve his thought from 'the multitude of impressions that have attached themselves to the term "Bergsonism"' (Mullarkey 1999b); and to reflect his wide influence in philosophy and beyond without merely highlighting his anticipation of recent debates. This platform has seen Bergson scholarship move away from monographs covering his entire corpus – often expounding his thought according to dyadic categories like space and time, intellect and intuition, matter and life, etc.[16] – and, much like the *élan vital* itself, begin instead to diversify, specialise, and even intensify as it proceeds.

Patterns of emphasis have emerged from this current. Alexandre Lefebvre, for instance, has recently identified a predominantly ontological focus in the English language reception of Bergson, due largely to Deleuze's influence.[17] While it is true that strong interest in a logic of multiplicity, the metaphysics of duration, and the differentiation of the virtual all motivate the work of Keith Ansell Pearson (2002, 2005b, 2007), Robin Durie (2000, 2004), Leonard Lawlor (2003), Elizabeth Grosz (2004) and Elena Fell (2012), what has been most clear lately is nonetheless the abundant variety of perspectives on Bergson. Recent years have seen him explored in relation to spiritual (Barnard 2011), political (Lefebvre 2013, Adamson 2002) and religious (Lefebvre & White 2011, Smith & Whistler 2010) concerns. He continues to inspire debate in aesthetics, whether in relation to modernism (Burwick & Douglass 1992, Gontarski, Ardoin & Mattison 2012) or the 'immanent' arts (Mullarkey & de Mille 2013), and his unique perspectives on science, explored earlier by scholars like Pete Gunter (1969), Andrew Papanicolaou (1987), and Milič Čapek (1971), have generated more recent assessments of his relationship to Einstein (Durie 1999, Canales 2015), and his contribution to biology (Wolsky & Wolsky 1992). In more strictly philosophical terms, he has been discussed in relation to phenomenology (Kelly 2010), animality and the life sciences (Khandker 2014), and alongside Whitehead (Gunter 2005, Robinson 2009).

Lefebvre's primary concern, however, is rather that a prevailing ontological emphasis serves to underplay the more existential or transformative trajectory of Bergson's philosophy. It is in

light of this imbalance that he welcomes the re-edition of Vladimir Jankélévitch's monograph, which he sees as 'the most determined and comprehensive effort' in this direction, and that his own scholarly contributions can be viewed (2011, 2013). But Lefebvre's point also serves to indicate that, outside of detailing Bergson's characterisation of life in an evolutionary sense, where it is contrasted with matter, intellect and entropy, there is certainly space for work examining the overall role played by the notion of 'life' within his philosophy.[18] This is not as surprising as it might seem. Bergson's perspectives on evolution have been superseded by a century of biological research that saw revolutions in genetics, molecular biology and information theory, and *Creative Evolution*, as a result, appears nowadays, in the words of one scholar, to have the status of an 'optional text' within his oeuvre.[19] Moreover, despite the carefully constructed background to the *élan vital* hypothesis, *EC* is also the text which most easily lends itself to conflating Bergson's philosophy with a naïve vitalism – one commentator has called Bergson's life force 'a parochialism of post-Darwinian thought'[20] – something from which most commentators wish to distance themselves. Yet there is more to Bergson's philosophy of life than the effort to demarcate the living from the inert; life, and the orientation it provides him, rather serves to illuminate a metaphysics.

Nietzsche may not have enjoyed Bergson's fame, but nor was there much of a hiatus, after his initial obscurity, in the attention he received and the influence he exerted. As with Bergson, the latter extended well beyond philosophy, equal to his fellow nineteenth century pioneers Marx and Freud, leaving marks on figures likes Spengler, Marcuse, and Hesse, and often oscillating murkily around images of proto-Nazi, poet-prophet and harbinger of Western nihilism. Indeed, it wasn't until the 1930s that Nietzsche's reputation as a serious *philosophical* figure began to take root, thanks to seminal readings by Heidegger in Germany (though also Jaspers and Löwith), which would later stimulate a wave of influential French interpretations in the 1960s by scholars like Deleuze, Klossowski and Bataille.[21] But Nietzsche does not require the same defence case as Bergson here: on the contrary, as Paul Bishop has observed, commentary on Nietzsche has become so extensive that it almost threatens to obscure his philosophical achievement.[22] Not only are there a large number of 'Nietzsches' – deconstructionist, poststructuralist, feminist, buddhist – alongside an array of approaches to interpreting his 'meaning' – attending meticulously to his notebooks, incorporating him into an alternative agenda, 'correcting' his ideas to suit a more palatable

version – but much contention as regards the most authentic of these.[23] This is hardly surprising, for several reasons.

For one, the philosophical, evolutionary and existential stakes laid out by Nietzsche are particularly far-reaching and far-sighted, and he raised them, moreover, in such a combative and world-historical way that engagement with Nietzsche quickly becomes personal. For another, Nietzsche cultivated a deliberate tendency towards ambiguity and 'untimeliness', and developed, in its service, an aphoristic, 'nomadic' style of thinking over a systematic presentation, such that his work sometimes jars with standard scholarly procedure: he is frequently said to contradict himself, often teases rather than articulates, and, *Genealogy of Morality* excepting, tends to eschew linear argumentation in favour of scattered insights.[24] Recently, moreover, some of these difficulties have been exacerbated by the publication of his notebooks under the Colli-Montinari editorship, which have exposed disparities between some of Nietzsche's main ideas as he chose to publish them – often without much supporting argumentation – and the rich background development of these ideas. But the *Nachlass* material has also generated, along certain lines, a specialisation of interest supported by a broadening of source material (even if there's little agreement on how to use it[25]): Nietzsche's naturalism, in particular, including his perspectives on science, evolution and will to power, has received increased attention and stimulated much new debate.

Through some eyes, the uninterrupted growth in Nietzschean scholarship may have contributed to making his thought 'somewhat more ordinary, and less of a scandalous deviation from the history of modern philosophy, than often proclaimed'[26]; but such a judgement seems hasty in regards to the posthumously-born philosopher *par excellence*. Certainly, some battles may no longer be fought, as C. D. Acampora has recently claimed regarding the question of whether Nietzsche can coherently uphold perspectivism while making assertions he thinks are true.[27] But scholarly traction and access to new material can also mean that some battles are rather fought on firmer ground and with more precise consequences: the traditional semantic-epistemological approach to perspectivism, for instance, which animated earlier accounts by scholars like Maudemarie Clark, Arthur Danto, Richard Schacht and Alexander Nehamas, has been displaced by psycho-biological accounts which connect up with underexplored concepts like incorporation, and have important ramifications for familiar topics like will to power and eternal recurrence, which remain

controversial and stimulating.[28] In other words, current Nietzsche research may be a packed field, but one not lacking in energy or space for work to be done.

If in the case of Bergson scholarship I situate myself in a gap concerning the role of life in his thinking, in the case of Nietzsche I rather hitch myself to a trend in questioning the multifarious roles and meanings he ascribed to life throughout his work. Frithjof Bergmann has rightly identified a bifurcation that 'runs like a spine through the body of Nietzsche's writings': 'the division between what debilitates and maims *life*, versus everything that strengthens and invigorates it' (Bergmann 1988: 44). This is patently true: it can be seen in germinal form in Nietzsche's first book and early essays and in fruition in the later symptomatological and autobiographical works, and is ubiquitous on all levels of commentary. But a number of recent publications have sought to explicitly conceptualise what it is that Nietzsche means by life. John Richardson (2013), following his 'new Darwinian' interpretation of Nietzsche (2004), has probed five distinct senses of the term – biological, human, phenomenal, personal and poetic – with a view to asking how life is supposed to guide or correct our values. Elsewhere, Bernard Reginster (2006) has sought to elucidate a precise sense of the 'affirmation' of life which Nietzsche presents as his defining philosophical achievement; Vanessa Lemm (2015), following her study of human animality in Nietzsche's work, has edited a collection of essays on the multiple 'becomings' of life, incorporating evolutionary, judicial, mortal and bodily perspectives on life; and Christian Emden (2014) has looked to the nineteenth century development of the life sciences to contextualise Nietzsche's conception of the living. All of these works, it should be noted, involve to greater or lesser degrees an ultimate focus on the kind of normativity that might emerge from the foundations of Nietzsche's appeal to life, an association that was lucidly grasped by Georg Simmel in 1907,[29] became overshadowed by largely destructive interpretations of Nietzsche's ethical programme, and appears to be making a return on the basis of new naturalistic conceptions of will to power.

These overviews suggest that a comparative study of Bergson and Nietzsche through the optic of life, apart from being of contemporary relevance with respect to research within and beyond the humanities, would both contribute to a lack of such focus in Bergsonian scholarship, and participate in an interesting trend in Nietzschean scholarship. Lastly, then, it is necessary to ask: Why use vitalism, particularly, as an optic of life? There are, after all, a number of other points on which the two could be brought together: certain of the angles on

life identified above, such as complexity, animality or new materialism would provide fruitful insight into the similarities between Bergson and Nietzsche's projects, as would the role of time in their thinking of life, whether in regard to its evolution or affirmation. This question is answered and defended at length in Chapter One, but the basic reasons can be stated here at the outset.

On one hand, both philosophers are easily placed in the vitalist tradition, yet often in such a way that illuminates rather little about their work, either noting a very general orientation or perpetuating a fairly disparaging and sterile association (as Chapter One will highlight, vitalism tends to be dismissed as propagating either a ghost-in-the-machine kind of metaphysics or a set of laws that would merely supplement, but remain subservient to, regular physical laws). Examining Bergson and Nietzsche through a vitalist optic therefore offers to clarify their respective places within that history. On the other hand, however, I take my cue for doing this not so much from the idea of a finished tradition in which Bergson and Nietzsche's significance can be defined according to their place in the vitalist chronology; the choice of vitalism is rather motivated by a recent revival of interest in it through what some writers have called a 'new vitalism'. Not only are Bergson and Nietzsche important reference points for the historical and programmatic outlook of these writers, inasmuch as they exemplify core concerns such as thinking life beyond the life sciences and dispensing with a substantialist metaphysics; it is also a constituent feature of the new vitalism that the tradition remains open, subject to influence and redirection from contemporary research as much as from re-mobilised resources from within the philosophical canon.

It is this encounter with the new vitalism, and the potential of a methodological intervention in it via a comparative study of Bergson and Nietzsche, that led to my own inquiry into the vitalist history, where it became clear that vitalism not only remains a label worth holding onto and conceptualising more accurately, but that a number of the sustained concerns and commitments traversing the tradition, as well as its general status as somewhat counter-orthodox, are reflected in the basic problematics that orient Bergson and Nietzsche's philosophical projects. Just as reading Bergson and Nietzsche alongside one another served to mutually enlighten each thinker, so too does vitalism bring into relief their common perspectives on life, and bring into focus the multifarious roles that life plays in their thinking. These concerns, that is, began to provide highly generative platforms for conceptualising the various ways in which a thinking of life can be said, in strikingly parallel

ways, to direct Bergson and Nietzsche's work beyond the simple attempt to define what life is. Indeed, rather than starting out from their statements and characterisations concerning life and proceed to list the similarities between these two, the discernible themes of the vitalist history offered an alternative approach to comparing the two thinkers. It provided an optic through which to appreciate the complex ways in which 'life' as a reference point functions within their work, which is more as a stimulant and horizon than as an underlying definition; to elucidate the problematics and methodologies of their philosophical projects, insofar as these appear to take their cue from such an appeal to life; and to permit, as such, a comparative analysis of their work which is broad in scope and convergent on the most prevalent points of their metaphysical intersection. A range of questions pertaining to the role of life in Bergson and Nietzsche's thinking is thus opened up by the vitalist tradition: What kind of role can life play in orienting our thinking without a prior definition of life? Why does there appear to be such urgency regarding reductionism in the realm of the vital, and does this open onto an intractably normative component of vitalism? How do Bergson and Nietzsche account for the emergence of the organic within nature? And in what ways, if at all, might a conception of the vital affect what are traditionally considered non-vital or inert matters?

On this basis, my reading of the vitalist tradition in Chapter One provides the structure for the comparative analysis that follows, based on the three themes I extract from the history: 'appeal to life', 'anti-reductionism', and 'alternatives'. Chapter Two shows how a heuristic 'appeal to life' can be seen to generate a range of pivotal moves in Bergson and Nietzsche's work, staging confrontations with epistemology, science, and Darwinism, and disclosing the key conceptual rudiments of their thinking, both critical and constructive; it is this appeal that grounds Bergson and Nietzsche's discernment of a kind of activity which is irreducible to the reductive interpretations of perceptual and scientific frameworks – the sense of 'post-physicalist metaphysics' which is foundational to their projects. Chapter Three consolidates these opening moves by outlining the methodological components that emerge from their commitment to anti-reductionism and the 'transhuman' direction in which they mobilise it. This provides for a more precise formulation of the problematics that orient their work, and progressively hones that original discernment into a new metaphysical platform characterised chiefly by an affirmation of naturalistic immanence and a transition from substance to process. Chapter Four examines how these methodologies direct them 'towards a fertile vitalism' by considering the substantive alternatives they offer in place of typically reduced

phenomena; this pursuit of a concrete empiricism of the irreducible culminates in a 'prodigal' and radically perspectival ontology that incorporates 'heterogenised' conceptions of time alongside highly novel conceptions of duality within nature. The conclusion draws each of these three chapter-themes towards a transformative horizon, presented as the normative component of vitalism.

The vitalist platform thus progressively outlines, over the course of the thesis, the key components of the shared metaphysics that motivate Bergson and Nietzsche's individual philosophical projects. The 'vitalist metaphysics' of the title, that is, is to be understood as a metaphysics that emerges from a vitalist interpretation and presentation of their work, rather than as the exemplification of a pre-established metaphysics of vitalism. The principal reason for using vitalism as an optic for the comparative study of Bergson and Nietzsche is thus seen to consist in its capacity to allow, precisely, for the comprehensive analysis of their philosophical affinity that I claim has thus far been missing from scholarship – something which more specific topics, such as time, which enters the thesis relatively late considering its centrality to Bergson's thought, would not afford. Vitalism, in other words, is able to capture the dominant spirit of their work, to provide a single way into many of the core issues that their philosophies address, to indicate the complex ways in which the concept of life operates within their work, and to disclose in a singular manner the key metaphysical outcomes of their projects. To position myself in relation to Grosz's work, I focus on some of the same points of resonance between Bergson and Nietzsche, but differ in the overall presentation and scope: the direct comparison of Bergson and Nietzsche is my primary subject matter, and the lens through which I do this is not so much an external goal towards which they are mobilised, but a platform which aims to draw them closer together.[30]

It might be objected here that this manner of proceeding makes of vitalism a mere tool in the elucidation of two separate philosophies, but this would be misguided in two respects. First, this use of vitalism as platform appears, from the perspective of the vitalist history, to pay tribute to something that vitalism has in fact often stood for, which is a catalyst to new ideas rather than a catechism to be followed. Providing a platform for further understanding, as Chapter One will discuss, is a role that vitalism has played across its history, emerging as a largely heuristic force in French medicine, and being recalled to life in the twentieth century as both an ethos (Georges Canguilhem) and a provocation (new vitalism). In a similar spirit, Bergson, though critical of stereotypical forms of vitalism, commended it as at least a label

we can affix to our ignorance. Such a general prioritisation of openness over the *a priori*, moreover, would appear essential to vitalism's longstanding resistance to reductionism, which informs the context and content of Chapter Three. Second, although the shared vitalist metaphysics of Bergson and Nietzsche is one which emerges from the platform of vitalism, it is important to recognise that this metaphysics can, in turn, be said to feed back into the ongoing tradition of vitalism as proposed by recent new vitalist thinkers. The parallels established between the two philosophers according to the vitalist rubric, that is, can be viewed as potential resources for this tradition, such that the optic of life might ultimately be of mutual benefit to all: the tradition of vitalism provides a helpful way of approaching Bergson and Nietzsche, while their comparison according to this framework reveals a contribution on their part to the continuation of this tradition. This makes it doubly important to highlight the parallel trajectories of their thinking, inasmuch as this strengthens the case for a philosophically rigorous and fruitful vitalism.

Before proceeding to the material itself, I would like to return to the second methodological issue raised earlier, that of arranging the material of a comparative study, in order to discuss the format of the thesis.

Each chapter is subdivided into components of the title theme, and each component provides a platform for exploring the parallels in Bergson and Nietzsche's philosophical projects. These components all open with general introductions, which are necessarily compact and selective, but serve to indicate the broader philosophical context of the issue in question, and to set up the dedicated sections on Bergson and Nietzsche (respectively) which follow. Each of the latter are introduced in their own turn, in order to provide an idea of how that issue operates within their work at large and to indicate relevant aspects of scholarship on the issue, before turning to a more focused analysis. These analyses are guided by a point on which there is significant conceptual or argumentative similarity between the two philosophers, and the conclusion of each section looks to draw these similarities together into a more unified claim relating to their 'vitalist metaphysics'. The main reason for this multi-layered format is to balance a close and comprehensive study of particular facets of Bergson and Nietzsche's work with a broad appreciation of their place within the philosophical tradition. In order to harness the proliferation of themes, components and comparisons that comes with this format, however, I have run an argumentative arc through my readings of Bergson and Nietzsche, such that a more or less single problematic for each philosopher is progressively

'solved' in the course of, and indeed by means of, the various chapters and sub-sections. These problematics, moreover, are seen to run in parallel: they are premised on Bergson and Nietzsche's respective efforts to elaborate a metaphysical vision in reaction to material and moral 'world orders', each of which ultimately dovetails with a sort of arch-vitalistic position: the overturning of reductionism through a 'prodigal' ontology.

Contained within this layout is a further important decision concerning the comparative methodology. My presentation separates Bergson and Nietzsche's perspectives on the various issues they tackle into respective sections on each philosopher, although each chapter contains at least three such sections. In proceeding in this way, I consciously avoid two other options which lie on either side. The first of these would be to separate my treatment of Bergson and of Nietzsche into completely distinct and successive chapters. This approach can be seen in comparative studies conducted by Tamsin Lorraine on Deleuze and Irigaray (1999), by Elizabeth Grosz writing on Darwin, Bergson and Nietzsche (2004), and by Valentine Moulard-Leonard (2008) writing on Bergson and Deleuze. While this discrete separation can serve certain purposes – it may allow for a more sustained investigation of each thinker without interruption – it can nonetheless insert a degree of distance between the subjects of the comparison, which I considered undesirable in view of my aim of showing the multiple points of intersection between Bergson and Nietzsche's philosophical projects. The other option in comparative studies is to avoid this separation by blending the two subjects together under the spotlight of a particular topic or range of topics. This approach is followed by Patricia Dixon (1999), who considers the various affinities between Nietzsche and Jung through the motifs of wholeness and fragmentation, and by Jimena Canales (2015), who reviews Bergson and Einstein's early twentieth century debate on time through the various facets – philosophical, scientific, cultural and historical – of their encounter. This approach is closer to my own, in that my comparison of Bergson and Nietzsche takes place on a series of platforms provided by a third-party optic. I have nonetheless chosen to dedicate individual sub-sections to each thinker across the various sub-sections of each chapter, in order to allow for a focused exploration of their perspective on that topic. I found that this minimal separation was necessary in order to articulate their ideas sufficiently and thereby lay the ground for comparing their respective positions.

A final consideration regarding the format concerns the kind of thinkers that Bergson and Nietzsche themselves are. Neither present systematic or unified philosophies: the one denies

having a system,[31] while the other rejects the 'will to a system'.[32] This can present difficulties for any analysis, let alone a comparative one: Bergson maintains that there is no such thing as duration (or movement, or life) in general, and prefers, indeed, to start each project afresh,[33] while Nietzsche appears to equivocate over the intended 'domain' of will to power (empirical-psychological or ontological-cosmological). In other matters, Bergson's conception of duality changes considerably between his first and second books, while Nietzsche, despite such an entrenched reputation as an anti-moralist, certainly appears to advance a superior conception of morality, and even a re-naturalised conception of asceticism. Aside from these more general issues which I do address, there are many more which it is outside of the thesis' scope to engage with. My aim has been to neither ignore these complexities nor seek to solve them, but, on one hand, to allow the specific point of comparison within each section to determine whether an issue is relevant or extraneous, and, on the other hand, to allow the notion of complexity into the fabric of the thesis. This occurs by virtue not only of the argumentative arc mentioned above, but of consideration of the nature of Bergson and Nietzsche's thinking itself.

Neither philosopher, that is, operates haphazardly. Rather, each continuously develops the implications of a metaphysical intuition over the course of their career, which lends a general coherence to their work (I will outline these in Chapter One). In this respect, I approach their work as a series of encounters in which their core intuition is spliced into various threshold issues where something vital is at stake – whether the reduction of spirit to matter or of activity to reactivity – serving both to problematise that issue in a specific way, and to further articulate that intuition via the response that emerges. By this token, and despite the requirement of presenting a relatively unified perspective on Bergson and Nietzsche's projects in order to hold the multiple layers together, I set aside the pursuit of any single, self-enclosed theory of duration or of will to power in their work. These are treated, instead, as working hypotheses rather than *a priori* theories, and progressively adumbrated across the chapters: where Chapter Two considers some of the origins of duration and will to power, Chapters Three and Four look at how Bergson and Nietzsche then take them in the directions of superior empiricism and superior morality respectively.

Bergson is, in fact, entirely candid about proceeding as such. Rather than constructing a theory of duration across his works, he chooses to explore the intuition of duration in an entirely new context each time (psychology, neuropathology, evolution, religion). In each of

these, the same intuition of duration is brought to bear on a problem which has been vitiated by a peculiar failure to incorporate the reality of time and process in its very statement. While these problems, as Jean Gayon has suggested, allowed Bergson to explore 'the content and empirical plausibility of the concept of duration' (Gayon 2005: 52), their re-statement does not serve to construct a unified theory, but to advance a broader philosophical enterprise: that of reorienting post-Kantian philosophy and instituting a superior empiricism. Bergson's work, while always grounded in thorough research, is therefore highly experimental, and the notion of duration itself quintessentially enduring: open, unforeseeable, and in-the-making.[34]

Nietzsche too is explicitly experimental in his thinking of will to power: he works it out mostly in his notebooks – Berndt Magnus has claimed it is virtually impossible to read will to power as a first-order description of the world without that material (Magnus 1988: 233) – and its *locus classicus* in the published texts, *BGE* 36, presents it strictly as a hypothesis. The issue of will to power's status and coherence is consequently much debated in the literature: it has been variously described as not a theory at all (James Porter), a matter of multiple 'doctrines' (Maudemarie Clark), and 'crackpot' (Brian Leiter). More carefully, Sarah Kofman has claimed that will to power is not asserted by Nietzsche as a dogmatic 'truth', but only as 'an interpretive hypothesis',[35] while John Richardson presents it in terms of '[Nietzsche's] ontology for the things he's most interested in (humans as animals and organisms)' (Richardson 2004: 4). Similarly to Kofman, I approach will to power as a series of responses to particular issues, all of which elicit further aspects to a grand idea that Nietzsche was never able to fully expound. Thus to the severing of instinct he perceives in Christian morality, the infiltration of democratic moralism into natural science, and the prevailing emphasis on self-preservation in evolutionary theory, Nietzsche proposes through will to power, respectively, a hierarchisation of the drives, a radicalisation of necessity in nature, and an active-interpretive conception of life. In the manner of Richardson, on the other hand, as well as Paul S. Loeb, I treat will to power ontologically, insofar as I think the general direction of his philosophical project makes sense when revolved around this interpretation.[36]

The chapter themes and sub-sections do not, then, constitute discrete, atomistic elements of a system, but are presented as partial views on Bergson and Nietzsche's work, within a vitalistic arrangement of their ideas that emphasises certain centres of gravity in the development of their metaphysics. I am primarily concerned, moreover, with retracing the

transformative moves, orientations and strategies which constitute Bergson and Nietzsche's philosophic trajectories. Their work contains explosive forces in this respect, and it is indeed these, rather than any conceptual similarities, that illuminate the ways in which they run in remarkable parallel, and thus provide the subject of the comparison. This generally leads me to prioritise stakes, claims, attempts and hypotheses over the objective merits of isolated arguments.[37] Specialists of each thinker may not find radically new interpretations of their ideas, nor a cross-examination of one by the other that resolves major difficulties; but they will, I think, find a novel constellation in which all three participating elements engage one another in productive and mutually supporting ways.[38]

The thesis' overall contribution to philosophical knowledge is anchored by three primary aims. First, by examining Bergson and Nietzsche in close contact across a range of issues, it offers a programmatic comparative study of them that is broader in scope than pre-existing studies of their thought. Second, it participates in a contemporary, cross-disciplinary attention to life by engaging with a recent return to vitalism, using this to accentuate the orienting role played by life in Bergson and Nietzsche's work. In this, it also shows how Bergson and Nietzsche can be viewed as significant figures within the vitalist tradition, especially as that tradition has been re-opened under the 'new vitalism'. Third, it uses this vitalist platform to bring into relief the nature and affinity of the metaphysical visions that can be seen to develop across Bergson and Nietzsche's work and to emerge from a vitalistic framing of their projects.

Alongside these aims, I look to demonstrate the rigorous, coherent and highly generative nature of two philosophers who have been marginalised for their allegedly inchoate and impassioned irrationality. I have concentrated on most of the published work of each thinker, with a general emphasis, in Bergson's case, on *Matière et mémoire*, *L'évolution créatrice*, *La pensée et le mouvant*, and *Énergie spirituelle*, and, in Nietzsche's case, on the more 'mature' material from *Gay Science* onwards. While I have relied on authorised translations for reading and citing Nietzsche, a prior knowledge of French allowed me to read Bergson in the original, which I consider preferable, wherever possible, when engaging closely with an unorthodox and highly literary philosopher. I have provided my own English translations for all quotations used, but have retained the French titles of his books and essays, and the page numbers I cite, for both the quotations themselves and in order to indicate other areas in his work where the same idea or similar is discussed, correspond to the Presses Universitaires de

France edition of his complete works, *Oeuvres*. Given the breadth of material to cover, I chose not to start out from their 'unpublished' material, though do occasionally refer to Bergson's *Mélanges*, and cite frequently from Nietzsche's notes collected in the Walter Kaufmann edition of *Will to Power*. Where I cite from the broader *Nachlass* material of Nietzsche, it is for additional textual support, and commonly through another (acknowledged) scholar's work.[39] I have drawn on a broad range of scholarship, and I cite specific influences in specific sections. As regards Bergson, I am especially indebted to readings by John Mullarkey (for his meta-philosophical approach and breadth of coverage), Pete Gunter (for remarkably plain illuminations of Bergson's significance across multiple fields), Milič Čapek (for drawing the full consequences of Bergsonian indeterminacy within the context of modern materialist physics), Gilles Deleuze (for elucidating Bergson's logic of multiplicities and 'transhuman' orientation), and Wahida Khandker (for inscribing Bergson within a rich lineage of figures who have addressed the challenges posed to thinking by the living). As regards Nietzsche, I have made much use of the edited volumes of essays and companions that have proliferated in recent years, and otherwise have been strongly influenced by Alexander Nehamas, Paul S. Loeb, Keith Ansell Pearson, Daniel Conway, John Richardson, and, again, Deleuze, specifically for their efforts, against an unfortunately common grain of regarding Nietzsche sceptically or playing him down, to do scholarly justice to the 'transhuman' orientation of his philosophical task.

[1] Throughout the thesis I will refer to Bergson and Nietzsche in that respective order. This also applies to examples, where pairs of quotes or example concepts, for instance, can be assumed as attributable to Bergson and to Nietzsche respectively (e.g. duration and will to power). This counter-chronological convention simply reflects the order in which I studied them, and not a priority of one over the other.
[2] *Creative Evolution* was placed on the Catholic Index of prohibited texts in 1914, the same year Bergson was elected to the Académie Française.
[3] Lefebvre 2013: xv.
[4] 1212, *DSMR*. Bergson also cites a 'very special 'will to power'' in his discussion of mysticism, but there is no engagement with Nietzsche through the term (1240, *DSMR*).
[5] Montebello 2000: 1, after Nietzsche, *GS* 279.
[6] In addition to these, Jürgen Klein (1992) has written on both thinkers in relation to the philosophical problems of modernity, though his essay lacks depth as a comparison, while Arthur Berndtson claims to design a theory of 'radical creativity' on the model of Bergson and Nietzsche's insights, but barely mentions them after dismissing their perspectives in his Introduction.
[7] 24. The authors indicate a further paper by Urpeth that develops the same theme: 'Reviving "Natural Religion": Nietzsche and Bergson on Religious Life', in Rehberg 2011.
[8] For example, this seems hasty: [Bergson's] 'understanding of duration and creative evolution brings together the key insights of Darwin, modulated by a Nietzschean understanding of the internal force of the will to power and the eternal force of the eternal return' (Grosz 2004: 156).
[9] 'I tried to read Nietzsche in the fifties, but Nietzsche by himself said nothing to me. Whereas Nietzsche and Heidegger – that was a philosophical shock!' (Foucault, cited in Dreyfus & Hall 1992: Introduction, 1).
[10] Lorraine 1999: x.
[11] De Beistegui et al 2015: Introduction, 13.
[12] See De Beistegui et al 2015, as well as *Bio-Objects: Life in the 21st Century*, Niki Vermeulen, Sakari Tamminen and Andrew Webster (eds.) (Farnham: Ashgate, 2017). Leonard Lawlor offers his book *The implications of immanence: towards a new concept of life* (Fordham University Press, 2006), as an alternative to Biopower.
[13] For Bergson and Nietzsche, independently, in relation to animals, see Khandker 2014, C.D. & R. Acampora 2004, and Lemm 2009.
[14] Matthews 1996: 13. Jean Gayon expresses 'no doubt' that Bergson was 'the most influential of all twentieth-century philosophers' (Gayon 2005: 43), while John Mullarkey (2010) has examined Bergson's influence in terms of the extensive conceptual vocabulary he contributed to the last century of French thought.
[15] The turn of phrase is Mullarkey's (2010: 21). For more on Bergson's critics, see Kolakowski 1985: chapter 7. For a detailed study of how Bergson's discourses and activities during the First World War contributed to his subsequent fall from grace – despite being in numerous ways continuous with the philosophy outlined in *EC* – see Sinclair 2016.
[16] See for instance H. Wildon Carr 1914, Cunningham 1916, Kolakowski 1985, and Lacey 1989.
[17] Jankélévitch 2015: Introduction.
[18] Notable exceptions here are Frédéric Worms' *Bergson, ou Les Deux Sens de la Vie* (2004) and Wahida Khandker's *Philosophy, Animality and the Life Sciences* (2014).
[19] Ansell Pearson 2005a: 59.
[20] Berndtson 1975: 1.

[21] Deleuze also insisted, as he did for Bergson, on the precision and historical significance of Nietzsche's challenge to philosophy.
[22] Bishop 2012: 1.
[23] For a good discussion of scholarly approaches to Nietzsche, see Reginster 2006: Introduction.
[24] For more on the ways in which Nietzsche seems to actively 'discourage a studious interest in him', see Richardson & Leiter 2001: 2-6.
[25] Pierre Klossowski, for instance, modelled his unique interpretation of Nietzsche almost exclusively on the *Nachlass*; Arthur Danto sees it as 'Nietzsche in the laboratory', experimenting with material that would have made it to publication had he retained his sanity (Danto 2005: xxvi); and Alexander Nehamas (1985) defends using *WP* but refers rarely to further *Nachlass* material. For a useful overview on the topic, see Alan Schrift's entry in Bishop 2012.
[26] Emden 2014: 5.
[27] Acampora 2013: 1.
[28] See, on this point, Gemes 2013.
[29] 'Nietzsche's attempt is to remove the meaning-giving goal of life from its illusory position outside of life and to put that goal back into life itself. There is no more radical way to do this than through a vision of life in which self-directed augmentation is but the realization of what life provides as potential, including means and values. Every stage of human existence now finds its meaning not in something absolute and definite, but in something higher that succeeds it in which everything antecedent, having been only potential and germinal, wakes up to greater efficiency and expansion. Life as such has become fuller and richer: there is an increase in life.' (Georg Simmel, cited in and translated by Bishop 2012: 2).
[30] My convergence on prodigality is not dissimilar to Grosz's appeal to the virtual 'resources' of the past, for instance, and I conclude with 'transformative' considerations, though these are not as politically or culturally inflected as Grosz's.
[31] Bergson 1972: 940, stated in an interview with Jacques Morland.
[32] *TI*, 'Maxims' 26, and *D* 318. Some scholars have convincingly argued for a systematic approach to Nietzsche: see Danto 2005, Richardson 1996, and Reginster 2006.
[33] On this point, see especially Bergson's essay 'La perception du changement' in *PM*.
[34] Elena Fell's 2012 book on Bergson explores this well.
[35] Kofman 1993: chapter 5, section 3.
[36] Richardson is responding to the problem of justifying an ontological articulation of will to power given that it is largely supported by unpublished material. His approach involves appealing to those references in the published material which suggest that the notebooks are not anomalous, and showing that the rest of his thoughts can be clarified 'by being organised systematically around this partly concealed core' (Richardson 1996: 8-9).
[37] This has sometimes meant leaving aside topics which it would have been interesting to explore, whether issues that concern both philosophers (in particular memory), points on which they might contest one another (like the social function of religion), or kindred thinkers (like Schopenhauer, Ravaisson and Whitehead).
[38] This approach is influenced by what Karen Barad has called a 'diffractive methodology': 'a method of diffractively reading insights though one another, building new insights, and attentively and carefully reading for differences that matter in their fine details' (Dolphijn & van der Tuin 2012: 49). Such readings, for Barad, are intended to supplant destructive critique with 'inventive provocations'.
[39] This is similar to Bernard Reginster's qualified version of what he calls the 'priority principle' adopted by the majority of scholars, according to which published works assume authoritative priority over unpublished notes. Reginster allows for unpublished views to be

seen as Nietzsche's 'considered philosophical thought' on condition that they are consonant with published ones – 'duplicated, explicitly anticipated, summarised, implied or implicated by them' (Reginster 2006: 20).

Chapter One

Varieties of Vitalism

The turn of the twenty-first century has seen a resurgence of work engaging with vitalism. Depending on one's perspective, this either corroborates or contravenes a rather divisive history: where some will welcome the 'new vitalism' as an opportunity to explore the term's irrepressible appeal, others might condemn it as a vain effort to breathe life into a relic they would happily leave in the eighteenth century.[1] Few 'isms' have attracted so much opprobrium while proving so amenable to revision and re-appropriation. What is indisputably valuable about its re-emergence, indeed, is not only the unprecedentedly rich intellectual context in which it has taken place – in contrast to the concept's origins in medical science, contemporary vitalism has been addressed in fields as diverse as complexity, cybernetics, information theory and political ontology – but the variety of new readings this has generated, and the protean nature of the tradition it has highlighted. Alongside the numerous typological breakdowns it has received – 'functional', 'substantival', and 'attitudinal' (Charles Wolfe 2010), 'epistemic', 'medieval', and 'transcendent' (Brian Garrett 2013), and 'oppositional', 'investigative', and 'complex' (Byron Hawk[2]) – as well as its persistent presence in biological discourse – as a reminder, for instance, of the need to move biochemistry beyond genomic analyses towards an irreducible notion of vital 'robustness' (Kirschner et al 2000: 87) – the vitalist project has been re-imagined under a striking range of guises which have clearly outgrown any original remit. Vitalism has been proposed, for instance, in terms as general as 'a philosophical tradition that explicitly poses the question of life' (Olma & Koukouzelis 2007: 3), as confrontational as 'a crossroads at which many paradoxes and counterarguments encounter one another' (Kanamori 2005: 13), and as multifaceted as 'an explanatory and/or metaphysical construct which appears, depending on the context, as a form of overt supernaturalism or as a useful heuristic for biomedical research and theorising' (Normandin & Wolfe 2013: Introduction, 3).

Yet, given that vitalism was, by the early twentieth century at the latest, considered largely obsolete in light of its proclivity towards metaphysical speculation and teleology – increasingly dirty words in a climate of mechanistic materialism and logical positivism – it is legitimate to ask how such a resurrection has been possible at all. One response suggests that vitalism comes to the fore any time the question of boundaries arises, a question which has arisen with growing frequency in an age that sees the life sciences move beyond observation-

based origins into the realms of the applied and technological – where genetic engineering, for instance, urgently challenges our conceptions of what might, if any set of properties can, demarcate the living from the non-living.[3] Sebastian Olma and Kostas Koukouzelis (2007), in their overview of the themes driving the new vitalism, propose moreover that boundaries between disciplines are themselves becoming hazy, freeing up explorations of the living to take place outside of any exclusive field of research. But vitalism may return for other reasons. It is arguable, for instance, that the intellectual presuppositions and prejudices of the late nineteenth century compromised the formulation of the vitalist cause, and thereby questionable whether its alleged shortcomings were endemic to its aims, whether the reasons for its dismissal was ever exhaustive, and whether it therefore carries with it a sort of unfinished business which might yet be seen to illuminate, and to some extent define, a certain tradition of thought.

Such, at least, is the approach followed by this chapter: among the ruins and revivals of vitalisms old and new, it looks to bring into relief some of the core themes of vitalism in a way that both incorporates its diverse history and points towards its future. But it does this with a specific end in view. The opportunity to intervene in the recent return to vitalism and to question its significance and prospects, that is, also provides a set of conditions for studying two thinkers who have traditionally been inscribed within that history, and who have been deliberately revisited through the proposed remit of the new vitalism. The historical overview provided by the chapter, then, will proceed by first identifying three principle phases, covering the rudiments of an alternative 'vital' principle in early, 'heuristic' vitalism (§1), through the reasons behind vitalism's demise in the early twentieth century (§2), to the later resurgences of vitalism under Georges Canguilhem and the 'new vitalism' (§3).[4] But these perspectives will converge not so much on the quest to define a concept of life or to defend vitalism against the stereotypes that have been attached to it; rather they will help to circumscribe the key features of a particular effort and direction of thinking which frame a tradition of philosophical vitalism (§4). It is this effort, articulated along three distinct lines – an 'appeal to life', an anti-reductionist ethos, and a search for constructive alternatives to typically reductive approaches – that will allow an optic to be outlined for the comparative study of Henri Bergson and Friedrich Nietzsche (§5). The sustained concerns that traverse the vitalist tradition, in this way, will be seen to provide a series of particularly productive platforms for elucidating the central concerns, commitments and orientations of Bergson and Nietzsche's philosophical projects, for bringing into relief the metaphysical outlooks they

share, and, in turn, for enriching the contemporary retrospective and reactivation of the vitalist tradition as discussed in this chapter.

1.1.
Early vitalism: rudiments of an alternative principle

'Vitalism' first took form in late eighteenth century French medical science, and was associated with a group of doctors of the Montpellier School.[5] The idea arrived through a series of debates among biologists who argued that living phenomena cannot be explained, at least exhaustively, by the mechanistic principles which had become entrenched in philosophy and science. Early vitalism can therefore be viewed as a backlash against the reductionist, de-humanising trend inaugurated by the Scientific Revolution, and essentially challenges the system of causal relations as analysed and expressed by classical mechanics. Its very premise, as Osama Kanamori has highlighted, asserts 'a crack in the law of causation' between the living and the non-living (Kanamori 2005: 13), and its interest in distinguishing these informs the pursuit of an alternative kind of causal influence that the vital would exert. Certain key figures stand out in this respect.[6]

In his *Nouveaux éléments de la science de l'homme* (1778), Paul-Joseph Barthez was keen to renew the scientific endeavour by theoretically delimiting the scope and number of causes it appeals to. Contra an ancient tendency to needlessly proliferate causes, often in the direction of occult obscurity, he identified a modern tendency to posit fewer causes than experience would suggest exist, typically reducing the causal sphere to numerically limited and largely physicalist causes like shock, attraction or movement (Barthez 1806: 10-13). Both these methods run contrary to Barthez's understanding of 'la bonne Méthode de Philosopher' (*ibid.*:12), and in response he sought to establish characteristic causes for specific sciences. It is in this context that he raised the notion of a *principe vital* as the cause proper to the life sciences. Barthez's vital principle is proposed as neither body nor soul, but as a third principle that differs fundamentally from the causes of physical movement determining the physico-chemical order of phenomena (*ibid.*: 'Discours Préliminaire', 36). Barthez located the activity and expression of this principal in habitually or involuntarily performed movements as well as in the 'sympathy' pertaining between different organs and functions of the body.[7] His 'vitalism' thus challenged mechanistic reductionism by 'decentralising' the

unified functioning of the body, proposing the semi-autonomy of organs, and affirming the vital properties that tissues or fibres themselves might possess.[8]

Xavier Bichat followed Barthez's effort to characterise the properly vital in certain important respects: furthering the pursuit of vital properties by identifying twenty one different types of tissue in order to explain the properties of human organs, continuing the decentralisation of vital activities by sub-dividing vital properties into sensibility and contractility (and then again into animal and organic), and adumbrating the vital principle by positing these activities as separate from conscious control (Kanamori 2005: 17). His distinctive emphasis, however, lay in contrasting the vital with the physical in terms of conflicting forces: the variability and irregularity of living organisms – those traits which render them refractory to mechanistic explanation – are attributed to vital forces, which are said to actively resist those forces operative in the inorganic world which would otherwise destroy them. This is the basis of Bichat's lapidary claim that life is the sum of the functions which resist death.[9]

While Claude Bernard belongs in the same lineage as Barthez and Bichat, he is a peculiar figure in the vitalist history insofar as the experimental medicine he promoted rested on a methodological reductionism. Bernard insisted that the observable harmony and regularity of vital phenomena remain subject to the same rigorous determinism as physical and chemical phenomena, and ruled out the intervention of any supra-material force. But the coordination characteristic of the living did suggest to him a '*plan organique*' on which, in Bergson's words, 'things take place [in a living being] as though a certain "idea" stepped in' (1436, 'PCB'). This idea is not an autonomous force battling against physical forces, but an explanatory principle that constitutes the independent science of physiology, and which Bernard proposes as a kind of legislative force at work behind an executive force.[10] Bernard is therefore led, in pursuing deterministic explanations of the organism that are not fully reducible to the laws of physical bodies, to support the appeal to something immaterial: the vital is hypothetically aligned with a sort of directive idea said to operate behind directly observable phenomena, to regulate the becoming of an organism without being identical with regulated matter itself. Bernard thus promotes a conceptual space in which design, regulation and direction require an effort of thinking irreducible to a deterministic mechanics of matter, organic or otherwise.[11]

The distinctive feature of these researches into vital causes and forces is their experimental or heuristic outlook. For this reason, Charles Wolfe (2010) calls this early brand of vitalism 'functional'. The emphasis here is not only on the effort to '"model" or "describe" organic life without reducing it to fully mechanical models or processes', but on a tendency to operate *post facto* 'from the existence of living bodies to the desire to find explanatory models that will do justice to their uniquely "vital" properties' (Wolfe 2010: 2). While these figures entertained some alternative form of vital influence in opposition to merely mechanical forces, then, functional vitalists were equally resistant to the intrusion of non-medical or overtly metaphysical entities in explanations of vital phenomena, and were therefore not strictly anti-materialist. As Georges Canguilhem would later acknowledge, they were in fact more 'prudent positivists' in the manner of Newton than stereotypically vitalist in the (later) manner of Hans Driesch or Georg Stahl. Just as Newton could posit an unknown entity like gravity and then derive a series of mathematical equations with real tangible value, so could early vitalists posit 'life' in order to derive from it various other phenomena, properties and activities, and then observe these as 'interconnected, goal-oriented processes which do not exist either in an inanimate mechanism or […] in the same body but in the state of a corpse' (Wolfe 2010: 18). The important consequence of this approach is that no ontological claims are made regarding 'life' or its principles and forces. Thus Barthez insisted that 'Toute éxplication des phénomènes naturels ne peut en indiquer que la cause expérimentale' (Barthez 1806: 7), and gave up on the notion of a vital principle after the first edition of his *Nouveaux Éléments*; Bichat lay claim to analysing the properties of life without prior knowledge of its principle (and defined life by putting the concrete fact of death, rather than abstract considerations, at its centre);[12] and Bernard remained committed to a deterministic physiology that denied any distinction between a chemistry of the laboratory and a chemistry of life, and avoided the term 'vital' insofar as this indicated a lack of knowledge of immediate causes or conditions. These early vitalists are therefore best seen, in Sebastien Normandin and Charles Wolfe's terms, as 'part of a process negotiating a shifting terrain of vitalism as a focus on the nature of biological, organismic or embodied life' while 'attempting to do justice to criteria of scientificity' (Normandin & Wolfe 2013: Introduction 7-8).

1.2.
Vitalism's demise

The second notable phase in the vitalist history saw it lose favour as a legitimate scientific approach or theory. This took place progressively throughout the nineteenth century: Wöhler's synthesis of urea (1828), Virchow's cell theory (1855), and Pasteur's inability to demonstrate spontaneous generation (1862) all served to undermine vitalist positions, while the laws of thermodynamics only gave impetus to the materialist movement. Its demise is best viewed, however, from the perspective of three factors which concentrate around the early twentieth century.

1.2.1.
Substantival vitalism

The largely heuristic tradition of medical vitalism gave way to another kind of vitalism towards the end of the nineteenth century. This differed markedly from its predecessor in embracing a more metaphysical tendency, and has been branded as 'substantival' vitalism. Unlike the more scientifically cautious approach of functional vitalism, substantival vitalisms characteristically presuppose the (substantive) existence of a vital force distinguishing the living from the non-living. Such a force can either play a causal role in the natural world or hover above it as a kind of extra-causal entity (Wolfe 2010: 1), but remains in both instances exposed to accusations of staticism and mysticism. Substantive conceptions of force, that is, are said to result from simply reifying the residuum of what science is unable to explain, and, insofar as therefore situated outside of scientific empiricism, to inevitably become essentialist, dogmatic and intangible. In this, substantival vitalism appears at best to relapse into Aristotelian and Cartesian legacies, compounding an ancient theory of the soul with the modern problem of substance dualism, and at worst to combat mechanism with a mere theory of myth. And while it has several predecessors and prototypes, including Aristotle's *entelechy,* Paracelsus's *archeus,* Stahl's animism and Blumenbach's *Bildungstrieb,* its figurehead in this period of the vitalist history is Hans Driesch.

Driesch is perhaps the last great scientific vitalist of the nineteenth century, and was, alongside Wilhelm Roux, at the forefront of a revolution in embryological studies which saw a shift away from purely morphological and descriptive trends towards a new analytical

attitude, seeking the causes and mechanisms of developmental processes that led from fertilisation to complex organisms (see Wolsky & Wolsky 1992: 154-6). Contra Roux's *Entwicklungsmechanik*.[13] Driesch's radical experiments on sea urchin eggs led him to deny that germ cells possess machine-like structures, viewing embryos instead as 'harmonious equipotential systems'. According to this idea, whole organisms, unlike machines, are formed by the harmonious cooperation of its parts, and each element is 'equally' capable of forming the totality of an organism.

Although Driesch studied such systems empirically for years, he struggled to provide a physico-chemical account that would incorporate their dynamic teleological character, and was led to abandon experimental work and claim that embryonic development was guided by a vital force he called 'entelechy': 'an organising, directive force that consumed no energy, was immaterial, but was the factor that distinguished living from non-living matter'.[14] And although he hoped to provide deterministic laws for entelechies with a view to instating vitalism as a science, the theory led to a barrage of attacks on Driesch from various angles. Entelechies are framed as immaterial causes of change internal to organisms, directing physical processes by suspending mechanical and chemical reactions, yet neither adding nor subtracting energy from the system it directs (Garrett 2013: 138). Thus while J.B.S. Haldane and Bergson both questioned the atomistic presuppositions of Driesch's conception of organisms, Moritz Schlick accused him of failing to reconcile the action of non-physical entelechies with the basic determinism of Newtonian physics (asking at which point they become physical enough to interact with actual entities like cells), and, perhaps most damagingly, H.S. Jennings observed that Driesch's empirical research had been superseded by the discovery of the role of chromosomes in reproduction (Garrett 2013: 140). While historians like Babette Babich have warned against reducing Driesch's research to 'sheer vitalism' – given, for example, his emphasis on electrochemical gradients (Babich 2010: 282-3) – the teleological and immaterial nature he ascribed to a life force not only courted contemporary criticism, but served to establish a metaphysical stereotype for vitalism that continues to plague it today.

1.2.2.
Emergentism

A second factor in vitalism's demise was the arrival of emergentism. Emergentism – which characteristically affirms the existence of properties at a certain level of organisation which appear to be unpredictable and inexplicable from the properties found at 'lower', invariably physical, levels – shared a number of vitalism's concerns: a broadly holistic approach to life, a rejection of the reducibility of living organisms to physico-chemical properties, and an opposition to the restricting determinism of mechanistic materialism. These concerns, moreover, also led emergentism to seek an alternative, non-reductivist kind of causal influence, which it attributed to the new, irreducible emergent properties themselves. Emergentism, however, partly due to its breadth of scope, was able to pursue this in several more appealing ways than vitalism.

On one hand, emergentism explicitly sought to provide a philosophical alternative not only to mechanistic materialism, but to the metaphysical dualism that had come to characterise vitalism, as well as to the recent resurgence of European spiritualism (Malaterre 2013: 159). It achieved this in part by remaining broadly physicalist: while arguing that mental and vital phenomena are not entirely explicable through mechanism, the alternative it aimed at was committed to the sort of 'good empirical evidence' that vitalism was frequently accused of lacking, and compatible with some form of monist materialism that neither violated the continuity of nature nor challenged the causal completeness of the physical. Genuinely novel and non-mechanical features, that is, were said to 'depend upon and arise from the mechanical' without being identical or reducible to it (Garrett 2013: 135). In this sense, the concept of emergence has been considered 'that reasonable aspect of vitalism which is worth maintaining' (Emmeche et al 1997: 86).

On the other hand, emergentism advanced a more nuanced re-imagining of causation than substantival vitalism, seeking to expand the causal towards an account of the new. John Stuart Mill is considered a progenitor of emergentism due precisely to his distinction, in *A System of Logic* (1843), between modes of 'causal composition': the 'homopathic', found in mechanics, whereby causes 'continue to observe the same laws when in combination which they observed when separate', and can thereby be 'cast up' or composed linearly into their effects; and the 'heteropathic', found in chemistry, whereby 'most of the uniformities to

which the causes conformed when separate, cease altogether when conjoined', and we are unable to 'foresee what result will follow from any new combination' (Mill 1973: chapter VI, §1). Thus the properties of chemical reagents cannot be used 'in any composition whatsoever to establish the properties of the resulting chemical compounds' (Malaterre 2013: 157-8). Mill's attribution of this latter mode of 'behaviour' to vital phenomena influenced George Henry Lewes to classify the effects of causal composition as either 'resultants' or 'emergents', which coinage and distinction influenced British emergentists like Samuel Alexander, C. Lloyd Morgan and C.D. Broad, who all developed a hierarchical view of natural processes in which novel 'qualities' are said to emerge at each higher level as a result of the complexity of the organisation of constituents. Life, on this view, is understood as a physico-chemical complex that remains nonetheless irreducible to component parts and organisations. This general approach would ultimately inform the quintessential emergentist position: denying the causal orthodoxies that the new be either reducible to a preform contained in its cause or else regarded as a mere epiphenomenon, emergentists considered new, emergent properties as causally efficacious, i.e. as having an impact on the path and direction of the physical. This position is known as 'downward causation', the idea that complex systems do not only evolve emergently, but are also able, in virtue of their macro-level properties, to bring about changes at lower levels. From a mereological perspective, this means that the whole is not only considered more than the sum of its parts, but capable at certain levels of complexity of leading a causal life of its own, with a capacity to influence its parts in a sort of feedback manner.[15]

These various features helped emergentism to become the most popular non-reductivist theory of the relationship between mind, life and matter in the early twentieth century (Garrett 2013: 134), and in this way contribute to vitalism's marginalisation. But it too would soon go the same way, and for similar reasons.[16] These reasons provide the third factor in vitalism's early twentieth century demise.

1.2.3.
The mechanistic climate

Vitalism emerged in the eighteenth century as a challenge to mechanistic materialism. This vision of nature was largely that of Newton, who posited a machine-like universe of unchanging mass particles moving through an empty space according to a strict, linear

determinism, uninfluenced by an absolute time that allowed apparent change to be reduced to entirely reversible equations. New laws subsuming all kinds of objects replaced old observations regarding the general tendencies of different kinds of things, and blind causal explanations appeared to make teleological explanations superfluous. Mechanism thus presented, in Gaston Bachelard's words, 'a body of explication closed on itself, animated by the deductive ideal of a finished geometry'.[17] The vitalist challenge did little to diminish the appeal and success of this idea. On the contrary, the nineteenth century saw the Newtonian framework receive further formalisation – Hamilton and Lagrange converted the models of physical mechanics into mathematical language and reinforced the tendency to view physical processes as reversible – as well as broader application in the positivist extension of its methods to the social sphere. This not only consolidated the mechanistic paradigm, but established a climate that Bertrand Russell would describe in terms of a 'scientific optimism which made men believe that the kingdom of heaven was about to break out on earth'.[18]

The mechanistic materialist approach entails commitment to a range of reductive causal orthodoxies. First, it presupposes the causal closure of the spatiotemporal domain, a physicalist tenet which, on one hand, maintains that all causal work occurs at, and can ultimately be traced to, the fundamental level of concrete physical particulars, and, on the other, vehemently denies the possibility of immaterial or non-spatial causes (especially where these are supposed to influence organic processes which are themselves material). Second, this causal work is viewed in terms of deterministic relations between elements within closed systems, which are pursued with a view to enabling maximal prediction from any given set of conditions. Corollaries of this include the rejection of emergent novelty – which is instead explained in terms of temporary ignorance – and a preformationist position which maintains that cause and effect display a strict proportionality: an effect cannot manifest 'more' than what is already found in its cause. A third position results from these first two combined, in what Jaegwon Kim has called the 'causal exclusion argument'. It holds that there is only one sufficient cause for each effect, such that if all physical effects have physical causes, then all other putative causes, such as psychical or vital events, are excluded as inoperative in the physical world. This argument strengthens materialist hegemony by making the irreducible at best epiphenomenal in regard to material change, if not identical with it in as yet unknown ways.[19]

This framework was highly successful, not least in biology: as Garland Allen (2005) has argued, the professionalisation of biology in the early twentieth century was heavily influenced by a mechanistic research program. By incorporating the same experimental, quantitative methods that had already advanced physics and chemistry, biology was able to dissociate itself from a tradition of more descriptive, speculative approaches, and raise itself to new rigorous and analytical levels from which it could explain, predict and control vital phenomena. Mechanism thus generated the appearance of a solid grip on vital phenomena. Soon enough, as Marc Kirschner, John Gerhart and Tim Mitchison observe, 'the remarkable properties of living systems were more evident than ever, but vitalism was no longer invoked to explain them' (Kirchner et al 2000: 79). The modern scientific quest for the chemical basis of life, whether in heredity, metabolism or movement, had begun in earnest, promising testable research and reliable laws over the vague and unverifiable properties described by vitalism.

But the mechanised progress of biology also created a polarising spiral, whose effects further entrenched mechanism and alienated vitalism. As mechanism advanced, its causal commitments became hardened into a self-contained epistemology which self-consciously strangled the immaterial and produced a climate which often pushed proponents of mechanism towards more extreme claims (Garrett 2013: 131). In turn, alternative, more holistic approaches were either discredited as fruitful avenues of research, painted as slippery slopes towards metaphysics and pseudo-science, or forced to adopt extreme positions of their own.[20] Driesch's entelechy might be seen as symptomatic of the latter: squeezed by the dominance and success of the physico-chemical framework, vitalism, from its heuristic origins, reverted to 'metaphysics'. But that mechanistic hardening was just as effective a tactic, targeting approaches which even shared with mechanism a strictly materialist epistemology and causal-analytical agenda (such as holistic materialism and dialectical materialism), and sought to account for living processes as functioning wholes within the framework of known physical laws rather than immaterial postulates (Allen 2005: 267, 279). Amongst this self-perpetuating spiral of widening opposition, vitalism was barely able to resist, engaging instead in polemics against the opposition, lacking alternative resources to explain the distinctive features of living systems, and ultimately only labelling the difference by citing non-mechanistic forces or powers (Bechtel 2013: 346). Under a wave of methodological criticism and anti-metaphysical sentiment, vitalism collapsed, largely regarded, in one commentator's gloss, as 'fuzzy-minded and subjective nonsense that offered

no concrete research agendas, and provided no real guidelines for practical investigation' (Allen 2005: 266).

1.3.
Recalled to life: vitalism's returns

Vitalism struggled to recover from this collapse; in the main, it is still considered at best obsolete, anachronistic or redundant in light of twentieth century developments in physics and molecular biology, and at worst 'a derogatory label associated with lack of intellectual rigour, anti-scientific attitudes, and superstition' (Greco 2005: 15). Yet over the course of the twentieth century and into the twenty-first, vitalism made two significant returns, both of which transformed it beyond its 'functional' and 'substantival' incarnations and explore it from a broad range of angles. Ontologically, for instance, vitalism has been lauded for championing that which is 'permanently suspended between being and non-being' (Fraser et al 2005: 2), providing a platform for a processual approach to reality, while politically it has been embroiled in a dilemma traversing thinkers from Marx and Simmel through Foucault and Deleuze that pits 'repressed and unrealised life-forces against a burdernsome facticity' (Ransom 1997: 33). This resurgence and proliferation marks the third phase of vitalism's history.

1.3.1.
Canguilhem

Vitalism re-emerged around the middle of the twentieth century as a unique kind of ethos under historian and philosopher of life sciences Georges Canguilhem. Canguilhem's role in this broader history is also inscribed within a set of concerns that helped define a significant stream of twentieth century French philosophy from Bergson to Foucault. This tradition is liable to be conceived in antagonistic terms, not only because it is commonly modelled on Foucault's own division of it into two conflicting orientations – one which pits philosophers of the concept, knowledge, and rationality (Cavaillès, Bachelard, Koyré, Canguilhem) against philosophers of the subject, consciousness, and lived experience (Bergson, Sartre, Merleau-Ponty) – but also because an anti-Bergsonian stance is considered constitutive of that same divide: thus Bacherlard, Canguilhem and Foucault are typically said to embrace a kind of discontinuity that Bergson is said to completely repudiate. Several scholars have argued

against this narrow presentation, however, identifying other concerns which traverse the tradition and render relations among its representatives more complex. Wahida Khandker (2014), for instance, cites a 'neo-vitalist' line of thinkers, including Canguilhem and Foucault, who follow the distinctly Bergsonian idea that human intelligence is unable to comprehend life, while exploring their own ways of overcoming this incapacity through varying approaches to history, life and method,[21] while Elie During argues that Bergson not only shares a common concern with figures like Bachelard, Canguilhem, Foucault and Althusser – that of pursuing a non-positivist 'history of problems' – but is arguably, contra his ordained role in the tradition, 'the true purveyor of the theory of problems implicit in the anti-positivists' epistemological practice'.[22] Canguilhem is thus not only a central figure in the vitalist history, but has, alongside Bachelard, interesting ties to one of the thesis' protagonists.[23]

Foucault situates Canguilhem's work by appealing to an eighteenth century problematic concerning the relations between truth and life. The stakes here concern whether knowledge of life must be considered as 'nothing more than one of the regions which depends on the general question of truth, subject and knowledge', or as something which 'obliges us to pose this question differently' (Foucault in Canguilhem 1991: 23). Canguilhem affirms the latter with a brand of vitalism that has two dimensions: a heuristic one, proposing that life is a unique kind of historical object, and that living phenomena require their own special investigative approach; and a more ontological corollary, claiming that there is something about 'life' itself that leads us to adopt a certain standpoint towards it, one that would affect not only the scientific theories we formulate in relation to it, but also our experience in general (Wolfe 2010: 21-2). On this basis, Wolfe identifies in Canguilhem an 'attitudinal' vitalism, as distinct from the 'functional' and 'substantival' brands of vitalism preceding it: vitalism becomes a fundamental existential approach or ethos, translating 'a permanent exigency of life in the living' (Canguilhem 2008: 62), or 'an exigency rather than a method and a morality rather than a theory' (*ibid.*: 63). This unorthodox position allowed Canguilhem to repudiate mechanistic and rationalist attacks on vitalism, inasmuch as its status as a 'demand' makes vitalism necessarily difficult to formulate in a series of determinations. It also opens onto two important aspects of the relationship between life and science in general.[24]

In the first instance, Canguilhem reproached classical vitalism for its misapprehension of the originality of life. Canguilhem follows Bernard in insisting that life cannot consist in some exception of the living to the laws of physics, insofar as this would propose a kingdom within a kingdom. But he also makes the point defensively, wishing to guard against making of vitalism a reactive form of thought subjugated and normatised by the world described by physics and chemistry. Instead, Canguilhem understands the originality of life to consist in a prioritisation of life with respect to knowledge. In Monica Greco's words, the originality of life urges us to '"comprehend" matter within life and the science of matter, which is science *tout court*, within the activity of the living' (Greco 2005: 18). This originality of life, furthermore, cannot be claimed for only a segment of reality, but for reality as a whole:

> One cannot defend the originality of the biological phenomenon, and consequently the originality of biology, by demarcating within the physico-chemical territory – that is, within the milieu of inertia, of externally determined movements – enclaves of indetermination, zones of dissidence, or foyers of heresy. If one is to assert the originality of the biological, this must be in terms of the originality of one realm over the whole of experience, and not over islets of experience. (Canguilhem 2008: 70)

Vitalism so conceived was therefore instrumental in Canguilhem's effort to reorient the history of science by putting the life sciences at its centre.[25] What it highlighted was the especially generative nature of life as an 'object', which is said to have determined the emergence of various theoretical enterprises by exerting a particular kind of traction on the theorist or scientist.[26] Vitalism thus opens up a place outside of the episodic history of science: beyond scientific truth as a normative presupposition, beyond scientific theory as something subject to critical rectification, validation or refutation. This presents vitalism not only as a negative term of reference against which biological thought has progressed (Greco 2005: 17), but, more affirmatively, as adumbrating the specificity of life as an object of knowledge or field of research. This specificity, and the responses it elicits, is what for Canguilhem has determined the form taken by the history of the life sciences.[27] It also explains why, as anticipated earlier, he held eighteenth century vitalists in high esteem, considering them 'prudent positivists' in the mould of Newton and distinguishing them from 'impenitent metaphysicians' like substantival vitalists or animists: 'Vitalism ultimately means the recognition of life as an original set or realm of phenomena, and thus the recognition of the specificity of biological knowledge'.[28] Developing Canguilhem's point, Foucault framed this specificity as a constant and paradoxical challenge faced by the life sciences: if 'scientificisation' proceeds by bringing to light physical and chemical mechanisms, the life

sciences can develop only insofar as the threshold marked by living phenomena is thrown back at them, 'save for themselves omitting what properly constitutes their object and their own domain' (Foucault in Canguilhem 1991: 18).

These various aspects of Canguilhem's 'attitudinal' vitalism – its exigency, specificity and originality – were not without precedence nor controversy: they are driven, for instance, by a continued opposition to Cartesian mechanism, to which he attributed a deliberate will to ignore the specificity of life; reiterate a reprioritising of life in relation to knowledge that was already a central feature of Bergson and Nietzsche's projects, as will be seen in Chapter Two; and risk sustaining a traditional anthropocentric critique of vitalism.[29] But his regenerating of vitalist issues, and insistence on the generative nature of a thinking of 'life', would both exert an influence on and find some vindication in the second wave of vitalism's return.

1.3.2.
New vitalism

If the course of the twentieth century saw vitalism first marginalised as a spiritual force, then resurrected as an exigency or ethos, the turn of the twenty-first century saw the emergence of a series of multi-faceted vitalisms which some have recognised as a 'new vitalism'.[30] The term groups together a number of writers, working in a variety of research fields, by virtue of certain features common to their approach, which according to Sebastian Olma & Kostas Koukouzelis (2007) can be condensed into two tactical fronts. Programmatically, there is an emphasis on fostering anti-reductionist methods beyond the sciences, an effort to liberate life from the disciplinary confines of the life sciences, a conceptual reorientation of social and cultural theory, and an 'operational field' roughly defined by a commitment to process, relationality and immanence. Historically, and by means of its own 'fragmentary genealogy', there is a focus on those crucial moments of life's surfacing and modification throughout the history of modern philosophy, looking to 'apply the historical function of vital thought to disturb and unsettle' (Fraser et al 2005: 5) as well as to 'put a potential new vitalism on a broader and more explicit philosophical foundation than has been the case so far' (Olma and Koukouzelis 2007: 4). More specifically, Olma and Koukouzelis are keen to situate the new vitalism within an urgent re-engagement with the nature-culture dichotomy, which appears to have been imploded by revolutionary developments in scientific fields like biotechnology, neurobiology and artificial intelligence; by a proliferation of strange new life forms such as

clones, transplants, patented organisms and genetically modified foods; and by a 'plethora of technological artefacts' that increasingly intervene in and enhance our ways of life, from 'an extension of body functions into ever new and surprising media' to 'designer pharmaceutical' life-enhancers like Viagra or Prozac (*ibid.*: 1-2). This seeming intensification of our existences by the conjoining of organic with technological systems questions the adequacy of fixed dualisms in dealing with the way the world becomes, and for understanding the relations between information, knowledge and science.

It is indeed in its capacity to radicalise the notion of continuum that the theme of process comes to the fore in new vitalism (*ibid.*: 2-3). This entails not only probing what is distinctive about process as a mode of being, but also assessing various attempts to make social and natural entities more process-like, i.e. less inert, more 'alive'; this has involved introducing information, complexity, and cybernetics into areas such as the economy, science and art. Since 'process thinking cuts across genres, species, and disciplines with little regard for the distinctions that are identified between them' (Fraser et al 2005: 5), one of the primary aims here is to extend a thinking of life across and beyond the boundaries defined as legitimate by the natural sciences, the social sciences and the humanities, thereby collapsing the idea that these fields of research and their objects could exist in epistemological or ontological isolation (*ibid.*: 3). The processual emphasis of new vitalism is, in turn, characterised by two further features. On one hand, a radical relationality: the view that entities, subjects and concepts are constituted in relations alone – 'reciprocal enfoldings gathered together in temporary and contingent unities' – and that the (social and natural) world is understood in terms of a continuum of 'constantly shifting relations between open-ended objects'.[31] On the other hand, an insistence on immanence: 'there is no outside to the process, no supplementary dimension that could transcendently determine the multiplicity of relations'.[32]

Within these various leitmotifs, a range of more specific interests traverse the new vitalist literature and flesh out its concerns. Three of these are worth outlining.

The first of these, somewhat continuous with Canguilhem's vitalism, views vitalism as an anti-reductionist ethos committed to the expansive potential of the irreducible. This is explored by Monica Greco (2005), who champions complexity theory in this respect as a significant heir to the vitalist history. Tracing the work of Isabelle Stengers, Greco understands a 'complex' situation as one in which 'the difficulty of an operation of passage

[…] may not be due to a lack of knowledge, an incomplete formulation of a problem, or the enormous complication of the phenomenon', but may rather reside in 'intrinsic reasons that no foreseeable progress could gainsay'.[33] Complexity thus comes to signify the possibility of 'a leap in the order of possible knowledge', and therefore 'a difference in the quality of our ignorance with respect to a specific instance or problem' (*ibid.*: 22). Stengers herself associates this outlook with an original function of modern science, which has less to do with its 'truth' than with its '*astringent effects*, the way it *stops thought from just turning in self-satisfying circles*' (Stengers 1997: 5). And Steven Rose, similarly, identifies an 'alternative, almost underground tradition' of this in biology, incorporating figures like Bergson, Georges Cuvier and Étienne Geoffroy Saint-Hilaire, and insisting on a more holistic, integrative approach which 'understands and enjoys complexity and recognises the need for epistemological diversity in our explorations of the nature and meaning of life' (Rose 1997: ix). For Greco, then, new vitalism via complexity insists that we acknowledge both a sensitivity of the world to our interest in it and the possible fertility of our ignorance in generating qualitatively new questions.[34]

A second focal point of new vitalism stresses the need to defend a conception of life from abstract notions of evolutionary possibility and retrieve a mutative thinking of life that can allow for genuine novelty. Two writers in particular pursue this by affirming the need for greater dialogue between the possible and the actual and between the indeterminate and the given. Sarah Kember (2005) observes that the recent convergence of the biological and the technological has been accompanied by a resurgence of Darwinism, and finds in the fields of artificial life and transgenic engineering an overwhelming sense of evolutionary possibility in which the complex interplay or dialogue between the possible and the actual is effaced. For Kember, this betrays a tacit belief in evolution as an abstract process – unconstrained, that is, by the material elements in which processes operate – and her concern is that, without a continued dialogue with actuality, (Darwinian) evolutionary possibility risks becoming explanatorily redundant.[35] Luciana Parisi (2007), in a similar manner, claims that despite remarkable changes in evolutionary theory since Darwin, genetic technologies still rely on a nineteenth century version of 'vulgar Darwinism': a model of evolution that understands biological life on the basis of the increasing and purposeful optimisation of already actualised variations through genetic reproduction, filiative inheritance, and gradual, passive adaptation of organisms or genes to natural selection. Parisi accuses Darwinian and neo-Darwinian thinking of sustaining a metaphysics of the given, or a 'biotic ontology of life' – a notion of

being that corresponds to an 'already actualised and individualised form of life' (2007: 46) – and proposes instead a 'machinic ontology of life' that draws on Bergson, Lynn Margulis and Deleuze-Guattari.

A final perspective that appears to run through new vitalist thinking is a foregrounding of the non-linear or non-sequential in our models for understanding the various processes of living phenomena, and more specifically what such models would demand of our thinking of causal influence. This is evident in William Bechtel's (2013) renewed challenge to mechanists to develop appropriate ways for understanding the sort of complex behaviour exhibited by living organisms. Bechtel critiques the new mechanistic philosophy of science that emerged in the 1990s in philosophy of biology and neuroscience for having imposed a simplified, sequential ordering on the qualitative changes and operations of the various entities and activities it studied. This reductive schema, which he says reflects the 'sequential nature of human mental processes' (2013: 351), is precisely what makes mechanistic analyses, whether traditional or 'new', unsuited to biological phenomena, and allows him in turn to identify in the vitalist history, 'from Bernard through the cyberneticists' (*ibid.*: 355), a persistent challenge to mechanistic limitations that consists in 'attention to modes of organization beyond sequential organization' (*ibid.*: 355). Bechtel highlights a number of such examples used to characterise organisms – including homeostasis, negative feedback, endogenous activity and autopoesis – and uses these concepts to argue for an understanding of biological organisms as 'endogenously active autonomous systems'. This notion, he claims, approximates what early vitalists thought defied mechanistic explanation (*ibid.*: 361): the non-sequential kind of organisation found in living phenomena is what maintains them in far-from-equilibrium condition, ensures the appropriate (non-linear) relations between operations so that it can capture energy and deploy it in the continuing endeavour to construct and repair itself, and ultimately proves refractory to standard mechanistic analyses (*ibid.*: 359-60).

1.4.
Vitalist themes

This survey of the vitalist history demonstrates the superficiality of its stereotypes – a ghostly 'life force' added to matter, an atavism of medieval alchemy – by identifying two defining characteristics of its tradition: the manifest complexity and inherent resilience of vitalist thinking. The former, as Normandin & Wolfe have suggested, may indeed have contributed

to its periodic marginalisation, making vitalism itself an irreducible and at times nebulous agent within a scientific programme designed towards prediction and control[36]. The latter, on the other hand, was made a central feature of vitalism by Canguilhem, for whom the 'vitality' of vitalism testified precisely to the permanent exigency it poses. As Monica Greco comments, the imperative to refute vitalism as scientifically indefensible is for Canguilhem 'superseded by the need to account for its permanent recurrence', such that the question of vitalism acquires 'a diachronic dimension […] that supplements and subverts each one of its settlements' (Greco 2005: 17). This does not attribute a perennial 'truth' to vitalism, but rather proposes a sustained relevance of vitalist theories and concepts to the problem of life as recurrent symptoms of the specificity of life.[37] These two overt and quite general features of vitalism of course contain within themselves more specific concerns that have traversed its history. I want now to draw together three of these from the foregoing analyses, not as exhaustive or exclusive criteria of the vitalist 'domain' – a pretension decisively warned against by new vitalists – nor as any performative tribute to its self-reinvention – they are strongly continuous with the new vitalism – but as a way of turning the thesis towards its primary subject matter. These three themes, that is, will frame the stakes and orientations of the kind of vitalistic thinking exemplified, in remarkably parallel ways, in the philosophies of Bergson and Nietzsche.

1.4.1.
Appeal to life

The complexity and resilience of vitalism bear witness to 'life' as a sustained reference point, whether as regulative hypothesis, symptomatic concept or exhortative idea. This appeal to life, though traditionally oscillating around biological reductionism, has proved multiform and adaptive. It took modern scientific root under the 'Newtonianism' of early vitalists, whose heuristic framing of 'life' helped open up its study outside of paradigms that appeared incapable of capturing it. And it was developed in Canguilhem's claims regarding the specificity and normativity of the living, alongside the attitudinal exigency that these entail. But it also raises the question of the conditions of such an appeal: it simultaneously appeals, that is, to the intellectual and material forces which shape our conceptualisation of life by determining the analytical frameworks, currencies and values of the time. Thus it was suggested that substantival vitalists like Driesch struggled to produce a conception of life that could surpass, rather than inversely reproduce, a restrictively materialist epistemology of

mechanism,[38] while new vitalists like Kember and Parisi, by exploring phenomena such as bacterial reproduction and transgenic engineering, took issue with the ontological and metaphysical presuppositions of 'vulgar Darwinism', whose abstract conception of life's possibilities, they argued, served to obfuscate the concrete unforeseeability and indeterminacy of life. This strand of vitalism therefore indicates a complex interplay between a sense of the irreducible suggested by vital phenomena, and the challenge this mounts to current philosophical boundaries. This interplay, moreover, not only represents an untimely, unsettling power proper to vitalism, but embodies an essentially productive process, rendering an appeal to life and its irreducibility synonymous with an effort to breach limitations with new manners of thinking. In this, the vitalist appeal to life might be said to participate in a long-standing tradition of calling upon expansive forces – as various as time (Historicism), nature (Romanticism), the immaterial (Spiritualism), a lifeworld (*Lebensphilosophie*) and the things themselves (Phenomenology) – in order to shatter the moulds that congeal around orthodoxy, whether in the form of Enlightenment rationalism, atomistic materialism, political reformism or scientific realism. Each time it is an unrecognised wealth that would overthrow a sedimented constriction.

1.4.2.
Anti-reductionism

Modern vitalism was born of a resistance to reductionism, and has remained associated with it ever since. The reductionism in question is primarily that entailed by the quantitative methods established by Galileo and Kepler, and the homogenisation of matter effected by Descartes. This framework has of course determined more than just the vitalist tradition: Thomas Nenon, for instance, has united post-Kantian continental philosophers like Herder, Fichte and Hegel in a shared pursuit of alternatives to a simple mechanistic approach to traditional problems,[39] while Babette Babich has shown how the analytic/continental divide in philosophy (and particularly philosophy of science) itself stemmed from perspectives on reductionism.[40] In the particular case of vitalism, reductionism is not only constitutive of its original remit – a reaction against the mechanistic paradigm as applied to vital phenomena – but of its recurrence too: vitalism's vitality, that is, testifies to an equal resilience of reductionism itself.[41] The vitalist target has thus shifted multiple times, from physico-chemical laws and vulgar dualisms, to the informational units of genetics and the evolutionary orthodoxy that ties life to survival and propagation; each time, something 'vital'

is said to slip through the net. Given this irreducibility of reductionism to any particular form, it is therefore important for vitalism to consider reductionism from a more synoptic perspective: a perennial threat in the form of what Steven Rose has called 'reductionism as ideology',[42] and what Bergson exposed as an inveterate intellectual tendency.

This is not unprecedented in history; as William Bechtel has argued, many vitalists have been 'astute critics, recognising the limitations of the mechanistic accounts of their day', and seeing, in turn, that those limitations were 'not just incidental, but went to the core of the mechanistic project as it was pursued' (Bechtel 2013: 346). An indication as to what might constitute this more general 'horizon of reduction' is suggested by *retracing* the development of modern science to its seat in modern mathematics and physics: these sciences still provide the terms into which other natural sciences are often translated, such that external inflexible laws, abstract empty matter, uniform linear time, and mechanically repetitive causality still hold as epistemological ideals and ontological threats. These critical points are familiar enough, and have motivated thinkers as diverse as Berkeley, Poincaré and Prigogine. But the necessity of observing and intervening wherever thought approximates to this horizon, as well as inquiring into its intellectual and moral sources, remains as perennial as the threat itself, and comprises a central component of vitalism's continued endeavour. This component, to be effective and not merely reactionary, requires the development of methods for exposing these approximations and the metaphysics they presuppose, both as they reinvent themselves on contemporary scenes and recur according to persistent patterns.[43] Such a conception of anti-reductionism positions the vitalist approach along a line of tension, one which negotiates new and old approaches alike in view of their potential perpetuation of a reductionist metaphysic. Recognising this, indeed, is one of the hallmarks of the new vitalism, whose commitment to immanence as an operational field constitutes a programmatic effort to forestall reductionism in this way, not least by serving to collapse old dualisms and reinvigorate the material.

1.4.3.
Alternatives: towards a fertile vitalism

These first two themes present vitalism in largely 'heuristic' and 'resistant' terms, connecting it with a certain vigilance towards ignorance, complacency and abstraction in thinking life. Integral as this is, it is also important to articulate vitalism according to more positive,

constructive powers, not least because, historically, this is where vitalism has struggled. While this too might be partly attributable to scientific orthodoxy – as one commentator has observed, non-reductionist approaches 'tend to have a philosophical *a priori* inclination towards arguments that scientists find irrelevant' (Garrett 2013: 152) – the challenge remains for vitalism to take anti-reductionism in the direction of a fruitful alternative, what might be considered and pursued as an empiricism of the irreducible. This would certainly involve enlarging the *scope* of empiricism, allowing it to cover not only the assimilable and familiar, but the anomalous, marginal and impenetrable; but it would also involve making empiricism itself more flexible, open to expansion by moulding itself to new material rather than incorporating it under old schemas. Something of this was already seen in the first theme of new vitalism, where the expansive potential of the irreducible was championed by Greco via Stengers and the principles of complexity theory. But it mainly converges on a ubiquitous theme of the vitalist history, what Osama Kanamori earlier referred to as the pursuit of a 'crack in the law of causation' (Kanamori 2005: 13). Kanamori identified this crack with the fault-line implicit in substance dualism, between the 'inside' and 'outside' of the organism – a distinction which some have claimed genetics only reformulates[44] – and argued that it helped generate the rudiments of a vital principle or 'legislative power' in figures like Barthez and Bernard. But the same basic engagement continued to develop in later manifestations, whether in the teleological vitalism of Driesch, the downward causal powers of emergentism, or the virtual and non-linear dynamics explored by some of the new vitalists. If this promotes the pursuit of new images and concepts of causal influence as vitalism's primary constructive remit, however, it does not so much proceed from the assumption of a different set of causal laws that would govern the organic as opposed to those governing the inert; rather, it proceeds by dilating our basic ideas about causality through engaging critically with the other elements implicated in the reductionism of mechanical causality. The latter, that is, does not stand alone as an explanatory framework of cause and effect, but is entangled, amongst other things, with physicalist conceptions of matter and spatialised conceptions of time. A fertile vitalism, then, would produce alternative conceptions of causality not so much by superadding one on top of mechanics, but by bringing several into relief through an attentive thinking of process, change, and production in an irreducibly temporal reality. Cracks in the law of causation, in other words, must be followed out alongside other cracks in our standard metaphysics. This aspect of vitalism sees it entwined with some of the most central problems of modern philosophy, particularly its tension with modern science, as well as with new materialist trends which have seen 'vibrancy' (Jane

Bennet), agency (Karen Barad), difference (Rosi Braidotti), and indeed 'non-organic life' (Manuel DeLanda) all attributed to matter itself.[45]

1.5

Bergson and Nietzsche as vitalists

New vitalism's 'historical' remit involved highlighting the crucial moments of life's surfacing in modern philosophy with a view to both mobilising these as resources and further consolidating the foundations of new vitalism. Bergson and Nietzsche are important and explicit reference points for this project (Olma & Koukouzelis 2007: 5-6), and it is in this spirit that the three themes outlined above – appeal to life, anti-reductionism, and alternatives – can be used to chart the parallel trajectories of Bergson and Nietzsche's work: each theme lends its name and provides a programme for each of the three chapters that follow. But there are also strong and specific senses in which Bergson and Nietzsche's work in fact invites and permits a vitalist exploration. It is necessary to clarify these various consonances between vitalism, Bergson and Nietzsche before proceeding to the chapters themselves.

On one hand, this is not an entirely unprecedented designation, whether off-handed or explicit: Frederick Burwick and Paul Douglass (1992), for instance, in their edited volume on Bergson and the 'vitalist controversy', consider both of them vitalists, albeit according to different brands ('critical' vitalism in the case of Bergson, 'aesthetic and social' in that of Nietzsche[46]). But nor is it one either philosopher would appear to welcome, at least in its stereotypical formulation: Bergson rejects 'sterile' forms of vitalism in *EC*, 'FV' and 'PCB', while Nietzsche is highly critical of overestimating the organic in our ideas concerning the universe at large (going so far as to describe 'faith in the universe as organism' as 'the modern scientific counterpart to faith in God'[47]). Furthermore, they might equally be explored as *Lebensphilosophe*, as in Campbell & Bruno's recent re-appraisal of that tradition (2013), or as forerunners of new materialism, whether directly, given their prescient perspectives on matter, or indirectly, through their influence on Deleuze.[48] Without either dismissing their objections to aspects of vitalism, which will be clarified in the subsequent chapters, or foreclosing their relevance to other philosophical trends, in what way can Bergson and Nietzsche be explored as vitalists? The conception of vitalism outlined above is particularly applicable to Bergson and Nietzsche for two reasons.

Vitalism has traditionally suffered from two stereotypes: that of affirming a ghostly, immaterial force whose interventions and operations in the material world remains at best refractory to empirical inquiry and at worst simply mythical; and that of proposing a separate set of laws pertaining to living phenomena which would merely supplement the laws that regulate the rest of the physical world, neither challenging the traditional subservience of the organic to the mechanical nor being permitted to revive our very conception of the mechanical. In its re-emergence from Canguilhem through to new vitalism, however, vitalism has outgrown the kinds of associations it had at the turn of the nineteenth century and developed a more programmatic and methodical nature: taking its cue from specific sites and notions of the vital and prioritising concepts like immanence and relationality, while insisting on straddling boundaries and remaining open to where the notion of life might lead it when explored outside the boundaries of the life sciences. In a similar vein, 'life' for Bergson as for Nietzsche can be seen to function not so much as underlying definition or self-enclosed field, but as stimulant, horizon, and programmatic orientation: it is used to force encounters, bring problems into relief, raise stakes, revaluate values and remodel ideas, and ultimately to expand and incite. Thus Bergson, as Florence Caeymaex (2013) has recently highlighted, does not offer a single definition of life, but rather offers multiple characterisations, and describes the vital order in terms of a tendency.[49] Nietzsche, for his part, anchored himself in life throughout his career and across various meanings, from the 'optic of life' appealed to in *BT*, through Zarathustra's various exhortations in *TSZ* – 'Let your love towards life be love toward your highest hope: and let your highest hope be the highest idea of life!'[50] – to the later concern with redirecting human evolution. Vitalism as it has been characterised here, then, is applied to Bergson and Nietzsche not with a view to correctly partitioning their work, nor with a view to clarifying their precise conceptions of the living. Rather, the vitalist platform provides a lens through which to appreciate the complex ways in which the concept of 'life' orients their work, and to elucidate the full force and direction of their thinking, since this frequently takes its cue from an appeal to life. As such, the material that follows lays claim to vitalism as a highly generative optic for the comparative study of Bergson and Nietzsche, permitting the kind of comprehensive analysis of their philosophical affinity that I argue is lacking, and in particular highlighting certain privileged points of their metaphysical outlook. As Mariam Fraser, Sarah Kember and Celia Lury (2005) anticipate, this serves in turn to broaden the vitalist history, and to contribute further ingredients to vitalism as an evolving and open project.

A second reason concerns a more specific, 'metaphysical' sense of what vitalism brings to light in Bergson and Nietzsche. For while the three chapter themes indicate key aspects of their philosophical approach, and while the sub-sections provide a series of perspectival windows onto their work, the overall theme also reveals the working out of distinct metaphysical visions across these components. As stated in the Introduction, one of the primary reasons for employing the vitalist optic consists in bringing into focus and helping elucidate the shared metaphysics that Bergson and Nietzsche can be seen to work with.[51] This sense of metaphysics requires some clarification.

For a start, it may appear counter-intuitive to attribute a metaphysical vision to both philosophers, not only because Bergson and Nietzsche might be more readily understood, following figures like Schleiermacher and Dilthey and anticipating others like Feyerabend, as appealing to a greater historical sensitivity rather than a reinstated metaphysics in order to increase the rigour of philosophic and scientific thinking, but also because they seemingly took up quite opposing sides in the question of the uses and disadvantages of metaphysics for life. While Bergson promoted metaphysics as a yet-to-come superior empiricism, premised on a concrete investigation of the real across its multiply enduring levels, Nietzsche saw it as a has-been form of asceticism, premised on various forms of 'deification' – from appeals to transcendent providence, to an ontological infrastructure of reified subjectivity – and resulting in a devaluation of becoming and affectivity. In its rather standard modern dismissal, metaphysics is often intended in Nietzsche's sense (thanks in no small part to Heidegger's reading of Nietzsche as the last metaphysician of the West[52]); yet there are two related respects in which a Bergsonian conception of metaphysics is shared, in spirit if not in name, by Nietzsche too.

First, metaphysics indicates for both philosophers the task of opening up, critically and constructively, a post-physicalist ontology. This entails a conception of the real no longer founded on the primacy of matter conceived as solid, impenetrable building-blocks – Bergson and Nietzsche both trace this error to human perception and psychology – and articulating instead a qualitative language of process, pathos and intensity. Metaphysics in this sense is not that which comes 'after physics', as its Aristotelian origins conceive it, but that which might qualify physics by rooting out a physicalist bias in our thinking of the physical and the spiritual alike (this will be seen in their non-reductive naturalisms).[53] On this front, Bergson and Nietzsche are of especial relevance to the new vitalism: both Olma & Koukouzelis

(2007) and Fraser et al (2005) cite an effort to think ontology beyond substance, essentialism and self-identity as a leading feature of vitalism, and appeal to process and relationality as powerful instruments in this effort. These critical angles and constructive appeals will return throughout the subsequent chapters, and prove particularly influential on Bergson and Nietzsche's anti-reductionist methodologies in Chapter Three. Indeed, the shift from substance to process that informs their post-physicalist metaphysics will to some extent culminate in the value placed on immanence in the conclusion of that chapter: thinking the real beyond numerical multiplicities of static elements demands a simultaneous affirmation of perspectivism and complexity, which is to say an immanent thinking of perspectivism that traverses multiple layers of reality, and where the complex represents the challenge of perspectivism raised to a higher level.

Underlying this sense of metaphysics is a second one, indicating a sort of driving intuition at the heart of Bergson and Nietzsche's philosophies. This kind of intuition is proposed by Bergson in his essay 'Intuition philosophique', where he both distinguishes it from intuition as method, and attributes it to all philosophers as the motive force of what they have to say. Such an intuition, a kind of dynamic, originary image that germinates entire philosophies, is no less present in Bergson himself,[54] and it is substantively similar to that which drives Nietzsche, accounting for the parallel trajectories of their work. For Bergson, it is the continuous or qualitative multiplicity that informs his conception of duration, in particular the productive movement this involves. This is frequently conceived, largely due to Deleuze's reading, on a dynamic between virtual and actual, whether understood through the memory-perception circuit constituting organic action, or the evolutionary genesis of new life forms. But Bergson captures this intuition most succinctly when describing *esprit*, which he calls 'la faculté de tirer d'elle-même plus qu'elle ne contient'.[55] It is this capacity and this image of a grappling, immanent productivity that Bergson ultimately identifies with the vital order, and that accounts, pre-eminently, for the vitalism of his philosophy. Nietzsche's metaphysical intuition, on the other hand, regards the 'Dionysian pathos' of power-willing: the necessary excess by which all activity must be understood. While this bears, like Bergsonian multiplicity, on an immanent image of productivity, informing a conception of becoming as complex, dynamic power-play, in which each willing-perspective draws its full consequences in tension with others, it also carries a normative component: Nietzsche is pre-eminently concerned with *de-moralising* this global activity, insisting instead on its radical contingency. As such, his metaphysical intuition is best captured in the phrase 'the innocence of

becoming', and his vitalism seen to accentuate the internal tension of this idea: Nietzsche both inscribes life within the exploitative necessity of will to power and absolves it of moral judgement.

Together, these two senses of metaphysics inform a general field that Bergson and Nietzsche can be seen, through the optic of life and the platforms set up by this chapter's overview of the vitalist tradition, to open up: what Bergson calls 'positive metaphysics', and what I will call 'power metaphysics' in Nietzsche.[56] In what follows, the three vitalist themes reveal their writings, I think, as so many efforts to give form to their metaphysics of the second kind. But more precisely, and according to the Thesis' premise of comparing Bergson and Nietzsche through the optic of vitalism, the same themes allow the primary components of their metaphysics of the first kind to be progressively elaborated. Chapter Two, by exploring the ways in which Bergson and Nietzsche make a vitalistic 'appeal to life', will not only disclose the pivotal move of engendering with a view to expanding that initially puts their metaphysics into play, but highlights their discernment of a kind of activity that is irreducible to the reductive interpretations of perceptual and scientific frameworks, and that forms the basis of their post-physicalist metaphysics. Chapter Three's analysis of Bergson and Nietzsche's anti-reductionist methodologies will hone that original discernment into new philosophical platforms – duration and will to power – characterised by concepts like 'quantal' monisms and holistic mereologies, and bringing into focus a naturalistic immanence as key component of their metaphysics. And Chapter Four, which pursues their constructive empiricism of the irreducible in the manner of the vitalist effort to provide concrete alternatives to typically reduced phenomena, culminates in a metaphysical thinking of 'prodigality' that informs their radical conceptions of duality, time and causality. Collectively, these various components provide the vitalist metaphysics of Bergson and Nietzsche: the key, shared aspects of their thinking as they emerge from the platforms provided by vitalism.

[1] Levi Bryant, for instance, confesses that his skin 'literally *crawls*' at the sound of the term (Bryant, 'Vitalism no thanks').
[2] *A Counter-History of Composition: Toward Methodologies of Complexity* (University of Pittsburgh Press, 2007).
[3] Normandin & Wolfe 2013: 2.
[4] This overview is roughly modelled on Charles T. Wolfe's (2010) division of the vitalist history into 'functional', 'substantive' and 'attitudinal' brands of vitalism.
[5] Montpellier vitalists opposed the Paris School, which was known as a stronghold of mechanistic interpretations of living phenomena. I refer to vitalism as it emerged in French medical science as 'modern' or 'traditional' vitalism, but something of the sort has of course existed for longer, not least in the work of Aristotle. Sebastien Normandin also notes that, loosely conceived as a life force, vitalism is entrenched in the history of medicine well before Montpellier, enjoying something of an archetypal status across many healing traditions – *qi* in Chinese medicine, *prana* in Indian Ayurvedic practice, *mana* in the thought of many Polynesian cultures – and evident in the Hippocratic and Galenic medical traditions (Normandin 2013: 180).
[6] F.C.T. Moore (2010) has also observed how the eighteenth century interest in life sciences generated new interest in philosophies of the will, influencing figures like Maine de Biran and Schopenhauer, who would both influence Bergson and Nietzsche respectively.
[7] See Barthez 1806: chapter 9.
[8] For more on Barthez in this light, see Hee Jun Han, 'The vitalism of Paul-Joseph Barthez', in Ui Sahak 19, 157-188.
[9] 'la vie est l'ensemble des fonctions qui résistent à la mort' (Bichat 1800: 1). Wahida Khandker notes that, in hierarchising mortality over vitality – part 2 of his *Recherches Physiologiques* is effectively a study of the influence of death on the vital organs – Bichat enacts a subtle break with the vitalistic interpretation of the functions of the body, and that, on this view, it is Bergson's philosophy that would later remain as 'the representative of the old vitalist regime according to which corporeal life owes its complexity to a spiritual (temporal) aspect of its being' (Khandker 2014: 41).
[10] In Bernard's words, 'la force vitale dirige des phénomènes qu'elle ne produit pas; les agents physiques produisent des phénomènes qu'ils ne dirigent pas' (cited in Kanamori 2005: 19).
[11] This distinction is echoed in a distinction made by Kant between 'motive force' (*bewegende Kraft*) and a 'self-propagating, formative force' (*sich fortpflanzende bildende Kraft*), as discussed in Ansell Pearson 2002: 123. Bergson's essay on Bernard in *PM* is of interest here. Bergson ranks Bernard alongside Descartes as a scientific innovator, having done for experimental research what Descartes did for the science of abstract matter. For Bergson, Bernard's primary concern lay not in critiquing a 'vital force', nor even in promoting the idea of a '*idée directrice*', but in determining the conditions of experimental physiology: 'Il cherche moins à définir la vie que la science de la vie' (1437, 'PCB').
[12] 'To seek the connexion of first causes with their general effects is to walk blindfold in a road from whence a thousand paths diverge. Of what importance besides to us are these causes? Is it necessary to know the nature of light, of oxygen and caloric to study their phenomena? Without the knowledge of the principle of life, cannot we analyse its properties? In the study of animals let us proceeds as modern metaphysicians have done in that of the understanding. Let us suppose causes, and attach ourselves to their general results.' (Bichat, cited in Khandker 2014: 41).

[13] Also known as the Roux–Weismann mosaic theory, since the same idea had been proposed by cytologist and evolutionary theorist August Weismann.
[14] Allen 2005: 271.
[15] In this, emergentism can be said to have anticipated complexity theory and non-linear dynamics. For a more recent study combing emergentism with quantum physics, see Campbell & Bickhard 2011.
[16] Emergentism was compromised by two major scientific discoveries in physics and life science: the advent of quantum mechanics, and the near simultaneous rise of molecular biology and prebiotic chemistry in the 1950s.
[17] Bachelard, cited in Aitken 2004: 79.
[18] Russell 1959: 287.
[19] See Campbell & Bickhard 2011: 5.
[20] Exemplary figures in this respect are Hans Spemann and Jacques Loeb, both of whom insisted that mechanistic, experimental methodologies were capable of elucidating the coordinated and even purposeful behaviour of organisms without appeal to supra-organismic or teleological forces; both, moreover, saw in Driesch's vitalism a potential curtailment of biological research and a threat to its mainstream status. See Allen 2005: 271, 278.
[21] See Khandker 2014: Chapter Two. Khandker also highlights Martin Jay's claim that the same lineage can be viewed in terms of an 'anti-visual' trajectory that engages with 'the interconnectedness of the concept of life, the forms of visibility, and the question of the proper object of scientific analysis' (Khandker 2014: 37).
[22] During 2004: 18. Foucault himself, as During acknowledges, also admitted that his own schema and its treatment of 'Bergsonism' did little justice to Bergson himself. For an examination of Foucault's relation to vitalism, Bergson and Canguilhem, see Ransom 1997.
[23] Jean Gayon (2005) also claims that Canguilhem's insight regarding norms as rooted in life has roots in Bergson's idea that the 'facts' of biology are facts 'intended' by nature. For more on Bergson and Canguilhem, see Charles Wolfe and Andy Wong, 'The Return of Vitalism: Canguilhem, Bergson and the Project of Biophilosophy' in de Beistegui et al 2015. Canguilhem also provided a commentary on Chapter Three of *Creative Evolution* ('Commentaire au troisième chapitre de *L'Évolution Créatrice*', Bulletin de la faculté des lettres de Strasbourg 21 (1943): 126-43.
[24] 'the constant problem in all Canguilhem's work […] has been the relation between science of life and vitalism: a problem which he tackled both in showing the irreducibility of the problem of disease as a problem essential to every science of life, and in studying what has constituted the speculative climate, the theoretical context of the life sciences' (Foucault, 'Introduction', in Canguilhem 1991: 19).
[25] Canguilhem's project of exploring the philosophical and historical foundations of the life sciences is often called 'biophilosophy', and viewed as an alternative paradigm to mainstream philosophy of biology. Other leading biophilosophers were Raymond Ruyer and Gilbert Simondon.
[26] Wolfe 2010: 24. This as opposed to Foucault's claim that 'Life' did not exist before the emergence of biology as a science bearing that name in the nineteenth century.
[27] 'Canguilhem is himself a vitalist to the extent that he invites us to recognise in the form taken by the history of the life sciences the characteristic trace, the specific response, of *life* as their object' (Greco 2005: 18).
[28] Canguilhem, cited in Wolfe 2010: 17-18.
[29] Greco (2005: 20-21) defends Canguilhem's alleged anthropocentrism.
[30] See in particular two editions of Theory, Culture & Society dedicated to life and vitalism (22:1 (2005) and 24:6 (2007)).

[31] *Ibid.*: 3. This is something the authors draw from a series of twentieth century thinkers including Henri Bergson, A.N. Whitehead, Georges Canguilhem, Gilles Deleuze, Manuel Delanda and Donna Haraway.
[32] Olma and Koukouzelis 2007: 3-4. For an argument against this 'generalised, processual variety of vitalism, see Osborne 2016.
[33] Greco 2005: 22-3. Stengers appeals to the example of 'strange attractors' and unstable dynamic systems.
[34] In his foreword to Stengers' *Power and Invention*, Bruno Latour formulates Stengers' defence of the irreducible in terms of both risk and a resistance to domination and power: 'one should not eliminate from a discipline what constitutes its main source of uncertainties and risk […] [The] question is not to decide what is scientific and what is not, that is, to demarcate science from nonscience, but to distinguish within the sciences, or better, within the cosmopolitics, the procedures through which the scientists expect to run as much risk as their subjects' (Stengers 1997: Foreword, xv). Dorothea Olkowski inscribes these ideas within the broader context of Stengers and Prigogine's *Order out of Chaos*, and specifies how complexity differs from emergence: while the latter refers to a physical genesis of the new, complexity implies a conceptual genesis, an expression of the limited character of […] conceptual tools: 'Insofar as complexity is conceptual, it sets out problems' (Olkowski 2010: 118).
[35] Kember uses the term 'mythical' in François Jacob's sense of the term: a theory slips into 'myth' whenever its over-use breaches the subtle boundary between heuristic fertility and abstract sterility, ultimately explaining very little by attempting to explain too much (Kember 2005: 155).
[36] Normandin & Wolfe 2013: Introduction, 9.
[37] In Foucault's terms, vitalism is a vital 'indicator' in the history of biology: a *theoretical indicator of problems to be solved*, and a *critical indicator of reductions to be avoided* (Foucault in Canguilhem 1991: 18).
[38] As Claus Emmeche, Simmo Køppe and Frederik Stjernfelt indicate, vitalism in the nineteenth century had to continually transform itself by narrowing its focus in the face of scientific discoveries that strengthened the ambitions of reductionists, such as du Bois Reymond's proof that the nervous impulse was electrical, and Helmholtz's measuring of the nervous impulse (Emmeche et al 1997: 87).
[39] Nenon 2010: 4-5.
[40] Babich 1994b.
[41] On Canguilhem's understanding: 'If vitalism translates a permanent exigency of life within the living, mechanism translates a permanent attitude of the living human toward life. Man is here a living being separated from life by science and attempting to rejoin life through science' (Canguilhem 2008: 62).
[42] Rose (1998) identifies 'spurious localisation' and 'misplaced causation' as key components of this ideology. Elsewhere he laments 'an almost universal reductionist consensus which insists that, whatever the theoretical critique, reductionism works' (Rose 1997: 78). Rupert Sheldrake has also been highly vocal regarding reductionist orthodoxy in mainstream science: see his *The Science Delusion* (London: Coronet Books, 2012).
[43] An example of such a recurrence is the 'hylomorphic schema', Gilles Deleuze's term for the essentialist model of morphogenesis, whereby form is imposed on inert material from the outside. See DeLanda, 'Deleuze and the Open-Ended Becoming of the World'.
[44] See Goodwin 1994: Chapter One.
[45] The close relations between new vitalism and new materialism are, I think, best approached from the point of view of dualism: each might be said to contribute to a double-fronted effort to surpass the oppositional dualism of matter and life, in which the one materialises life and

the other vitalises matter. For new vitalism, that is, life is more than just an epiphenomenon reducible to physico-chemical elements, while for new materialism, matter is more than an amorphous substrate to be measured in terms of geometric extensiveness and homogeneous movement. In this respect, both 'causes' come from different angles and negotiate very different historical stakes; but they perhaps approximate a common centre where there is much scope for crossover and collaboration.

[46] Burwick & Douglass 1992: Introduction, 1.

[47] *KSA* 11[201]. See also *GS* 109.

[48] There is general unanimity that Bergson and Nietzsche, alongside Dilthey, form the founding trinity of *Lebensphilosophie*. Deleuze might be considered a point of intersection for new vitalists and new materialists. Rosi Braidotti, for instance, has said that 'his emphasis on processes, dynamic interaction and fluid boundaries is a materialist, high-tech brand of vitalism' (cited in Dolphijn & van der Tuin 2012: 23).

[49] Bergson characterises life, for instance, as an immense effort made by thought to obtain something from matter that matter does not want to give up ('PPPM'), a joint task of slow accumulation and sudden release (*EC*), and an attempt to let something 'pass through' that matter would otherwise hinder (*EC*).

[50] *TSZ* I, 'Of War and Warriors'.

[51] Spas Spassov (1998) has indeed observed, in regards to Bergson, that it is a certain metaphysics that separates him off from a stereotypical vitalism.

[52] See in particular Heidegger 1977: Part II.

[53] In this it is closer to William James' claim: 'Metaphysics means nothing but an unusually obstinate effort to think clearly' (cited in Strawson 2015: 13).

[54] 'À mon avis, tout résumé de mes vues les déformera dans leur ensemble […] s'il ne se place de prime abord et s'il ne revient sans cesse a ce que je considère comme le centre meme de la doctrine: l'intuition de la durée' (Bergson 1972: 1148, from a letter to Harald Höffding).

[55] 'Visiblement une force travaille devant nous, qui cherche à se libérer de ses entraves et aussi à se dépasser elle-même, à donner d'abord tout ce qu'elle a et ensuite plus qu'elle n'a : comment définir autrement l'esprit? et par où la force spirituelle, si elle existe, se distinguerait-elle des autres, sinon par la faculté de tirer d'elle-même plus qu'elle ne contient?' (830-1, 'CV'; see also 838, 'AC'; 720, *EC*; and 1229-30, *DSMR*.

[56] See Richardson (1996) and Strawson (2015) for convincing arguments concerning the basic metaphysical nature of Nietzsche's work.

Chapter Two

Appeal to life

Chapter One argued that a heuristic 'appeal to life' provides one of the key themes of the vitalist tradition. In this chapter, it provides an opening platform for the comparative study of Bergson and Nietzsche by revealing how a similar appeal throughout the work of these two thinkers generates some of the fundamental moves in their philosophic projects, staging distinctive confrontations with epistemology, science, and Darwinism. The chapter aims to show how such an appeal, without either implicating a pre-given definition of life or exemplifying a vague, reactionary anti-reductionism, can rather inform the stakes and orientations of entire philosophic trajectories, encompassing formative engagements, points of resistance, and strategies for surpassing. As such, the three fields that constitute the chapter provide seminal encounters for the experimental articulation of Bergson and Nietzsche's fundamental philosophical 'intuitions' as explained in the Introduction, and invoke a heuristic standard by which their vitalist perspectives are assessed not in relation to what life is presupposed to be, but to the philosophical expansiveness of such encounters (much as early vitalists proceeded, as appreciated by Charles Wolfe and Georges Canguilhem).[1] The optic of vitalism ultimately serves two principal purposes here in elucidating the affinity of Bergson and Nietzsche's projects. Their respective appeals to life will progressively dislodge the 'speculative' and the 'reactive' as critical concepts for Bergson and Nietzsche, which expose the insufficiencies of mechanism from two distinctive perspectives and help situate their metaphysical outlooks in a specifically post-Kantian context. In turn, these critical moves ground Bergson and Nietzsche's mutual discernment of a kind of activity which is irreducible to the reductive interpretations of perceptual and scientific frameworks, and in this way gradually open up their investigation of a 'post-physicalist' metaphysics, or what Bergson calls 'positive metaphysics' and what will be called 'power metaphysics' in Nietzsche. The chapter thus contributes to the vitalist tradition of using the notion of life as a vigilant stance and problematising tool against reductive tendencies within philosophy and science, while also following a certain involution towards the point where a notion of vital irreducibility can take root, while simultaneously providing the foundations for the constructive alternatives pursued in subsequent chapters and indicating the concluding 'prodigal' conception of reality that will eventually challenge mechanism.

2.1.
Epistemology

An appeal to life provides exhortative and transformative horizons for Bergson and Nietzsche's epistemological enterprises, which proceed along strikingly parallel paths. Common to these is the way in which both thinkers insist on tracing the history of knowledge formation in order not only to critique current prejudices and deadlocks, but to open up a conception of philosophical maturity. Two particular streams of influence are significant to the philosophic heritage of Bergson and Nietzsche's appeals to life in this regard. First, as discussed in Chapter One, the vitalist appeal to life can be inscribed within a long-standing tradition of calling upon expansive forces to overthrow current orthodoxy. The relevance of this is twofold. On one hand, Bergson and Nietzsche are each inheritors of at least one such tradition: Nietzsche's early phase was marked by Romantic enthusiasm (he retained a respect for Goethe throughout his life); Bergson was heavily influenced by core elements of the French Spiritualist tradition, with its primacy of organic wholes over their parts and the emphasis on spontaneity, contingency and indeterminism;[2] both, moreover, are founding *Lebensphilosophe*. On the other hand, what makes Bergson and Nietzsche particularly interesting heirs to this tradition is not simply their renewed appeals to irreducible forces that would overpower prevailing hegemonies – in their cases, the material and moral 'world orders' to be outlined in Chapter Three – but the fact that they each elevate this image of overpowering to a philosophical conception of causal processes. Developing this point provides the thread of continuity between this chapter's synoptic assessment of how an appeal to life sets the agendas of their work, and the final parts of the thesis in which they are seen to ontologise and normatise anti-reductionism.

The second stream of influence is the prevailing neo-Kantian climate of French and German academia, which reached its apex between 1880 and 1920. While both Bergson and Nietzsche had reasons to object to aspects of this movement – its relation to positivism, its scepticism, and its general inclination to put philosophy in the service of science – its predominance also ensured such multifarious philosophical approaches that it is too general a conflict to set up (many of the leading French neo-Kantians were spiritualists, for instance, such as Boutroux and Lachelier, to whom Bergson dedicated his *Essai*). On the contrary, what is notable here is that Kant proves a singular and pivotal interlocutor for both philosophers: each enacts their own distinctive 'return to Kant' in order to frame their

philosophic projects. While Nietzsche dismisses the movement back to Kant as a regression to the eighteenth century (*WP* 95) and targets him specifically in *GM* III, Deleuze identifies in Nietzsche's work 'not only a Kantian heritage, but a half-avowed, half-hidden rivalry' (Deleuze 1983: 52). For Bergson, on the other hand, Kant will be seen as something of a phoenix through which metaphysics dies and is reborn.

2.1.1.
Bergson and the 'vital interest'

It has been suggested that the French epistemological tradition owes much of its specificity to a distinctive anti-Bergsonian stand (During 2004: 4). Typically, however, this stand exists by virtue of a schema that over-simplifies Bergsonism.[3] Not only does he effectively straddle the dividing line purported to define that tradition by blending subjective experience with a demanding approach to conceptualisation, but his account of knowledge is multifaceted, and has been approached by commentators from multiple angles, whether exploring the relations between intellect, instinct and intuition in regard to his 'biological' theory of knowledge,[4] or providing phenomenological and 'cinematographic' articulations of his account of perception.[5] More negatively, Bergson was widely considered an anti-intellectualist. While some could appreciate the specificity of Bergson's target here – William James congratulated him on inflicting an 'irrecoverable death-wound upon Intellectualism'[6] – others, like Bertrand Russell (1912), George Santayana (1913), and Isaiah Berlin (1935) saw only a damaging insurgence against reason and philosophical objectivity. Amongst these concerns, scholars like Gilles Deleuze, John Mullarkey and Keith Ansell Pearson have seriously explored Bergson's challenge to renew metaphysics by steering the evolutionary lineage of our understanding in a superior direction, insisting on intuition as both a method and as a kind of perception. While the 'transhuman' nature of this focus will be examined in the next chapter, this section shows how such a challenge to philosophy is key to elucidating the vitalistic nature of Bergson's work.

Bergson's pivotal move in this respect consists in installing a 'vital interest' at the heart of epistemology. This involves two complementary tasks: first, engendering human knowledge by charting its evolutionary development according to certain vital needs, and second, rejoining theory of life and theory of knowledge in such a way as to drive each of these forward by means of a 'circular process' that would enable their mutual expansion (493, *EC*).

Bergson carries out the first task across *MM* and *EC* with his accounts of the geneses of perception and intelligence respectively. These are said to follow a common lineage tracing the progressive adaptation of consciousness to matter: our perceptual and intellectual operations, that is, are engendered in relation to the exigencies of action, and articulated according to the increasingly effective ways in which they construe material reality with a view to acting upon it. Bergson describes the kind of knowledge thus determined as 'cinematographic', indicating how perception and intellect decompose and recompose the world.[7] A brief account of each is necessary.

Bergson's account of perception is notable for insisting that we look beyond purely physiological factors (an Aristotelian prejudice) and speculative presuppositions (both materialist and idealist) in determining how and what we actually – and 'virtually' – perceive. In *MM*, he poses an aggregate of images in their universally reciprocal action as the reality of matter and calls this pure perception, then frames the question of conscious perception not in terms of an emergent faculty that would create objects, but as a practical limitation of what would by rights perceive all. This limitation occurs because the primary function of perception is to prepare actions by selectively sketching out what currently interests us in the world and eliminating what does not (359-61, *MM*). Our body is thus identified as a centre of indeterminacy within a deterministic universe, and our perceptual field understood as the delimited measure of its possible action upon things and theirs upon it.[8] For Bergson, the foremost operation of conscious perception is to draw divisions within this 'virtual' field, pursuing the 'double work of solidification and division' on a mobile continuity in order to procure stable reference points for action (344-5, *MM*). Here originates Bergson's understanding of homogeneous space: a purely ideal, amorphous schema of divisibility with which we subtend the images we encounter, enabling us to treat the material world as a huge fabric to be cut and stitched as our needs require.[9] It is on this basis that our senses not only isolate our body, followed by other bodies in its image, but provide the rudiments of a diagrammatic image of matter. Bergson emphasises this consistently: 'All division of matter into independent bodies with absolutely determined outlines is an artificial division' (332, *MM*).

The development of intelligence, for Bergson, further entrenches these perceptual contours. While perception was presented in its subtractive relation to matter, a 'reciprocal genesis' of intellect and matter allows Bergson to ground the intellect's more potent use of abstract

spatiality in matter's own tendency to spatialisation: both having been 'cut out' and 'detached' from a 'broader and higher form of existence' (653, 664, *EC*), the mind's latent geometrism and proclivity for distinct concepts is established in tandem with the materialisation of mutually external things ('the more consciousness is intellectualised, the more matter is spatialised' (656, *EC*)). This new adaptation constitutes not only the intellect's advance on perception, but its divergence from instinct: while instinct remains in internal contact with matter, intellect is said to exteriorise itself and 'alight' upon it, taking up a retrospective vision by which it makes of it a powerful instrument in its own vital services (632, 637, *EC*). This 'grip' is the basis of the intellect's defining power, 'fabrication', whose innovation consists not simply in the capacity for mechanical and instrumental invention (particularly of tools), but in the potential to indefinitely vary its inventing: this allows the intellect to continually open the field of activity which remains closed around instinct (whose tools are confined to its organs), and to draw advantage from any given circumstance (622, *EC*). Man is pre-eminently *homo faber* rather than *homo sapiens* (613, *EC*). This wholly practical method of 'fabrication' also defines the nature of intellectual knowledge. Practicing the positive acts of discontinuation and immobilisation on a reality that was, in part, already going in that direction, the intellect arrives at static, discrete representations from which it can then start out (625-7, *EC*), indefinitely applying its empty frames to whatever it encounters (622-3, *EC*), and sacrificing an intimate knowledge of objects for the establishing of relations. If perception provided the rudiments of atomistic matter, then, the intellect is posited as intimately related to its formal structures, 'made' to think it in terms of unchanging solids and their maximally repetitive relations, and therefore capable of more elaborate decompositions and recompositions of the world.

The reason these procedures are likened to the cinematograph is because they stitch together immobile slides in order to conjure movement, producing a fragmented reconstitution or 'projection' of the real. In so doing, however, both 'instruments' discount the effects of time: just as the 'moving' image on the screen is merely the projected unreeling of static, pre-given frames, so the understanding rearranges diagrammatic images of matter according to reliable habits. In both cases, time's efficacy is reduced because it is the pre-established rather than the new that is being elaborated. Thus Bergson's primary point regarding intellect is that, insofar as we are natural geometers and fabricators, we carry within us an innate metaphysics that negates concrete duration (508-9, 533, *EC*). In accordance with 'a bent contracted long ago by the human mind' (862, 'FV'), the intellect rejects all that is fluid, heterogeneous and

interpenetrating, bringing to these instead 'a translation in terms of inertia' (634, *EC*). The 'cinematographic' conception of knowledge therefore reflects the peculiarly timeless picture of the material world that humans practically inhabit, in which discrete, atomistic solids represent a facilitative grip latched onto by consciousness – 'the vehicle of an *action* and not the substrate of a *knowledge*' (220-1, MM) – and what we call 'movement' depicts an abbreviated mapping of change entirely dependent on that vehicle.

The key idea in Bergson's accounts of perception and intellect is that they are 'overflown' by life, invented in the service of its effort to adapt more precisely to materiality in order to gain more control over it. This means that the general character of our thinking is to be viewed strictly in light of that adaptive relation: our knowledge remains relative to the 'plane of action' on which we contracted our perceptual and intellectual habits. This sets up both negative and positive trajectories. On one hand, Bergson's appeal to a vital interest ensures that the relativity of our knowledge is not in itself a problem: since pure perception in *MM* is said to coincide with matter, and conscious perception to exist in a subtractive relation to it, Bergson can more accurately describe our knowledge as a 'reduced' version of the real, differing only in degree from its object.[10] It becomes a problem, however, when a 'speculative interest' rather than a vital one is assumed to lie behind our perceptual and intellectual faculties. The 'speculative' for Bergson is a wholly critical term denoting the transposition of habits contracted in action to the realm of abstract thought. Contrary to the vital interest, it stems from the failure to engender the cinematographic heritage of our understanding, producing the double error of presupposing a spatialised vision of the world and a static conception of the mind for thinking it.[11] Speculation, as such, is the root of much philosophical confusion. In 'IM', Bergson argues that a speculative approach to knowledge, which he there calls 'analysis', installs a difference in kind between the object of thought and the concepts applied to it externally, limiting us to an indirect, symbolic acquaintance with things gleaned from merely standing outside of objects. It is this difference that generates the severing of appearance and reality that marks relativism. Bergson considers this an inferior and debilitating brand of philosophy, and finds its figurehead in Kant.

Kant is a singular figure for Bergson precisely insofar as he indicated at once the necessity and the impossibility of a progressive metaphysics (1364, 'IP'; 1430-1, 'IM'). In distinguishing between the matter and form of the understanding he came close to affirming the irreducibility of both reality and mind to the intellect and founding a philosophy on real,

productive contact with the absolute (797-8, *EC*); but in then denying any extra-intellectual contact with reality – 'all of our intuitions are sensible, or, in other words, infra-intellectual' (ibid.) – he eliminated the intuition required and reduced the mind to an intellectual faculty for establishing relations that is perfectly congruous with matter.[12] For Bergson, this results from the specific nature of a poorly posed problem: the whole object of the *Critique of Pure Reason*, he argues, is to explain how a certain order could be imposed on supposedly incoherent matter (1306-7, 'I2'). Kant's answer – that the mind introduces it – is premised upon asking what the mind and nature must be like if the presuppositions of modern science are correct; but these presuppositions he failed to critique (798, *EC*). That is, Kant works with the idea of a unified, totalising science – 'capable of binding with the same force every part of the given, and of coordinating them into a system presenting on all sides an equal solidity' – thereby adopting and cementing in modern philosophy the mathematical presuppositions of modern science.[13] This led him to forestall a positive metaphysics by impoverishing the mind in two ways. On one hand, he gives it no genesis (657, *EC*): for Bergson, Kant could only envisage three possible relations between mind and world, and implicitly opted for a pre-established harmony between them. On the other hand, Kant gives the mind no scope for expansion: as unengendered, it already possesses certain forms and categories *a priori* in order to impose its order on the world, making it structurally given once and for all, and closing the circuit of possible experience ('It is already given, and we simply use it in the same way that we use our sight to take in the horizon': 657, *EC*). For all the innovation and promise of the Copernican revolution, then, transcendental idealism represents for Bergson the development to its most systematic form of a 'natural illusion' (1307, 'I2'): a restrictive relativism no less dogmatic than what it critiqued.[14]

It is this perspective on Kant that informs the second task of Bergson's appeal to a vital interest, which was said to show how theory of life and theory of knowledge could be rejoined in a mutually expansive way. Kantian relativism eliminates this possibility because of its essentially speculative foundations: in failing to engender the categories of the understanding, it severs us from direct knowledge of things, and banishes both metaphysics and the absolute. For Bergson, however, this rejoining becomes possible in two ways. First, his overall genesis of the cinematographic nature of our knowledge revealed it to differ only in degree from the reality that overflows it. That is, though our knowledge is relative to the plane of action, our action, being real, touches the absolute, such that our knowledge, though 'reduced', need not be said to differ in kind from its objects. More specifically, the

'reciprocal genesis' of intellectuality and materiality outlined in *EC* Chapter Three allows Bergson to find in the intellect not a harmonious reflection of geometrical matter as per speculation, but an appendage to the faculty of acting: by both cutting intellectuality out of a larger movement and showing it to be mutually modelled on matter's tendency to spatialisation, such a genesis dispenses with a pre-established harmony (670, *EC*) and exposes relativism alongside the antinomies as entirely man-made (1269, 'I1'; 1312, 'I2'). It is thanks to these ways in which intellect is 'overflown' by life that Bergson can look beyond a simple enumeration of eternal categories of thought (623-4, *EC*) and seek instead not only their genesis – why we think like we do – but an indication of their expansion. Second, Bergson affirms the possibility of a kind of knowledge that Kant denies, namely direct intuition. Recovering an immediate contact with the real is not only integral to limiting the intellect's scope and forestalling the epistemological closure of relativism, but to reinstating and pursuing a progressive metaphysics that attains to an absolute kind of knowledge.[15]

This progressive metaphysics, which Bergson calls 'positive metaphysics', issues in the sustained pursuit of a positive conception of the immaterial in its highly diverse manifestations, whether as spirit, mind, life, or consciousness; each time, moreover, it is intuition that provides the means for these experimental investigations. While epistemology thereby becomes 'an infinitely difficult enterprise' (671, *EC*), due to both the complexity of its field and the intellectual violence inflicted by its method, it simultaneously becomes capable of indefinite growth, requiring the collective effort of many thinkers completing, correcting, and improving one another (493, *EC*). It is in these senses that Bergson, at the confluence of various traditions, has been called a 'spiritualistic positivist' (Gayon 2005: 44), whose philosophy aspires towards a 'superior positivism and empiricism' (Ansell Pearson 2005a: 60). As John Mullarkey notes, this tempering of the scope and sovereignty of philosophy as metaphysics, and of metaphysics as a superior amalgam of positivism, spiritualism and empiricism, not only signalled the untimely nature of Bergson's thought at the turn of the nineteenth century – in 1903, many philosophers were looking to bury metaphysics rather than (re)introduce it – but makes him appear particularly contemporary insofar as it avoids the postmodern clichés of philosophy having reached its end, alongside showing 'a maturity regarding philosophy's empirical basis and the extent to which it can maintain its autonomy from other disciplines'.[16] The key methodological elements of this reform of philosophy will be further explored in Chapter Three.

2.1.2.
Nietzsche and the total economy of life

Nietzsche's pronouncements on truth and his endorsement of 'perspectivism' in particular have generated one of most disputed aspects of Nietzschean scholarship: while the concept itself is often taken to be one of his most significant contributions to epistemology,[17] several questions surround it. It has been disputed, for instance, whether perspectivism represents 'an opposition to all forms of dogmatic proselytising',[18] targeting, in particular, any correspondence theory of truth committed to metaphysical realism; whether it inevitably leads to cognitive relativism, or might permit of some kind of internal ranking and increasing approximation of the truth similar to Bergson's view; and whether Nietzsche can be approached in terms of an alternative theory of truth, be it pragmatist (Danto 2005), anti-foundationalist (Clark 1990), or cognitivist (Wilcox 1982). These concerns have naturally articulated a range of approaches. Alexander Nehamas (1985) has observed that a dilemma implicit in perspectivism leads scholars to either emphasise Nietzsche's 'positive' views and overlook perspectivism, or focus on perspectivism and ignore the rest, or construe it 'negatively', as the effort to undermine the positions of others. John Richardson, similarly, highlights a tension between Nietzsche's perspectivism and his proposed ontology of will to power (and himself argues that perspectives *are* wills to power, and that a perspectival truth, what Nietzsche calls a 'future objectivity', is 'the goal of a later stage of the will to truth').[19] Lastly, and quite astutely, Ken Gemes has argued that perspectivism should no longer be viewed as a predominantly epistemological thesis, inasmuch as interpretations of this sort tend not only to ascribe 'banal or unacceptable' positions to Nietzsche, but to ignore the context of much of Nietzsche's writings on truth. The latter, for Gemes, most often testify to an expressly polemical interest in the conceptual and rhetorical role played by truth within various cultures, rather than a concern with making formal epistemological contributions. For Gemes, perspectivism is thus an 'alternative to, and not a means of pursuing, epistemology' (Gemes 2013: 574), and is best interpreted as a kind of psychobiological claim to be explored as an extension of his claim that all life is will to power. I follow Gemes' approach here because it allows Nietzsche's critique of truth to be explored as the moral problem he intended it to be, and therefore as a fundamental piece of his project of revaluation. It is in this sense, indeed, that the problem of truth is illuminated by an 'appeal to life', and ultimately transvalued towards a new health.

Of all Nietzsche's multifarious appeals to life, the notion of a 'total economy of life' – cited at *BGE* 23 and explored in several passages of *GS* – plays the most important role in questioning the value of truth, by proposing a concomitant value to untruth as a condition of life. For Nietzsche, all human life is sunk deep in untruth (*HH* 34), in that a range of 'basic errors' and 'articles of faith' have shaped the organism's perceptual, representational and logical operations.[20] Echoing Bergson somewhat, he cites among these errors the belief in 'bodies, lines, planes, causes and effects, motion and rest, form and content' (*GS* 121), alongside the ideas that there are enduring things, equal things, and that a thing 'is what it appears to be' (*GS* 110). These ideas express neither universal structures of rationality nor objective aspects of reality for Nietzsche, but rather fulfil the function of simplifying and schematising the sensuous manifold into something calculable and communicable. His key point is that the 'falsity' of such judgements matters little in comparison with their capacity to advance life (*BGE* 4): hereditary survival of the most deep-seated of these judgements – the 'incorporation' of errors in the form of a cognitive endowment (*GS* 110) – does not 'prove' them true, but rather vitally useful in preserving and breeding the species over enormous periods of time (*BGE* 4). Man's truths are ultimately 'his irrefutable errors' within this 'most amazing economy of the preservation of the species.[21]

Rather than inviting a revaluation of truth that would simply see it switch places with falsehood, Nietzsche is here using the concept of a total economy to trace the interdependence and mutual conditioning of all aspects of life, including seemingly opposite terms. The continued existence of a quality, impulse or idea, for instance, testifies to its contributory role within the whole: everything is 'expedient, species-preserving, and indispensable' (*GS* 4), 'nothing that is can be subtracted' (*EH*, 'BT' 2). This establishes a certain 'univocity of life' whereby all things are approached equally in regard to their part within the total economy, restoring legitimacy, as Lawrence Hatab has highlighted, to the wholescale conditions of becoming: 'For Nietzsche, all evident forces play a role in cultural life, and a failure to embrace the whole package betrays weakness and the seeds of life-denial' (Hatab 2015: 41). In turn, this allows Nietzsche to ask why truth has nonetheless come to be so highly valorised, and untruth so devalued, in Western culture.

The highly original response that Nietzsche gives to this question is that truth has historically been a moral issue, and that its pre-eminent status represents a fantastical revenge on the sensuous world of becoming by those who suffer from actuality. Truth, that is, consists in a

purely invented notion of the unconditional and self-identical against which weak types measure reality.[22] In this, the philosophical discourse of truth instantiates the kind of nihilistic dualism definitive of any moral value system as Nietzsche understands it: an antithetical elevation and devaluation of terms according to which one is made 'superior to life' (X at any price), and the other is degraded as derivative of 'this transitory, seductive, deceptive, mean little world'. 'Untruth', in this sense, is tied precisely to that world of becoming rejected by those who suffer from it, and 'truth' characterises the world which ought to be. This antithesis captures what Nietzsche calls the 'fundamental faith of the metaphysicians': the denial that the highest values could ever originate in anything lower than them – such as truth from error or a will to truth from a will to deception – and must instead have an origin of their own in the intransitory and unconditional.[23] This is the moral source of the metaphysical separation between appearance and reality from Plato to Kant (which Nietzsche narrates in *TI* as 'the history of an error') and of the Socratic equation of the true and the good (whether as God's will, the *summum bonum*, or the greatest happiness of the greatest number).[24] Although Nietzsche's thinking on the whole affirms ubiquitous circumstances of struggle, he rejects this kind of oppositional *exclusion* precisely insofar as it denies the emergent conditions of becoming. The more controversial implication of total economy that comes from this moral perspective on the value of truth, then, is not simply that 'a higher and more fundamental value for all life might have to be ascribed to appearance, to the will to deception', but the possibility that 'what constitutes the value of those good and honoured things resides precisely in their being artfully related, knotted and crocheted to these wicked, apparently antithetical things, perhaps even in their being essentially identical with them' (*BGE* 2). Nietzsche concludes from this configuration that truth traditionally conceived – its antithetical pre-eminence within the Platonic-Christian tradition – betrays forces which denigrate life, and thereby mobilise truth *against* life.

Where Nietzsche's earlier texts, still resonating with a Romantic emphasis on life and how best to serve it, already explored the idea that renouncing anything that presupposes life would be tantamount to renouncing life itself, his later texts, while continuing the same concern for a salutary relation to intellectual and cultural pursuits, work to articulate the nature of the nihilistic forces that have taken hold of life. *GM* provides the most concentrated effort to investigate this, culminating in the account of the 'ascetic ideal' outlined in Essay Three. This account asserts that 'reactive' forces have lain behind the moralistic determination of the highest values, now conceived in terms of an unconditional will to truth.

Nietzsche declares that our demand for the unconditional, our compulsion towards it even as an 'unconscious imperative', is the ascetic ideal itself, which is to say faith in the metaphysical value of truth (truth for its own sake and at any price),[25] and that *all* knowledge has grown up in this light (*TSZ* III, 'Old and new', 7). He finds the philosophical apotheosis of this lineage in Kant, and it is through his engagement with Kant's critical project that he tries to shape an alternative to the ascetic ideal.

Much as Kant proved a singular figure for Bergson by indicating both the necessity and impossibility of a progressive metaphysics, his singularity for Nietzsche consists in at once discovering and betraying critique.[26] Where Bergson sought to revivify metaphysics by outflanking Kantian relativism, however, Nietzsche saw in the latter the epitome of the former, and aimed to uproot the metaphysical 'ideal' by extending Kant's project: 'The will to truth requires a critique – let us thus define our own task'.[27] What is indicated here is the opposition between Kant's intended scope, which was total critique, and his merely placatory results, whereby the dogmatic concepts of theology ('God', 'soul', 'freedom', 'immortality') were allowed to emerge unscathed. According to Deleuze, this was inevitable insofar as Kant only pushed a very old conception of critique to the limit, 'a conception which saw critique as a force which should be brought to bear on all claims to knowledge and truth, but not on knowledge and truth themselves' (Deleuze 1983: 89). By failing to examine the value of truth itself, that is, Kant's critical project remained dogmatic, which is to say subservient to the ascetic ideal: truth is still considered 'superior to life'. In Deleuze's terms, Nietzsche introduces value to the question of truth by 'dramatising' it, asking who, or rather what type, is seeking the truth: 'The concept of truth describes a "truthful world" […] But a truthful world presupposes a truthful man as its centre. – Who is this truthful man, what does he want?' (Deleuze 1983: 95). This truthful world, as seen earlier, proves inseparable from 'the will to treat this world as appearance' (*ibid.*: 96), which is precisely the moral prejudice that dogmatises Kant's execution of critique: it is why Kant was willing to deny knowledge in order to make room for faith, and proceed to an overall dualistic philosophy – of noumena and phenomena, of freedom and necessity – that leaves us with a divided self that can only be bridged by postulating an abstract ideal of the highest good. By proposing that a comprehensive critique of truth can only proceed by means of a critique of the value of truth, Nietzsche furthers the Kantian project, indicates a philosophy beyond the ascetic ideal ('beyond good and evil'), and indeed frames the significance of his own work: the will to

truth 'has become conscious of itself as a problem' (*GM* III 24, 27), and a revaluation of all values must ensue.[28]

Nietzsche is aware, however, that this revaluation can abandon neither the concept nor the pursuit of truth; on the contrary, he frequently cross-examines his own commitment to virtues like honesty and intellectual integrity in light of the pervasiveness of the ascetic will to truth (*GS* 344, 377). Instead, he wants to put the will to truth in the service of saying yes to life by means of two propositions, a historical experiment and a future-oriented wager. In *GS* 11, Nietzsche claims that man has only ever incorporated his errors, those articles of faith that enabled the species to preserve itself and develop. But now the impulse for truth, though a late arrival within the organism's economy, has become strong enough to clash with those primeval errors – it too is a life-preserving power, 'a piece of life itself'[29] – and a new challenge concerning the conditions of life comes into relief in the form of an experiment: 'To what extent can truth endure incorporation?' (*GS* 110). Nietzsche is identifying here a certain threshold of intellectual maturity for the human animal, a point at which one can either retreat into the safety of pre-established patterns of knowledge (that which the ascetic ideal promoted and Kant categorised), or recognise the contingency of these within a total economy of life which continues to evolve. In one respect, the truth to be incorporated here is precisely this truth about our errors as revealed by our relatively new impulse to probe the conditions of our becoming: the experiment enjoins us to embrace the potentially conflicting powers those conditions give rise to and, rather than reifying them (into ego, subject, free will) or deifying them (as true-false antitheses, as truth at any price), direct them towards 'something else – let us say heath, future, growth, power, life…' (*GS*, 'Preface' 2). Nietzsche appeals to this experiment as a standard of 'strength of spirit' (*BGE* 39); but, as Chapter Three will suggest, the ethos and constitution required for it are also key to the genealogical method, which insists upon a full and honest view of the total economy of the human (confronting, for instance, the material origins of guilt (*GM* II), the productive role of cruelty (*BGE* 229), and the way in which suffering can constitute 'a veritable seductive lure to life (*GM* II 7)).[30]

The second way in which Nietzsche seeks a new relation to truth is through collapsing the nihilistic distinction between appearance and reality and affirming the aftermath. For Nietzsche, to abolish the fiction of the 'true world' also dispenses with the moral devaluation of the 'apparent world', and thereby serves to redeem the will to (dis)semblance, which is

elevated to a superior power in the form of an artistic will that can effectively oppose the ascetic will.[31] Nietzsche is here turning to the tragic artist rather than the classical philosopher as a model for truth – Aeschylus over Socrates – inasmuch as their acceptance, valorisation and proliferation of appearances involves no implicit appeal to an inaccessible world hidden behind – this would be a pessimistic kind of art that merely consoles – but rather, in the 'Greek' manner, an affirmation without reservation of all that is 'questionable and terrible in existence' – 'even of suffering, even of guilt'.[32] Nietzsche understands this transfigured notion of appearance as 'reality *once more*, only selected, strengthened, corrected', and describes it as a superficiality born out of profundity (*GS*, 'Preface' 4).[33] This artistic will is the most affirmative form of the will to power, and by binding a revaluated concept of truth to a de-moralised conception of appearance, Nietzsche is really aiming to release truth-seeking from the reactive determinations of the ascetic will and re-assign it instead to the creative force of the will to power. Thus, of the 'genuine philosophers' charged with the task of creating values at *BGE* 211, Nietzsche says 'Their "knowing" is *creating*, their creating is a law-giving, their will to truth is – *will to power'*. What this means, as he states at *WP* 552, is that truth is no longer 'something there, that might be found or discovered – but something that must be created and that gives a name to […] a *processus in infinitum*, an active determining'. This sets philosophy on a new footing, and is, as Deleuze articulated, what a total and positive critique ought by rights to achieve: by submitting ideal knowledge rather than false applications to critique, Nietzsche generates the possibility of 'a thought that would lead life to the limit of what it can do', a thinking that would mean '*discovering, inventing, new possibilities of life*' (Deleuze 1983: 101).

Insofar as the will to truth is reoriented by the will to power, however, will to power provides another kind of truth that Nietzsche can be said to embrace alongside that which we must incorporate: that truth has always been expressive of will to power. This is what perspectivism means: that truth is always-already interpretive, and therefore always-already in the service of life. What *GM* reveals is that truth has traditionally been symptomatic of a reactive will to power, and therefore in the service of declining life. So whether truth enhances or denigrates life is really a matter of the kind of life that truth already expresses. Aside from this exposure of truth in the service of life, however, Nietzsche also wants to mobilise truth towards a healthier kind of life. His revaluation of values, that is, does not simply reverse a preceding hierarchy by replacing an ascetic will with a power-will, but aims to replace a reactive will to power with an active one. This would entail a new rank-ordering

of values whose orientation towards health rather than sickness hinges on precisely the recognition of the 'truth' of will to power (Nietzsche's own truth-claim): 'the objective measure of value' becomes 'solely the quantum of enhanced and organised power' (*WP* 674). In Christophe Cox's terms, truth is 'not a question of distinguishing the real from the apparent world but of distinguishing different ways of constructing apparent worlds' (Cox 1999: 103).[34] This is what allows him to say that the slave revolt in morals represents an inversion of those values which alone could guarantee mankind's prosperity and future (*EH*, 'Foreword' 2): under idealism, faith, the theologian instinct, 'value judgement is stood on its head', rendering the human animal 'mendacious and false down to its deepest instincts'.[35] And it is this disentangling of truth from the ascetic will and installation in will to power instead that leads him to propose the ideal of a healthy philosophy – one born of 'riches and strengths' – as a creation of concepts (*GS*, preface 2). Nietzsche's appeal to life therefore discloses two truths integral to the transvaluation of truth: not only will to power as the elemental nature of the total economy of life, but a form of excess ('Dionysus') as the most exuberant degree of life ('Excess revealed itself as truth'[36]).

2.1.3.
Conclusion

In Bergson and Nietzsche alike, an appeal to life thus informs three interrelated moves that prove integral to their critical and constructive engagements with philosophy. In Bergson, it engages the standard of a 'vital interest' for evaluating theories of knowledge, enables a concomitant critique of a 'speculative interest' and the relativism it entails, and finally proposes a conception of absolute knowledge that would surpass this relativism. For Nietzsche, it is an appeal to life as 'total economy' that throws the value of truth into question, provides critical perspective on the nihilistic 'will to truth', and lastly envisions a new relation to truth through the affirmation of a 'redeemed appearance'. By allowing them to engender knowledge and truth via a cinematographic lineage and the idea of untruth as a condition of life, these appeals open up two critical perspectives on the status of knowledge and truth – as 'speculative' and as 'reactive' – which in turn inform their distinctive returns to Kant, who was presented as the apotheosis of relativism and asceticism understood in these ways. It is therefore by overcoming Kant that each formulates renewed philosophic tasks, which consist in rejoining theory of life with theory of knowledge for Bergson, and truth with health for Nietzsche. For the former, this generates the field of positive metaphysics, which

presupposes the reality of duration, and its investigation through the method of intuition, while for Nietzsche it presented will to power in terms of a creative will to semblance, in which truth becomes a matter of appearance and active determination. As the next section will show, these perspectives, and the opening of both these fields, not only permit distinctive approaches to science, but find further articulation through precisely those engagements.

2.2.
Science

This section examines how Bergson's and Nietzsche's appeals to life lead into critical perspectives on science.[37] Both thinkers develop distinctive perspectives on science's supremacy around the turn of the twentieth century, which they challenge not only for its questionable foundations, but its damaging relationship with philosophy. Ultimately, they both look to reign science in from its pre-eminence in order to set it on a path that is both progressive – 'the furtherance of scientific experimentation' (1245, *DSMR*), a 'gay science' – as well as complementary to the new trajectories they envision for philosophy.

Some historical context will prove important to these analyses. Bergson and Nietzsche both inherited a scientific worldview steeped in the modern mechanical conception of nature, whose mathematical orientation drove it towards maximal objectivity, quantification and predictability, at the expense of less measurable, 'subjective' matters of purposes and values (philosophy was left to argue over whether these existed as mere secondary qualities of human experience, or in the transcendental subjectivity of universal principles intrinsic to any rational mind). But Bergson and Nietzsche were also writing in times that were both precarious and provocative. Herbert Spencer's belief that Newtonian physics signalled the ultimate stage in the evolutionary adaptation of our knowledge to the world, for instance, incited strong reactions against this worldview from Bergson and Nietzsche alike (seen especially in their views on evolution), while both also welcomed the revolutionary ideas of thermodynamics, acknowledging in particular the profoundly philosophical import of the theory of entropy, which stimulated their philosophies of time. Around the same time, a growing conviction that scientific laws ought not to be treated as universally irresistible, but rather as conventional descriptions of perceived regularities – or, since Maxwell and Boltzmann, as statistical probabilities – contributed to a gradual upsetting of the deterministic paradigm (culminating in the emergence of quantum theory in the early twentieth century).[38]

Alongside this trend, scientific innovations had also brought about huge technological and social change, and with it a sense of crisis as it became apparent that such upheavals required a circumspection and critical reflection that science, and philosophy of science, remained unprepared for. Urgent questions arose concerning its methods of investigation and the horizon of human perception in light of technological advances; its implicit ontological foundations given the progressive dematerialisation of matter that was taking place (Boscovich, Thomson and Faraday would be key influences for Nietzsche and Bergson in this regard); and the ultimate direction of the scientific endeavour, whether in view of escalating mechanisation, the continued 'disenchantment' of the world via unchecked quantification, or the prospect of a universal heat-death. Such critical considerations are perhaps now most readily associated with the names of Husserl – explicitly in his *Crisis of European Sciences and Transcendental Phenomenology* (1936), though implicitly too in his early efforts to make of philosophy as phenomenology an *Urwissenschaft* – and Heidegger, for whom the question of science and modern technology was a sustained theme from *Being and Time* (1927) onwards, and provided the basis for his hermeneutic phenomenology of scientific theory and practice. While the work of these two figures proved rightfully seminal in the emergence of a continental approach to philosophy of science, this section, while advancing the chapter's overall argument, also highlights the contribution made by Bergson and Nietzsche in this respect via their own distinctive perspectives on science and its relations with philosophy.

2.2.1.
Bergson: science as an 'adult perception'

Bergson's philosophic relationship to science has been a prominent topic of both dispute and scholarship throughout the history of Bergsonism.[39] Despite a highly proficient mathematical background and immersive engagement with multiple scientific fields – including neuropathology, thermodynamics and ethnology – he was dismissed by Einstein for his intervention in relativity physics, reproached by Borel and Bachelard for perpetuating an outdated image of science, and assumed by many quarters to promote anti-scientific prejudices.[40] Bergson certainly didn't consider himself a 'philosopher of science': in fact, as he informed William James, the break with Herbert Spencer that instigated such a decisive change in his way of thinking in the early 1880s concurrently reversed his prior intention to devote himself to philosophy of science (then understood as a foundational or interpretive metadiscourse). That same shift, however, provided him with the critical perspective he

would consistently use to confront scientific theories, making explicit to them, as Ilya Prigogine was able to appreciate, the positive, qualitative aspects of time they were neglecting (such as in the treatment of conscious states as magnitudes in psychophysics, or the engramatic interpretation of memory in neurology). In turn, this allowed him to view the history of science not only through the lens of specific problems rather than successive theories – the limits of mechanism in evolutionary biology, for example – but in relation to correlated philosophical questions. The focus of this section is Bergson's concern with the historical origins, difficulties and prospects of that relation, and more specifically how he shows science to have attained a false supremacy which might be redressed and reoriented by the same appeal to life that revitalised metaphysics.

In 'L'intuition philosophique' (1911), Bergson describes scientific knowledge as an 'adult perception' (1363, 'IP'), working along the same 'great pathways traced by our senses throughout the continuity of the real', and taking familiar tendencies of intelligence 'to their highest degree of exactitude and precision'.[41] In this respect, scientific knowledge, like our understanding generally, remains relative to action – conventional and instrumental – while partly touching the real and differing from it only in degree. But in its tendency to visually isolate stable objects and systems on the model of pure space (507-8, 799, *EC*), to establish symbolic relations between measurable phenomena, and to translate movement as a series of fixed points traversed by a mobile (1257, 'I1'), science elevates our practical interests to a highly elaborate system that embraces the speculative error to an unprecedented degree, embodying it as an unrestrained ideal. It is this ideal, and the 'realism' to which it pretends, that sustains a false supremacy of modern science, and Bergson characterises it in terms of the 'superhuman' trajectory implicit in its programmatic elimination of duration.

The 'superhuman' designates the quintessential direction of 'modern science' in its aspiration towards maximal prediction. Bergson insists this course was decided by its founding element of modern mathematics, to which its various branches bear an essential affinity and tend towards as an ideal due to their shared participation in three methodological features. These are the prioritisation of measurement;[42] the effort to overcome the Aristotelian heritage of a science based on concepts by establishing laws that would ascertain constant relations between variable magnitudes;[43] and, most importantly, a radically new approach to time and change. The latter is what Bergson finds so seminal in the experiments of Kepler and Galileo (777, *EC*): against the ancients' approach to time as exhibiting natural articulations and

culminating points, Kepler's essential question was how to use the respective positions of planets at a given moment to determine their positions at any moment whatsoever. The same problematic, 'brought down to earth' by Galileo's plane, was then framed for all material systems ('each material point became a rudimentary planet'[44]), and modern science thenceforth operated on the premise that time is indefinitely decomposable, all instants counting equally (774, *EC*). It is in this sense that Bergson claims modern science is pre-eminently defined by its aspiration to take time as an independent variable, 'the magnitude to which we should wish to relate all others'.[45]

These features were given their fullest expression by Newton, whose universe-machine epitomises Bergson's conception of scientific realism: impenetrable, unchanging elements in relations of mutual externality; empty, amorphous containers of absolute space and time modelled on Euclidean geometry; and axiomatic, universally valid laws of homogeneous motion dictating translation without transformation and ever returning to equilibria. In this picture, phenomena resolve into particles operating deterministically upon one another, and change is reduced to schematic arrays of points and instants. Bergson's capital concern is with how time in the Newtonian universe is treated analogously to space, infinite in extent, independent of and logically prior to events, and universally marking the same instant simultaneously across space. For Bergson, this set the standard for modern science: in order to fulfil its definitive function of foreseeing and predicting, it retains of the material world only that which is repeatable and calculable – abstracting the 'extremities' of a movement in order to isolate measurable units – and thereby removes duration from time and mobility from movement (1255, 'I1'; 77, *Essai*). The crucial standard that emerges here is that time becomes not only in principle reversible, but infinitely manipulable in calculations, susceptible of acceleration and deceleration without qualitative repercussions.[46] Centuries can thus be leaped ahead of time without real impact on events, as the past and future become functions of a selected present. It is precisely this superhuman tendency that was crystallised by Laplace when he held that one could in principle calculate the entire future course of the universe if one could know the precise positions and momenta of all the particles in the world at a given moment.[47]

Bergson's intention in detailing this superhuman ideal is to expose the insufficiencies of the modern scientific conception of change. The pursuit of necessary determination at the heart of the Newtonian paradigm requires effacing all qualitative attributes from temporality, such

that the present could be said to contain all possible events. In the *Essai*, however, Bergson argued that we approach causal theories precisely through their manner of prefiguring the future in the present (141, *Essai*), and exposed the inadequacy of 'external causality' as a theory accounting for change by highlighting its mathematical nature. By this he means, first, that it ideally tends towards a statically deployed reality, wherein phenomena would be lawfully related according as they are 'susceptible to being reproduced in a homogeneous space' (143, *Essai*); and second, that the future is prefigured in the present as 'virtual containment', just as an indefinite number of theorems 'pre-exist' at the heart of a definition (134, *Essai*). His point is that such a principle of causality, as it converges on necessity, indefinitely approaches the principle of identity,[48] ultimately desiring only to bind the present to the present, incapable of accounting for novelty other than by algebraic complication,[49] and thus denying real change by negating time: 'the more the effect appears necessarily bound up with the cause, the more we tend to put it in the cause itself, just as we put a mathematical consequence in its principle, and thus to cancel out the activity of duration'.[50] Bergson identifies this effort to tie events to one another with such deductive rigour as the principle of mechanism: as time is reduced to an independent variable and causality is pushed towards identity and repetition, change is rendered entirely abstract, 'a circle of the given' (658, *EC*; 338-9, *MM*). This is the basis of Bergson's sustained charge against mechanism, its presupposition that 'all is given', and that freedom, consequently, is unreal (729-30, EC).

The notion of the superhuman is therefore crucial in opening up Bergson's critical encounter with causality: it extrapolates the intimate relation between causal change and temporal efficacy, introducing the idea that time must be taken seriously if causality is to be thought effectively. It is in this respect that Bergson characterises modern science by its inability to treat the living. While mechanism's marginalisation of time proves all but negligible in analysing unorganised matter and relatively closed systems, the emergence of biology in the nineteenth century provided empirical evidence of a margin of choice in vital phenomena which would prove refractory to the speculative conception of change and its predictive aspirations (511, 635, 661, *EC*). The inherent temporality of the living meant that an abstraction of an organism's 'present state' alone would be arbitrary and falsifying, revealing nothing definitive of its past or future (indeed, as Chapter Four will show, Bergson argues that the lived present is an irreducible mixture of two 'streams'). A critical concern with the creeping of superhuman pretensions into the life sciences thus instigates many of his studies, whether in relation to associationist psychology (which atomises the mind on the model of

matter), psychophysical parallelism (which sees in consciousness an epiphenomenon of the brain), or false evolutionism (which reconstitutes evolution using fragments of the evolved).[51] In each case, a reductive framework is applied to the living that threatens to annihilate its fundamentally free character.

But Bergson is interested in these challenges raised within (life) science for another reason, identifying alongside the development of modern science a parallel progression of modern philosophy. This involved a mutually beneficial collaboration in which each simply followed the natural bent of the intellect: on one hand, philosophy was inspired by the infinite potential of the mechanist's methods and adopted its aspirations and models (789, *EC*); on the other, a materialist metaphysics was developed, comprising 'a physics of the mind, traced upon that of bodies', that supported science's all-embracing advances (1283, 'I2'). Bergson argued that this was detrimental to both disciplines, partly because it combines an empty concept of spirit with a vague snapshot of matter (1283, 'I2'), but moreover because it promotes a deeply problematic relation between them in which science is considered responsible for unearthing physico-chemical facts and the laws that govern them, while philosophy is charged with uniting these in a grand synthesis. Bergson finds this division of labour woefully anachronistic (788, *EC*). Not only must scientists seek the help of philosophers to complete their own work, while philosophy, confined to an uncreative 'compendium of generalities which would surpass the generalisations of science' (1360, 'IP'), must content itself with the plausible and the probable; the philosopher is also compromised in this subservient task insofar as a speculative vision is already implicit in what he receives from the scientist, a vision he is unable to overturn so long as the two enterprises are seen to differ only in degree (660, *EC*). Yet, in 1904, Bergson argued that the dream of a *mathesis universalis* was not only still dominant in science, but still blighting philosophy (972, 'CP'), not only in the Kantian legacy seen earlier, but in the persistence of psycho-physical parallelism, which he claims is the only hypothesis regarding the relation of spirit to body that three centuries of philosophy could offer,[52] and one proclaimed by all science and metaphysics since the seventeenth century.[53]

The closing words of *EC* call for both science and philosophy to break out of this relation. Philosophy, as §1 suggested, can do this by recovering an intuitive contact with the real, surpassing relativism, and founding a 'positive' metaphysics; but the same argument indicates the path of a progressive science too. The cinematographic account of human

understanding showed that, as an 'adult perception', scientific knowledge naturally approximates the behaviour of matter: there may be something more in matter than in its conscious discernment, but nothing radically different hidden within or beneath. And the reciprocal genesis of intellect and materiality asserts that the intellect is legitimately 'at home' in matter, thereby touching a part of the absolute and able to deepen its knowledge thereof on the double condition that it consider its traditional frames as supple, and does not stretch beyond this remit. And to pursue this course, the scientific mind must avail itself of the same intuitive method as philosophy in order to sound the depths of materiality and generate new perspectives on its dynamics.[54] For Bergson, the history of modern science is not without examples on which to build.

While Galileo's experiments were foundational to the modern reduction of time to an independent variable, Bergson also credits him with the inception of an alternative tradition within modern science that promises something more progressive than the mere desire to predict. This concerns the inspiration to study movement in and for itself, rather than through falsifying symbols or concepts (like 'high' and 'low'). For Bergson, this metaphysical moment also lay behind the discoveries of the differential calculus by Newton and Leibniz (which incorporated movement into measurement), the formulation of the second law of thermodynamics (which Bergson calls the most metaphysical of physical laws insofar as it would remain generally formulable without the concept of energy), as well as the contributions of Faraday, Thomson and Clerk-Maxwell (which Bergson praises in *MM* for restoring continuity to nature). Modern physics' general transition from a substance metaphysics to one of event and process might be viewed in the same light.[55] Such rare and radical new ideas are for Bergson demonstrations of the scientific mind placing itself directly within mobility itself, and he thought science would have to develop this method and build on these successes if it was to adequately pursue a study of living beings. But they also suggest how philosophy and science can enjoy a mutual dependence and 'equal value':[56] intuition exercised on a profoundly mobile reality must be the source of specific new concepts for each, even while they tend in different directions (practical utility, spiritual dilation)[57]. This in turn provides the basis for new relations between the two disciplines, particularly those of complementarity and cooperation.[58]

2.2.2.

Nietzsche: science as ascetic ideal

Nietzsche maintained a deep interest in science throughout his career, and his shifting attitude towards it is often used as a marker of transitions in his thinking: his 'middle' or 'positivist' period, for instance, is characterised by an enthusiasm for science's uncompromising honesty. Widened access to the *Nachlass* material in recent years has also shown that he was more informed than previously thought in contemporary issues of biology, physiology, physics and sociology, and that insights from these disciplines strongly influenced both his critique of modernity and his theories of will to power and eternal return. Scholarship over the last 20 years has accordingly witnessed a 'scientific turn', exploring the fecundity of Nietzsche's perspectives on science and further probing the nature of his philosophic naturalism.[59] One of the main questions on the latter issue concerns the extent to which naturalism, for Nietzsche, signifies a continuity between philosophy and the grounds and practices of science. Brian Leiter has identified several ways in which Nietzsche affirms this, in terms of both a 'methods continuity' (according to which philosophy should emulate the rigorous truthfulness and objectivity of the natural sciences, as well as employ models of explanation adopted from them), and a 'results continuity' (according to which philosophy should build its views on certain results of science). Leiter, rightly I think, presents Nietzsche's naturalism primarily as a methodology serving the revaluation project; but the fact that science, specifically its conception of objectivity and causality, itself provides one of Nietzsche's foremost targets within this project, seriously complicates the nature of this proposed continuity. This section explores precisely this complication, pursuing science, like truth, as a moral problem, in order to return to the question of its relation to philosophy.

While Nietzsche identified the philosophic apotheosis of the ascetic ideal in Kant, he found its latest incarnation in science, whose commitment to truth he says derives from that same 'metaphysical faith' enshrined by Plato, popularised by Christianity, and ultimately 'translated and sublimated into a scientific conscience, into intellectual cleanliness at any price' (*GS* 357). Science, that is, continues the same problematic lineage as truth, and must be assessed on moral ground. Nietzsche formulated the rudiments of this idea in his early essay 'On the Uses and Disadvantages of History for Life', where he already saw that science was beginning to 'rule life', and would bring it to full fruition in his later period, particularly in *GS* Book 5 and *GM* III.[60]

On one level, the thread of this critique can be traced in terms of a basic anti-reductionism. In this respect, Nietzsche disputes the 'harmonious' presuppositions of the mechanistic framework – the Kantian faith in a 'world of truth' supposed to have 'its equivalent and its measure in human thought and human valuations', and open to complete mastery by human reason – and attacks the 'bad taste' and crude naivety of its pursuit of pure quantities: the latter, he claims, divests existence of its 'rich ambiguity' by reducing it to 'a mere exercise for a calculator and an indoor diversion for mathematicians' (*GS* 373). For Nietzsche, mechanism thus constitutes an interpretation of the world that is poor in meaning and explains little: 'It is an illusion that something is known when we possess a mathematical formula for an event: it is only designated, described, nothing more'.[61] But he also considers its pretension to exhaustively explain reality by means of a causal framework contradictory, inasmuch as mechanism effectively empties the concept of causality of all content, retaining of it only equation formulae which make causal processes reversible (*WP* 688). Like Bergson, Nietzsche traces this brand of reductionism back to the perceptual habits and pragmatic needs of the organism. The mechanistic world, he claims, is sustained by two fictions, neither of which have any justification in scientific data: a sense prejudice (the concept of motion, which views events as arranged for sight and touch) and a psychological prejudice (the concept of the atom, which transfers to things a false unity from our own illusory sense of ourselves as unified subjects).[62] Mechanistic science, in this respect, simply elaborates our interest in 'humanising' things in order to better calculate in advance (*GS* 112), and operates as such on a conceptual abstraction of manifold experience.

On another level, however, Nietzsche's key insight is not just that this framework is impoverished, nor that its anthropomorphic components require exposing. Science is rather being contrasted with the profound will to superficiality highlighted in §1: Nietzsche portrays mechanists as the latest pretenders to the metaphysical throne in attempting to reach past the external, sensual aspects of existence for a 'doctrine of the first and last laws on which all existence must be based' (*GS* 373). As the foremost repository of the ascetic ideal, that is, science is said not only to *divest nature of value*, but to *devalue* it by foisting a reactive interpretation on it. This permits Nietzsche to not only consider the ascetic valorisation of truth as it has taken hold of science, but to articulate the subtle manifestations of the nihilistic will as it has permeated scientific realism. This involves a double-pronged attack on mechanism's appeal to law, and generates further perspectives on his reasons for advocating

a will to power, this time in terms of his attempt to conceive a positive ontology and a radically immanent knowledge of nature.

In *BGE* 22 and *GM* II 11, Nietzsche confronts the physicist's claim regarding 'nature's conformity to law'. On one hand, he contests the projection into nature of the human experience of moral obligation alongside the network of legal-moral concepts that go with it (mercy, protection, respect). This attributes to natural forces a capacity for voluntary obedience to law which only presupposes and extends the 'grammatical fiction' of a moral subject endowed with free will. On the other hand, Nietzsche says this not only displays bad philology – 'a naïve humanitarian adjustment and distortion of meaning' (*BGE* 22) – but expresses a 'democratic idiosyncrasy' that wants all things to be considered equal before the law, and rejects the idea that a power-will is acted out in all that happens. For this reason, he claims that mechanistic science is shot through with a 'modern misarchism' (*GM* II 11). This 'new nuance for scientific balance' (*ibid.*), as such, is alleged to stem from the spirit of *ressentiment*, and the fiction of legal obedience is said to devalue nature precisely by abrogating its actual determining activity and attributing to it randomness and senselessness instead. As Paul S. Loeb has highlighted, Nietzsche's point here is that the natural scientist's claim to have eliminated all theological and anthropomorphic grounds from its methods is myopic, for it is actually driven by a disguised plebeian antagonism toward the privileged and autocratic, which it prefers to interpret out of existence (Loeb 2015: 68-9). By this token, Nietzsche considers mechanism 'hostile to life' in the same manner as egalitarian politics and philosophical truth (*GM* II 11).

Nietzsche complements this 'democratic' critique of mechanistic law with an attack on the idea of determinism as something externally applied to events. In this, Nietzsche seeks to disentangle law from necessity, and thereby reclaim explanations of the regular, calculable course of natural events from their appeal to a principle that would stand outside of them, what he calls a '*mezzo termine*'. In *BGE* 22, Nietzsche claims that the world does indeed have a 'necessary' and 'calculable' course, but that this is not because transcendent laws prevail in it; rather, he insists that laws are altogether lacking. The laws indicated here are objective laws that would necessitate things extrinsically to the matter or stuff of reality, and what Nietzsche is looking to do is purge necessity precisely of the notion of lawful 'compulsion' – in the sense of one particular thing bringing another particular thing about, an idea that he says derives from our sensory experience – in order to install it instead in forces themselves.

In this way, necessity would become best articulated by a sort of tautology: 'not a determinism above what happens but merely the expression of the fact that the impossible is not possible...that one force cannot be anything other than that particular force'.[63] Regularity is in this sense conceived as the product of two other kinds of necessity: an 'inner' necessity of power-aggregation, according to which every power draws its ultimate consequences at every moment, and an 'outer' necessity in the form of the constraints exerted on the direction taken by this activity by antagonistic relations of interdependence with other local force-centres. Both kinds of necessity appeal to a radical facticity that would remain once the mechanist's reactive overlays have been stripped away.[64]

This transferal of necessity from transcendent lawfulness to immanent will(s) to power constitutes a key part of Nietzsche's effort to envision a new trajectory for science, in which its supremacy is revised by being resolved into a broader lineage.[65] Just as Bergson inscribed the superhuman pretensions of modern science within the cinematographic nature of the understanding, Nietzsche similarly engenders the scientific will to truth within the evolution of the ascetic ideal. When Nietzsche claims that science has inherited its commitment to truth in this way, then, he means not only to indicate the nihilistic underpinnings of mechanism, but to anticipate a further stage in the movement by which that ideal might overcome itself (*GM* III 27). One of the most striking aspects of Nietzsche's critique of Christianity is that it was Christian morality itself that triumphed over the Christian god: it pursued the concept of truthfulness with such discipline that it had to ultimately forbid itself the lie of faith in God (*GS* 357). The significance of the coming to self-consciousness of the problem of truth therefore bears heavily on science too, and the progressive direction Nietzsche lays out for philosophy – a revaluation of truth that redeems appearances – must be integral to the future he projects for science. This issue, for Nietzsche as well as Bergson, is addressed by the relations envisaged between the two disciplines.

Babette Babich has written extensively on this topic, and uses Nietzsche to argue that philosophy's role is to reflect on science's ground.[66] Her broader claim is that traditional and contemporary philosophy of science, conceived as it is within the analytic tradition, lacks a critically reflexive orientation to science, such that science is unable to question its own grounds. Inscribing Nietzsche within the 'continental' approach, by which she understands an expressly historical and hermeneutic tradition, Babich finds in Nietzsche 'a corrective articulation of an authentic or genuine philosophy of science' (Babich 1994a: 2), much as this

entails the difficulty of putting the 'presumptive authority' of science into question at all (Babich 2006, p.106; *BT*, 'Preface' 2). Nietzsche's work is said to provide new grounds for science via his reflections on art and knowledge, and in particular the optic of life through which he views all three.[67] It is apt to recall *BGE* 22 here, where Nietzsche explains constant relations by appeal to wills to power rather than laws. The significance of this shift not only bears on the very possibility of science – predictive calculation – but helps to channel the philosophic task of rethinking science's ground: Nietzsche's capital point is that the same ideas can be built on top of radically differing grounds, a reactive democracy of 'conformity to law' or an active ontology of 'will to power'. The relation between philosophy and science therefore hinges not only on the former providing reflection on the latter's ground, but its doing so through both its prerogative of value-legislation (over science's tendency toward value-elimination) and its pursuit of quality (over science's pursuit of purely quantitative analyses). In the first case, philosophy claims its right to determine the value of science, elucidating the nature and limit of its laws, exposing their anthropomorphic and/or reactive components, combatting its potentially barbarising effects, and mobilising it towards a conception of salutary life.[68] In the second, philosophy seeks to investigate and reinstate that which scientific method since Newton has deliberately bypassed: the question of the intrinsic qualitative nature of forces.[69] As Peter Poellner has highlighted, this bypassing renders science 'constitutively incomplete' – it 'desires nothing but quantities' in Nietzsche's view (*WP* 660) – but also sets an experimental agenda for Nietzsche's 'philosophy of science', which is premised on the belief that force is to be found in quality (*ibid.*). Nietzsche's theory of will to power can be understood as a response to these requirements against mechanism, and as a contribution to a non-reductive science of activity. On one hand, it depicts a world driven by qualitative forces in tension with one another; on the other, it does not divest the world of values, insofar as the power claims that qualify these forces – the inner will he ascribes to them at *WP* 619 – are definitively perspectival, which is to say themselves always-already evaluative.

2.2.3.
Conclusion

Kant observed that philosophy seemed almost not to progress at all if compared to the sciences, the one lost in aporia and the other accelerating with cumulative advances. Bergson and Nietzsche both suggest that philosophy has traditionally been held back by its subservient

relation to speculative and ascetic science, which has dictated to it a standard of consensus, an ontology of materialism, and, deep down, a misarchistic cowardice that hinder it from its potential. Thus Nietzsche considers modern philosophy reduced to 'criticism and critical science', to 'no more than a timid epochism and abstinence doctrine' (*BGE* 210, 204), and Bergson, in *CE*, claims that philosophy has barely gotten started: 'It is necessary to consider that philosophy, such as we define it, has not yet become entirely conscious of itself' (671, *EC*). This section has shown how the perspectives emerging from Bergson and Nietzsche's appeals to life in §1 enable them to expose a false supremacy of science around the turn of the twentieth century, based on its status as an adult perception for Bergson, and as the latest incarnation of the ascetic ideal for Nietzsche. From these angles, they were able to critique its basic reductionist framework – which according to Bergson eliminates duration, and to Nietzsche divests nature of value – as well as its metaphysical underpinnings, which issued in its superhuman aspirations and its reactive devaluation of nature respectively. But debunking science's false supremacy also allows both philosophers to envision new trajectories for science based on a revision of the relations between philosophy and science, which were traditionally determined by that supremacy. Thus for Bergson, precisely because science too is capable of touching part of the absolute, a new collaborative relationship can obtain between philosophy and science, whereby philosophy would provide the metaphysics that science lacks by insisting on attending with greater specificity to the durational or processual qualities of the phenomena it studies across its various fields (whether in pathology, ethnology or cosmology). And for Nietzsche, insofar as science represents a crucial stage in the self-overcoming of the ascetic ideal, it requires the philosophical task of revaluation, issuing especially in the critique of its grounds and restoration of naturalised value, but also in the ideal of a 'gay science', understood not only as the harnessing of qualities typical of each discipline – scholarly precision, seriousness and honesty, infused with cheerfulness, courage and experimentation[70] – but as an intellectual commitment that is inspired by a healthy will to truth to explore 'the opportunities and challenges a post-theistic cosmos is likely to present us' (Conway 2010: 132).[71] It is again Babette Babich, in a comment directed towards Nietzsche but equally relevant to Bergson, who captures the broader stakes of these moves, by showing how they also come as responses to Kant, himself implicated in the problem of science's false supremacy: 'Where Kant, the inaugurator of modern critique, thought to inquire into the foundations of the possibility of a future metaphysics able to come forth as a science, Nietzsche's critique articulates the foundations for any philosophy of science able to come forth (and able to remain) as philosophy' (Babich 1994a: 2). While such

a renewed conception of philosophy has proved potent in its critical engagements with science, it was arguably most fruitful in its confrontation with the life sciences, which is the subject of the next section.

2.3.
'Darwinism'

The emergence of the life sciences in the nineteenth century were crucial in exposing the limitations of the reductive methods of modern science, and the study of living beings and the new kinds of facts suggested by biology promised to revolutionise scientific inquiry, forcing us to adapt our knowledge to the existence of real indeterminacy in nature.[72] Bergson and Nietzsche both looked to theories of evolutionary biology in particular, and have been called 'pioneers in the formulation of naturalistic, intra-biological critiques of the philosophical and normative underpinnings of 'Darwinism''.[73] The scare-quotes here are telling. While the three figures share a range of concerns – all were keen to remove the human from the centre of things, all challenge the kind of *telos* that might be attributable to life, and all seek a concept of emergence in entirely naturalistic terms – Bergson and Nietzsche's interlocutor is not exactly Charles Darwin. This is partly because, as Christian Emden insists, the life sciences remained far from unified for most of the nineteenth century and, as such, 'Darwinism', in Nietzsche's time at least, didn't properly exist: Darwin's programme was just that, overlapping and competing with other approaches, such as cell theory and animal morphology, which would not be incorporated into the neo-Darwinian evolutionary synthesis until early in the twentieth century (Emden 2014: 8). But it is also because both philosophers are chiefly concerned to identify a 'Darwinian tendency', namely the application of explanatory frameworks modelled on inert matter to the vital realm. As Ashley Woodward observes, Darwin's work was decisive precisely in refining pre-existing ideas about evolution according to the mechanism of natural selection, and in achieving its widespread acceptance in the (mechanistically-oriented) scientific community (Woodward 2015: 230). 'Darwinism', or neo-Darwinism in Bergson's case, therefore embodies something deeply problematic: the mechanistic conception of life, in which the environment does all the 'work' of selecting the traits and behaviours of living things. It is specifically from this perspective that 'Darwinism' becomes a target, allowing both philosophers to identify important ways in which evolutionary theory remained vitiated by the metaphysical prejudices of science outlined in §2, and therefore to stage their most urgent confrontation with science from the perspective

of life.[74] For Bergson, this sees the speculative failure to think change transferred to a 'fragmentary evolutionism' (how could evolution be reconstituted by fragments of the evolved?), while for Nietzsche, 'reactive evolutionism' betrays an ascetic misinterpretation of life (how could life be said to will only its own preservation?). Insofar as life represents that which would most indisputably defy reduction, Bergson and Nietzsche contra 'Darwin' provides two threshold cases in which the critique of mechanism is pushed to the point where it might yield an alternative conception of the movement of life, which issues as *élan vital* and will to power.

2.3.1.
Bergson and fragmentary evolutionism

The primary locus for Bergson's encounter with Darwin is of course *L'evolution créatrice* (1907), in which he sought to reform both philosophy and science by appeal to a thinking of time as unforeseeable creativity. The extent of Bergson's research for the work alone is striking: in it he cites figures like J.M. Baldwin, William Bateson, Theodor Eimer and Hugo De Vries, and, in pursuing the precise nature of variation, inheritance, and adaptation, engages with such biological issues as the Weismann barrier, convergent evolution, and the gradualism versus saltationism debate. Such an ambitious project naturally courted criticism, including accusations of dualist vitalism and latent pantheism, and was increasingly marginalised by twentieth century advances in biological research. But *EC* remains relevant in at least two senses. First, Bergson demanded that the living being be approached as 'a register in which time is being inscribed', and envisions for evolutionary theory a conversion of science's traditional mechanics of discrete matter to a mechanics of transformation that would incorporate this insight as indispensable.[75] Instead he found that the mechanistic elimination of time penetrated both neo-Darwinian and (supposedly finalistic) neo-Lamarckian theories. *EC*'s critical perspectives therefore provide something of a primer in exposing the various forms and consequences of mechanism.[76] Second, *EC* stands as the boldest application of Bergson's intuition of duration to a particular problem, and indeed produces the greatest 'return' of all his metaphysical experiments. His introduction of the qualitative multiplicity into the science of life, that is, did the most to open up the domain of positive metaphysics, extending the proto-phenomenology of psychical life in the *Essai* and the ontological theory of memory in *MM* to an argument for the cosmological primacy of

duration, and an account of how such a perspective might nullify some of the longest-standing problems in philosophy (notably 'nothingness', 'disorder', and 'emptiness').

Bergson's discussion of neo-Darwinism in *EC* takes place through the problem of convergent evolution, whereby he assesses its explanation of the development of visual organs on two distinct phylogenetic lines alongside the explanations offered by neo-Lamarckism. Beneath the various internal shortcomings that Bergson finds in each theory, he identifies two fundamental errors, committed by both theories alike, in their framing of the problem. First, he questions their privileging of either organism or environment in the effort to comprehend the adaptive relation. Where neo-Darwinians prioritise the influence of external conditions in generating variations, whether 'directly' (by inducing physico-chemical alterations in the living substance, such as in Eimer's orthogenesis) or 'accidentally' (better adapted variations are indirectly selected via the elimination of those unfit to survive), neo-Lamarckians start out instead from the living being in accounting for variation, appealing to an effort on the part of organisms to adapt to circumstances via directed somatic change rather than random genetic mutation. Bergson problematises such a clean-cut distinction by arguing that individuality is never complete in nature, and that no system is ever entirely closed from any other (this would apply only to a ready-made reality). But it is his second reproach, concerning how both theories treat the visual organ itself, that is most damaging.

Mechanistic theories like neo-Darwinism mean to explain by appeal to the influence of outer conditions how such a complex machine as the eye can be gradually built up, but however they do this, they can never explain the correlation of these parts. Finalistic theories like neo-Lamarckism, he claims, attempt to remedy this by means of a preconceived plan, as if nature herself brought the parts together with a view to an end. Both theories, Bergson says, attempt to explain evolutionary development by asking how parts have been brought together, and in this sense pursue a 'fragmentary evolutionism', exposing themselves as standpoints to which the human mind has been led by considering the work of man. They attempt to understand the process of evolution, that is, by analysing fragments of the evolved, a delusion he compares to recreating the wave by means of the pebble left on the beach (490, *EC*), and symptomatic of the same intellectual proclivity that inclines scientists to prioritise extremities over intervals. Insofar as this fragmentary method rests on a spatialised isolation of both the 'individuated' organism in extraction from its environment and the physico-chemical elements with which it would re-compose the organ, it merely perpetuates in biological form

the failures of mechanism: it presupposes that all is given, and therefore precludes from evolution genuine novelty and invention. This, in effect, is Bergson's fundamental charge against the movement of life as conceived by fragmentary evolutionism.

To circumvent these problems, Bergson asks us instead to probe the sense in which the eye can be said to 'make use of light', and thereby shifts the focus of the adaptive relation away from the discrete organ of the eye, and towards the very precise relations that pertain between this organ and the apparatus of locomotion. That is, he centres the relation on the visual organ's evolution in correlation to the other systems of the organism with which it is continuous, and claims the outer force of light is related to these primarily by the functional advantage it can bring them. This move, by focusing on the intensive act of vision and its pragmatic utilisation of light, not only attributes to organised matter a *sui generis* capacity to actively adapt to outer conditions by utilising them, but entails a radically new perspective on the reality of the organ itself.[77] Highlighting a striking contrast between the act of vision and the visual organ, Bergson notes on one hand an undivided simplicity – the eye only has to open for vision to take place (570, *EC*) – and, on the other, an infinity of extremely complicated mechanisms. On this basis, he asserts an incommensurability between two different orders of reality: the first perspective, attained whenever we place ourselves directly within mobility by an act of sympathy, is accorded primacy over the second, which is relative to the views we take in turning around an object or the symbols by which our senses represent it to us. Bergson gives further examples of this, all of which contrast an undivided simplicity that contains number only in potential with an infinite complexity of mutually external parts, and all of which reiterate the quintessentially Bergsonian claim: the irreducibility of movement to the space traversed, of processes to phase-parts and deposits. Explanatory success hinges entirely on this. Due to the reciprocal genesis of intellect and materiality, this irreducibility bears on both intellectual representations – no reconstruction using artificially isolated parts can reproduce the movement, as no amount of photographs can ever add up to the original – as well as on the reality of material objects themselves.

To demonstrate this point and substantiate his alternative to neo-Darwinian and neo-Lamarckian positions, Bergson imagines a hand plunging through iron filings:[78] capable of only a finite effort, it eventually stops, leaving the filings 'massed and coordinated in a certain definite form'; being invisible, it invites onlookers to seek the reason of the arrangement in the filings themselves and in forces within the mass. The movement of the

hand represents the undivided act of vision, while the filings represent the resistance of matter, and their final arrangement the eventual complexity of the eye. The example captures Bergson's insistence on grasping form as recorded movement: just as the road to be travelled is 'created *pari passu* with the act of travelling over it, being nothing but the direction of this act itself',[79] so extensive structures materialise in the wake of indivisible, intensive acts. The intellect, lagging behind, confuses this order of things, retrospectively parcelling out such acts on the model of the space they're assumed to coincide with. This leads Bergson to conceive the materiality of the visual organ as a negative reality. The eye relates to the simple act of vision in the same way that the iron filings relate to the movement of the hand: in canalising and limiting vision, matter is said to negatively express it, the material cells of the eye representing 'the unitary form of a resistance, and not a synthesis of positive elementary actions' (576, *EC*). The eye's structure, in other words, represents a sum of obstacles overcome, not a sum of means employed. In this sense, the fragmentary, manufacturing interpretations of neo-Darwinism and neo-Lamarckism can be said to operate at the wrong end of reality. In approaching the materiality of the eye as comprised positively of individual elements, that is, both mechanism and finalism are forced to explain the correlation of those elements through positive acts of labour, appealing either to the action exerted by neighbouring filings or adding a pre-existing plan relating these elementary actions to the whole.

Alternatively, Bergson invites us to consider the development of an embryo as proof that nature '*does not proceed by association and addition but by dissociation and division*' (571, *EC*). He calls this dissociative process 'organisation', which he says has something 'explosive' about it, working from centre to periphery and spreading in concentric waves which go on enlarging (574, *EC*). This indivisible act of organisation, symbolised by the hand in Bergson's example, is what he wants to capture in the image of the *élan vital*, proposed by Bergson as an original impetus of life 'passing from one generation of germs to the following generation of germs by means of the developed organisms which act as a bridge between them' (569, *EC*). This image, responding to the shortcomings of the mechanistic conception of life, is intended to depict Bergson's own conception of life's movement, and has proved something of a sitting duck for facile interpretations of his work that would confuse it with a *causa prima*, a substantival vital force, or a theological principle. Bergson, however, insists that the *élan vital* is to be confused with neither a Schopenhauerian will to life nor a life-force in the manner of Samuel Butler; its considerable philosophical force, as commentators like

Gilles Deleuze, Keith Ansell Pearson and Elizabeth Grosz have helped articulate, [80] is rather affirmed through the notion of virtuality it appeals to, which provides two perspectives for assessing it.

First, the *élan vital* is a response to the challenge of convergent evolution. Sustained along the lines of evolution among which it gets divided, and organising as it dissociates, this impulsive current and the common source it provides would be both the 'fundamental cause of variations' as well as the reason for homology across divergent phylogenetic paths. It accounts for the remarkable unity amongst increasing elaboration and specialisation in living beings over the passage of large periods of time that random variations cannot. It is not, of course, just organic matter that is dissociated – cells, membranes, organs – but tendencies within life. This is a crucial feature of Bergson's evolutionism, signalling his break from Aristotle. Where philosophies of nature have often assumed a unilinear progress by degrees from vegetative to instinctive to rational life, Bergson insists on these as the divergent directions of an activity that split up as it grew (609, *EC*). It is particularly in this respect that Deleuze presents the *élan vital* as presupposing 'a virtual primordial totality that is dissociated according to the lines of differentiation, but that still shows its subsisting unity and totality in each line', and characterises the evolutionary process as 'the actualisation of a virtuality that persists across its actual divergent paths' (Deleuze 1991: 95). This emphasis on the *élan vital* as a hypothesis providing for unity is significant for deflecting misplaced demands on Bergson to identify a locatable origin or pre-determined end in it; apart from anything else, this would, as Grosz highlights, take either the cause or the effect of the process for the process itself (Grosz 2004: 202).

Second, the *élan vital* must surpass the fundamental flaw of mechanistic approaches, namely their presupposition that all is given and that real duration is obsolete. Whether this consists in reducing organisms to unchanging physico-chemical parts, or reducing the appearance of novelty to a pre-existing possibility, Bergson seeks an alternative that would install genuinely creative change at the heart of evolution. Moreover, this alternative must also evade a dualistic formulation, such as that of substantival vitalism, insofar as the latter is, for Bergson, inescapably tied to mechanism and its faults. As the appeal to some ghostly, supervening life force that would be applied to matter as a transcendent agent of evolution – a framing of things perpetuated by the division of labour between modern science and modern philosophy – Bergson reduces this stereotypical kind of vitalism to a mere elaboration of the

manufacturing metaphor seen earlier, whereby the vital principle serves as foreman watching over the army of workers fabricating the eye. Furthermore, this picture is rendered very difficult by Bergson's claim in *EC* that there is in nature neither purely internal finality nor absolutely distinct individuality' (530, *EC*). For these reasons, Bergson considers vitalism a 'sterile doctrine' (876, 'FV') no less arbitrary and unproductive than 'the old spiritualism' ('PPPM', 62). Since he affirms the identity of organised and unorganised matter, the *élan vital* must depict a movement that is both immanent to matter and capable of generating novelty without pre-containing it. This is precisely what the second sense of virtuality responds to.

The *élan vital* does not 'reveal' or 'dislodge' virtual tendencies, as if it carried these preformed within it or excavated them out from the depths of matter. It rather indicates a certain kind of thrust-like movement corresponding to the idea put forward in 'PPPM' that life is an immense effort to make matter give up something that it does not want to ('PPPM', 67). Dissociation, divergence, and differentiation – at least in the particular direction in which evolution shows them to have gone – represent precisely the actual capitulation of matter to the virtual demands of this movement, which is the effort to engraft and inscribe margins of indeterminacy within matter itself. Crucially, this capitulation is entirely contingent and thereby quintessentially creative, emerging, in singularly specific forms, *pari passu* with the indivisible movement of that demand. It is in this respect that the image of the *élan vital* develops the notion of a virtual multiplicity, and that *EC* enlarges the domain of positive metaphysics, elaborating on a cosmological scale the understanding of *esprit* as that which is capable of drawing from itself more than it appears to contain.[81] And it is indicative of this continuity that Bergson borrows an image from psychology to describe the interpenetrating and indistinct multiplicity inherent in life, insisting that no image from the physical world would be adequate. This applies not only to the virtual unity provided by the *élan vital*, but its virtual creativity: just as the psychological order reveals a plurality of states, 'each of which, although it be itself to begin with, nonetheless partakes of others, and thus virtually includes within itself the whole of the personality to which it belongs' (595, *EC*), so too life, for Bergson, enfolds a plurality of entangled, interpenetrating tendencies, unforeseeable and indistinct until their creative encounter with matter.

2.3.2.

Nietzsche and reactive evolutionism

Nietzsche's relationship to Darwin is complex, partly because based on second-hand acquaintance with his ideas, but also because what Nietzsche intended by 'Darwinism' went beyond the biologist and, indeed, biology.[82] Nietzsche's philosophical project, as Christopher Emden (2014) and Gregory Moore (2004) have recently argued, was deeply embedded in nineteenth century life science – especially its 'untidy experimental endeavours' and largely disconnected branches[83] – and this means several points take precedence over whether we consider him as chiefly Darwinist, anti-Darwinist, or more Lamarckian than either. Nietzsche was fully immersed in contemporary debates over the precise mechanisms of evolution, and familiar with a range of biologists, including some of Darwin's sources (Thomas Malthus, Jean-Baptiste Lamarck) and supporters (T.H. Huxley, Ernst Haeckel, Herbert Spencer). His reading of non-Darwinians like embryologist Wilhelm Roux and orthogenesist Carl von Nageli also influenced the ideas behind will to power.[84] Nietzsche was also, of course, a broadly 'evolutionary' thinker, where that entails questioning the origin and descent of things no longer considered eternal or immutable and re-inscribing them within a more naturalistic historical development. To that extent, he could view Darwin's 'dangerous idea' as a potential ally in debunking the hitherto highest values and revealing that humans are little more than a curious kind of animal. Instead, however, Nietzsche found in it a major component of European degeneration. This perspective is key: Nietzsche was in fact responding to Darwinism primarily as a social theory, and using it to stage an encounter that bridged 'the primacy of reactive forces in the microcosm of molecular biology and in the macrocosm of European culture' (Conway 2006: 535). In this sense, his arguments against Darwinism extend the arguments of the previous section: where science was said to eradicate the basic activity of forces, Nietzsche here attacks the reactive misinterpretation of life-forces in evolutionary theory, which applies modern misarchism to 'the whole of physiology and biology' (*GM* II 12). Darwinism thus functions as a 'teratological agent' in Nietzsche (Grosz 2004: 97), representing, more specifically, 'English Darwinism' mixed with popularised versions of natural selection, and providing a platform not only for broadening his cultural polemic against 'reactive' science by attacking a 'reactive evolutionism', but for further articulating the ontological import of will to power.

The chief components of 'reactive evolutionism' revolve around the emphasis that natural selection, as Nietzsche understands it, places on self-preservation as a fundamental drive of life (a view he describes as 'the Spinozist dogma', and ascribes to Hobbes and Schopenhauer too: *GS* 349, *WP* 688). For Nietzsche, the main problems with self-preservation are that it derives a general principle of evolution from particular conditions of life (namely, the 'musty air' and 'distress and overcrowding' of English overpopulation); that it conflates survival with flourishing (*GM* I 17); and that it implies a passive conception of adaptation. Nietzsche attributes the latter view to Herbert Spencer in particular (*GM* II 12), and considers it a further consequence of the 'democratic idiosyncrasy' cited earlier. By 'spiriting away' the actual activity of things, that is, this idiosyncrasy effectively pushes adaptation into the foreground, construing life as a mere response to the promptings of external, inorganic stimuli, to which it would mould itself in a servile way. This dual privileging of particular conditions of life and of external circumstances led Darwinism, on Nietzsche's account, to also overestimate utility by viewing it only in terms of proven advantageousness in the struggle with others (life as the 'survival of the fittest'). For Nietzsche, engagement in this struggle itself needs explaining: unless there is present some desire and opportunity to benefit from it (*WP* 643), life is reduced to a quietist acceptance of circumstance, or the stakes of a fight over mere pre-established values.[85]

On the whole, then, Nietzsche sees in self-preservation a 'superfluous teleological doctrine in the comprehension of life' (*WP* 650), and finds in the 'reactive evolutionism' that it sustains a highly conservative form of willing that proves problematic across the spectrum, whether in failing to explain certain basic organic activities (*WP* 651) or in betraying through new scientific means the general decline afflicting European modernity. In these various ways, Darwinism contributes to the ascetic ideal by tying the movement of history to the weak, the average and the external. It thus contributes, in turn, to Nietzsche's general *Kulturkritik*, by opening up the more urgent evolutionary question concerning the triumph of reactive forces. The problem highlighted here is that natural selection appears, in the case of the human, to quite rigorously favour mediocre over active, strong and exceptional types. Although Nietzsche appeals to a 'foreground law of thousandfold failure and perishing' (*BGE* 62) which ought to see off any surplus of the degenerate and fragile to the benefit of the stronger elements of the species, he acknowledges a law of absurdity in the total economy of mankind that 'shows itself in its most dreadful shape in its destructive effect on higher men, whose conditions of life are subtle, manifold and difficult to compute' (*ibid.*). Natural selection

serves to further and fatally compound this latter law, operating as a negative feedback mechanism that enables reactive forces to gain supremacy by encouraging the weak to gather together in herds in order to maximise their opportunities for self-preservation, and revealing an entropic tendency by which difference is lost: the 'natural, all too natural *progressus in simile*, the continuing development of mankind into the similar, ordinary, average, herdlike' (*BGE* 268).

As Keith Ansell Pearson highlights, the triumph of this Darwinian-Multhusian view of life as a general economy of nature can only be accounted for on the historical level of culture. It is thanks to morality, indicating the qualities of cunning, patience, diligence, self-control and mimicry, that the reactive forces of life have attained dominance. This is why Nietzsche calls Christianity 'the most fatal kind of self-presumption ever' (*BGE* 62): in valuing mere endurance, it attracts and tends to the weak while making an ideal of opposition to those who, in excess of survival, would celebrate and even squander life before seeking to preserve it (it is precisely through this ideal, as Deleuze has insisted, that reactive forces most effectively triumph over the active, cutting them off from what they would do rather than ganging up on them). It follows that a new effort of cultural breeding – an artificial mechanism of selection – must be called upon to combat the breeding of man into the perfect herd animal of equal rights and claims (*BGE* 203) and instead protect and enable the strong to flourish according to their complicated conditions of existence. In Paul S. Loeb's gloss, where natural selection only breeds the 'Last Man' of *TSZ*, Nietzsche seeks an artificial selection that would generate an 'Overman' (Loeb 2011: 21).

Nietzsche's conception of will to power, specifically as it emerges in opposition to the various components of reactive evolutionism and its metaphysical underpinnings, plays a crucial role within this framework. His proposed alternative to life as self-preservation and passive adaptation, in which a power-striving replaces a survival-struggle and a reinterpreted conception of utility is extended to cultural critique, forms precisely the basis of the advocacy of immanent diversity, variety and transformation that are integral to his transhuman vision (the possibility of becoming-active). What 'Darwinists' react against, like those who sought Truth and Law in §1 and §2 above, is the theory of an active power-will playing out in all that happens and evolves. They too channel the prevailing instinct of misarchism, preferring to accept randomness – the mechanism of natural selection and its largely accidental view of variation – than universal strife. Nietzsche characterises this power-will in terms of necessary

expenditure, whereby it looks not to preserve itself but to discharge its force (*BGE* 13, *WP* 650): the general aspect of life, that is, is not distress and lack as per 'Englishness', but 'wealth, luxury, even absurd prodigality' (*TI*, 'Expeditions' 14). From this follow a range of 'unpalatable' characterisations of life that would account for its 'denial' by the ill-constituted: the basic processes of organic development are governed by amoral, aggressive forces that tend mercilessly towards exploitation, appropriation and injuriousness (*BGE* 259, *GM* II 11, *WP* 647).

This entails several revaluations of the chief 'Darwinian' concepts. First, if life as will to power is an active principle of necessary aggregation and expenditure of native power, then self-preservation becomes 'only one of the indirect and most frequent results' (*BGE* 13), a 'consequence' (*WP* 650). Indeed, the concern for mere existence and its preservation would belong only to that which does not already live, or which lives in a weakened state. Nietzsche therefore sees the struggle for existence as 'only an exception, a temporary restriction of the will to life' (*GS* 349), and insists that the state of strength rather manifests a desire for more power regardless of preservation (hence his interest in those cases of mortal expenditures where living beings place themselves at risk precisely in order to exhaust their native vitality). Second, it is by insisting on life in terms of a 'tremendous shaping, form-creating force working from within which utilises and exploits 'external circumstances'' (*WP* 647) that Nietzsche can present adaptation as likewise a 'second-rate activity', an effect following from those active, formative forces having exerted their influence (*GM* II 12). And lastly, it is the feeling of becoming stronger that would explain the very investment in struggle that Darwinism apparently glides over: 'where there is a struggle it is a struggle for power', meaning growth and expansion, not for preservation (*TI*, 'Expeditions' 14).

The greatest revision to 'Darwinian' evolutionism, however, bears on the crucial way in which will to power addresses the reactive shortcomings of its conception of utility. If the life process evolves by means of form-creating forces working endogenously to exploit external circumstances through a surplus of power, then those external circumstances and conditions become 'the arena to test out its own extravagant experimentations' (Ansell Pearson 1997: 97). Nietzsche is appealing here to a notion of individual evolution inspired by Wilhelm Roux, in which a complex struggle between parts sees new forms generated, incorporated and atrophied as platforms for further becoming, in turn only ever enjoying a partial usefulness (*WP* 647). Nietzsche thus reinterprets the question of utility 'experimentally', as a matter of

constructing orders of rank in which the 'real development' is located in the feeling of increase in power (*WP* 649), and the useful, like preservation and adaptation, is an indirect result of an active, complex process. This experimental component of life accentuates and accounts for the essentially indeterminate, non-linear and non-teleological character of the becoming of life, or of the will to power's essentially 're-interpreting, re-directing and formative' character (*GM* II 12). For Nietzsche, this is more than a biological point, and opens onto a 'major point of historical method' whose key premise is the absolute independence of a thing's origin of emergence and its ultimate usefulness ('its practical application and incorporation into a system of ends'). All things are imbricated in an open-ended and immanent dynamics in which complex encounters of resistance and overpowering accompany continual processes of reinterpretation, requisition, and redirection (*GM* II 12). And this evolutionary dynamic, Nietzsche insists, can be said to exhibit a certain intransitive but decidedly driven kind of *progressus*:

> The "evolution" of a thing, a custom, an organ is thus by no means its *progressus* toward a goal, even less a logical *progressus* by the shortest route and with the smallest expenditure of force – but a succession of more or less profound, more or less mutually independent processes of subduing, plus the resistances they encounter, the attempts at transformations for the purpose of defense and reaction, and the results of successful counteractions. The form is fluid, but the "meaning" is even more so. (*GM* II 12)

The alternative to 'reactive evolutionism' and its 'metaphysical mechanism' of life therefore consists in affirming a superior conception of nature, premised upon a surplus of power. Nietzsche sees the latter as the space of excess that is irreducible to natural selection and irrespective of the drive to preserve and reproduce, and as a space where strong specimens would thrive: those better able to transmit in human-biological form the expansive, experimental movement of life as overcoming and transformation. How such a space might be deliberately cleared and maintained, alongside how conditions for the actual evolution of its rightful types and a mechanism for their artificial selection might be fostered and executed, are themselves some of the most challenging questions in Nietzsche's work. Arthur Danto, for instance, argues that Nietzsche looks to invert Darwinism in order to 'rewrite a universe in which the strong can come into their rightful ascendancy over the weak' (Danto 2005: xiv-xv); but it is questionable whether this would automatically follow from a simple *inversion* of perspectives, whether singular, unpredictable types requiring subtle conditions of existence could be manufactured, and whether indeed cultural processes might render the

active forces themselves reactive, eliminating their rare, lightning-like value. What is certain is that a philosophy that privileges experimentation and transformation cannot expect to answer these questions in advance: Nietzsche himself says that the task is to make 'the scales more delicate and hope for the assistance of favourable accidents' (*WP* 907). The following chapters will steer around this question of a transhuman race on either side, instead inquiring further into the metaphysics of will to power on one side, and the nature of a superior morality on the other.

2.3.3.
Conclusion

For Bergson and Nietzsche, the hallmark of 'fragmentary' and 'reactive' evolutionisms is their tarrying grasp of organic materiality: while for Bergson vital structures manifest a negative kind of reality, and for Nietzsche adaptive structures testify to a secondary kind of activity, describing the evolutionary process in terms of these 'sinuosities' is all the mechanist can do – explaining the movement itself slips through their fingers. It is the same limitation that leads 'Darwinism', on their respective accounts, to translate the speculative presupposition that 'all is given' into a theory in which all of life is pre-contained, and the reactive presupposition that quantified forces obey laws into a theory in which life passively adapts. And it is from an engagement with evolutionary theory, then, that two of Bergson and Nietzsche's most sustained attacks on mechanism emerge: its suppression of the new, and its delayed representation of process – what they call, respectively, 'the fossilised residue of a spiritual activity'[86] and 'the semeiotics of the results'.[87]

While evolutionary theory has developed considerably since Bergson and Nietzsche, it is important to note that their efforts to insist on a sufficient margin of creativity in evolution, and to resist reliance on preformed possibilities – whether static elements, blind mechanisms or masterplans – remain relevant today. Thus both philosophers have received attention in relation to Richard Dawkins' genetic reductionism, in which life is reduced to the 'selfishness' of the germ-line looking to replicate itself (still privileging a physico-chemical locus for the fundamental 'causes' of life); Daniel Dennett's refinement of natural selection to an algorithmic programme, which would comprehend evolution by means of countless steps and processes regulated by formal laws (attributing to nature the labours of Hercules, as Bergson would say); and the 'vulgar Darwinism' discussed in Chapter One through the work

of Sarah Kember and Luciana Parisi, as premised on an abstract conception of evolutionary possibility (depriving evolution of its capacity to genuinely evolve).[88] In contrast, much recent complexity theory seeks non-reductive biological accounts of adaptive systems in ways that are sympathetic to Bergson and Nietzsche's insights. On one hand, such approaches can be said to incorporate Bergson's notion of *pari passu* in the form of a reciprocal modification of organism and environment, such that an environment cannot be separated from what organisms are and what they do, and adaptation becomes a dynamic, open-ended process of mutual and continual problem-solving driven by a margin of indeterminacy. George Kampis (1991), for instance, proposes a co-evolutionary view in which a series of feedback loops mediate between an organism and an environment (he cites Bergson as an influence). On the other hand, they develop Bergson and Nietzsche's distinction between describing the sinuosities of a movement and explaining the movement itself. Peter Saunders and Mae Wan Ho (1976), in this regard, argue that growth in evolution is marked not by an extensive increase in 'organisation' (indicating the number of components in an adaptive system) but by an intensive increase in 'complexity' (indicating the number of different types of components); the former is a 'secondary effect' along the lines of adaptation as understood by Bergson and Nietzsche. Similar perspectives are explored in the work of theorists like Stuart Kaufmann, Brian Goodwin, and Francisco Varela.[89]

Conclusion: duality, time, causality

This first use of vitalism as an optic for the comparative study of Bergson and Nietzsche has provided a series of critical encounters with epistemology, science and Darwinism. Through these encounters, the platform of a vitalistic 'appeal to life', seen in Chapter One as a sustained theme of the vitalist tradition, has been able to unfold some of the key senses in which a thinking of 'life' orients Bergson and Nietzsche's philosophical trajectories, in particular the similarly pivotal ways in which they position themselves in relation to post-Kantian philosophy. It is in this respect, particularly, that the optic of vitalism has contributed to an assessment of Bergson and Nietzsche's philosophical affinity not only by introducing some of the most central issues at play in their work, but by allowing for two initial and important components of their shared metaphysical outlooks to be disclosed. On one hand, it has shown that to approach philosophy through an appeal to life means to insist on engendering with a view to creating expansive new perspectives. This double move permitted

Bergson and Nietzsche to set philosophy, science and evolutionism on more future-oriented, life-affirming paths, and mirrors the effort of new vitalists to re-engage with a whole canon of thinkers of life in order to revitalise the project of vitalism in the twenty-first century. In Bergson, the pivotal distinction between vital and speculative interests re-establishes a direct contact with reality and opens up positive metaphysics; the same move also projected a complementary progressive path for science, alongside proposing a relation between the two exemplified by his evolutionary thinking. In Nietzsche, an initial appeal to the total economy of life helped generate three perspectives on will to power through engagement with nihilistic philosophy, ascetic science and reactive evolutionism: as a creative will to semblance, or active determination (truth as appearance); as a tension of forces, or active power claims (appearance as necessity); and as an exploitative appropriation, or active adaptation (necessity as expenditure). On the other hand, the optic of a vitalistic appeal to life has brought into focus a kind of activity that Bergson and Nietzsche both discern behind the pictorial and quantitative representations that mechanistic analyses make of reality. This irreducible kind of activity motivates their affirmation of a post-physicalist sense of metaphysics: a conception of movement that, as intensive, creative and temporal, remains irreducible to mechanism and thereby foundational to a superior kind of empiricism, whether philosophical or scientific.

These appeals to life and the metaphysical components they brought to the fore were ultimately seen to generate the core components of their conceptions of life's movement. While the latter may appear to rest on a basic reversal of direction, from life as submitting to external influences to life as itself an active movement outward, there are nonetheless broader concerns at stake within this reorientation, and articulating them is essential to maintaining the critical currency of their appeals to life. Summarising these will not only serve to conclude the chapter, but set the agenda for the next two – creating space for a more rigorous and methodological approach to the problems that emerged in the foregoing encounters, and anticipating the constructive alternatives that Bergson and Nietzsche build on top of the foregoing responses – issues which lie at the heart of vitalism and of modern philosophy.

Bergson and Nietzsche both eschew a clear-cut focus on either external pressures or internal forces, a privileging of either ecological context or organismic effort, viewing adaptation as a sort of compromise accepted by life in order to make use of its circumstances in view of its own furtherance. The indeterminacy of the *élan vital* and the intransitivity of will to power

are intended to account for the complexity of movements in a way that challenges simpleminded oppositions between the living and inert, mechanism and finalism, or cause and effect. Evolutionary theory was thus significant for Bergson and Nietzsche insofar as it enabled them not only to ascribe to life a direction that is irreducible to determinism, but to pursue a conception of nature that is refractory to traditional dualism. Indeed, duration and will to power, the 'new elements' of their respective metaphysics, will be articulated in the next two chapters according to how they help forestall reductive dualisms on one hand, and provide the basis of naturalistic processes of dualisation and hierarchisation on the other. Both figures, in highly similar terms, will be seen to describe internally differentiated movements, aiming at what Nietzsche calls 'an ever more thrifty and more far-seeing economy, which achieves more and more with less and less force' (*WP* 639), and proceeding through what Bergson calls 'un double travail d'accumulation graduelle et de dépense brusque' (825, 'CV').

Bergson and Nietzsche also insist that a satisfactory thinking of evolution, in order to account for novelty, is to be premised on a concrete and complex thinking of time. This is famously characteristic of Bergson, for whom evolution must be thought *sub specie durationis*: not only because duration is understood as invention itself, but because the complexification of life hinges on the increasing capacity to positively 'dispose of duration' (a term to be explained in Chapter Four). This association is no less integral, however, to the transhuman vision of Nietzsche, in which revenge has its source in a powerless vision of the past, and a new model of artificial selection is tied to an experimental and 'recurring' vision of the future. This elaboration, the continuous re-invention of time as it 'splits' in Bergson and 'circulates' in Nietzsche, is indispensable for thinking the creative 'encounter' of the *élan vital* with matter and the interpretive 'clash' of wills to power amongst themselves. As Grosz highlights, evolution is not simply a movement directed from within, nor the impact of external forces, but a seizing and rewriting of things that designates 'the precedence of a future that always overwrites and transforms the present to what is beyond its containment' (Grosz 2004: 108). Accordingly, a 'heterogenisation' of time will be proposed as instrumental to their vitalisms in Chapter Four.

The respective conceptions of life appealed to by Bergson and Nietzsche also centre on prodigality as the fundamental movement of life. This was seen to contrast starkly, in Nietzsche especially, with the 'Darwinian' values of preservation and survival, and it is why

their alternatives yielded the ‘virtuality’ of the *élan vital*, which accounted for its capacity to draw more than it appears to contain (contra preformation), and the active ‘aggregation’ of will to power, which accounted for its tendency to expend itself by nature (contra preservation). This notion of prodigality, sketched here through their confrontations with Darwinism, is central to the philosophic tasks of positive and power metaphysics, and definitive of their vitalist causalities, where it reverses a fundamental prejudice of mechanistic causality – the ultra-reductionist drive towards ‘static incipience’ – and issues in the images of Bergsonian ‘overflowing’ and Nietzschean ‘superabundance’. As such, prodigality is what elevates their anti-reductionism from a method to an ontology of nature, on the model of an important distinction made by Bergson: ‘While our own motto is *Exactly what is necessary*, that of nature is *More than is necessary*’ (1441, ‘PWJ’). This will not only inform the closing perspectives of Chapter Four, but pervade the normative conclusions of the thesis.

[1] Frederick Amrine (1992) has attacked Nietzsche in this way, claiming that his multifarious appeals to life are unproductive insofar as no unified meaning is invoked. Claude Bernard, in the context of nineteenth century medicine, insisted on outright excluding 'life' from our explanations of physiological phenomena insofar as it only denoted ignorance. Such claims might well err in presupposing that life is susceptible to a kind of definition that it in fact defies; this is Bergson's line, who, contra Bernard, sees 'vitalism' as at least affixing a label to our ignorance.
[2] Russell thought him also steeped in Romantic irrationalism (1959: 292). For Bergson's relationship to French Spiritualism, see Moore 2010 and Coplestone 1975. Jean Gayon emphatically views Bergson's philosophy as 'undoubtedly one of the most radical pleas in favour of spiritualism in the entire history of philosophy' (2005: 44).
[3] See Chapter One.
[4] See, for instance, Cunningham 1916, Čapek 1971, Gunter 1987 and Kolakowski 1985.
[5] See Lawlor 2003, Deleuze 1983 and 1985, and Douglass in Mullarkey 1999a. For discussions of Bergsonian perception in relation to his theory of images and his virtual account of memory, see Khandker 2014 and Grosz 2004 respectively.
[6] Letter from James to Bergson (June 1907), in James 2003: 376-8. For another early defence, see also Russell (John E.) 1912.
[7] For Bergson's discussion of the cinematographical nature of the understanding, see *EC* Chapter Four, and 1258-60, 'I2'. My use of the term makes no reference to Deleuze's in his *Cinema* books.
[8] 172-5, *MM*.
[9] 286, *MM*; 627-8, *EC*. For Bergson, space is therefore not a medium occupied by things nor a property of them, but a diagram thrown beneath them, expressing our action upon them; far from supporting them as a stable container, it is a deposit of their very movement (351, *MM*).
[10] 'Had the philosophers not taken as a *relative* knowledge that which is merely a reduced knowledge, shrunken and obliged to externalise itself through action before deepening itself through thought?' ('PPPM': 63).
[11] '*Our intelligence, when it follows its natural bent, proceeds by solid perceptions on the one hand, and by stable conceptions on the other*' (1420, 'IM').
[12] For Bergson, Kantian intuition or sensibility is 'infra-intellectual' inasmuch as the forms of space and time that mediate data are abstract and alike spatialised.
[13] 798, *EC*; 1428-9, 'IM'.
[14] For further discussions of Bergson's engagement with Kant, see Ansell Pearson 2007a, Delaney 1972, and Madeleine Barthélemy-Madaule, *Bergson adversaire de Kant* (Paris: Presses Universitaire de France, 1966). For a critical account of Bergson on Kant, see Cunningham 1916: 82-95. For Cunningham, there is only one kind of knowledge, the same for science and philosophy, which Bergson fails to see because he is lost in 'verbiage', 'confusing words with ideals, symbols with the facts symbolised' (95).
[15] This effort to expand knowledge involves appealing to various different *kinds* of knowledge for Bergson, not least instinct, intelligence and intuition. Perhaps the most famous example of an absolute in Bergson's opus is the sugar dissolving in water referred to in *EC* and 'I1'.
[16] Mullarkey 2010: 30.
[17] In her influential book *Nietzsche On Truth and Philosophy* (1990), Maudemarie Clark claims that perspectivism 'constitutes his most obvious contribution to the current intellectual

scene, the most widely accepted Nietzschean doctrine' (Clark 1990: 127). The truth of the latter clause is far from clear.
[18] Reginster 2006: 5.
[19] See Richardson 1996: Chapter Four.
[20] Some of Nietzsche's best insights here are in terms of logic. Much as Bergson in *EC* describes our logic as a 'logic of solids', Nietzsche sees behind our logic 'physiological demands for the preservation of a certain species of life' (*BGE* 3). See also *GS* 111.
[21] *GS* 1. Babette Babich (1994: Chapter Three) understands Nietzsche's epistemology as physio-ecological – as a product, that is, of body and world – and elsewhere accentuates his conception of the body itself as a mind or 'great reason' (2006: 109).
[22] *BGE* 4. See also *WP* 579 and *GM* III 5-7.
[23] See especially *HH* 1. Nietzsche calls this appeal to the unconditional 'the worst of all tastes' (*BGE* 31; see also *TI*, 'Reason' 1 and 4). Latterly, he also discussed this faith in terms of a 'theologian-instinct' and 'idealism': 'I have discovered the arrogant theologian-instinct wherever anyone today feels himself to be an "idealist" – wherever anyone assumed, by virtue of a higher origin, a right to cast strange and superior looks at actuality' (*AC* 8).
[24] Deleuze offers an alternative reading of Kant on this point, claiming that the phenomenon, for Kant, does not indicate appearance, but that which appears (Deleuze 1978). In place of the traditionally 'disjunctive' and oppositional distinction between appearance and essence, that is, Kant installs a 'conjunctive' couplet: what appears/conditions of apparition. For this reason, and despite acknowledging that Kant sometimes appears caught between the two pairs, Deleuze connects him more intimately with phenomenology (the study of what appears insofar as it appears) than with German Idealism (the search for the unconditional).
[25] *BGE* 64, *GS* 347, *GM* III 23.
[26] Deleuze argues this point in Chapter Three of his *Nietzsche and Philosophy* (1983).
[27] *GM* III 24. The third essay of *GM* is the main locus of Nietzsche's anti-Kantianism in this respect, as 'IM' was for Bergson.
[28] For broader investigations of Nietzsche in relation to Kant, see Deleuze 1983, Ansell Pearson 1987, Christopher Emden 2014, and R. Lanier Anderson's entry in Babich 1999. This is a highly current topic in Nietzsche scholarship: Bloomsbury released a series of books on Nietzsche and Kant in 2017 incorporating metaphysics, ethics, anthropology and aesthetics.
[29] *GS* 110. See also *D* 429.
[30] For one of the few thorough treatments of the project of incorporation in Nietzsche, see Ansell Pearson 2006a.
[31] Deleuze 1983: 103. (Dis)semblance is one of the ways in which Nietzsche frequently characterises life: at *GS* 344 Nietzsche describes life as 'always [having] shown itself to be on the side of the most unscrupulous *polytropoi*', associated with 'semblance, meaning error, deception, simulation, delusion, self-delusion' (*ibid.*) as well as 'general untruth and mendaciousness' (*GS* 107). The sustained tension between truth and semblance/art is a key aspect of Alexander Nehamas' influential book on Nietzsche, *Life as Literature* (1985). For an exploration of this theme in Nietzsche's work, particularly as it evolved between *BT* and *GS*, see Janaway 2013.
[32] *TI*, 'Reason' 6; *EH*, 'BT' 2. See also *BGE* 32 and *TI*, 'Morality' 6.
[33] In a *Nachlass* fragment from Spring 1888, Nietzsche writes: 'Der Wille zum Schein, zur Illusion, zur Täuschung, zum Werden und Wechseln ist *tiefer, "metaphysischer"* als der Wille zur Wahrheit, zur Wirklichkeit, zum Sein"' (cited in Ansell Pearson 1987: 10, my emphasis). Zarathustra translates this task as follows: 'may the will to truth mean this to you: that everything shall be transformed into the humanly-conceivable, the humanly evident, the

humanly-palpable! You should follow your own senses to the end!' (*TSZ* II, 'Blissful islands').

[34] Cox 1999: 103. Cox insists that Nietzsche, seen in this light, is far from advocating metaphysical realism: 'Rather, he is seen consistently to hold the view that there is no fact of the matter that could be determined by a correct apprehension of the world in itself but only a host of competing interpretations' (*ibid.*).

[35] *AC* 9. As Dylan Jaggard has pointed out, *The Antichrist* is a significant text in this respect: it focuses less on the ascetic will to truth and the doubts raised about science in *GS* and *GM*, in order to affirm the truth regarding will to power in the service of both undermining the Christian value system (which inverted that truth) and promoting a more salutary life (which is measured by its capacity to affirm it). See Jaggard 2013: 346.

[36] *BT* 4. 'He who *affirms* all that is questionable and terrible in existence, he is *Dionysian*…' (*TI*, 'Reason' 6).

[37] It is important to indicate that 'science' in the late nineteenth century, especially the German term *Wissenschaft*, could indicate a wide range of historical, interpretive disciplines, embracing various branches of the natural, social and life sciences (this remains true in Germany today). It is worth remembering that, as an established 'science', philology could for Nietzsche provide legitimate expectations of other sciences, namely interpretive integrity. It also influenced his idea that should be no text presupposed beneath interpretation, which informs his attack on the physicist's 'bad philology' in *BGE* 22. In this section I discuss science largely as the natural science of materialist, mechanistic physics.

[38] I refer occasionally to quantum physics throughout the thesis, because I think this branch of physics is pushing against the same boundaries and mounting the same 'transhuman' challenges to thought as the kind of philosophy I am interested in, and that is in part pioneered by Bergson and Nietzsche. Karen Barad's appeal to Bohrian epistemology is of contemporary significance here, though it is worth noting that Bergson was already, in 1907, talking of the 'enchevêtrement du réel' (504, *EC*) and the inherent indeterminacy of matter, and warning against artificially closing systems.

[39] Leading commentators here include Milič Čapek, who has written extensively on Bergson and modern physics; P.A.Y. Gunter, whose two edited volumes (1969 and 1987) feature contributions from scientific thinkers like Louis de Broglie, Robert Blanché and Olivier Costa de Beauregard; Keith Ansell Pearson, whose *Philosophy and the Adventure of the Virtual* (2002) thinks Bergson alongside figures like Bertrand Russell, Karl Popper and Gaston Bachelard; and Jimena Canales, who has recently re-assessed the debate between Bergson and Einstein in her *The Physicist and the Philosopher* (2015).

[40] Jean Milet, for one, defends Bergson against claims that his mathematical proficiency was insufficient (see Milet 1974: Chapter One, as well as his contribution to Papanicolaou & Gunter 1987.

[41] 519, *EC*. In Eric Szendrei's gloss, 'Scientific method is a precise and systematic use of the cognitive form of homogeneity, the careful development of the practical, diagrammatic capacity common to human life' (1989: 185).

[42] 868, 'FV'; 1433, 'PCB'; 776, *EC*.

[43] 689 & 777, *EC*.

[44] 778, *EC*. In Timothy Eastman words: 'The Newtonian synthesis basically takes the inverse square law for gravity, so successful for the analysis of planetary motion, and applies it to any combination of discrete particles imbedded in pre-given space' (2008: 85-6).

[45] 779, *EC*. See also 775 & 786, *EC*.

[46] Immanuel Wallerstein even insists that the reversibility of physical processes is 'essential if one is to maintain the validity of the other parts of the Newtonian model' (1998: 80).

[47] Gunter 1969: 298. For Laplace's own words, and those of Huxley and Du Bois-Reymond in the same vein, see 526-7, *EC*. Čapek claims that Laplace's formulation 'contains virtually the whole of classical physics and above all its corpuscular, kinetic, and deterministic character' (Čapek 1969: 305). For Bergson's formulation of the superhuman, see 1332, 1335-6, 'PR'; 501, *EC*; and 824, 'CV'.
[48] 136-7, *Essai*, where Bergson also explains why this identification can be no more than an ideal.
[49] 'PPPM', 67.
[50] 137, *Essai*. See also 153, *E*. Bergson associates this conception with Descartes, Spinoza, and modern scientists like Kelvin: 136-7, *Essai* and 729-30, *EC*.
[51] Bergson also refers it to attempts to fabricate living matter: see 830, 'CV' and 525, *EC*.
[52] 844-5, 'AC'.
[53] 869, 'FV'. In the last essay of *ES*, Bergson outlines four ideas which form 'an imposing line of defence' before parallelism (972-4, 'CP').
[54] C.G. Jung would reiterate this point much later: 'Imagination and intuition are vital to our understanding. And though the usual popular opinion is that they are chiefly valuable to poets and artists […], they are in fact equally vital in all the higher grades of science. Here they play an increasingly important role, which supplements that of the "rational" intellect, and its application to a specific problem. Even physics, the strictest of all applied sciences, depends to an astonishing degree upon intuition' (Jung, cited in Dixon 1999: 47).
[55] See Eastman 2008.
[56] 1278, 'I2'; see also the closing words of 'PPPM'.
[57] Bergson defines intuition in 'IM' thus: 'primarily the intimate knowledge of the mind by the mind, secondarily the knowledge by the mind of what is essential in matter, the intellect having without doubt been made, above all, for manipulating matter and consequently for knowing it, but having no special claim to touching the bottom of it' (1424, 'IM', footnote).
[58] It is through these new relations that science, as Deleuze claimed in his *Bergsonism*, would cease to be 'reductionist', receiving instead the metaphysics it requires and without which it remains 'abstract, deprived of meaning or intuition' (Deleuze 1991: 116). Bergson markedly differs in this respect from Heidegger, for whom ontological inquiry is more primordial than the ontic inquiry of the positive sciences.
[59] See for instance Babich 1994, Ansell Pearson 1997 and Emden 2014, as well as the volumes edited by Babich & Cohen (1999) and by Moore & Brobjer (2004). From the latter, see in particular Thomas H. Brobjer's 'Nietzsche's Reading and Knowledge of Natural Science: An Overview'.
[60] See particularly *GS* 344 & 357, and *GM* III 24 & 25. See also, in briefer terms, *GS* 37 on the 'three errors' at the heart of promotion and pursuit of science in 'recent centuries'.
[61] *GS* 112, 373; *WP* 624, 628.
[62] *WP* 640. As David Storey points out, Nietzsche's attack on mechanistic theory is remarkably similar to Merleau-Ponty's attack on naturalism: both argue that scientific theories smuggle their concepts from sense-experience without acknowledging the debt (Storey 2012: 21).
[63] Cited in Strawson 2015: 33.
[64] This idea is strongly echoed in the opening to François Jacob's essay 'Myth and Science': 'Someday, perhaps, the physicists will be able to prove that nature could not work otherwise than it does' (Jacob 1982: 5). For rigorous and highly illuminating *Nachlass*-based accounts of Nietzsche's vision of necessity, particularly its appeal to notions of facticity and tautology, see Poellner 2013, Siemens 2015, and Strawson 2015.

[65] Several scholars have noted the influence of Heraclitus in Nietzsche's effort to outline an immanent lawfulness: see Cox 1999: Chapter Four; Acampora 2004: 176; and Siemens 2015: 83.
[66] See Babich 1994a, 1994b, 1996, 1999, and 2010.
[67] In the 1886 preface to *BT*, Nietzsche claims to 'look at science through the prism of the artist, but also to look at art through the prism of life'.
[68] See Siemens 2015: 84-5, and Ansell Pearson 1987: 10.
[69] Poellner 2013: 684. In George Kampis' gloss, 'The reason why it is so easy to find means by which time can be thrown out from the mechanistic universe is that it was never part of it' (Kampis 1991: 169).
[70] See especially *GS* 343 and 382.
[71] In the long run, 'gay science' appears to indicate a knowledge that would fuse multiple energies and commitments – artistic, mystical, practical and scientific – to form a 'higher organic system', making the present separation of disciplines anachronistic (*GS* 113).
[72] 'I am quite ready to accept that, at least in the inorganic world, and wherever facts take of a mathematical form, the law determines the fact as much as the fact determines the law. Bodies fell before the time of Galileo, and that is what gave Galileo the idea of discovering the law of falling bodies. But it was the law of falling bodies that made it possible to definitively isolate the phenomenon of falling bodies, and even, more generally, to define the "physical fact" and to raise it to the status of an independent entity. In this sense, is the physical fact largely our creation? But as we rise from the inorganic to the organised, we find outselves in the presence of facts that are more objectively intended as facts, by nature itself. A living organism is a more or less closed circle, one which is closed by nature' (Bergson, cited in Gayon 2005: 56).
[73] Ansell Pearson and Urpeth 2012: 28.
[74] Bergson and Nietzsche thus contest Wittgenstein's claim that 'Darwin's theory has no more to do with philosophy than any other hypothesis in natural science' (Wittgenstein 1961: 48 (4.1122)). This section does not offer a comparative analysis of Darwin, Nietzsche and Bergson. Not only does this reach beyond the scope and intention of the chapter, but is obsolete in light of Elizabeth Grosz's 2004 work.
[75] For explorations of how such a mechanics might proceed, as inspired by the methods of calculus and the possibility of biological laws, see Gunter 1999 & 2005, and Lacey 1989: chapter 6.11.
[76] In this Bergson makes good on George Kampis' claim that, while most philosophies admit that mechanistic systems are 'timeless', few elucidate exactly what that means or how far it goes (Kampis 1991: 169)
[77] For more on this appeal to light in *CE*, see Montebello 2007.
[78] Hisashi Fujita (2007) provides an extended analysis of the role of the hand in this metaphor.
[79] 51, *EC*. See also 296, *DSMR*.
[80] See Deleuze 1991: chapter 5; Ansell Pearson 2002: Chapter Three; and Grosz 2004: chapter 8.
[81] 'Clearly a force operates before us, which seeks to free itself from its shackles as well as to surpass itself, to first of all give everything that it has and then more than it has. But how else shall we define spirit? And how else would a spiritual force, if such exists, distinguish itself from others, if not by means of the faculty to draw from itself more than it appears to contain?' (830-1 *CV*; see also 838, 'AC'; 720, *EC*; 1229-30, *DSMR*).
[82] Some of the principle works of commentary include Ansell Pearson 1997, Moore 2002, Richardson 2004. Regarding the consonance between Nietzsche and Darwin, David Storey (2012) identifies five 'disagreements' between them that might be resolved, while John

Richardson (2004), on a broader scale, looks to show the Darwinist basis of Nietzsche's ideas, which he considers necessary for Nietzsche's project of naturalisation.
[83] Emden 2014: 7.
[84] See Ansell Pearson 1997: 93, and Moore 2004: Chapter One.
[85] Both Grosz (2004) and Deleuze (1983) develop this particular line. For an exploration of the role of 'struggle' throughout Nietzsche's work, see Acampora 2013.
[86] 1462, 'VOR', my translation. As Wahida Khandker observes, Bergson noted the omission of any genuine causal origin of variations in Darwin's account of evolution by natural selection, which only accounts for the survival of variations and must attribute their origin to mere accident (Khandker 2013: 70, referring to Bergson's letter to Florence Delattre of December 1935, printed in *Mélanges*, 1522–1528).
[87] *WP* 689. In Nietzsche's view, on the contrary, 'all mechanical occurrences, in so far as a force is active in them, are force of will, effects of will' (*BGE* 36).
[88] See for instance Mullarkey 1999b: Chapter Three; Ansell Pearson 2002: Chapter Three; and Grosz 2004: Chapter Two.
[89] For a discussion of some of these alongside Bergson, see Ansell Pearson's entry in Mullarkey 1999a, Vaughan 2007, and Khandker 2014: chapter 5.

Chapter Three

Anti-reductionism

Chapter Two's critical engagements with philosophy, science and evolutionism demonstrated the consistency with which Bergson and Nietzsche's respective appeals to life exposed, on one side, recurrent, if not chronic problems within those fields, and generated, on the other side, sustained perspectives on how these difficulties might be surpassed. These perspectives were identified as the source of positive metaphysics in Bergson and power metaphysics in Nietzsche. This chapter is based on a second core theme of the vitalist tradition, anti-reductionism, and aims to use that platform to further advance the comparative study of Bergson and Nietzsche by consolidating the results of Chapter Two. It does this by first articulating a more precise framing of their overall problematics, before elaborating the key components of their strategies in responding to these. In the process, the optic of life will show how an anti-reductionist methodological commitment on both philosophers' parts allows them to hone their original discernment of an irreducible kind of activity into a further component of their shared metaphysical outlooks: a new philosophical platform characterised by a naturalistic immanence. Much as Chapter Two attempted to show that a vitalistic appeal to life could generate concrete and coherent philosophic trajectories, then, this chapter contributes to the vitalist discourse by demonstrating how an anti-reductionist ethos can proceed according to concise and powerful methodologies. Together, the four sections of the chapter outline decisive ways in which Bergson and Nietzsche both identify reductionism and seek to forestall it via the pursuit of alternative elements of thinking. As such, the material serves to bridge Chapters Two and Four, pinning down and better situating within the broader framework of their work a range of terms, concepts and moves, observing how these orient and function within the vitalistic direction of their thinking, and laying the ground for the substantive anti-reductionist positions to be examined in the next chapter.

The chapter divides in 2 parts, each composed of a couplet. In the first part, the 'anthroscopic' (§1) explores reductionism according to the ways in which material and moral 'world orders' can be said to 'rig' our thinking and obfuscate a positive conception of freedom, while the 'transhuman' (§2) looks at how Bergson and Nietzsche both respond with alternative 'elements' – duration and will to power – whose irreducibility would dissolve the hegemony of those world orders and open up new directions for thought. The second part provides two further perspectives on these new elements by means of two key features of

their ‘transhuman’ effort: §3 (‘naturalising’) presents duration and will to power as naturalised monisms which enable a rapprochement of previously severed terms and serve to release superior forms, while §4 (‘reversing’) views the new elements in terms of the holistic mereologies they propose. As the conclusion will argue, these four angles ultimately allow for a deeper understanding of the notion of prodigality in Bergson and Nietzsche’s work, thanks to the affirmation of immanence that emerges from them. This affirmation, and the perspectives it offers on Bergson and Nietzsche, constitutes a further core component of their metaphysical visions, and the second contribution that the optic of vitalism can make to a comparative study of their philosophical projects.

3.1.
Anthroscopic

Bergson and Nietzsche are renowned for their efforts to raise, reorient and restate problems, belonging to what Howard Caygill calls an ‘aporetic’ tradition of philosophy: one focused on a history of problems and not of solutions, foregrounding ‘the activity of philosophising rather than the presentation of results’.[1] Thus while Bergson chose to retrospectively ‘introduce’ his philosophy in 1922 precisely through the method of ‘posing problems’, Nietzsche frequently declared his originality in terms of the unprecedented formulation of certain problems (concerning, for instance, the value of knowledge, or the psychological basis of Christian morality). The confrontations staged by Chapter Two brought a range of problems into relief for both philosophers, which generally converged on ‘speculation’ and ‘reactivity’. This section provides a more concise framing of their overall problematics, outlining the nature and force of their anti-reductionism through the concept of the ‘anthroscopic’.

The term ‘anthroscopic’ is intended to characterise reductionism in terms of a misinterpretation and misuse of perspectives proper to the human condition. For Bergson and Nietzsche, that is, reductionism is conceived as the habit of allowing our interpretations of reality to be over-determined by the scope or scale of certain kinds of perceptual and evaluative experiences, whether on the model of sensory schema or psychological motivations. Their anthroscopic critiques thus serve not only to explain the derivation of a range of concepts, rules and images that we draw from and use to describe our spatio-temporal existence, but to expose, in turn, the restraining influence exerted on thinking and

living whenever these habits are uncritically transposed beyond the relatively narrow sphere of human action and need.[2] In this sense, the anthroscopic perspective can be said to radicalise Kant's Copernican turn: where the latter asserted the human intellect's prescription of laws to nature, Bergson and Nietzsche reorient the problem by tracing our categorial interpretation of nature to diagnostic perspectives on the human condition (in this case, intellectual control and physiological infirmity).

The crucial feature of this concept, however, and that which distinguishes it from the kind of straightforward deconstruction of human projections and delusions characteristic of anthropomorphic critiques, is the constructive prospect it offers. Although both thinkers emphasise the philosophical danger of outright ignoring the 'all-too-human' sources of our interpretive visions and conceptual vocabularies, they equally warn against appealing to any 'view from nowhere' – of the sort critiqued by Thomas Nagel – that would offer a leap out of embodied existence: this is what 'simultaneity' often represents for Bergson, and what Nietzsche finds repellent in a 'God's-eye-view' (what the world would look like if one could cut off one's head and still take a look). On the contrary, Bergson and Nietzsche both affirm highly situated forms of perspectivism, differentiating instead between inferior and superior interpretations of this. If the anthroscopic indicates a critical approach that centres on an inferior interpretation of our situatedness, that is, its force nonetheless lies in its essential *continuity* with a superior component, such that this section can be seen to prepare the way for the next section: a 'transhuman' effort, not to 'correct' the human condition – nothing is more abhorrent to Nietzsche – but to dilate it by raising distinctly human faculties to their highest degrees (intuition and genealogy). The 'anthroscopic' and the 'transhuman' form a dyad in this sense, a typology of perspectives as assessed through their philosophic consequences. It is this dyad that allows Bergson and Nietzsche, for instance, not only to contest our ideas concerning the material world as made of discrete and impenetrable constituents regulated by laws of motion, but to furthermore explain this apparent stability by resolving it into a complex tension of 'rhythms of duration' or 'power-claims' that remain unbetrayed, insofar as imperceptible, on the anthroscopic level,[3] and that permit of radically new forms of naturalism.

3.1.1.
Bergson and the 'material world order'

Bergson's key critical concept was defined in Chapter Two as 'speculation': the uncritical transposition of habits contracted on the plane of action to the level of abstract thought. For Bergson, this move effectively hypostatises a difference in degree between thought and reality to a difference in kind, absolutises the relativism of our 'cinematographic' understanding, and generates intractable problems. The anthroscopic perspective from Bergson's point of view is therefore distinguished by a fundamental *imprecision*: philosophical systems, he claims, are not cut to the measure of the diverse world in which we live, but rather to the world viewed through the lens of human interest.[4] Two specific hallmarks of speculative thinking are especially prominent. First, its logic of retrospection, that which Vladimir Jankélévitch considered the 'constitutional illusion' of speculation.[5] This denotes the intellect's proclivity for throwing present realities back into the past in the form of pre-existing possibilities, and then bringing them back to life by means of reductive causal-explanatory mechanisms.[6] Bergson elaborates this error according to a 'retroactive effect' or 'retrograde movement' that we attribute to truth, and identifies it as the source of 'innumerable' problems, from the sort of reverse-engineering that vitiated mechanistic accounts of evolution to the general idea of possibility that he critiques in several places.[7] The second core feature of speculative thinking is its prioritisation of immobility over mobility (itself an instance of retrospection). Bergson reiterated this emphatically throughout his work: 'IM' is explicitly concerned with affirming the reality of mobility, exposing the unreality of immobility, and presenting the history of metaphysics as an erroneous inversion of these two tenets; later, in 'I2', he reflected on his philosophy as an effort to eliminate all subtending forms of 'support' (1313, 'I2'); and in *DSMR*, he returns to the idea that 'rest' is only an 'accident of movement' that we mistakenly insist on making 'anterior and superior' to it (1182, *DSMR*). His consistent point is that immobility is a fiction attained only in the speculative mind. The latter confuses the perceptual function of positing *de facto* degrees of stability within flux, with the *de jure* existence of unchanging mobiles that would undergird reality; it misconstrues the 'vehicle of an *action*' as 'the substrate of a *knowledge*' (220, *MM*). Insofar as the derivation of immobility from mobility is a strictly one-way process, Bergson thinks such stability provides an entirely illegitimate starting point for thinking.

While these prejudices characterise speculative logic, that logic can only be fully articulated via Bergson's claim that it is itself determined by spatial schema. This determination is a central component of Bergson's reciprocal genesis of materiality and intellectuality: the idea that our style of thinking, pragmatically bent on facilitating our action, has been engendered in concert with matter's tendency to externalise into spatially discrete parts and exhibit a (Euclidean) kind of geometry. On one hand, this means that our logic is, pre-eminently, a 'logic of solids' (489, *EC*), whose origins are explained via the evolutionary interplay of inherent intellectual needs and material tendencies, but whose application is also prohibited beyond this strictly relative context. Images of solidity and shock, for instance, are said to borrow their apparent clearness from the habits and necessities of practical life, but throw no light on the nature of things.[8] On the other hand, coupled with Bergson's claim that the material order constitutes an 'interruption' of the vital order, a sort of depositing of 'vital' processes, this means that the intellect's contact with the real is necessarily tarrying and superficial: it alights only on what are already extensive translations of intensive movements, as when the mechanist latched onto the material parts of the eye while missing the act of vision.[9] A very general but pervasive error thus emerges from this intimate relationship: that of conflating movement with the space traversed. For Bergson, it is this error that vitiated the paradoxes of Zeno, and gave birth to a very limited but historically pre-eminent brand of metaphysics in which space functioned as the element of thinking.[10]

The key sense in which 'speculation' defines the anthroscopic perspective for Bergson is in its manner of determining problems. To say that space is the element of speculative thought means that it generates 'false' problems: problems whose terms have been determined extrinsically (i.e. 'imprecisely'), whether through a pragmatic representation of experience, an uncritical inheritance of stakes, or a retroactive derivation from solutions. Bergson considers problems posed as such to be the hallmark of a philosophical amateur, and thus raises the speculative error in the openings of his major works in order to show how certain issues have been traditionally beset not so much by unsatisfactory solutions, but rather by flawed statements of the central problems – thus he exposes the notion of intensive magnitudes presupposed by associationist psychology in the *Essai,* and the idea of cerebral localization of memories in *MM*.[11] Bergson identifies two recurring characteristics of false problems: the confusion of more for less (contrary to the speculative prioritisation of immobility over mobility, there is for Bergson more in immobility than in mobility, insofar as the former exists only as a concept which the human mind must extract from moving reality);

and the arbitrary grouping of, or surreptitious passing between, two distinct perspectives (the idea of possibility, for instance, is obscured by the confusion of negative and positive conceptions of it (1262, 'I1'), while the psychophysical parallelist thesis is sustained by an unconscious shifting between idealist and realist 'notations of the real' (962-3, 'CP')). The latter kind of problem, which Deleuze defined in terms of 'badly analysed composites', generally stems from a confusion of quality and quantity, and tends to substitute for true experience, in Bergson's words, 'an experience that is disarticulated and, therefore, most likely disfigured'.[12] For Bergson, the badly analysed composite *par excellence*, and thus one of the capital false problems in his work, is 'vulgar dualism'.

Bergson uses the term *dualisme vulgaire* in *MM* when attacking theories of perception for standardly opposing abstract conceptions of matter and spirit and then oscillating inevitably between the twin poles of realism and idealism. Transliteration of the term aptly names an extended methodological error that Bergson finds beyond the Cartesian heritage.[13] On one level, a vulgar dualism simply designates an extreme dissociation of two terms. Bergson claims that philosophers, rather than carefully determining the differing proportions of elements in a mixture, too often rush, by way of impoverishment, to two opposing limits, isolating two supposedly different concepts or modes of existence, and insisting on 'the exclusive presence of the condition which ought to be considered as merely preponderating' (289, *MM*). At least two major difficulties follow. First, the terms of such a dualism are dichotomous, necessarily *opposing* one another insofar as each is characterised, in a sort of face-off, by the possession of what the other lacks.[14] In this, both sides of a vulgar dualism appear compromised, since neither term is characterised positively, but to the exclusion of the other. Second, from such a severing opposition follows the 'spectacle' of their incommunicability (374, *MM*): for Bergson in *MM*, the question of how mind and body might interact is a non-starter so long as we pit a phantom matter, stripped of all qualities and undergoing homogeneous movements in space, against entirely intangible, inextensive sensations in consciousness, and any theory that purports to bring them together simply offers a miracle.[15] In this respect, Bergson is not just reproaching poor dissociations, but the tendency to start out from their extreme conclusions, leaving abstracted what ought to be extracted in order to engage in 'an age-old game between schools of thought'.[16]

The key to the vulgarity of speculative dualisms, however, lies on another level, for strictly speaking it is not true that each side is *equally* compromised. 'The error of vulgar dualism',

Bergson says, 'is that it starts out from the perspective of space, before then placing, on one side, matter and its modifications in space, and, on the other side, inextensive sensations in consciousness' (354, *MM*). Vulgar dualism, that is, represents a 'false problem' whose statement is rigged by space, and whose defining characteristic consists in the vain attempt to establish a difference in kind between what is condemned, by that very statement, to differ merely in degree. It follows from this that one of its terms is necessarily less compromised than the other. Vulgar dualisms, in other words, start out from a spatial representation – reality reduced to the plane of action – which already favours one side. In being pushed to its extreme, the favoured term is exaggerated, i.e. altered merely in degree. But its counterpart, which ought to differ in kind, is rather run by default to the lowest opposing degree, where it vanishes in negative, extra-spatial determination.[17] Thus matter is made to coincide with pure space, while spirit is given a pseudo-existence, its *im*materiality only conceivable to the speculative mind in terms of its *un*extendedness ('Our understanding, yielding to its customary illusion, poses the dilemma that a thing either is or is not extended' (202, *MM*)).

Conceived as such, vulgar dualism simply formulates the speculative appeals to solidity, support and space identified above. And this vision of things, inherent in the mechanistic materialism of science as much as in the substance metaphysics of philosophy, represents for Bergson a dogmatic orthodoxy that needs to be overthrown: a 'material world order', to mirror a term that will focus Nietzsche's broader problematic below. Like Nietzsche in turn, Bergson is emphatic about the stakes of this situation. Insofar as space operates as the element of speculative thinking, vulgar dualism automatically 'entraps' the immaterial term, foreclosing, as Bergson also puts it, a serious study of spirit (1244, *DSMR*). This entrapment is the foundation of psychophysical parallelism. Parallelism holds that a determined thought has its equivalent in a determined cerebral state. Apart from questioning why nature would bother with such inefficiency – the psychical series appears to serve as a mere superfluous duplicate of the physical[18] – Bergson's principal criticism is that parallelism reduces consciousness to a neurological substrate and thus forces the problem of human action to be posed on the rigged terrain of physical determinism, effectively stacking the odds against a positive conception of freedom and indeed tending towards eliminating it altogether.[19] For this reason, Bergson dovetails the problem of parallelism with the problem of modern science: the latter's superhuman pretensions, which programmatically reduce change to the unchanging and the novel to the preformed, complement the parallelist thesis, by endorsing increasingly refined analyses of cerebral mechanisms, thus encouraging the effort to predict

and manipulate conscious life. Given its attitude towards the reality of freedom, alongside the historical ubiquity and speculative framing of its basic premise, parallelism constitutes *the* philosophical theory native to the material world order, and, as such, provides the unwavering target of Bergson's anti-reductionism.

This capital concern with defending the reality of freedom permeates Bergson's work throughout, and not only from an existential or ethical perspective. Apart from inhibiting one's experience, that is, failure to acknowledge and accommodate the reality of free activity is the reason why false problems are posed in the first place: spatial determinations override the indeterminacy, contingency and complexity of things. Here is where Bergson's concern with transforming problems feeds into his conception of positive metaphysics. Apart from providing poor starting points, speculative problematics are equally stunted by their notion of *solutions*, which, spatially-inspired and mathematically-oriented, aim at the *termination* of problems: the correct combination of concepts, 'a pretty piece of mosaic'.[20] In this sense, a problem is exposed as 'false' not only because it is stated through the element of space, but because this statement is inherently designed and expected to enable a solution that would close off the problem.[21] This serves only to consolidate the old, inviting a linear view of 'philosophical progress' in which problems and their terms are considered as set once and for all, and thinking, far from compelling a continuously creative effort of the mind, requires adherence to a given set of categories for a given set of problems. This perspective, which Bergson insists rests upon the congenital presupposition of a harmonious relation of intelligence to truth, is inherent in post-Kantian positivism and convergent realism. It is in order to counter this that Bergson appeals to the immediate experience of free activity. And if this provides the standard by which problems might be accorded a certain 'truth', it is in large part because 'true problems' are to be characterised by an essential degree of openness. 'Solving' them, that is, must involve directing their continued investigation rather than closing them off.[22] This is what the next section will examine.

3.1.2.
Nietzsche and the 'moral world order'

In *The Antichrist*, Nietzsche identifies the principal target of his revaluation of values as the 'moral world order': the system of values propagated by the Judaeo-Christian tradition. As Brian Leiter has observed, Nietzsche's critique of this tradition is multifaceted, focusing

variously on its normative content, its distinctive genesis, its claim to universality, and its empirical and metaphysical presuppositions.[23] Yet Nietzsche's categorical diagnosis of human sickness in *TSZ* in terms of a prevailing 'spirit of revenge' suggests that it is the second of these that requires our closest attention: the peculiar origins of Christian moral values through the elemental mechanism of revenge. This focus coheres with an important progression in Nietzsche's thinking: from debunking the anthropomorphisms of traditional metaphysics,[24] according to which articles of faith are viewed as vital superstitions and error understood in terms of a certain 'blindness', to exposing the degenerate evaluative habits that sustain our most cherished idols, according to which articles of faith are transposed to absolutes and error is understood in terms of 'cowardice', which is to say weakened will to power.[25] This perspective on Nietzsche's moral critique outlines the core components of his overall problematic and discloses the key characterisation of nihilism as an inferior kind of morality.

Nietzsche discusses the moral world order in terms of both its conceptual dependence on monotheism and its historical dependence on the priestly type (*AC* 26, 49; *EH*, 'D' 2), but characterises it chiefly in terms of an idiosyncrasy on the part of weak or 'decadent' types who wish to 'avenge themselves on life'.[26] This vengeance is explained by the fact that the weakness at play is a weakened or thwarted will to power (*GM* III 14), which generates what Nietzsche calls *ressentiment*, the motive force of the moral world order. *Ressentiment* designates a bitter emotion belonging to natures that are deprived of a real, outward reaction against their oppression, inferiority or disappointment. Since reactions of this sort, if realised, might prove suicidal – through confronting one's oppressor, for instance – they are rather directed inwards, where they create a psychic mechanism of would-be reactions and establish perverse patterns of behaviour.[27] These patterns rest on a framework of imaginary and compensatory rewards: the failure to challenge provocation, for instance, might be interpreted as manifesting the virtue of meakness, which will later be rewarded in the kingdom of heaven. For Nietzsche, the key feature of this kind of evaluation is that it still masks will to power, albeit in subverted forms: thus revenge is said to betray a 'tyrant-madness of impotence' and to express itself as an 'overwhelming desire […] to discharge an inner tension in hostile actions'.[28] Nietzsche also understands the tendency to blame on the same terms, calling it a 'cause-creating drive' that allows the weak to feel 'a little of the intoxication of power' (*TI*, 'Expeditions' 34).

As such, Nietzsche considers the values born of *ressentiment* as themselves pieces of revenge – a 'displaying of one's wounds'.[29] More broadly, he finds in the collective system they constitute, the moral world order, a 'hang-man's metaphysics'. This is because *ressentiment* morality not only rejects all that represents an 'ascending' movement of life – indicating a liberated, affirmative relation to one's native power – but invents another world from which '*life-affirmation* would appear evil, reprehensible as such' (*AC* 24), and corrupts life through attributions of guilt and practices of punishment.[30] Where revenge operates as the element of evaluation, then, values and morality take on a fundamental 'hostility to life', because revenge is wreaked on actuality, on the fullness of life's becoming. This reiterates points made in Chapter Two concerning total economy: for Nietzsche, revengeful evaluation performs 'alchemy in reverse', not only by *inverting* life-affirming values and devaluing what is most valuable, but by *demonising* and excluding all those sides of existence that threaten the supremacy of *ressentiment* morality.[31] Nietzsche identifies this kind of morality entirely with the Judeo-Christian tradition, whose promotion of virtues like pity, humility and selflessness he sees as reactions against more active, salutary qualities. But he also claims that the instinct of revenge has so mastered humankind in the course of millennia that the whole of metaphysics, psychology, and history are also 'impregnated' with it: 'As far as man has thought, he has introduced the *bacillus* of revenge into things'.[32] This not only reconnects the concept of revenge to the discussion of the ascetic ideal in Chapter Two, but indicates why Zarathustra pronounces the spirit of revenge as mankind's 'chief concern' hitherto, and frames his highest hope in terms of freeing us from its bonds (*TSZ* II, 'Redemption', 'Tarantulas').

Revenge can be directed in two principal ways. First, towards others, most likely those who hold up a mirror to one's suffering. In this respect, revengeful evaluation must be understood as *constitutively antagonistic*, following the perverse procedure of deriving what is 'good' from the initial judgement of what is 'evil'.[33] Second, revenge can be directed toward nature: it is, indeed, 'morality as anti-nature' that Nietzsche explicitly attacks (*EH*, 'Destiny' 7). This may target a quality of the natural world, such as its 'indifference' or 'transience' – this is the theme of the Book of Ecclesiastes, for instance – but Nietzsche is appealing more specifically to nature as will to power and the vital drives he considers salutary. He formulates this as a 'principle' in *TI*: that while all naturalism in morality is dominated by an 'instinct of life', *ressentiment* morality is characterised precisely by its *anti-naturalism*, its turning *against* the instincts of life (*TI*, 'Morality as Anti-Nature' 4). Nietzsche thus equates the Judaeo-Christian

tradition with a denaturalising of natural values, robbing chance of its innocence, dirtying misfortune with the concept 'sin' (*AC* 25), and inventing a host of imaginary causes, beings and interpretive frameworks in order to avoid actual contact with reality (*AC* 15; *TI*, 'Four great errors' 7).

For Nietzsche, however, the greatest 'injustice against nature' (*GS* 294) that *ressentiment* morality perpetrates is Christianity's war on the body, by which the passions and instincts are disfigured as sicknesses. Nietzsche is keen to criticise the particular tactic of annihilation and castration employed here: *ressentiment* morality characteristically prefers to 'attack life at its roots' rather than consider how its multifarious elements might interrelate within a total economy, or how a desire might be sublimated into something higher (*TI*, 'Morality as anti-nature' 1). But his primary concern is with how this anti-affectivity helps to constitute the notion of moral subjectivity: the virtuous 'I' that would stand objectively apart from the body and look down upon its inclinations and needs. In *EH*, Nietzsche in fact claims that his struggle against Christian morality is a 'special instance' of his struggle against the permeation of the theory of free will by the spirit of revenge (*EH*, 'Wise' 6).

His attacks on this front come from a variety of angles. He condemns free will as an all-too-human causal delusion, as if the laws of nature came to a standstill at the moat surrounding human being in order to allow truly autonomous actions to be generated from within.[34] He treats it as a fiction generated by language, whose synthetic concept 'I' and in-built distinction between subject and verb breed the notion of an independent agent separate from their actions (to the point where Nietzsche suspects it is our belief in grammar that prevents us from getting rid of God).[35] And he inscribes it within an 'old-style psychology' of the will, according to which the human experience of identity is combined with the erroneous perception of willing as a simple process to furnish the false idea of the will as a discrete causal entity (what he also calls 'soul atomism').[36] From these perspectives, the conceptual apparatus central to *ressentiment* morality – personal responsibility, blame, guilt, and punishment – can be viewed as premised upon a moral consolidation of various psychological errors. Indeed, Nietzsche claims that revenge has a poisonously 'personalising' effect, which lead it to embrace the kind of independent selfhood and amorphous agency posited by these errors and by language in particular (*BGE* 25, *GS* 370).

But Nietzsche is emphatic that the definitive and 'uncanny' problem of the moral world order lies in a more nuanced understanding of the promotion of free will, which he traces to the 'vengeful psychology' characterising those who would pretend to 'improve' mankind (*TI*, 'Improvers' 5). This psychology is rooted in a suffering from actuality and the fullness of becoming, and issues in the resentful desire that things be simply otherwise than as they are, and that individuals be capable of acting otherwise than as they do:

> Let us consider finally what naivety it is to say "man *ought* to be thus and thus!" Reality shows us an enchanting wealth of types, the luxuriance of a prodigal play and change of forms […] The individual is, in his future and in his past, a piece of fate, one law more, one necessity more for everything that is and everything that will be. To say to him "change yourself" means to demand that everything should change, even in the past […] Insofar as morality *condemns* as morality and *not* with regard to the aims and objects of life, it is a specific error with which one should show no sympathy, an *idiosyncrasy of the degenerate* which has caused an unspeakable amount of harm! (*TI*, 'Morality as Anti-Nature' 6)

The key Nietzschean themes of Chapter Two return here. This conception of *freedom*, which merely manipulates a moral-linguistic phantom in order to act out a revengeful fantasy, is the very root of the denial of *necessity* that ran through the reactive accounts of Truth, Law and Life. As such, these points converge on the relation between the moral world order and nihilism. For Nietzsche, the latter's outright denial of all value whatsoever is the inevitable extreme of the revengeful value system and metaphysic established by the former. This metaphysic is essentially that of a devaluing dualism, as exemplified by the moral opposition of good and evil, as installed in 'denaturalised' man (put at odds with his instincts by being identified with his 'ego'), and as foisted onto nature (distorted by an appeal to the imaginary world of the unconditional). Historically, Nietzsche certainly targets the *hegemony* of the moral world order, inasmuch as it presents itself as a superior and closed system of will, goal and interpretation (GM III, 23): 'I am morality itself and nothing besides is morality' (*BGE* 202). But if this illusory idea of freedom is seen as its conceptual cornerstone, then targeting it is key to opposing that hegemony, and dissolving nihilism by redeeming an innocence of becoming. In order to do this, Nietzsche needs to affirm an alternative element of evaluation to that of revenge, which is the subject of the next section.

3.1.3.
Conclusion

The anthroscopic perspective not only provides for a deeper understanding of the 'speculative' and the 'reactive' as critical categories in Bergson and Nietzsche – not least by associating them with the immobile and the unconditional – but reveals parallel strategies in the anti-reductionist force of their work, allowing for specific formulations of their overall problematics in terms of certain inhibiting habits of the human condition. Via the rigged hegemony of material and moral 'world orders', each philosopher exposes a vitiating element of thought (space as element of dualisation in Bergson, revenge as element of evaluation in Nietzsche), alongside an inferior interpretation of reality on this basis (vulgar dualism and nihilistic dualism respectively). In turn, these are seen to be premised upon and to propagate two perspectives on freedom which serve to maintain us in an inferior state: the reductive elimination of freedom for Bergson (parallelism), and the delusion of moral freedom for Nietzsche (nihilism). In this way, key themes of their work have been connected to some of the most crucial stakes of both modern philosophy and the vitalist discourse as outlined in Chapter One: Bergson's alarm regarding the materialist entrapping of the immaterial via physical determinism, and Nietzsche's sustained polemic against the moral translation of the human out of nature via the concept of free will, converge on the requirement of anti-reductionist approaches to dualism in the name of a freedom that is neither consolatory nor exceptional (a kingdom within a kingdom). By identifying and breaking down artificial barriers and parameters of thinking and evaluating, this anthroscopic critique provides an essential basis for Bergson and Nietzsche's reorientation of philosophy: positive metaphysics and power metaphysics will be seen, precisely, to open up *an empiricism of the immaterial* and to *translate the human back into nature*. The next section marks the start of this path towards superior forms.

3.2.
Transhuman

Nietzsche's call for the human to overcome itself, with its core idea that the species in its current form is capable of further development, helped usher in an age of 'transhumanism'. The concept of the transhuman, however, though recently defined as an intellectual and cultural movement affirming 'the possibility and desirability of fundamentally improving the

human condition through applied reason' (Bostrum 1999: 4), and predominantly oriented by the double horizons of disembodied immortality and technological subservience, has nonetheless evolved in multiple directions since Nietzsche.[37] From early techno-utopian and futurist discourses (influenced, for instance, by Nietzsche's Russian contemporary Nikolai Fedorov) and mid-century experiments in totalitarian politics, through Donna Haraway's 'Cyborg Manifesto' (a clear influence on that strand of new vitalism probing the questions raised by biotech and artificial intelligence) and currently urgent concern with concepts like the Singularity and the Anthropocene, the effort to think and indeed shape the future becoming of the human is a defining feature of the twentieth and twenty-first centuries. While many of these issues are present in Bergson and Nietzsche's philosophies – each of the aforementioned 'double horizons' are presciently discussed by Bergson – the 'transhuman' nature of their work proceeds in two principle directions. It is in these two directions that the transhuman provides the constructive counterpart of the anthroscopic, the irreducibility foreshadowed by its anti-reductionism.[38]

On one hand, the transhuman here develops a seminal feature of modern philosophy. For Spinoza, Descartes' innovation was to replace the traditional dichotomy between sensibility and reason with a notion of 'ideas' that would cover all kinds of knowledge. This allowed for progress in knowledge to take place not by any qualitative leap between supposedly separate faculties – from perceptual opinion to axiomatic science – but by a gradual process of refining our ideas (Rée 2017: 36). (Spinoza himself added an ethical dimension to the Cartesian proposal, viewing the clarification of ideas as a self-emancipation leading one from bondage to freedom, or from passive to active emotions.) The possibility of such a continuous process, a rising by degrees to superior human experience, is integral to Bergson and Nietzsche's transhuman visions, just as it characterises the pursuit of 'nth degrees' in the latest major figure on this lineage, Gilles Deleuze.[39] On the other hand, their transhumanism is characterised by a philosophical exertion, a difficulty born of acknowledging that future becoming is only held open, and indeed constituted, by a certain resistance to the present. Thus for Bergson, an intuitive philosophy must do *violence* to the natural bent of the intellect, whereas, according to Nietzsche, a genealogical exploration of our moral history is liable to cause a kind of 'seasickness' (*BGE* 23). This aspect accounts for the 'trans-' prefix in place of the 'post-', whether post-human or post-modern: rather than foreclosing the human condition in some terminal diagnosis or definition, the transhuman in Bergson and Nietzsche, as Keith Ansell Pearson has emphasised, embraces the future of the human as one of new

experiments in thought and affectivity, exploring the human as 'a site of contamination and abduction by alien forces' (Ansell Pearson 1997: 1). In this respect, it is no coincidence that Bergson and Nietzsche each hold up negative corollaries of the transhuman: the superhuman intelligence that Bergson confronts in *EC* and the 'Last Man' derided by Nietzsche in *TSZ* can both be seen as counterproductive models of human becoming, insofar as they represent idealised visions of the human in its present state of development.

Following the anthroscopic formulation of Bergson and Nietzsche's problematics in terms of hegemonic world orders, this section looks to formulate their responses in terms of the distinctive methods they propose – intuition and genealogy, each attained by means of superior efforts of the human condition – and by indicating the new elements that these methods open up.

3.2.1.
Bergson, intuition and transubstantiation

Bergson states in 'IM' that philosophy ought to be 'an effort to go beyond the human condition' (1425, 'IM'), and the method that permits this, as Chapter Two indicated, is intuition. Bergson's theory of intuition contests several traditions: the prejudice, dating to Descartes and Spinoza, that intuition would allow us to rise above perception to attain self-evident truths; the Kantian denial of extra-intellectual contact with the real; and the Romantic notion of intuition as a passive contemplation.[40] Combining elements of all of these, Bergson insists on intuition as an activity, one that requires a painful effort of perception to sustain a discriminating kind of awareness: a seeing for the sake of seeing and not of acting, which participates, via a kind of 'spiritual auscultation' of its object (1408, 'IM'), in the very processes and life of things. It is strictly as a *superior kind of perception* – a direct contact with the real by means of a rhythmic sympathy between concrete movements – that intuition provides a 'transhuman' response to the problem identified from the anthroscopic perspective: by deepening and expanding perception itself rather than seeking an alternative to it, the human condition is taken to a higher level by means of resources already immanent to it.[41] This is what elevates intuition from an irrationalist whim to 'one of the most fully developed methods in philosophy' (Deleuze 1991: 13), and the hallmark of Bergson's positive metaphysics.

What intuitive contact with reality permits, and Bergsonian metaphysics demands, is that which he claims philosophy has always lacked: precision.[42] On one level, this bears on the production of made-to-measure concepts, and sees Bergson anticipate the anti-representationalist strand of twentieth century philosophy. Intuition, that is, by re-creating the movement of its object within itself through partially coinciding with it, dispenses with the need for concepts understood as mediating symbols applied from an external standpoint (as per speculative relativism or 'analysis'). Bergson sees this re-creation as itself a generative concept, to be elaborated and repeated in 'an indefinite series of acts' (1416, 'IM') which would enrich our understanding rather than rehearse the finite possibilities of an external correspondence.[43] In this sense, intuition achieves precision by means of *multiplying*: one commentator has indeed described intuition as the 'faculty of multiple perspectives'.[44] And what is multiplied here, to contextualise another key feature of Bergson's philosophical vocabulary, is difference. As Chapter Two highlighted, the real for Bergson is characteristically 'overflowing' – in excess of the pragmatic reductions of conscious perception and intellect. Intuition is precisely a sympathy towards this character of becoming, an effort to restore its complex and nuanced articulations via attention to the multiple kinds of difference and differentiations that constitute it (in Pascalian terms, it counters the speculative *esprit de géométrie* with an *esprit de finesse*)[45]. This is why Bergson's works are themselves characterised by the proliferation of typologies: different kinds of memory, of space, of society, and even different kinds of difference and multiplicity themselves.

It is on the basis of these features that Bergson calls 'true metaphysics' a 'true empiricism' (1408, 'IM'): an entry into the absolute by means of a heightened, participatory perception of singularity, and the generation of both new realms of experience and new concepts for thinking them as concretely as possible. The practice of this superior empiricism is explicated and exemplified by two sub-methods of intuition which traverse Bergson's work, and respond in their own way to the demand for precision.

The first of these concerns the re-statement of problems. In contrast to his remarks regarding amateurship in philosophy, Bergson claimed that 'good philosophising would consist in *creating* both the statement of the problem and the solution'.[46] Accordingly, as Deleuze emphasised, the method of intuition sets out first to determine the conditions of problems (1991: 115). Thus where the anthroscopic perspective revealed how speculation generates false problems by rigging them in terms of space, intuition aims to determine true problems

by appeal to a new element of thought. Crucially, Bergson insists that the intrinsic determination proper to this new posing is an *inventing*, such that the key clause of Deleuze's 'first rule' of the intuitive method is its stipulation to 'reconcile truth and creation at the level of problems' (1991: 15). It is here that the great *effort* of intuition is most apparent, in particular its injunction to multiply: creatively arriving at truly stated problems involves, precisely, resolving idle concepts and factitious questions into unalloyed terms or pure differences – what Vladimir Jankélévitch described as the requirement of thinking 'quantity quantitatively' and 'quality qualitatively' (2015: 152) – and allowing these, in turn, to proliferate into their own multiple levels and degrees. (It is in this sense that the very act of intuitive re-statement serves to solve, or rather dissolve, speculative problems.) But it is also here, as Elie During has emphasised, that Bergson stands apart from certain prominent strands of twentieth century French philosophy, in particular its 'conceptual' and 'critical' philosophies. A purely critical theory, During argues, tends to fall back on the criteria of solutions in assessing problems. As such, it has no way of critically probing problems themselves, insofar as the possibility or impossibility of solving a problem is no standard for determining the legitimacy of a problem (one might solve a pseudo-problem, for instance).[47] Thus, according to During, while there are no genuinely insoluble problems for Bachelard, Canguilhem, Althusser and Foucault, nor is there a distinction between true and false problems, only statable and unstatable ones (During 20-21). For this reason, During defines the critical stance as essentially *uncreative*, restricted to merely uncovering problems by presupposing their solutions, and characterises Bergsonian intuition, by contrast, as a unique method for opening up a transcendental or genetic perspective on problems that is intrinsic and essentially creative.

The second core practice of intuition is the 'méthode de recoupement' that Bergson advances in 'CV', and returns to in *DSMR*.[48] This again follows from the method of multiplicity: it consists in following out the natural articulations of the real by identifying certain 'lines of facts', each of which, without going all the way there, furnishes a *direction* of the truth. Bergson says these can in turn be 'hypothetically prolonged' (817, 'CV') and made to converge or intersect with other such directions, forming a procedure that serves to convert independently probable conclusions to an increasing approximation of certitude. This procedure is integral to Bergson's effort to renew relations between philosophy and science as discussed in Chapter Two. It envisages for metaphysics not an all-or-nothing system, but a gradual accumulation of obtained results on the model of positive science. Such a procedure

requires that philosophers be as rigorous as scientists regarding the empirical adequacy of their theories: a metaphysics founded upon facts must be subject to observation and experiment, verification and disverification ('PPPM': 67). This modelling of positive metaphysics on positive science, however, is conditional upon the recognition of a new kind of fact as disclosed by the emerging biological paradigm of the time. Bergson claimed that, while in the inorganic world 'the law determines the fact as much as the fact determines the law', rising to the world of organised phenomena reveals facts that are 'more objectively intended as facts', describing the living organism, for instance, as a circle more or less closed by nature.[49] In Jean Gayon's interpretation, facts in physics have more the status of cognitive constructs than they do in biology: 'The objectivity of physical facts is proportional to our ability to recognise constant and universal relations (or "laws"). In biology, facts are facts because they express something that is genuinely posed or "intended" by nature' (Gayon 2005: 57). This is why Bergson saw in the burgeoning life sciences not only an invitation to his renewed vision of philosophy, but a blurring of the boundary that previously separated it from material science.[50]

Collectively, these moves enable Bergson to respond to the material world order with a radical 'transubstantiation' of the real: methodically seeking experience 'below its human turn', and thus collapsing vulgar dualism by forestalling its materialist metaphysic. Bergson's philosophy, indeed, constitutes an extended argument for the 'substantiality' of duration, a feature described by one commentator as his 'substance abuse'.[51] Two points must be observed here. First, duration as such is the new element of thought appealed to by intuition, the ontological correlate presupposed by the method; the final two sections of this chapter will explore this in greater detail. Second, duration is pre-eminently that which Bergson seeks to differentiate via intuition: his transubstantiation is in effect a re-thinking of the dual nature of becoming, and intuition indicates both sides of this, material and immaterial.

On the material side, intuition reveals a profound agreement between consciousness and material behaviour. Its founding move in this respect consists in decoupling matter from abstract space without withdrawing from the extended (323, *MM*). If pure space is understood as a speculative fiction, that is, then matter can no longer be defined by geometric characteristics (318, *MM*). This intuitive 'de-materialisation' of matter, which dissolves its discrete atomism and affirms the influences of the whole material universe on every centre we locate therein, in turn grounds Bergson's pursuit of more positive, and indeed prescient,

conceptions of the material aspects of the real.[52] These range from *MM*'s hypothesis of the material world as an aggregate of images and of matter itself in terms of '*modifications*, *perturbations*, changes of *tension* or of *energy*, and nothing else' (337, *MM*), to the more metaphysical claims of *EC*, where materiality is engendered reciprocally with intellect, conceived as a tendential flux towards isolable systems, and ultimately proposed as an 'interruption' or 'inversion' of the vital order (according to which material structures are viewed as sums of obstacles overcome).

More urgently than these new perspectives on materiality, however, Bergson's transubstantiation of the real also opens up an intuitive purchase on the immaterial. The problems on which Bergson brings intuition to bear are in fact of a singular kind. They concern areas where the threshold between the material and immaterial are obscure and subtle – phenomena of a high degree of material complexity, for instance, which could also be interpreted as 'lower manifestations of mind'. In such cases, the stakes are particularly high, for, as the analysis of vulgar dualism showed, leaving them to be problematised speculatively would only perpetuate an entrapment of the immaterial and deter a positive conception of freedom. Contrariwise, by methodically pursuing and documenting the lines of facts offered by these glimmers of immateriality – whether as free will, memory, or consciousness, or in their more esoteric manifestations as dreams, parapsychological phenomena and intellectual effort – intuition proposes a serious study of spirit, offers to defend a real conception of freedom, and on this basis serves to constitute a positive metaphysics.[53] Again, this accounts for the significance of biology, which provided for Bergson numerous examples of the existence of something in nature that defied reductionism and required investigating under a paradigm other than mere 'matter in motion'.

The transhuman bent of Bergson's philosophy is therefore tightly bound not only to a critical perspective on vulgar dualism, but to an expansive, 'transubstantiated' perspective on the real. Intuition as differential precision, and as premised upon a new, durational element of thought, provides for a stating of problems that, no longer rigged by space and destined to masquerade differences in degree as differences in kind, can permit of positive characterisations of the multiple aspects of natural phenomena in a way that accommodates their margins of indeterminacy. How Bergson further grounds this method in a naturalised ontology, proceeds to dualise it on strictly immanent terms, and uses this to break out of the physicalist circle of the given, is what the subsequent sections will examine.

3.2.2.

Nietzsche, genealogy and transvaluation

Where Bergson responded to the material world order by 'transubstantiating it' from below the human turn of experience, Nietzsche's transhuman response to the moral world order involves 'transvaluing' it from 'beyond good and evil', which is to say outside of our reactive estimation of things. Transvaluation is a defining component of the mature, 'no-saying' part of Nietzsche's career, issuing from the death of god in the form of a 'question-mark so black, so huge it casts a shadow over him who sets it up' (*TI*, Foreword). Nietzsche questions whether we're ready for the cataclysmic significance of such an event, insofar as it entails the collapse of European morality; but he also affirms the necessity of this task. Indeed, the self-destruction of the moral world order, and subsequent exigency of 'solving the problem of values' by experimenting with new rank-orderings (*GM* I 17, 'Note'), provide the meaning of his 'cheerfulness'. While these perspectives emphasise the future-oriented bent of transvaluation[54] – Nietzsche conceives it as 'the future work of the philosopher' (*ibid.*) – it is paramount to grasp that, methodologically, its 'precondition' lies in a historical perspective (Janaway 2013: 257). In *EH*, Nietzsche in fact views the whole of history as 'the experimental refutation of the proposition of a so-called 'moral world-order'' (*EH*, 'Destiny' 3), indicating that the foundations of Christian morality might be overturned via a certain kind of analysis of our normative formation. In the preface to *GM*, moreover, he asserts that we remain unknown to ourselves insofar as we lack a history of 'the whole, long, hard-to-decipher hieroglyphic script of man's moral past' (*GM*, Preface 7), and later insists on this point as a question of the first rank precisely because it 'conditions the future of mankind'.[55] This 'retrospective' refutation, operating in the service of a transvaluated future, is the intended scope of genealogy.

Nietzsche's appeal for an honest history of morality takes issue with what he calls the traditional 'back-to-front and perverse kind of genealogical hypotheses' he finds in English moral historians (*GM*, Preface 4). Such hypotheses concerning the descent of the concept and judgement 'good' lack a truly historical spirit insofar as their scope is limited to 'No more than five spans of their own, merely "modern" experience'.[56] This not only means that their analyses presuppose certain modern moral values like utility and selflessness, but, more pointedly, that they breach the major point of historical method as cited in Chapter Two:

> …there is no more important proposition for every sort of history than that which we arrive at only with great effort but which we really *should* reach, - namely that the origin of the emergence of a thing and its ultimate usefulness, its practical application and incorporation into a system of ends, are *toto coelo* separate. (*GM* II 12)

Nietzsche distinguishes between a set of 'procedures' pertaining to a phenomenon and the 'meaning, purpose and expectation' linked to carrying out such procedures, claiming that, while the former remain relatively permanent, the latter are fluid (*GM* II 13). As such, he considers the question of how something *emerged* – whether physiological organ, legal institution or social custom – as irreducible to its current usefulness. Modern moral historians, he says, obscure this issue not only by conflating the meaning of moral phenomena with the most recent interpretation of their purpose, but by then placing this purpose at the start, 'as *causa fiendi*', and thereby assuming the problem to be solved (*GM* II 12). For Nietzsche, this failure to entertain a more complex history of values means that morality is 'not yet a problem' for such historians. This blindness, moreover, only confirms their ensnarement in *ressentiment* morality: the forgetting of origins is necessary to maintaining the supposedly unconditional nature of that particular value system (*TI*, 'Expeditions' 5). That same ensarement is evident in the appeal to objectivity that Nietzsche sees as integral to this inferior kind of interpretation. Modern historiography, he claims, sees itself as a mirror held up to objective reality, rejecting teleology, scorning judgement, and uninterested in proving anything (*GM* III 26). But Nietzsche views this pretension too as reactive: its claim to 'scientific balance' merely masks a tendency to read a certain set of emotions into historical assessments, those of 'hatred, envy, resentment, suspicion, rancune and revenge'. Thus, for example, where the naïve genealogist assumes that the procedure of punishment was invented for the purpose of punishing, Nietzsche detects the symptoms of an incapacity to deal with a particular set of emotions that contrast with the reactive sort: 'the actual active emotions such as lust for mastery, greed and the like' (*GM* II 11).

These critical observations shape the remit of Nietzsche's own genealogical method, which emerges as a more acute and untimely 'instinct for history' (*GM* II 4), and pursues the origins of phenomena in an alternative way: according, that is, to interpretations that are always distinct from current utility, that are subject to change over time in accordance with changing conditions and circumstances, and that rely on a sense for the 'active emotions'. Nietzschean genealogy thus generates continuous 'chains of signs' that continually reveal new interpretations and adaptations, the causes of which 'need not be connected even amongst

themselves', but rather indicate a common source in a broader conception of evaluation (*GM* II 12). It is important to note here, first of all, that genealogy so conceived represents an extension of Nietzsche's training in philology. Just as the transhuman nature of Bergsonian intuition consists in its status as a heightened form of perception, the transhuman aspect of Nietzschean genealogy consists in this superior effort of interpretation, which digs beneath the multiple layers of phenomena in search of their true determining forces. It is in this way that genealogy leads back to transvaluation. A thing's interpretive history under genealogy reveals a rich history of evaluation, exposing phenomena as value-laden palimpsests. This is what 'modern' moral historians effectively erase, taking a thing's worth as 'given, as factual, as beyond all questioning' (*GM*, Preface 6). Contrariwise, by foregrounding the valuative nature of things, genealogical interpretation is able to frame the more probing question of the precise value of values (*ibid.*), posing a set of 'higher-order questions about our ideals in order to determine what our commitment to them should be' (Guay 2006: 356). Genealogy, that is, can ask not only under what conditions man invented the value judgements good and evil, but what value they themselves have, what they promote, and what they are a sign of.[57]

Contra the 'reactive' approaches to the problems of truth, mechanism and evolutionary theory addressed in Chapter Two, this new interpretive perspective proposes an 'active' form of problematising, and it allows Nietzsche to address the core problems of the moral world order – its hegemony and its illusory notion of freedom – in two significant ways.

First, Nietzsche can claim that there are no moral truths, only moral interpretations (*BGE* 108; *TI*, 'Improvers' 1). And that allows him to say that the moral world order, despite its historical ascendancy and its claims to the contrary, is only one such system of interpretation.[58] More to the point, the particular manner in which the moral world order denies its interpretive origins serves to elucidate the particular *kind* of interpretation it represents, for it maintains that its originary moment is instead 'voluntaristic': founded, that is, on the judgements of a free will. In this consists the peculiar sickness of the moral world order – its nature, indeed, as a *misinterpretation*. And exposing this is in fact essential to any validity that Nietzsche would ascribe to his own interpretation of *ressentiment* morality: it allows him to discredit the moral world order, as Daniel Conway observes, by showing that it is 'not simply wrong about its origins, as if by accident or oversight, but that it *necessarily* cannot account for its genesis' (Conway 1994: 328).

It is for this reason that Nietzsche's claims in *GM* concerning the origins of Christian morality in a 'slave revolt' are inseparable from a penetrating critique of moral subjectivity, in which he compares the slaves' attitude to that of lambs who would blame birds of prey for carrying them off. The lambs consider the birds 'evil' for their deeds, and on this basis attribute goodness to themselves (*GM* I 13). For Nietzsche, the fundamental error at play here consists in 'doubling deeds', whereby one event – a flash of lightning, for instance – is posited as both cause *and* effect (a move, as §1 observed, invited by the tendency of language to construe all actions as conditional upon a subjective agency). For Nietzsche, there is no such substratum, 'no "being" behind the deed, its effect and what becomes of it; "the doer" is invented as an afterthought' (*ibid.*). Yet this prejudice mirrors the attempt on the part of the weak to effect an absurd and typically 'moral' interruption of necessity that serves their own purpose:

> It is just as absurd to ask strength *not* to express itself as strength […] as it is to ask weakness to express itself as strength. A quantum of force is just such a quantum of drive, will, action, in fact it is nothing but this driving, willing and acting. (*GM* I 13)

This separation, with its implicit identification of an indifferent substratum behind actions, allows the weak to attribute to the strong both the freedom to *choose* their manifestation of native strength – as if the strong were free to be weak, or the birds of prey free to be lambs – and the responsibility of *answering* for it (*ibid.*). It establishes, in other words, a peculiar apparatus for propping up the delusions of the weak, allowing them to construe weakness itself as freedom, and their particular mode of existence as an 'accomplishment' (*ibid.*). In this way, the moral world order's misinterpretation of its origins can itself be seen to rest on a further misinterpretation, that of the suffering that generated a surfeit of *ressentiment*, and would go on to constitute the revengeful mechanism of its evaluations.[59]

Genealogy thus combats the moral world order, in the first instance, by exposing revenge as a *particular (sickly) kind* of evaluation. Its second contribution to the problematic is therefore, in part, to propose that *another kind of evaluation is possible*. It is for this reason that Nietzsche's account in *GM* of the descent of *ressentiment* morality is inseparable from an account of the 'noble method of evaluation' against which it reacts. The latter springs from 'overflowing plenitude and power' instead of from conditions of lack, deprivation or defect (*EH*, 'TSZ' 2). And this kind of evaluation is what allows Nietzsche to transvalue the term 'good' by tracing its origins in the active emotions: in 'the pathos of nobility and distance'

which first declares itself good by means of a triumphant saying 'yes' to itself (*GM* I 10), and second, as an 'afterthought', dismisses as 'bad' all that is 'low-minded, common and plebeian' (*GM* I 2, 11). The difference of orientation in these respective acts of creation is crucial: noble evaluation is affirmatively exuded rather than resentfully wrought: 'the "well-born" *felt* they were "the happy"; they did not need first of all to construct their happiness artificially by looking at their enemies, or in some cases by talking themselves into it […] (as all men of *ressentiment* are wont to do)' (*GM* I 10).

This point concerning a more salutary kind of evaluation, however, ultimately discloses the more significant aspect of genealogy's second contribution, which is that the typology of values it illuminates, revengeful and superabundant, reactive and active, are alike modifications of the one evaluative element, will to power. In this respect, genealogy reveals itself not only as philology, but as psychology.[60] This is the import of a crucial clarification Nietzsche makes at the end of the first essay of *GM*, when he insists that going 'beyond good and evil' certainly does not mean going beyond good and bad, meaning beyond evaluation *tout court*. Nietzsche rather sees values as expressive of life itself: 'When we speak of values we do so under the inspiration and from the perspective of life: life itself evaluates through us *when* we establish values' (*TI*, 'Morality as anti-nature' 5). On the basis of this broader element, Nietzsche appeals to another kind of distinction in regards to given values: 'is it hunger or superabundance that has here become creative?' (*GS* 370). Each type of evaluation, in turn, is to be seen in terms of a relation to will to power. Reactive or *ressentiment* evaluation, which passes through revenge, indicates a weakened or thwarted will to power, in the sense of an attenuated capacity to affirm life under its essential aspect of appropriation, self-aggrandising and exploitation. This is the lower, sickly end of the power spectrum, where decadent types typically misinterpret both their suffering (by blaming it on others) and their values (which are disguises for weakness). Active or noble evaluation, which passes through superabundance, indicates by contrast an affirmative, buoyant relation to will to power, seeking to directly channel rather than suppress it. This represents a higher, healthier end of the power spectrum, where stronger spirits are typically robust enough not to blame their suffering on an evil opponent, but to embrace it as an incitement to sublimating will to power. The latter is precisely what Nietzsche understands by tragedy, which he calls 'the affirmative pathos *par excellence*'.

The ubiquitous activity of evaluation that will to power affirms thus provides the foundations of Nietzsche's alternative to the moral world order, revealing revenge as only a particular, and particularly degenerate, manifestation of evaluation, and indicating a superior kind that would model itself on a new interpretive relation to will to power. This new relation will proceed simultaneously with a new thinking of freedom, which has also been dislodged by genealogy. If the spurious free agency of *ressentiment* morality is revealed to be a misinterpretation, then so too, by the same token, is the determinism that would diametrically oppose it. For Nietzsche, the will is neither free nor unfree: he reduces both to an 'imaginary' conception of causes (*AC* 15), and maintains that, in reality, 'something cannot also be something else, cannot do this now, then that, / is neither free nor unfree, but just thus-and-thus'.[61] 'Thus-and-thus' here indicates the given quanta of power that define the forces and drives constitutive of wills to power; but it also designates the notion of necessity that a superior relation to will to power must embrace. This is what the next section will begin to outline.

3.2.3.
Conclusion

The transhuman theme has provided two methods, intuition and genealogy, tapping into two new elements, duration and will to power. These methods are developed by Bergson and Nietzsche as the superior efforts of distinctly human faculties (perception and interpretation), while both elements are intended to offer what Alexandre Lefebvre has recognised as '*image(s) of thought irreducible to dogmatism*' (Lefebvre 2008: 89): at once *refractory*, that is, to the reductionism they each attacked in the previous section, and *constitutive* of a fertile new way of thinking. Just as this transhuman commitment can be seen to underlie and direct the remaining angles on Bergson and Nietzsche's philosophies – particularly in Chapter Four §2, for instance, where 'heterogenised' experiences of time will prove integral to opening up new possibilities of human becoming – these elements provide the foundations of the further tasks required to overcome the material and moral world orders. By replacing the element of space, Bergson's transubstantiation will outflank vulgar dualism and release the immaterial from its entrapment, and by offering an alternative element to revenge, Nietzsche's transvaluation will help collapse nihilistic dualism and prepare the way for a translation of the human back into nature. In both cases, it will become apparent how a new conception of freedom is to be pursued – a freedom that, far from reducible to necessity or delusion, is

inherently complex and emergent, premised upon a metaphysical activity of which mechanism can only trace the fossilised results. This indeed follows from a crucial difference between the old and new elements. Where Bergson and Nietzsche's anthroscopic critiques attacked the material and moral world orders for their *hegemony*, their transhuman responses have attacked that hegemony by *multiplying*: it is inherent to the new elements of duration and will to power, that is, that they permit of various and interpenetrating degrees and expressions, such that any notion of freedom premised upon these elements will itself require a qualitative subtlety of thought. This last point serves to emphasise that the transhuman bears not only on difficult new ways of thinking, but of living too: duration and will to power open us up to superior becomings of the human, since the necessity of differentiating these elements – to be explored in Chapter Four – also indicates the approach to one's own upper limits. Thus Bergson claims that traversing increasingly broader rhythms of duration might take one in the direction of the divine (the Spinozian influence mentioned earlier here returns), while Nietzsche conceives of philosophy, as Graham Parkes highlights, as 'the most spiritual will to power', insofar as it purports to offer 'the profoundest and most comprehensive interpretations of the world'.[62] These issues will be developed in the final two sections of this chapter, themselves forming a second couplet of methodological components: where §1 and §2 outlined Bergson and Nietzsche's perspectives on the human condition at both its lower, limiting degrees and its higher, liberating degrees, §3 and §4 will foreground two moves which are pivotal in furthering the pursuit of their anti-reductionist methods and the articulation of their new elements.

3.3.
Naturalising

Naturalism generally designates any approach that seeks explanation in the finite conditions of the natural world. More often than not, this also entails 'an overriding interest in the material substance of this world, in its natural manifestations and physical laws' (Furst & Skrine 1971: 3). This is an essentially evolving project: the naturalistic 'rebirth' that characterised the advent of the modern period, for instance, was premised on a rejection of an entrenched Aristotelian naturalism, whether by casting off the Scholastic worldview largely modelled on his ideas, or replacing his conceptual framework in science with one of laws and quantities; yet the new Cartesian philosophy would soon enough provoke its own reactions. Bergson and Nietzsche both continue and contest this project in important ways, promoting

naturalism as a specifically anti-reductionist enterprise. On one hand, they claim that an uncritical naturalism may yet perpetuate an inveterate tendency to falsify the world in order to make it useful to us, inasmuch as materialisms can easily harbour anthropomorphic (i.e. overly physicalist) metaphysics. Nature itself, in other words, must be held open to non-material interpretations in the interests of a non-reductive naturalism. In this, Bergson and Nietzsche represent important figures in an Anticartesian tradition which seeks to reinstate an inherent dynamism in the physical universe, insofar as the new mathematical knowledge of movement that Descartes established was only made possible by stripping nature of any immanent power of its own, reducing its reality to mere matter in motion at the will of God.[63] Reactions to this view generated a distinctive naturalistic lineage, itself inspired, as Richard Arthur has commented, by the Cartesian notion of a *conatus ad motum*, and incorporating concepts like Spinozian conatus, Leibnizian entelechies, Hobbesian endeavours, and indeed Bergsonian duration and Nietzschean will to power.[64] On the other hand, Bergson and Nietzsche uncover a crucial distinction between radically diverging ways of affirming finite conditions, a distinction which itself challenges conceptions of materiality, and reprieves the immaterial – and for Bergson at least, 'metaphysics' itself – from an injudicious identity with the super-natural. This distinction, which will be taken further in the thesis' Conclusion, separates those who would embrace finite conditions as an invitation to seal off, enumerate and exhaust the natural world, from those who would find in finitude an inexhaustible region of novelty, in which investigation is spurred by an inherent and irreducible indeterminacy.

This latter strain of naturalism influences Bergson and Nietzsche's pursuit of a properly philosophic empiricism of duration and will to power – an empiricism, that is, that does not simply reflect the speculative and reactive illusions of scientific realism – and allows them to elaborate these new elements along parallel trajectories. Starting out from physiological and psychological insights, both establish monistic continua of nature – uniting the organic and inorganic – which are then, nonetheless, articulated in discontinuous or 'quantal' terms (rhythms and drives). These intensive units or 'qualitative quanta' of reality prove decisive in developing their responses to the material and moral world orders, and in providing further purchase on the image of prodigality underpinning their vitalist metaphysics.

3.3.1.
Bergson: durational monism

Naturalism is a key category for understanding the novelty of Bergson's philosophy. While not without forerunners on certain issues – he was an early reader of Freud's *Traumdeutung*, and was influenced by Maine de Biran's study of effort – Bergson was arguably alone in the range of naturalistic phenomena he drew upon as sources of philosophical insight, ranging from psychical disturbances and patterns of bodily activity, including an understanding of habit as 'body memory', to plant-life and mystical experience. He pursued naturalistic origins for a number of phenomena, whether psychological (belief in the law of causality, superstition) or intellectual (logic, abstract space, uniform time). And a naturalistic approach also conditioned his critical analyses of the great concepts of Western metaphysics, leading him to find behind the idea of disorder, for instance, the experience of encountering an order one was not expecting. For Bergson, that is, what the intellect tends to 'speculate' into abstraction is always a combination of two or more concrete activities or operations – in this case, encounter and expectation – and his naturalism thus serves as a resource for combating reductionism by disclosing complexity. To this end, it functions by multiplying, and has accordingly been described as 'inflationary' (Mullarkey 2010: 38). One of the foremost roles played by Bergson's naturalism, however, is in establishing and articulating duration as a qualitative continuum of becoming. As such, duration provides the new element Bergson requires in order to counter the material world order: by replacing space as element of thought, duration serves to undercut speculation, and open up the possibility of non-reductive differentiations of the real. In this respect, naturalism effects a crucial step in Bergson's effort to release the immaterial. Overall, this section and the next one are concerned with articulating duration via one of the classic questions surrounding it: the opposition between continuity and discontinuity, or the allegedly 'paradoxical' nature of durational heterogeneity.[65] For Bergson, duration simply is heterogeneous, but readers like Bachelard and Heidegger have taken issue with this, and their criticisms help elucidate important aspects of it. In this section, naturalism provides a 'monistic' perspective on duration, which it articulates 'rhythmically' in order to show how the continuity of duration permits of discontinuity.

Bergson claimed that his first work, *L'essai sur les données immédiates de la conscience*, was concerned with positing the general conditions for direct self-observation (1268, 'I1'), and its

naturalistic approach to the mind helped inscribe his thinking within a broad historical context. His dismantling of the ego into a 'superficial' (or social) and a 'profound' (or 'unconscious') self would contribute to both the psychoanalytic discourse (Bergson was influenced by Pierre Janet and read enthusiastically by C.G. Jung) and the project of decentring the self that became fundamental to French postmodernism, while his appeal to the 'immediate data' of consciousness would both shape his later reputation as a proto-phenomenologist and implicitly challenge the neo-Kantian establishment.[66] But this approach also set the agenda for Bergson's career, beginning his reorientation of the dualist terms that defined modern philosophy, and disclosing the key concepts he would use to engage with these problems. Foremost among these was his decoupling of time from space. Contesting the presuppositions underlying associationist psychology – its fragmentation of psychical life into discrete states strung upon a unifying ego –Bergson was led to define space as pure homogeneity, but also to see that time tends to be viewed in precisely the same way: considered, that is, a second form of homogeneity in which succession replaces simultaneity. Psychical introspection, contrariwise, presents real, lived time not as a space-like medium containing events, nor as composed of static, infinitely divisible units, but as pure heterogeneity: psychical states differentiate qualitatively, interpenetrate in their unfolding, and present a continuously holistic solidarity among themselves. It is this kind of time that Bergson calls 'duration', and he employs the melodic image as its model: an open, heterogeneous whole in the act of continuous, qualitative recasting and emergence, parts of which, though isolable by attention, are essentially interpenetrating and in flight, modifying and fusing into one another like musical notes. The foremost feature of this 'heterogeneous' kind of time is that it carries its history with it virtually: its 'present' is the actual elaboration, or most contracted form, of an operative past with which it is fully integral, and the future is the gnawing action of its directed pursuit. The entangled complexity of duration is, furthermore, irreversible, and generative of a novelty that, far from merely rearranging pre-existent elements, sweeps across the whole in a continual and total refashioning.

These insights gleaned from consciousness led Bergson to make his key identification of duration with freedom: that which is irreversible, continuous and radically new must evade the reductive schemas of mechanistic determinism; to carry time, to endure, is by definition to harbor *indeterminacy*.[67] As such, they provided him with a standard against abstraction that he repeatedly invoked: in *EC*, for instance, the creativity of life's movement can only be captured by the *élan vital* as an image drawn from psychology. But they also provided him, in

Leonard Lawlor's terms, with a 'springboard into ontology' (2003: xiii). Bergson, that is, extends these insights from psyche to cosmos, proposing a monism that grounds his metaphysics. This highlights the role of duration as response to the material world order: if intuition can state problems truly, by posing them in terms of time, it is because reality is fundamentally temporal. Although this idea is broached in Bergson's second work, where matter and memory are conceived as respective relaxations and contractions on the continuum of duration, it is presented most emphatically in *EC*, where Bergson claims that the whole universe, in its material and vital tendencies, endures in the manner of consciousness. Duration is not only 'the very fabric of our life' (699, *EC*), but 'the very fabric of reality' (725, *EC*), a reality constantly making or unmaking itself but 'jamais quelque chose de fait'. If this exposes Bergson to allegations of panpsychism, two important points defend him. On one hand, Bergson is responding to the need to explore degrees of indeterminacy on micro- and macro-levels, rather than homogenising and abstracting them; in this, extending duration from psyche to universe tests the hypothesis that the qualities exhibited by conscious life might provide fruitful, non-reductive descriptions of existence at large. On the other, Bergson insists that this monistic extension of the psychical is in fact consistent with the fundamental axiom of scientific mechanism, which affirms the identity of inert and organised matter. The difference in Bergson's account is that, whereas the material world order insists on assimilating the natural systems of living beings to the systems that mechanistic science artificially cuts out, his durational monism proposes that we reintegrate those isolated parts to the enduring whole from which they were abstracted. Thus for Bergson, there may well be a mechanism attributable to life, but it must be a mechanism of the 'real whole' – a mechanism that would not explain life away, but be elevated in order to help explain aspects of life.

Keith Ansell Pearson has used this angle on duration to draw in Gaston Bachelard's criticism of Bergsonism (Ansell Pearson 2002: 87-9). Bachelard rejected the continuity of Bergsonian duration, not only because he could not accept it as immediate datum – any one of its characteristics is said to makes its appearance 'on the dotted line of diversity'[68] – but because on his interpretation it forestalls genuine creativity. For Bachelard, the latter can only occur in a discontinuous moment that severs itself from the past, whereas anything 'new' in continuous duration, which can only be divided artificially, will always have unbroken connections with the past (Hashizume 2009: 2). In response, Bachelard sought to 'arithmetise' duration and render it 'dialectical'.[69] For Ansell Pearson, this displays a 'naïve

appreciation of the details of Bergson's arguments in *EC*'.[70] Apart from the fact that Bergson never, in principle, implores a stark choice between two alternatives (continuity or discontinuity), there are several ways in which Bergsonism accommodates discontinuity: the organism is construed in terms of a discontinuity (or 'excrescence') within the flow of genetic energy that characterises life; the continuity that characterises the *élan vital* is inherently *dissociative* and *divergent*; and the creative evolutionary process is not only inconceivable without ascribing an important role to contingency, but also characterised by dead ends and aborted lines.[71] But Bergson also insists on the fundamental heterogeneity of duration itself, not just of vital processes. One way of grasping this is through his articulation of duration according to its various 'rhythms' or 'breadths'.

Two particular aspects of these rhythms are pertinent. First, although rhythms of duration appear to form 'units' of reality, they are to be grasped as such intensively, as constituted by an inherent 'tension'. The key idea here is that reality can be resolved into some fundamental fulcrum while remaining qualitative and enduring: the language of tension proposes that becoming is neither a trackless flood of uninterrupted continuity, nor, at the micro-level, discontinuous on the model of spatially discrete atoms conforming to a logic of solids.[72] This notion was already broached in the previous section's view of matter as 'perturbations', 'changes of tensions or of energy'. To view duration monistically and 'rhythmically', however, involves seeing not only that matter endures to its depths – resolving its quantity into quality, its spatiality into high degrees of extensity, and its solidity into 'so many shivers' running in all directions (343, *MM*) – but that 'matter' defines the low end of a scale. This is a scale of nested durations which reaches from the briefest, quasi-repetitive breadths characteristic of the inorganic, upwards through organic life towards those which define the diverse temporalities of the living, and higher still towards the longest of durations, which Bergson posits as God. This 'temporal hierarchy', as Pete Gunter identifies it, is said by Bergson to define a 'series of beings' in nature, according to which broader rhythms indicate greater power of action, since they are capable of capturing and 'condensing' lower ones in such a way as to act upon them; indeed, the very function of conscious perception, and the role of virtual memory, is to condense innumerable vibrations into pragmatic points of stability.[73] In this way, the rhythmic articulation of duration discloses one of the defining tendencies of life, which, as Chapter Four will show, is to advance its indeterminate activity by creating conditions for its own furtherance.

Second, this qualitative 'tension' indicates the incipient dualism of rhythms of duration. Bergson rebuked the speculative disarticulation of reality not only for its badly cut-out elements, but its badly analysed composites. Rhythms of duration, in this respect, provide the basis of a qualitatively complex reality, insofar as the tension of a given 'rhythm' is attributable to its apparent tearing in two directions at once. From the almost completely closed and predictable circuits of action-reaction found in matter, that is, to the integrative and adaptive action-reaction circuits and vital cycles found in complex organisms (Kolkman 2010: 81), rhythms can be construed in turn as exhibiting a necessity that harbours contingency, or as indeterminacy prone to the determinate. Their openness is constitutively bound by a closure and vice versa; their existence is 'periodical', where this periodicity manifests a tendency to at once trap, close off and revolve, and to bulge, push and evolve. This complex articulation of reality is reflected in, and lends a naturalised concreteness to, Bergson's broader metaphysical vocabulary, with its insistence on intervals and passages over extremes and arrests. But it also gives onto a general principle that Bergson formulates as follows: 'Yes and no are sterile in philosophy. What is interesting […] is in what measure?' (*Mélanges*, 477). This urges us not to start by pitting two concepts against one another, but by seeking the point at which two concepts meet, in order to study the form and nature of their contact, and the preponderances within them of the material and the immaterial. The notion of rhythms of duration proposes not only that this complexity characterises an entire continuum of diaphanous processes and open systems, but that it is written into the most basic 'elements' of reality.[74]

These perspectives on duration ultimately converge on the principal consequence of Bergson's naturalism: it provides for a monistic rapprochement between the terms that vulgar dualism would separate out *in extremis*. This is the ontological basis of the 'transubstantiation' that intuition was said to instigate in the previous section: by affirming a complex continuum of diverse 'rhythms', which are seen to permit of both continuous and discontinuous interpretations, duration replaces the rigged terrain of speculation with a new level terrain of intuition, and dictates a new standard for dualisation that sees the material and the immaterial given radically new characterisations. And it does this by both reigning in previously exaggerated terms as well as releasing previously entrapped terms. Thus in *MM* Bergson insists that a 'psychologisation' of the atom takes place alongside a concomitant materialisation of spirit: what the former loses in quantitative abstraction, the latter gains in concrete purchase. Continuity is therefore no longer something attained by an addition of

discrete discontinuities, as a mechanistic biology might pretend, and as the speculative element of space might force us to think. Rather, as resituated on a qualitative continuum of the real, both can be conceived on a terrain that skews and favours neither but affirms both. From here, the task of metaphysics can be viewed not only, as §2 concluded, in terms of tracing out lines of facts pertaining to those phenomena in which material complexity gives onto glimmers of spiritual activity; it can propose, further, to follow out the evolution of the immaterial from its basic manifestations to its most developed activity. Its field is the aforementioned 'series of beings', and, indeed, beyond. Bergson's transhuman method of intuition thus not only grounds a superior empiricism, but leads that empiricism towards conjectures concerning the ultimate direction of the immaterial, the furthest reaches of indeterminate activity. This is what takes Bergson into the arena of evolution, whether understood biologically, cosmically, or religiously.

3.3.2.
Nietzsche: power monism

Naturalism is a central focus of current Nietzsche scholarship, having driven a number of significant contributions to the field and thematised several edited volumes in recent years.[75] There is nonetheless little consensus as to the nature of Nietzsche's naturalism: he has been interpreted as an 'existential' naturalist (Lawrence Hatab), a 'methodological' and 'substantive' naturalist (Brian Leiter), and an 'interpretive' naturalist (Christophe Cox), while his work has been situated as a rejection of both 'scientific' and 'romantic' naturalism.[76] Naturalism has perhaps become so prominent because it acts as a nexus of many key aspects of Nietzsche's thought, offering connections between his scientific engagement with nature and his normative perspective on man's past and future, and staging confrontations over the purported province of will to power (psyche or cosmos). And as Paul S. Loeb insightfully notes, Nietzsche uses the term 'naturalistic' within this nexus not so much to describe a general methodology (Loeb 2015: 65), as to pursue a specific double task. On one hand, he seeks to purge nature of the sort of reactive overlay that characterises the moral world order's distinctive *anti-naturalism*. This is commonly understood as Nietzsche's 'de-deification' of nature. On the other, he looks to articulate his conception of a newly 'purified' nature, which means affirming the finite conditions of the world as will to power and articulating the kind of 'actual activity' that reactive interpretations of nature deny. This amounts to a monistic interpretation of will to power, and enables Nietzsche to at once render nature inherently

evaluative and restore an immanent yet dynamic kind of necessity to nature. This second task thus clears the way for translating the human back into (de-deified) nature, and it is on these terms that Nietzsche's naturalism converges on ineradicably normative stakes, and proves pivotal in directing his pursuit of a superior morality.

A key component of Nietzsche's naturalising was already indicated in the previous section's interpretation of *ressentiment* in terms of weakened will to power. For Nietzsche, this interpretation is only fully explicated in physiological terms: a decline in the will to power, he claims, is accompanied 'every time' by a 'physiological regression'.[77] This signals the naturalistic 'reduction' of values that led Nietzsche to view moralities as 'merely a *sign language of the affects*' (*BGE* 187): physiological conditions, in other words, are said to antedate and determine values. In particular, this advances Nietzsche's ideas concerning *ressentiment* morality as a *misinterpretation*, more specifically a misinterpretation of the body: in the 1887 Preface to *GS*, Nietzsche indeed asks whether philosophy, historically, has been nothing more than 'a misunderstanding of the body'. Thus the rejection of affectivity and conditionality central to *ressentiment* morality is traced to physiological debility, and *ressentiment* itself is seen as serving an anaesthetic function in regards to suffering: it wells up as an involuntary physiological reaction intended to deaden the pain of bad conscience (*GM* II 15). This physiological interpretation of *ressentiment* is what Nietzsche tends to indicate by the term *decadence*.[78] More generally, however, Nietzsche's physiological conception of values is what leads him to pursue philosophy as a symptomatology, and to view himself as a cultural 'physician': moral judgements, judgements concerning the value of life, are to be considered valuable only 'semiotically', as 'symptoms' of kinds of life (in themselves, he says, they remain 'stupid' and 'absurd'[79]). And it is on this basis that he models the axes of his philosophy on the vocabulary and categories of symptomatology: diagnoses of 'healthy' and 'sick' replace judgements of 'good' and 'evil'.

Central to this philosophy is the question of what moral prejudices are symptomatic of exactly. Nietzsche's answer is the drives.[80] A keen interest in Nietzsche's conception of drives has accompanied scholarly focus on his naturalism, and it has been a site of much discussion. Questions have been raised, for instance, as to what relations pertain between pre-reflective drives and reflective values (Katsafanas 2013, 2015), as to whether will to power is itself a self-standing drive (Reginster 2013[81]) or a second-order phenomenon accompanying first-order drives (John Richardson, Maudemarie Clark[82]), and as to whether Nietzsche

commits himself to an anthropomorphic panpsychism in reading biological drives into inorganic reality.[83] In regards to the problematic being followed out here, Nietzsche's conception of the drives is important insofar as they provide the pivot for his naturalistic rapprochement of man and nature. Their formal features, that is, offer the model of a single, fundamental form of activity that would join human affectivity with a more general metaphysic of nature.

For Nietzsche, the drives are both the primary locus of physiological affects and the most basic 'units' of will to power (Richardson 2001: 152). Four basic qualities of these units are decisive. First, Nietzsche understands them as fixed quanta of power, endowed with greater or lesser degrees of strength. The self is constituted and conditioned by a hierarchically-related multiplicity of such drives, which in themselves are unconscious, unchosen, and immutable (Brian Leiter calls these 'type-facts' about individual bodies[84]). Second, although fixed, drives are yet *dynamic* quanta (*WP* 635). This is because they are driven by an 'inner will' – 'a will to the accumulation of force' (*WP* 689) – which means they are intractably power-aggregative. Drives, in other words, are constant power-claims: by nature, they seek growth and accumulation, and draw their full consequences in this respect at all times.[85] Third, these power-claims must be understood perspectivally. It is to the drives, in other words, that Nietzsche attributes perspectives, in the form of what Paul Katsafanas calls 'dispositions that generate affective orientations' (Katsafanas 2015: 164). This means, more exactly, that drives are inherently interpretive in their functioning, which is to say productive of values: evaluation is the necessary mode of a drive's irreducible perspective.[86] Fourth, despite these characteristics of drives as perspectival units, Nietzsche seeks to emphasise the relationality of their being. This relationality, in turn, is to be conceived 'agonistically': drives are imbricated, that is, in power-complexes that comprise other such wills to power, all mutually interpreting one another on the basis of their native power. The structures or bodies that such complexes form are thus constituted by relations of dominance between strong and weak elements, in what Nietzsche calls 'orders of rank'. Indeed, for Nietzsche, drives or wills to power cannot be thought in isolation from the tension and resistance inherent in these complexes. This tension, moreover, does not simply vanish when a relationship is established: 'obedience' and 'domination' are both continuous forms of struggle, such that even apparently stable complexes are ultimately resolvable into dynamic power relations (*WP* 642). An important point in this respect is that the power-aggregation that characterises

individual drives can be conferred onto the complex itself, such that the latter become unified and mobilised in the direction of 'creating greater units of power' (*GM* I 13).

The reason for highlighting these features of drives is not only to identify how Nietzsche, like Bergson, affirms a 'quantal' account of reality, in which a relational continuity can nonetheless permit of discontinuous articulation (thus quantal indicates both basic units and their nested entanglement). It is to set up the principal move of his naturalism, which involves broadening his insights concerning the psycho-physical self to a generalised monism. Thus, in the first instance, Nietzsche claims that all of (organic, biological) life is governed by will to power in the form of drives: even the most elementary biological functions – the 'primeval activities of protoplasm', for instance – constantly 'presuppose interpretation' (*WP* 649, 651). In this respect, the human gives onto the biological: 'Man is not only a single individual but one particular line of the total living organic world'.[87] But in the second instance, Nietzsche extends this to the inorganic too, where quanta of force take on the characteristics already attributed to drives.[88] In this respect, the biological is rather a 'special case' of the cosmological. By this, Nietzsche not only means to construe the organic as an exceptional, late and accidental type of the inorganic (*GS* 109); he is also permitting himself the 'experiment' of asking whether the 'givenness' of our drives, as the form of being most familiar to us, might suffice as insight into nature itself, conjecturing that the inorganic be seen as an '*antecedent form* of life', possessing the same degree of reality as our affects (*BGE* 36). This universal conception of will to power thus affirms a 'necessary perspectivism by virtue of which every center of force – and not only man – construes all the rest of the world from its own viewpoint, i.e., measures, feels, forms, according to its own force' (*WP* 636), and hypothesises the 'total character of being' in terms of a universal striving after a maximal feeling of power (*WP* 689).

This sweeping move has generated some controversy in Nietzschean scholarship: *BGE* 36 in particular has received conflicting exegeses from numerous scholars, focusing primarily on the question of whether it commits Nietzsche to an anthropomorphic panpsychism of the sort that his naturalism ought to repudiate.[89] Responding to one angle of this criticism in particular helps illuminate Nietzsche's position.

James I. Porter has argued that Nietzsche's theory of will to power is intended to serve his naturalism by 'depict[ing] the way the world looks when our point of view has been

subtracted from it' (2006: 557). Porter takes this to mean a world 'free of the defects of subjectivity as we know it' (*ibid.*: 551). As such, Porter thinks Nietzsche fails in his aims, claiming that will to power ends up as a mere 'projection of the constitutive limits of the subject' (*ibid.*: 562), in which force is 'constructed as a phantasm of the subject – the subject that any centre of force in fact represents' (*ibid.*: 561). Porter's attack here, I think, is misguided in an important respect. On my reading, the aim of Nietzsche's naturalisation is to provide a post-physicalist – i.e. 'metaphysical' – conception of nature that combats the shortcomings of reactive science by more boldly confronting the finite conditions of the world. An important element of this task is Nietzsche's desire to dispense with the Kantian-Schopenhauerian interest in how the world might be independently of all possible human experience (Loeb 2015: 78), and to affirm instead some ground on which man and nature can be thought in similar terms. Contra Porter, however, it is not essential to this end that Nietzsche eradicate every element of subjectivity.

Nietzsche, quite specifically, took issue with the atomistic conception of subjectivity – the self as self-identical and unchanging – particularly as this sustained the idea of the human will as a *causa sui*. But his engagement with ideas from Boscovich and Faraday concerning dynamic centres of force suggests that he was looking, in a similar way to Bergson, and in anticipation of twentieth century physics, to rather heterogenise, dissolve and dynamise the atom while nonetheless maintaining that reality remains quantal or non-continuous in nature.[90] What Nietzsche was undoubtedly intent on eradicating from subjectivity, however, was its *moral* interpretation – as premised on the reactive desire that things be otherwise than they are – and in particular the way in which this had infiltrated physics with a misarchistic metaphysics ('Physicists believe in a "true world" in their own fashion…' (*WP* 636)). The aim of will to power, in this respect, is thus to both *reign in* subjectivity from its atomistic formulation, and to *purge* it of that deceptive overlay. This is why Nietzsche proposes wills to power, whether as drives or forces, as *perspectives*, and proposes perspectivism as 'only a complex form of specificity' – the effort to account for things' 'definitely acting and reacting thus and thus' (*WP* 636).

The central element of this perspectivism is therefore not so much the claim that nature is psychological, as the hypothesis that the same basic activity-pattern might be affirmed across the fields of philosophy, the natural sciences, and, as *BGE* 37 suggests, even religion. In Paul S. Loeb's gloss, 'Just because Nietzsche thinks all drives exist only in power relations does

not mean that he also thinks all power relations exist only among drives'.[91] And from this point of view, the most salient point concerning will to power and the view of nature Nietzsche wishes to bring into relief on its basis, it its *pathos*. This is what Nietzsche emphasises at *WP* 635:

> If we eliminate these additions, no things remain but only dynamic quanta, in a relation of tension to all other dynamic quanta, in their "effect" upon the same. The will to power not a being, not a becoming, but a *pathos* – the most elemental fact from which a becoming and effecting first emerge.

This pathos unites the various qualities and relations proper to the drives as outlined earlier, bearing primarily on the immanent *necessity* that characterises their activity, whether in regards to their perspectival power-aggregation or their agonistic interpretations of those around it. This necessity is neither that of a strict determinism nor of a lawful mediation, but rather accounts for the 'thus-and-thus' of things, that which contests the 'could-be-otherwise' delusions of the moral world order. Nietzsche therefore proposes this necessity as a sort of *excess* that constitutes activity and describes the irreducible becoming of being. It is in this sense that Nietzsche often designates it with the term *Dionysus* (or what Deleuze has neatly described as that which wants in willing, as opposed to that which willing wants[92]). This Dionysian pathos of native power-expression and power-relating constitutes the actual, unattenuated activity of things, 'the characteristic that cannot be thought out of the mechanistic order without thinking away this order itself' (*WP* 634). As such, it defines the immanent conditions of a naturalistic world, and the core of Nietzsche's naturalised metaphysics. But the rapprochement it entails between the organic and inorganic also allows for Nietzsche's normative trajectory to be better sketched.

As §1 argued, challenging the hegemony of the moral world order requires collapsing its presupposition of moral freedom while providing an alternative foundation for evaluation. Nietzsche's naturalism reigns in the human from that moral no-man's-land of the free will, allowing us to stand before ourselves as we stand before the rest of nature, no longer deluded as to some exceptional status but re-inscribed in our 'eternal basic text, *homo natura*' (*BGE* 230). But the nature that we now stand before has also been transformed and rendered inherently evaluative. Thus the human is translated back into a nature that is de-deified: both are viewed on immanent ground, unmediated by fictional freedom (the will of moral subjectivity) or abstract necessity (*mezzo termine* laws).[93] Indeed, the freedom typically

ascribed to the human and the necessity typically ascribed to nature collapse into one another under Nietzsche's power monism. This has the effect of 'purifying' becoming, both natural and human, by opening it up towards an 'innocence' rather than devaluing it as guilty. But it also provides the basis for re-framing the question of human morality (once again: beyond good and evil does *not* mean beyond good and bad). If all morality hitherto has merely disguised sickness, and been premised upon an anti-naturalistic table of values, Nietzsche's naturalism opens up the possibility of a superior kind of morality, one which might take man towards 'his *highest potential power and splendour*'.[94] Although Nietzsche often describes this superior morality in 'immoral' terms,[95] and appeals to it as a 'master morality', its basic task consists in reconciling the *evaluative* and *necessary* aspects that characterise man as well as nature.[96] According to this kind of morality, man will no longer take responsibility for what he is in relation to what he ought to be (the idea engrafted onto him in the form of bad conscience), but for what he might be given what he irrevocably is (becoming what one is). The next section will advance this trajectory by outlining a pivotal change in how we interpret our drives and generate not only new values, but a new affectivity of willing.

3.3.3.
Conclusion

The theme of naturalism reveals Bergson and Nietzsche at perhaps their closest, and has both generated and contextualised some of the most pivotal claims within their philosophies. Where the previous section challenged the hegemonies of the material and moral world orders by indicating the basis of *different kinds* of dualisation and evaluation, this section has presented these new elements as monistic continua which, as *inherently* dualistic and evaluative, are able to account for these differing kinds univocally. Duration and will to power, moreover, by enabling a rapprochement of previously opposed terms, in turn provide not only the conditions for Bergson to release the immaterial and for Nietzsche to translate the human back into nature, but for both to project the higher potential of each (superior empiricism and superior morality). It is precisely in this respect that their naturalisms not only take on anti-reductionist propensities, but carry 'inflationary' effects. This, indeed, is what constitutes their monisms as distinctively new metaphysical fields: not transcendent hinter-realms of the sort suggested by an anthroscopic perspective and accessed by a leap, but immanent ontological provinces whose depths are sounded and traversed in multiple directions by an exceptional human effort that starts with a close reading of the self. Far from

being committed to the flames, metaphysics is rather salvaged by a purified kind of naturalism.

Where this section has focused on the naturalisation of Bergson and Nietzsche's new elements, the next will show how their tasks are furthered by pivotal *reversals* in their work, which serve to generate new understandings of the *relationality* at play within these new elements. This second articulation of duration and will to power will nonetheless continue an important naturalistic theme (as indeed naturalism will remain an orienting commitment throughout the rest of the thesis). It is a central tenet of naturalism that humans are no special case vis-à-vis the rest of nature, accounting for the great importance attached to the status of self-consciousness in philosophical naturalism. Bergson and Nietzsche's naturalised metaphysics will be seen to address this in the next section by grounding an *emergent* conception of freedom in the form of temporal maturation (for Bergson) and physiological affect (for Nietzsche).

3.4.
Reversing

The second key component of Bergson and Nietzsche's methodologies is reversing. This is an explicit trope in both philosophers' work: Bergson insists that philosophising itself must consist in 'reversing the habitual direction of thought' (1422, 'IM'), and Nietzsche speaks of his revaluation as a reversal of values – the 'reverse experiment' of intertwining bad conscience with '*perverse* inclinations' (*GM* II 24). While reversing represents less of a methodological commitment than naturalising, it still has a noteworthy heritage, comprising Kant's 'Copernican' reversal of the modern epistemological problematic, Feuerbach's 'anthropomorphic' reversal of the ontological argument for God, and Marx's 'materialist' reversal of Hegel. Moreover, the topic draws in the same canonical interlocutor for both thinkers. Martin Heidegger raised similar points against Bergson and Nietzsche's attempts to unfetter themselves from certain classical configurations: in Bergson's case, the Aristotelian priority of limit over transition that determined the presentist bias of subsequent philosophies of time; and in Nietzsche's case, the Platonic priority of being over becoming that defined the ontological foundation of Western metaphysics. In each case, Heidegger claimed that his forebears remained bound to the tradition they contested by virtue of *only reversing* the priority of the terms they inherited. This critical angle will serve as a backdrop to the

section's effort to foreground the highly productive role of reversal in their work. Rather than providing a generalised methodological commandment, reversing is rather discussed from a mereological perspective, which reveals how it both contributes to their critical takes on the material and moral worlds orders, and further articulates the nature of the new elements they establish in response. Thus in Bergson, a critical account of quantitative multiplicities provides further perspective on the shortcomings of both relativism and parallelism, while the notion of a qualitative multiplicity introduces a 'differential logic' which both develops the previous section's discussion of continuity and further elucidates the notion of the virtual. In Nietzsche, a diagnosis of sickness in terms of 'disgregation' not only develops his physiological interpretation of *ressentiment* and weakened will to power, but indicates how this is to be surpassed in the form of a new 'rank-ordering' of the drives in view of generating an 'affirmative will'. In both, 'mereological' reversal is seen to converge on holistic perspectives that place a new approach to relationality at the heart of their new elements.

3.4.1.
Bergson and virtual multiplicities

Reversal is a pivotal move in Bergson's revision of metaphysics: intuition, its principal method, involves resisting centuries of backward thinking by prioritising the mobile over the immobile and going from thing to concept rather than concept to thing.[97] Implicit in this metaphysical programme is Bergson's opposition to Plato, both in terms of its method – an intensified form of perception firmly grounded in 'this world' – and its objects, which owe their metaphysicality to a radicalised naturalism. But the same stance accounts for Bergson's opposition to Kant, whom he accused of merely resituating ancient idealism among modern laws, and limiting the human mind to an endless 'Platonising' by reducing it to a faculty for establishing relations, capable only of cramming all experience into pre-existing moulds.[98] In this section, I use Bergson's insistence on reversing to open up his 'logic of multiplicities', which provides further insight into his critical and constructive engagements with the material world order. In correspondence with the previous section's 'rhythmic' articulation of duration, reversing here serves to draw out a 'mereological' perspective on duration, which it articulates 'virtually' in order to show how the continuity of duration can be viewed as originary.

The essential reversal in Bergson's work consists in shifting our perception of reality between two very different kinds of multiplicity introduced in the *Essai*: from the terms of a 'discrete multiplicity of juxtaposition' to those of a 'continuous multiplicity of interpenetration' (51, *Essai*). This aspect of Bergsonism has been a central feature of scholarship since Deleuze's seminal analyses, which explained how Bergson developed a distinction already made by the mathematician G.B. Riemann between 'discrete' and 'continuous' multiplicities.[99] For Riemann, neither the being nor the nature of the elements of a multiplicity are determined by a principle transcending the multiplicity; the distinction between the two kinds bears instead on how they are to be internally divided.[100] A discrete multiplicity is said to contain the principle of its own metrical division: the measure of one part is given by the number of elements in the whole. In a continuous multiplicity, on the other hand, this principle is founded in something else, such as the phenomena unfolding in them or the binding forces acting in them (Deleuze 1991: 39). This emphasis on the different ways in which multiplicities can be divided proposes mereology as a key category for understanding the distinction: discrete and continuous multiplicities exhibit radically different relations between parts and wholes. Bergson's innovation was to map this distinction onto his own distinction between space and time, linking the discrete with the realm of space and the continuous with that of duration. This allowed him to further elucidate both terms in distinctive ways.

To characterise space, or what Bergson would later understand as the ideal limit of spatiality, in terms of a discrete multiplicity, is thus to appeal to a province in which objects differ from one another quantitatively, relate to one another externally, co-exist simultaneously, and permit of a homogeneous division which in no way affects their nature. It is the latter point that requires emphasis, which Deleuze does by using Bergson's conception of objectivity. The 'objective' is considered that in which everything is actual, indicating that it has nothing more to give apart from what is already there (what you see is what you get). A discrete multiplicity is in this sense 'ready-made', no longer liable to qualitative change: as a whole, it is complete. It is precisely to this extent that such a multiplicity can be sub-divided into parts whichever way we choose, because no division will have any bearing on the nature of the whole: since no processes are at play, nothing beyond what is given informs how we are to carve it up; the only differences it contains are differences in degree, just as its only relations are relations between actuals. The 'objectivity' or 'actuality' of a quantitative multiplicity thus means that it can be divided without changing in kind, just as slicing a baked cake

thickly or thinly will have no effect on its flavour. The parts have no qualitative relation to the whole, because the whole itself is fully given.

What is it, conversely, to characterise duration on the model of a continuous multiplicity? Certainly it is to affirm that its terms are heterogeneous, interpenetrating and internally related; but as with the discrete multiplicity, the key lies in how it is to be divided. In this respect, it is crucial to note that a continuous multiplicity is not strictly refractory to all division and measurement (as Bergson sometimes says), but only so according to the logic of space. This is because a continuous multiplicity is not 'objective' in the manner of a discrete multiplicity: not everything in it is actual. On the contrary, it enjoys a 'virtual' kind of existence, which is to say an existence that is continuously in-the-making – a process, to be more precise, that has more to give than what is at any moment given. This means that its metrical principle continuously varies, and its constituent parts manifest a different, more qualitative relation to the whole. Grasping this kind of multiplicity and differentiating its elements thus requires attending to more than meets the eye. Deleuze appeals to Bergson's notion of subjectivity this time, using the example of becoming conscious of something previously confused, 'a complex of love and hate'. The progress of this act is said to involve a differentiation in kind between the elements of the complex – the emotions of love and hate become distinct from one another – which in turn effects a change in kind of the overall psychic state which has become conscious of the newly distinct elements, thus exemplifying how continuous multiplicities are altered in nature by alterations in their parts.[101]

This psychological example exhibits the key features of the 'logic of duration': not only that the act of dividing a continuous multiplicity has to be sensitive to the differences of its natural articulations as they emerge, but that this changing in kind – the process whereby the virtuality of a continuous multiplicity is actualised – is the movement of duration itself. Real division, that is, cannot be arbitrarily imposed according to the rule of our own interest and the delineations of perception, because it is something that duration performs (on) itself as the articulation(s) of its very movement. Qualitative differences, to put it another way, are constitutive differences: continuous multiplicities constitute themselves by differentiating. And it is by virtue of this self-dividing movement that resultant divisions or 'parts' cannot but be related internally: any given part is entangled with the rest, as a 'partial view' on the whole. Such parts cannot be discretely detached from other such views or from the whole without qualitative consequence.[102]

It is in precisely this respect that the continuous multiplicity allows Bergson to respond to Heidegger's critique of duration in *Being and Time*,[103] where Heidegger claims that Bergson remains bound to the Aristotelian tradition of thinking time on the basis of a presentist metaphysics – a thinking of time according to which time's properties are defined by reference to the present. For Aristotle, the present or 'now' has two seemingly contradictory functions: it is conceived as both a limit that divides past and future, and as a transitional moment that makes time continuous ('time, then, also is both made continuous by the "now" and divided by it'[104]). Since only the former function is said to guarantee the self-identity of the present, Aristotle grants an originary priority to this limiting role of the now, and makes the transitional, continuous character of time derivative of this. For Heidegger, Bergson fails to break free from this Aristotelian legacy, and to disclose a source of time that accounts for both its continuous *and* periodic nature, precisely because he merely *reverses* the priority of limit over transition, of divisibility over continuity (Hegel, he claims, merely 'paraphrases' the Aristotelian account).

Bergson does indeed advocate such a reversal, but the concept of virtuality that emerges from his account of the continuous multiplicity, as Robin Durie has argued, entails something more complex than a simple inversion of priorities, and allows him to outflank Heidegger's critique. The virtual nature of a continuous multiplicity – the idea that duration is a fundamentally creative process in which difference is elaborating itself – provides first of all a new source of the character of time. Rather than starting out from *a priori* or traditional concepts that would structure an inquiry into time – time as instant, cycle, line, flow – the character of time, Durie observes, is rather nothing other than the elements and their relations that comprise the continuous multiplicity: time as duration 'follows from the form of the determinate relations determining the multiplicity' (Durie 2000: 156). This means that time is no longer founded in the now, whether as limit or transition, but in a movement that accounts for both continuity and discontinuity. Duration dilates time, that is, in order to cover a heterogeneous becoming, a multiplicity that is always overflowing itself, differentiating as it actualises, 'presenting' itself as it acts, ever in excess of its parts insofar as continuously generating those parts. This conception of time was foreshadowed in Chapter Two, where the virtuality of the *élan vital* indicated precisely its manner of carrying change without pre-containing it, enfolding a plurality of confused or interpenetrating terms in the manner of psychical existence. Within this movement, moreover, the concept of virtuality also allows

Bergson to install in time a new kind of difference which accounts not only for the originary nature of continuity, but for the native heterogeneity of duration. The difference in kind that Bergson affirms between virtual and actual in fact collapses the difference in kind that Aristotle established between past and present. The presentist nature of Aristotle's thinking means that he views this distinction in terms of *existence*: the present is that which *is*, and the past is that which *is no longer*. Bergson's understanding of duration according to the determinate relations of a continuous multiplicity, on the other hand, allows him to affirm the past and the present as *co-existing* elements of the same multiplicity. His distinction between virtual and actual is then used to re-differentiate past and present according to a vital rather than a speculative interest: by appealing to *activity*, that is, Bergson can characterise the actual present as that which is *in-the-making*, and the virtual past as that which is *no longer being used*.[105]

These mereological interpretations of Bergson's reversal from discrete to continuous multiplicities shed new light on his overall problematic.

Critically, a quantitative or spatial perspective on part-whole relations bolsters his attacks on the various components of the material world order. *Speculative* thinking can be said to consist in imposing a logic of *solid, static parts*, cut out by perception on the plane of action, presupposed as ready-made by the intellect, and condemning false problems to reconstitute processes using fragments deposited on their way. *Relativism* can be said to result from *exaggerating and absolutising parts*, failing to see that the schematic nature of intellectual knowledge still constitutes a partial view of the absolute, from which it only severs itself by its own devices. And *parallelism* can be said to *mistake parts for wholes*, by insisting that the solidarity pertaining between the physical and psychical series attests to a relation of strict equivalence rather than one of correspondence.[106] For Bergson, the relation between consciousness and brain is analogous to that between a machine and one of its screw-parts: while the screw is vital to the machine's functioning, this does not mean that each of its elements has an equivalent in each element of the machine, for the whole of the machine is of a different nature to the whole of the screw.

Contrariwise, a qualitative or virtual perspective on part-whole relations elucidates Bergson's response to the material world order.

In terms of method, this illuminates the workings of intuition, bearing on both its possibility and its calculus-like manner of operating. The notion of intuition as a superior form of perception is premised on the part-whole relation that Bergson affirms between conscious perception and matter: intuition proceeds by dilating back into the whole. In this sense, contra the speculative tendency to solidify parts and sever them from the whole, intuition can be said to re-expand partial views which exist as reduced rather than relative perspectives on the whole. This, for Bergson, constitutes the 'violence' of metaphysics, and accounts for the pain inherent in intuition (in *MM*, Bergson in fact accounts for the sensation of pain in terms of the effort of a local part to affect the whole[107]). This dilating movement, however, is inscribed within an ongoing series of acts similar to the method of calculus. Indeed, Bergson proposes that one of the principal tasks of metaphysics is to operate qualitative differentiations and integrations (1423, 'IM'), in the effort to trace the kind of 'movement of movement' or growth of magnitudes that the calculus was invented to achieve, and with a view to attaining an 'expérience intégrale' (1432, 'IM'; 185, *MM*). An intuitive philosophy does not seek to stack abstracted snapshots end to end in the hope of completing a jigsaw of reality, nor to compile enough tangents to recreate a curve, but to engage in the continuous adumbration of the absolute by moving back and forth between the whole and the part, which open up to and give on to one another immanently.

In terms of ontology, the affirmation of reality as a continuous multiplicity entails a holism of the real, and an affirmation of the 'virtual' nature of wholes.[108] This means not only a reverse-prioritisation of wholes over parts, but an appreciation of what this devolves to parts and their relations. The real is always in-the-making, in the process of becoming, virtually carrying within itself more than is at any moment given.[109] Consequently, any part is necessarily a 'phase-part' or 'partial view' on that overall movement: it is inextricably entangled with the whole, containing something of it in itself, and always subject to a broader qualitative variance.[110] Thus while the material world order embraces predetermined laws externally arranging static elements, Bergsonian reality is *pre-eminently relational*. This means that shifting relations are not only emergent, created in the process of differentiation, but also constitutive: relations and relata, that is, mutually affect one another in a sort of ongoing dialogue or feedback loop. This notion of a virtual holism is integral to Bergson's 'transubstantiation': the ascription of the characteristics of continuous multiplicities to duration, that is, serves to make of duration substance itself.[111] As constituted by qualitative differentiation and immanent relationality, duration, the real conceived as a continuous

multiplicity, is irreducible to any static form of support. Rather than subtended by an unchanging essence, that is – a prejudice that Bergson claims was formulated 'once and for all' by Aristotle but derived purely from a formal feature of language (1310, 'I2') – duration is self-sustaining, borne by its own changing nature. As well as self-sustaining, duration is also self-perpetuating, virtually driven. Differentiation, that is, is for Bergson the irresistible nature of duration, something that it does 'simply by remaining what it is' (1268, 'I1'). This power of change, the drawing more than appears to be contained that was proposed as the heart of Bergson's metaphysical intuition in Chapter One, is precisely what is captured in the concept of virtuality.

3.4.2.
Nietzsche and rank-ordering

The recurrent role of reversal in Nietzsche's work has already been glimpsed in preceding sections. Chapter Two raised the idea of re-setting the destiny of the human by reversing the evolutionary survival of the weakest, while this chapter has seen him expose what he calls the 'backward inference' of reactive thinking (in particular the illicit derivation of a 'doer' from 'deeds') as well as outline a kind of reverse diagnostics (one which proceeds 'from the ideal to those who need it, from every way of thinking and valuing to the commanding need behind it' (*GS* 370)). Towering above these examples, however, is Nietzsche's description of transvaluation itself in terms of a 'reversal' of values.[112] The role of reversal in transvaluation, however, is complicated by two factors. The first stipulates that revaluation cannot consist in a mere celebration of negative terms: his affirmation of a total economy of life already demonstrated his intolerance towards oppositional exclusion, proposing instead the insidious interdependence of antithetical values. The second factor concerns the contribution of such a move to an overcoming of nihilism. As Keith Ansell Pearson highlights, Nietzsche is neither strictly for nor against nihilism, but rather conceives it as a necessary historical movement (and ultimately, therefore, 'a matter of *amor fati*' (Ansell Pearson 1987: 21-2)). This means that no fruitful countermovement can proceed by merely reverse-engineering nihilism itself. This issue draws in an important aspect of Heidegger's reading of Nietzsche. Heidegger claimed that Nietzsche failed to *overcome* (*überwinden*) nihilism precisely because he only *overturned* (*umkehren*) Platonism – conceived as the metaphysics of nihilism itself – and thereby remained inextricably entangled within the tradition. An appreciation of the role of reversal in Nietzsche's work thus becomes

instrumental not only to advancing the normative trajectory of his transvaluation project as already traced in this chapter, but to clarifying its metaphysical stakes and securing its prospects. This section emphasises a specific kind of reversal that Nietzsche pursues – as with Bergson, it is mereological in nature – showing how this both ascribes a further function to will to power, provides him with an alternative conception of will, and helps ground a new approach to morality. This will provide the basis for a response to Heidegger, which must however wait until the next chapter.

Nietzsche advances his physiological account of *décadence* by proposing an ultimate 'formula' for it as a tendency towards 'disgregation'. He articulates this through a series of analogies in *The Case of Wagner*, where he views the characteristic quality of literary *décadence* as symptomatic of 'every style of *décadence*': the idea that 'life no longer dwells in the whole' (*CW* 7). Under *décadence*, that is, the whole disintegrates into an 'anarchy of atoms', breaking down into something 'composite, calculated, artificial and artefact', and consequently manifesting 'paralysis, hardship, torpidity or hostility and chaos' (*ibid.*). The 'vibration and exuberance of life', on the other hand, he says is 'pushed back into the smallest forms', made exceptional and deprived of influential direction within the whole. Nietzsche says this pattern is increasingly obvious the higher one ascends in forms of organisation, and elaborates the point by extending the analogy to biology and, in particular, to politics, where he reads a disintegrative tendency into the governing values and sustaining institutions of modernity. Socialism, liberalism, the moral value of freedom of the individual, and the theory of equal rights all diminish, he claims, the organising power that is characteristic of any healthy whole – 'the power of separating, of opening up chasms, of ranking above and below' – and as such serve only to fracture rather than unify society.[113]

Nietzsche's principal *non-analogical* application of this formula is to the instincts and drives. The negative, combative relationship toward the instincts that characterises reactive life, that is, is seen as symptomatic of a tendency to disgregation, an incapacity to organise as a whole. This provides the fundamental sense of sickness: Nietzsche considers man the sickliest animal – 'more ill, uncertain, changeable and unstable that any other animal' (*GM* III 13) – precisely because he is 'the most dangerously strayed from its instincts'.[114] As such, the diagnosis offers a 'mereological' perspective on familiar themes of Nietzsche's moral critique: it is fragmentation and unwholesomeness that lie behind the revengeful tropes of selective devaluation, antithetical opposition, and ascetic flights to the unconditional (indeed,

in *BGE* 154 he claims that 'everything unconditional belongs in pathology'). But it also provides illuminating new perspectives on Nietzsche's understanding of will, and in two precise ways.

On one level, physiological disintegration is inversely proportional to conceptual consolidation of 'the old-style psychology' of the will discussed earlier. The more one lacks a physiological centre of gravity, that is, the more one requires and believes in that atomistic and ultimately fictional notion of moral will that forms the cornerstone of the moral world order. This is why Nietzsche diagnoses the modern concept of freedom not only as 'one more proof of degeneration of instinct', but as a 'physiological self-contradiction': the anarchical clashing of instincts contradicting, disturbing and destroying each other when they should be functioning with a view to a collective end (*TI,* 'Expeditions' 41). On another level, though, this mereological analysis of *décadence* also further articulates will to power. Disgregation of the instincts, in this case, symptomises weakened will to power. It is this sense of will that Nietzsche indicates when he claims, in *CW* 7, that degeneration of the instincts amounts, indeed, to a 'disgregation of the will'.

It is on this second level that Nietzsche's mereological analysis appears to inform the transition from moral world order to superior morality, by proposing a reversal in the functioning of will to power. Nietzsche raises this point in *GM* through a specific formulation of the problem of nihilism. While he views nihilism as the ultimate metaphysic of the ascetic ideal, Nietzsche views the ascetic ideal itself as expressing a will. This leads him to ask: '*where* is the opposing will, in which an *opposing ideal* might express itself?' (*GM* III 23). Nietzsche's mereological formula for *décadence* allows him to specify that the ascetic ideal is the ideal of a weakened, disgregated will to power, and to propose that an opposing ideal – which would redeem us from the 'great nausea' of nihilism (*GM* II 24) – be pursued in terms of a will to power that would manifest an alternative kind of functioning in relation to the instincts and drives. This alternative, reverse kind of functioning designates one of Nietzsche's principal ideas concerning will to power, namely its unifying capacity. Strong will to power, that is, manifests in an integrated organisation of the instincts and drives, composing into one and bringing together meaningfully that which, under *ressentiment* morality, is left to 'fragment and riddle and dreadful chance'.[115] This is what Zarathustra appears to affirm in *TSZ* when he repeatedly extolls the virtues of a 'single will',[116] and what would mark the *übermensch*'s overcoming of the (sickly) human. The appeal to integration

and wholeness here, moreover, are a major leitmotif of Nietzsche's entire corpus, targeting the sort of one-sidedness and partial-sightedness instigated by Socratic rationalism (which severed us from our instincts), perpetuated by modern psychology (which severed us from our unconscious), and symptomatic generally of *décadence* culture (which severs us, according to Nietzsche, from fullness and from the future). Yet this account presents difficulties in regards to challenging nihilism. Nietzsche frequently suggests that an individual cannot alter their given quantum of will to power, that their place on the scale of ascending and descending life is fixed. Indeed, he celebrated his own 'fundamental health' in contradistinction to the 'typically morbid' being (*EH*, 'Wise' 2), and appealed to a chance instinct for experimentation over any 'trick that enables us to turn a poor virtue into a rich and overflowing one' (*GS* 17). The reversal inherent in these opposing perspectives on weak and strong wills to power does not, therefore, appear to recommend a change that would enable a passage from inferior to superior moralities, but rather presupposes a pre-determined relation to our instincts that would keep us where we already are. Nietzsche does, however, discuss another reverse-perspective on willing that goes beyond this impasse. This comes through a penetrating 'phenomenology' of willing that Nietzsche offers at *BGE* 19.

In this account, Nietzsche claims that the reductive concept of the ego has misled us into regarding willing as a simple act or 'unity'.[117] He maintains instead that the individual is more akin to a 'social structure composed of many souls' than an ego-governed entity, that given acts of willing comprise several phases, and that willing should, as such, be regarded as a complex operation participated in and constituted by multiple drives.[118] He thus counters the claims of an autonomous subjectivity that would tyrannise over the body and perform as some kingdom within a kingdom by positing the will, instead, as something that *accompanies* processes and *emerges* from them. More specifically, will is said to emerge as an 'affect of commanding', a species of *Machtsgefühl*.[119] In this, Nietzsche is inscribing willing within his relational power-ontology, according to which causality can *only* be explained by the action of 'will upon will' (*WP* 658), and all willing itself is to be conceived as a matter of commanding and obeying. And the reversal he appeals to here is no longer that from disintegrative to unifying functions of will to power, but from a transcendent to an emergent relation of willing to one's instincts and drives.[120]

The implication here might appear to be that only strong types can benefit from this perspective on things, insofar as only they are able to embrace the reality of their personhood

in this way: not as a fragmented burden of instincts governed by an ego, but as a social structure from which will emerges as an affect. But if this is an accurate account of willing, it cannot be tied so strictly to strong manifestations of will to power in the same way that the old-style will is considered symptomatic of weak manifestations. Presumably, that is, the notion of 'ego as will' also emerges affectively from disgregated instincts. What is there, then, to distinguish not just weak and strong wills to power, but active and reactive kinds of (emergent) willing? This cannot be a mere matter of increased *Machtsgefühl*, since this is precisely what the reactive accomplish through revenge. Nietzsche proposes two principles, both of which suggest that morality is not necessarily something we are stuck with by virtue of our given quantum of will to power, but something we can take into our own hands by *effecting a reversal* which gives progressive rise to a stronger and more active will.

A first hallmark of active willing is that one not only feels an increase in power, but experiences this increase as an enhanced organisation of all that one is: for Nietzsche, 'the objective measure of value' is solely 'the quantum of enhanced *and organised* power' (*WP* 674, my emphasis). The principle at play here is that of hierarchical incorporation. If the old-style will emerges from an internally riven body, active willing emerges in proportion to one's capacity to fully incorporate the multiplicity of what one is within a rich, unanimous regime. Such a regime or order of rank hierarchises on the basis of maximal inclusion rather than stifles and severs on the basis of selective devaluation, and aspires towards a total economy of the self.[121] Plurality, in other words, is the key to active willing, and that which marks all the difference between sick and healthy forms of life: as Jürgen Klein has observed, 'Mankind can only be freed from obnoxious restrictions […] if man's complexity is accepted as an expression of existential wholeness capable of autopoietic dynamics'.[122] In this respect, the reversal that Nietzsche proposes challenges us to generate an active affect of willing by taking command of ourselves and seeking the fullest, most unified expression of our drives. It is at the furthest reach of this effort that he projects 'the superabundant of will', which means 'the ability to be as manifold as whole, as vast as full' (*BGE* 212).

The second hallmark of active willing is that it treats this rank-ordering as experimental. As opposed to the moral effort to deny the multiplicity of the self by clinging to the unconditionality of the ego – an effort which for Nietzsche only serves to cramp its style and stifle its creativity – there is here a willingness to embrace the open experiment of becoming what one is ('We are experiments: let us also want to be them!' (*D* 453)). This involves

calling into question and trying out different organisations of the drives, with a view to experiencing the different degrees of power-expression they facilitate.[123] Rank-ordering, in other words, is tentative rather than objective. For Nietzsche, this principle follows from two points. On one hand, translation back into nature does not guarantee us full self-knowledge: Nietzsche rather maintains that nothing can be more incomplete than the image one has of all the drives that constitute one's being, meaning that only an experimental disposition towards oneself offers the prospect of improved self-knowledge.[124] On the other hand, Nietzsche needs to be able to reconcile one's fundamental necessity with the possibility of a genuine becoming. Early in his career, he claimed that man is 'necessity down to his last fibre', and 'totally "unfree" […] if one means by freedom the foolish demand to be able to change one's *essentia* arbitrarily, like a garment'.[125] But the power-ontology he would go on to develop allows for different collections of wills to power to give rise to new, collective wills to power. This means that the same collection of drives under different rank-orderings may generate different affectivities of power-being, such that a willingness to experimentally vary one's internal regime can illuminate how variably, and how best, one functions.

Nietzsche's mereological reversal thus proposes a shift in how we arrive at values: not by starting out from the unconditioned will of moral subjectivity (which ultimately betrays an anarchical conception of the self), but by appealing to the totality and necessity of one's drives (aspiring to a hierarchical conception of the self, to 'accept oneself as a fate, not to desire oneself "different"'[126]). This affirmation of oneself as a piece of necessity is doubly liberating, in that it both accounts for the emergence of the affect of freedom of will – as a cultivated form of spontaneity – and also releases affectivity from the tyranny of the Christian will and the inferior notion of freedom it promulgates. But it also inscribes Nietzsche's moral concerns within a broader 'cultural' framework. For Nietzsche, one of the hallmarks of modernity is a misarchistic rejection of all constraining influence. A healthy culture, however, much like a living being, is sustained and directed by a 'rationale of education', which imposes a 'unifying mastery of the drives' in the interests of establishing a completeness, a unity of form and content.[127] Thus when Nietzsche says that we must begin to 'inculcate culture in the right place', meaning in the body rather than in the 'soul' (*TI*, 'Expeditions' 47), he is proposing a reversal that pertains to both a re-naturalised morality and a revitalised culture. It is in this specific sense that Nietzsche confronts nihilism, not by merely reversing the Platonic priority of being over becoming, of the unconditional over the

sensuous, but by showing how this kind of priority is itself the consequence of a back-to-front manner of evaluating and ordering.

Amongst all this, Nietzsche can also be seen to carve out a conception of uniquely human being in terms of the particular margin afforded by the capacity to experiment on one's constitution. In defining the human as '*the animal whose nature has not yet been fixed*' (*BGE* 62), Nietzsche reserves self-cultivation, -transformation and -transfiguration as the exceptional privilege of human being. This in fact frames the central task of a superior morality: that of physiological self-experimentation with a view to generating an increasingly active kind of will. And it is precisel by taking this idea further, especially by framing it within a new distinction between the organic and the inorganic, that a response to Heidegger's critique of Nietzsche can be formulated, as will be seen in the next chapter.

3.4.3.
Conclusion

The theme of reversing, interpreted in a mereological direction, has provided a second set of perspectives on Bergson and Nietzsche's new elements, alongside reinforcing their efforts to collapse the material and moral world orders. For Bergson, this has involved exploring duration according to the nature and logic of continuous multiplicities, in which time and the virtual in general are grounded, while for Nietzsche, it has seen will to power elucidated as a unifying force, carrying with it the twin standards of a superior morality, hierarchical incorporation and experimentalism. Together these accounts converge on the two philosophers' promotion of holistic relationality and emergence: an affirmation of reality as constituted not by preformed fragments, but by relations produced by the processes driving an evolving, generative whole. It is in this context that Bergson and Nietzsche's participation in a historical shift from substance to process metaphysics can be seen: where §1 saw both thinkers target notions of immobility and unconditionality, both lynchpins of a substantialist bias in traditional metaphysics, this section, building on the last, has seen them endorse a more processual and perspectival account of the real and its constituent elements. This effort to think ontology beyond substance, essentialism and self-identity not only outlines why both thinkers provide important reference points for the new vitalism, which, as Chapter One argued, was partly premised on the same effort; it contributes to their post-physicalist metaphysics as it emerges on vitalist grounds. Where the previous section advanced a kind of

processual perspectivism on the basis of rhythms and drives, this section raised the challenge of elevating that perspectivism to a higher level, by thinking it in complex terms: both thinkers' logic of multiplicities require us to conceive wholes without losing sight of the irreducible specificity of their constituents. The emphasis placed on unifying here by Bergson and Nietzsche's reversals is also particularly resonant in regards to the broader stakes of anti-reductionism. As seen in Chapter Two, Bergson and Nietzsche both criticise modern science for its division of reality into spatial elements, quantitative units and utilitarian regularities, and Nietzsche likewise attacks Christian morality for its devaluation and exclusion of certain instincts as evil. This has come at the expense of leaving much of the universe unexplained and modern personalities fragmented. One important consequence of insisting on wholes or 'total economies' is therefore to welcome back into the equation, and attribute, at least in potential, a metamorphic influence to a range of factors that have hitherto been exiled. The re-integration of previously irreducible and irregular elements, as Grosz has insisted, is not merely 'additive', in the sense of expanding the field, but 'transformative', necessarily renewing our perspective on activity, evolution and change on both the ontological (rhythms) and personal (drives) levels.[128] This is why it is apt that the theme of multiplicity comes once again to the fore in Bergson and Nietzsche's shifts towards holism and relationality, whether in Bergson's insistence on multiplying partial views with a view to progressively adumbrating a concept of the whole, or in Nietzsche's insistence on multiplying the number of affects and eyes we use to speak of and see things in the interest of filling out our concepts of them.[129] The underlying idea for both is that a multiplicity is only rich, which is to say productive, insofar as it carries the capacity to mobilise and direct its (whole) self towards a superior functioning. The theme of reversing will carry on in particularly significant ways into the next chapter, informing Bergson and Nietzsche's ideas concerning the emergence of freedom from necessity, as well as their radical overturning of the linear causal image in the name of a prodigal conception of reality. Before proceeding to these, the present chapter can be concluded according to its latent leitmotif of immanence.

Conclusion: naturalism, immanence, prodigality

This chapter has followed a second theme of the vitalist tradition in order to advance the comparative study of Bergson and Nietzsche. By foregrounding a commitment to anti-reductionism, the optic of vitalism has enabled a further series of perspectives on Bergson and Nietzsche's affinity, not only highlighting four aspects of philosophical importance

within their work, but revealing, through a close reading of one alongside the other on those four topics, several highly similar methodological moves. From the reductive hegemonies of the material and moral world orders, to the proliferations and excesses of duration and will to power, the chapter has seen Bergson and Nietzsche formulate their problematics in highly specific terms, and propose their progressive solutions according to concise new methods, all the while following individual trajectories along distinctly parallel paths. The intuitions of duration and will to power, which emerged as responsive products of their appeals to life in Chapter Two and discerned as forms of activity refractory to reductive frameworks, were here given a series of determinate articulations, and shown to provide the empirical foundations of Bergson and Nietzsche's post-physicalist metaphysics in the form of a naturalistic anti-reductionism. This contained within itself not only a sharp critical edge (exposing the entrapment of the immaterial and the delusion of moral freedom), but a productive and future-bound affirmation of the irreducible (an inherently enduring universe, an experimentalism of the drives). This vitalist platform thereby show that there is in Bergson and Nietzsche neither an arbitrary negation of spatalised schema nor an indiscriminate destruction of pre-established values, but carefully developed anti-reductionist methodologies which always serve to open up new ways of thinking. This alone marks a strong return contribution of their comparative study to the vitalist tradition; but that contribution can be further enriched, for there is also a prevailing theme underpinning these methodologies and uniting their anti-reductionist perspectives under a single commitment on both their parts: immanence. It is indeed immanence that emerges from the vitalistic platform of anti-reductionism as the second core component of Bergson and Nietzsche's metaphysical visions.

Immanence is in fact a notable feature of their work in general: it motivates Bergson's call to think movement without a mobile, to conceive fullness without appeal to the empty, and to embrace reality in-the-making instead of recomposing it with ready-mades; and it resounds in Nietzsche's refusal to ascribe an outright value to life, his collapsing of all exclusionary oppositions, and his desire to relinquish all vestiges of God. This commitment explains why both philosophers exerted such a strong influence on Deleuze, who himself developed a vitalistic ontology bent on tracking down transcendence and affirming immanence,[130] but also why they have provided figureheads for the new vitalism, which, as discussed in Chapter One, pursued an ontology of process on the basis of a promotion of immanence. It is apt, then, that Bergson and Nietzsche's own appeals to immanence should display their full force in their methodological commitments as disclosed by the vitalistic optic of anti-reductionism.

Where §1's anthroscopic critique effectively provided Bergson and Nietzsche's anti-reductionist takes on transcendence from both perceptual and evaluative perspectives, conceived as a reliance on immobile supports and unconditional identities, the subsequent sections all converged on immanently oriented responses. §2 offered a transhuman reading of their primary methods, founded on the principle of raising the human condition to higher degrees by means of superior efforts, and disclosed new elements or 'level terrains' which served to 'un-rig' the previously speculative and reactive statements of problems proper to the material and moral world orders. §3 traced a series of naturalising moves, on both anti-reductionist and inflationary fronts, where the qualitative quanta of rhythms (Bergson) and drives (Nietzsche) allowed the real to be articulated according to discontinuous 'units' which remained by nature nonetheless irreducible, inasmuch as exhibiting an indeterminacy and dynamism. The monisms thereby established permitted Bergson to release the immaterial from its previous entrapment and affirm indeterminacy against the deterministic stranglehold of the material world order, while it saw Nietzsche translate the human back into nature from a previous moral transcendence and affirm necessity against the reactive freedom of the moral world order. Lastly, §4 showed how Bergson and Nietzsche's insistence on reversing our habits of thinking allowed them to further develop the immanent nature of their new elements, taking them in the direction of a holistic relationality that challenged a tradition of substance metaphysics with one of process, and situating their emphases on emergent conceptions of novelty and unity. This emphasis on immanence not only presents Bergson and Nietzsche as key progenitors of a central feature of contemporary thinking of life, as highlighted in Chapter One, but gives onto two important concluding points.

First, the appeal to immanence serves to radicalise relations between nature and human life. The monistic hypotheses of duration and will to power entailed a rapprochement of previously severed terms, which cleared a platform for projecting superior forms of empiricism and morality. But from Bergson's extension of the continuous multiplicity from psyche to cosmos, and Nietzsche's translation of the human back into a de-deified nature, it also follows that the two rejoined terms must legitimately reflect in one another along the monistic continuum – not dissimilarly to how Spinoza's God stoops to our level to think human thoughts, while we reach up to his insofar as we think divine ones. Consequently, human becoming provides a source of insight into an immanent ontology of nature in which it participates by degree. Amongst other things, this illuminates both thinkers' interest in organic atavisms and recrudescences, whether physical or psychical, insofar as these suggest

a continuity between the current outpost of human evolution and the rest of nature from which we emerged. (Bergson insists, for instance, that 'the innate beliefs of our ancestors subsist in the depths of our inner selves', reappearing 'as soon as they are no longer inhibited by opposing forces'.[131]) As Keith Ansell Pearson has argued against Foucault's distrust of 'lived experience', Bergson's 'great lesson' is that genuine knowledge 'has its basis in experience, that experience has several sources, and that the human sources intersect with all the other sources', rendering any schism between the human and the cosmos otiose (Ansell Pearson 2005a: 70). Contrariwise, however, and by the same token, their monistic rapprochements mean that insight into nature may well provide legitimate direction to human flourishing. Human evolution, that is, enjoins us to view ourselves as partial views of nature as a whole, whose movements and destinies cannot be without relevance to our own. This perspective will underpin the progression of Chapter Four, which begins precisely with Bergson and Nietzsche's efforts to differentiate their new elements in organic and inorganic directions, and thereby further elucidate the superior forms indicated above.

Secondly, and of capital significance, Bergson and Nietzsche's appeal to immanence serves to embellish the proposed core image of their thinking: prodigality. It is prodigality that represents the direction of their inflationary naturalism, and comes into relief once the anti-reductionist commitment to immanence is affirmed. This permits a final interpretation of their new elements, whose immanence consists in their knowing no void, and whose prodigality consists in the fullness that follows. Qualitative dualisation in Bergson, that is, premised on tensed rhythms that are always-already dual by enduring in two different directions at once, knows no 'void' in the sense of the abstract opposition that characterises vulgar dualism (first separation then interaction). In other words, it is a dualisation that is purely continuous, and in this consists its 'overflowing' prodigality, pursued as a virtual unity. Interpretive evaluation in Nietzsche, for his part, premised on perspectival drives which are always-already evaluating by drawing the full consequences of their power at all times, knows no 'void' in the sense of the antagonistic hiatus that characterises *ressentiment* morality (first 'evil' then 'good'). In other words, it is an evaluation that is purely affirmative, and in this consists its superabundant prodigality, pursued as a total economy. Duration always overflows, will to power always exceeds, with a prodigality that induces what Deleuze has called the vertigo of immanence, and what Bergson and Nietzsche say issues in pain and seasickness. Insofar as the anti-reductionist methods outlined in this chapter can be said to reinstall thought in prodigality, the next chapter will show how Bergson and Nietzsche

premise their constructive thinking of duality, time and causality upon it, effectively raising their anti-reductionism to an immanent ontology. Just as one commentator has made clear that ‘a reduction *is* a reduction, a diminution, because the substratum is always deemed to be less, to be *merely* mechanical, dumb, and inert’ (Mullarkey 2010: 42), so Bergson and Nietzsche’s capacity for radical reversals will see that reductionism can be overturned not only into inflationary methods, but plentiful realities.

[1] Caygill, 'Introduction', in Kant 2007: vi.
[2] Neither Bergson nor Nietzsche use the term, but it corresponds roughly to Bergson's references to common sense, and to Nietzsche's appeal to 'foreground' or 'frog' perspectives.
[3] See for instance Bergson at 1300-1, 'I2', and Nietzsche at *GS* 112.
[4] See, for instance, the opening passage of 'I1'. On the speculative error, see 168, 303-4, *MM* and 727, *EC*.
[5] Vladimir Jankélévitch claims that Bergson 'never relented in denouncing, more or less implicitly, this idol in all problems of life' (2015: 16). See Chapter One of his *Henri Bergson*.
[6] 625, 634, 644, 722-724, *EC*.
[7] 'To all true affirmations we thus attribute a retroactive effect; or rather, we impress on them a retrograde movement' (1263, 'I1'). See that essay in full, alongside 'PR' and 'IP'.
[8] For Pete Gunter (1987), Bergson hereby challenged the assumed pre-eminence of formal logic and its feigned privilege of doing the whole work of philosophy *a priori*, as found in seminal analytical philosophers like Bertrand Russell, Ludwig Wittgenstein and Moritz Schlick. For John Mullarkey, Bergson is really attacking an all-or-nothing bivalent logic of the kind that excludes 'fuzzier, vaguer, more fluid' versions (2010: 23); Mullarkey also discusses this in the context of modern mathematics (1999b: chapter 8). Pete Gunter and Babette Babich have both drawn attention to the relevance of Gödel's proof (1933) on this point, which affirms the necessarily non-exhaustive nature of formal logic (Gunter 1987: 5-6; Babich 2010: 285).
[9] Chapter Four will return to this idea of 'interruption'.
[10] On this alleged birth, see 1259, 'I1'. See also Čapek 1971: I.9, 'Logic of solid bodies from Plato to Quine'.
[11] As Alexander Lefebvre notes, Bergson anticipated several twentieth century philosophers in the effort to release us from long-standing but ultimately fruitless problems, from John Dewey and the later Wittgenstein to Jacques Derrida and Richard Rorty (Jankélévitch 2015: Introduction, xvi). For Bergson's remarks on philosophical amateurship, see his letter to Floris Delattre of December 1935 in Bergson 1972: 1522-8.
[12] 320, *MM*. Deleuze's discussion of badly analysed composites forms part of his general claim that Bergson radicalised philosophy by transferring the standards of truth and falsehood from solutions to problems (Deleuze 1991: Chapter One). Didier Debaise, who defines modernity by an 'inordinate fascination' with false problems, draws parallels between Bergson's notion of badly analysed composites and Bruno Latour's conception of 'amalgams'. For Debaise, Latour's *Inquiry* aims to establish 'an ethology of false problems' (Debaise 2016: 463).
[13] It also reveals an interesting tension in Bergson's work. The term 'vulgar' applied to dualism clearly signals a negative estimation of the 'common', in line with his claim that the intellect, when left to follow its natural bent, will inevitably geometrise the real and generate false problems. But Bergson also, and repeatedly, makes positive appeals to 'common sense', perhaps most notably in the preface to *MM*, where he proposes a conception of matter that would place it on a middle ground between the rather more esoteric abstractions of rationalism and idealism (163, *MM*). This tension would appear to indicate the fact that there are multiple ways in which the mind can arrive 'below the turn of experience', including both relaxation (slipping into a dream-state) and exertion (practicing intuition).
[14] 189-90, *MM*. See also 219, *MM*, for how spiritualism is as guilty as materialism in committing this error.
[15] 189-90, 354, 373-4, *MM*.

[16] 'PPPM', 62. Bergson reiterates this critical perspective on traditional metaphysics throughout *ES*: see especially 'CV', 'AC' and 'EI'.
[17] 189-190, *MM*. The same idea is expressed neatly by Michel Serres: 'An idea opposed to another idea is always the same idea, albeit affected by the negative sign. The more you oppose one another, the more you remain in the same framework of thought.' (Serres, in Serres with Latour 1995: 81)
[18] 869, 'FV'; 339, 357, *MM*.
[19] 358, *MM*; 840, 'AC'; 960, 'CP; 1242, *DSMR*.
[20] 1349, 'IP'. See also 'PPPM', 62, and 1404-8, 'IM'.
[21] See also Nietzsche in *GS*: 'every metaphysics and physics that knows some finale, some final state of some sort, […] permits the question whether it was not sickness that inspired the philosopher' (*GS*, Preface 2).
[22] 'A capital metaphysical problem is transported to the field of observation, where it may be progressively solved, instead of indefinitely sustaining disputes among schools within the closed fields of pure dialectic' (167, *MM*).
[23] These correspond, according to Leiter, to four approaches adopted in the literature, which he calls, respectively, 'Catalogue', 'Origins', 'Universality', and 'Presuppositions' approaches (Leiter 2002: 74-6).
[24] In this respect, Nietzsche's various 'internal' critiques of Christian morality, though highly insightful, are less relevant. Prominent amongst these are its absurdity (in condemning life from the perspective of the living: *TI*, 'Morality' 5), its hypocrisy (in committing *pia fraus*: *ibid.*), and its self-presumption (in facilitating the survival of the weakest: *BGE* 62).
[25] Nietzsche discusses this progression from error viewed as 'blindness' to error viewed as 'cowardice' at *EH*, Foreword 3. See also *BGE* 225.
[26] *EH*, 'Destiny' 7. Nietzsche considers this observation one of his chief innovations (*TI*, 'Excursions' 37; *GS* 352).
[27] Bittner 1994: 128. Nietzsche identifies this re-direction of *ressentiment* as the instrumental contribution of priests within the Judaeo-Christian tradition (*GM* III 15).
[28] *TSZ* II, 'Tarantulas' and *AC* 22. See also *GS* 13 & 370.
[29] *BGE* 204. See also *GS* 359 and *BGE* 219.
[30] *TI*, 'Four Great Errors' 7. For Nietzsche on *ressentiment* morality, see *BGE* 260, *AC* 24, *GM* I.
[31] See *GS* 292; *TSZ* II, 'Blissful Islands'; *BGE* 197; and *EH*, 'BT' 2.
[32] *WP* 765. See also *WP* 298. Elsewhere, Nietzsche sees revenge: as a poison (*GS* 359, *BGE* 25, *TSZ* 'Tarantulas'); as definitive of what is bad (*AC* 57); as inducing a falsification of the image of life (*BGE* 59); in relation to the will to equality (*GS* 370, *BGE* 219, TSZ 'Tarantulas'); as stemming from negative relations to oneself in terms of dissatisfaction, soured self-conceit, repressed envy, self-contempt, and the feeling of being misunderstood (*GS* 290 & 371, *GM* III 14); and as issuing in blaming (*TI*, 'Expeditions' 34). Despite the synchronic significance Nietzsche attributes to the Jewish slave-revolt in values as a purported historical event, it is important to view revenge as the pre-eminent product of a psychological diagnosis. In Bernd Magnus' terms, 'the distinction between master and slave morality is […] neither primarily historical nor linear', but 'primarily typological' (Magnus 1978: 14). This diachronic angle allows the perennial danger of revenge as element of evaluation to be seen: it comes alive each time *ressentiment* becomes creative and gives birth to values (*GM* I 10). For further commentary on *ressentiment*, see Reginster 1997, Deleuze 1983: Chapter Four, Heidegger 1981: part 1, lecture 9, and Bittner 1994.
[33] Nietzsche insists that this proves harmful to the resentful man as much as to the resented (*EH*, 'Wise' 6).
[34] The metaphor is Frithjof Bergmann's (1988: 33).

[35] 'I fear we are not getting rid of God because we still believe in grammar' (*TI*, 'Reason' 5). See also *BGE* 20.
[36] *TI*, 'Four Great Errors' 3. See that section of *TI* in general, as well as *BGE* 12 and 54.
[37] Of course, the idea is older than Nietzsche: according to the *Encyclopaedia of Bioethics*, 'The underlying philosophical ideals are fully those of the Enlightenment, imbued with a healthy dose of postmodern relativism' (Post 2004: 2517).
[38] Nietzsche might be more readily associated with the transhuman, but it is important to consider the Bergsonian influence in a series of contemporary French philosophers all dealing with questions of the human. See, for instance, Jean-Francois Lyotard's 1991 collection, *The Inhuman* (Cambridge: Polity, 1991), where he reflects on the blurring of lines between humans and machines. For a broader survey, see Christopher Watkin, *French Philosophy Today: New Figures of the Human in Badiou, Meillassoux, Malabou, Serres and Latour* (Edinburgh University Press, 2016).
[39] One might also include Kant as a historical source here, insofar as Bergson and Nietzsche can be interpreted as re-legitimating the transgressive drive of reason on the basis of critical engagements with the very concept of reason and the bounds of experience.
[40] Bergson was particularly keen to distance his method from the latter of these precedents by emphasising its difficulty: 'I repudiate facility. I recommend a certain manner of thinking which courts difficulty; I value effort above everything. How certain people have mistaken my meaning? To say nothing of the kind of person who would insist that my "intuition" was instinct or feeling. Not one line of what I have written could lend itself to such an interpretation' (Bergson, cited in Čapek 1971: 59). For thorough explorations of the significance and mechanisms of intuition, see John Mullarkey's Introduction to Bergson 2007, Deleuze 1991: Chapter One, Gunter 1987 and 1999, Lapoujade 2004 (who emphasises the role of sympathy), and Fell 2012 (who compares intuition to phenomenological reduction). For general perspectives on Bergsonian method, see Atkinson 2013 and Harden 1999. For an early recognition of intuition as method, see Cunningham 1916.
[41] 'As it is not necessary, in order to attain to intuition, to transport oneself outside of the domain of the senses and of consciousness. Kant's error was to believe this to be so' (1364, 'IP'). For scholarly emphasis on this point, see Ansell Pearson 2007a, Gunter 1969, Mullarkey 2010.
[42] 'What philosophy has lacked most of all is precision' (1253, 'I1'). See Moore 1996: Chapter One for commentary on this point.
[43] It is in this respect that Bergson compares intuition to calculus. For more on this, see Auxier 1999, Gunter 1987 & 1999, and Milet 1974. Bergson thought that a progressive biology would hinge on incorporating this capital insight of modern mathematics into its study of living phenomena (521-2, *EC*). For an illuminating examination of how Bergsonian concepts work, also in relation to Husserlian 'variation' and Peirceian 'abuction', see Morris 2005.
[44] Mullarkey 2010: 25. See Mullarkey 1995 for an extended analysis of this, where Bergson's method is contrasted with that of William of Ockham.
[45] Pascal 1935: 17.
[46] Bergson 1972: 1528, from a letter to Florence Delattre (December 1935).
[47] During 2004: 21-22. During draws heavily on material from Deleuze 1991: Chapter One.
[48] See in particular 817, 'CV' and 1186, *DSMR*.
[49] Bergson, cited in Gayon 2005: 56. As Gayon also observes, Bergson's perspective on biology here provides a useful place to compare Canguilhem's notion of the normativity of the living.
[50] As Paul Atkinson (2013: 92-3) has highlighted, this also illuminates Bergson's appreciation of Claude Bernard as outlined in 'PCB'.

[51] Mullarkey 2004: 482. There is of course much theological baggage attached to the term 'transubstantiation'. I use the term partly for exegetical facility – it parallels with Nietzschean transvaluation, where both are transhuman responses to problems – but also for its accuracy: Bergson unequivocally transforms the traditionally static and dualistic concept of substance.
[52] Norman Kemp Smith observes that Descartes himself endorsed such a view in physics, but was unable to entertain something similar for the mind because of his scholastic inheritance (this is why he terminated in substance dualism and the 'soul atomism' attacked above by Nietzsche). See Kemp Smith 1962: 60-64.
[53] Bergson discusses these more 'esoteric' phenomena throughout *ES*. For further reading on the topic, see Caygill 2015, for Bergson's interest in hyperaesthesia; Moore 1999a, for Bergson on magic; Barnard 2011, for Bergson on 'non-ordinary experience' and the 'afterlife' (chapters 27 and 28); and Grogin 1988, on the influence of the occult revival in pre-World War I France on Bergson's thought.
[54] Cf. *GS* 382 ('*The great health*') on 'argonauts of the ideal'
[55] *EH*, 'Dawn' 2. Alexander Nehamas has traced the continuity, in this respect, between 'UDHL' and *GM* (1994: 269).
[56] *GM* II 4. See also *GS* 345.
[57] David Hoy (1994) and Daniel Conway (1994) have both argued that this openness constitutes the relative superiority and healthiness of genealogy as a method of interpretation.
[58] Nietzsche describes the ascetic ideal as a 'closed system of will, goal and interpretation' which believes in its 'unconditional *superiority of rank*' over any other power (*GM* III 23)
[59] *GM* III 28. See also *GS* 373 & 374.
[60] On this point, Eric Blondel inscribes Nietzsche within the classical French tradition of 'moralists' (Blondel 1994: 309).
[61] *KSA* 12:2[42]. See also *KSA* 11:26[296] and *BGE* 21.
[62] Parkes 2014: 52.
[63] In Ferdinand Alquié's insightful gloss, Descartes is a typical anti-naturalist insofar as he separates and opposes action and movement, finding in natural movement only a lack of real action, and in action a will that can only be attributed to the human mind or to God (Alquié 1956: 55).
[64] See Arthur's Introduction in Leibniz 2001: xxvii. Following Bergson and Nietzsche, figures like Whitehead (prehensions), Deleuze-Guattari (desire), Stuart Kauffman (complexity), Manuel DeLanda (morphogenesis), and Karen Barad (agential realism) can also be said to continue this tradition.
[65] Fell 2012: 4. Fell addresses this issue in chapter 5 of her book.
[66] Suzanne Guerlac observes that the challenge to Kant implicit in the title of Bergson's first work is lost in the English translation (Guerlac 2006: 21).
[67] Bergson in fact claims that all notions of necessary determination lose their sense in concrete duration (1391, 'PC'). Deleuze identifies a similarity with Freud on this point: 'Bergson has the same idea as Freud with regard to freedom: the *more* past there is, the more *future* a living system has, and hence more freedom. Memory, then, is not simply "of" the past but primarily a "function of the future" (21 March 1960)' (cited in Ansell Pearson 2007a: 60).
[68] Bachelard 1936: 39 (my translation). Bachelard continues, in remarkably Bergsonian terms: 'Add together as many series as you wish, you will not attain the continuity of duration'.
[69] 1936: 16. 'We wish therefore to develop a discontinuous Bergsonism, showing the need to arithmetise Bergsonian duration in order to give it more fluidity, more numbers, and also more accuracy in the correspondence that the phenomena of thought exhibit between themselves and the quantal characteristics of the real'.

[70] 2002: 88. Grosz agrees, countering Bachelard with the claim that, 'In attempting to limit and contain the psychical and the experiential outside the scientific, Bachelard simply continues the tradition Bergson criticises without recognising that Bergson's criticisms can be equally levelled at his own claims.' (Grosz 2004: 279).
[71] Ansell Pearson does give Bachelard credit for drawing attention to the need to show that continuities can never be regarded as complete, solid and constant, but have to be constructed (2002: 88); this, however, is precisely what Bergson does by inquiring into the nature of so-called 'isolable' systems.
[72] F.C.T. Moore addresses this notion in Chapter Five of his *Thinking Backwards* (1996).
[73] Gunter (2005) relates this aspect of duration to Whitehead's 'epochal' theory of time.
[74] For Pete Gunter, this non-reductive quantification of reality establishes a conceptual context in which there is 'an ample realistic basis for the mathematisation of the real' (Gunter 1999: 271). He indicates in particular the science of chronobiology (1987, 1999, 2005).
[75] See for example Cox (1999), Emden (2014), Richardson (2004) and Moore (2002), alongside C.D. & R. Acampora (2004), Janaway & Robertson (2012) and Dries & Kail (2015).
[76] For a useful overview of this area, see chapter 7 of Woodward 2011.
[77] *AC* 17. See also *GM* I 17, 'Note': '[E]very table of values, every "thou shalt" known to history or the study of ethnology, needs first and foremost a *physiological* elucidation and interpretation, rather than a psychological one' (*GM* I 17, 'note').
[78] Examples of his physiological reduction of *décadence* values condense around *TI*, comprising, for instance, selflessness, pity, pessimism and scepticism. See especially the section entitled 'Expeditions of an untimely man', alongside *EH*, 'Wise' 4; *GS* 134; and *BGE* 208.
[79] *Tl*, 'Socrates' 2, 'Improvers' 1.
[80] In a letter to Lou von Salomé of 24 November 1882, Nietzsche says: 'Spirit? What does spirit matter to me! What does knowledge matter to me! I value nothing other than drives' (cited in Bishop 2012: 6).
[81] See Reginster 2006: 124-47, alongside his entry in Gemes & Richardson 2013.
[82] Richardson 1996: 1.1.1., and Clark 2001.
[83] John Richardson has led this field somewhat with his seminal treatments of will to power in connection with drives and natural selection. Richardson (2004, 2013) argues that drives have a telic intentional structure – they inherently aim at ends – and as such constitute perspectival viewpoints on the world which are evaluative. This evaluative willing constitutes a naturalised form of end-directedness which is designed into organisms through selection, and seated precisely in plastic, responsive drives.
[84] Leiter 2002: 91.
[85] As Peter Poellner has clarified, this 'aggregation' involves raising a drive's distinctive activity to a higher level, such that its internal end, and its pattern of effort towards that end, are progressively refined and enriched in sublimation – as, for example, when sexual activity is transformed into *amour-passion* (*WP* 312) (Poellner 2013: 685).
[86] This relation between drives and values is again proposed by Richardson, but it is interesting to note Christa Davis Acampora (2013) offers an alternative understanding through her emphasis on the role of contests in generating values.
[87] *WP* 768. See also *WP* 682.
[88] 'A quantum of force is equivalent to a quantum of drive, will, action' (*GM* I 13). Nietzsche's attribution of an 'inner will' to phenomena is announced in the context of force (*WP* 619). *WP* 1067 is the most renowned announcement of will to power as a universal hypothesis.
[89] For a thorough account of the stakes and participants of this controversy, see Loeb 2015.

[90] At *BGE* 12, Nietzsche claims that Boscovich taught us 'to abjure belief in the last thing on earth that "stood firm", belief in "substance", in "matter", in the earth-residuum and particle atom'. Boscovich affirmed the existence of inextensive and discrete material points, whose impenetrability is created by the energy exerted at a distance by the forces of attraction and repulsion. As Eduardo Nasser observes, however, Nietzsche also radicalises Boscovich's insight, and thus takes a further step beyond an 'ocular' materialism and mechanism, by identifying matter with qualitative force, i.e. quanta of will to power, forces which are more or less strong in relation to one another (Nasser 2015: 232; see *KSA* 11:34[247]; *KSA* 11:36[22]). In this 'dematerialisation' of matter, Nietzsche can be said to have anticipated Bergson. For further thoughts on this, see *KSA* 11:26[431], where Nietzsche insists that 'force' and 'space' are two different ways of considering the same thing, and *KSA* 11:38[12], where he rejects the idea of the 'infinitely extensive'. See also Strawson 2015: 20, on the quantal nature of Nietzsche's perspectivism.

[91] Loeb 2015: 61. Graham Parkes, who affirms this reading, offers an alternative, 'Eastern' response to these arguments, suggesting that the world Nietzsche is describing cannot be reached through philosophical argument, but rather, like the 'field of emptiness' discussed by Keiji Nishitani, has to be experienced (Parkes 2014: 54).

[92] Deleuze 2004, 'On the will to power and the eternal return': 119.

[93] See *BGE* 230 for the classic published statement of this; see *KSA* 9, 11[211] for an unpublished version.

[94] *GM*, Preface 6. For Keith Ansell Pearson, this gives onto an understanding of the overman: 'In Nietzsche […] the "overman" names nothing other than the purification of "life" from the metaphysics of morality and the morality of metaphysics' (Ansell Pearson 2007b: 489).

[95] At *KSA* 12:9[86], for instance, Nietzsche talks of translating 'the seemingly emancipated and *de-natured* moral values back into their nature – i.e., into their natural "immorality".'

[96] This is what leads Lawrence Hatab to describe Nietzsche's naturalism as neither 'scientific' nor 'romantic', but as 'existential' (Hatab 2015: 33).

[97] The theme of reversal is prevalent in Bergson literature: John Mullarkey emphasises it in his Introduction to Bergson 2007; it thematises F. C. T. Moore's 1996 study, *Thinking Backwards*; Jankélévitch reads Bergson's work as the effort to enact 'a conversion that implies a reversal of all our habits, of all our associations, of all our reflexes' (Jankelevitch: 239); Canguilhem argues, in his commentary on *CE* Chapter Three, that *CE* might be read backwards according to an '*élan matériel*'; and Lawlor discusses the ontological implications of Bergson's theory of memory through the prism of his reversal of Platonism (Lawlor 2003: Chapter Two).

[98] 1428-9, 'IM'. Bergson first draws comparison between Kant and Plato in his *Essai* (152, *E*).

[99] Deleuze called it 'perhaps one of the least appreciated aspects of [Bergson's] thought – the constitution of a logic of multiplicities' (Deleuze 1991: 117). An important influence here, often overlooked in favour of Riemann, is Félix Ravaisson: see his distinction between homogeneous and heterogeneous syntheses in 2008: 27-9 (Part I, sections I-II).

[100] Durie 2000: 154. Robin Durie's clarification of Riemannian multiplicity is illuminating: 'By the concept of multiplicity, Riemann understood a province of objects, or elements, which by themselves remain indeterminate, being determined instead by the operations to which they are subject. These operations – formally determinate, but remaining indeterminate with respect to content – enable certain connections to be established between the indeterminate elements within the province of the multiplicity, under which circumstances the elements become determined. Thus, neither the being nor the nature of the elements of a multiplicity are determined by a principle transcending the multiplicity, thereby obviating the traditional necessity of accounting for the means by which One and Many interrelate.

Equally, since it is nothing other than the elements comprising it, a multiplicity does not stand for, or represent, anything exterior to itself.' (Durie 2000: 154)

[101] Deleuze 1991: 42. See Bergson at 15, *E*.

[102] A similar idea is reflected quantum physics, for example in Werner Heisenberg's notion of 'potentia', which designates 'a modality which is situated between logical possibility and actuality', and, prior to Heisenberg, in Margenau's use of 'latency' to characterise the quantum state (Shimony 1983: 219-20).

[103] Footnote xxx of Division 2, Chapter 6 (Heidegger 2006: 500-1).

[104] Aristotle (1930), *Physics*, Book IV, 220a.

[105] 291, *MM*. For Bergson, this point is fundamental to a theory of memory (278, *MM*) and informs his understanding of the unconscious (283, *MM*).

[106] 974, 'CP'; 795, *EC*. Bergson also employs the metaphor of a jacket and the coat-hook on which it hangs (164, *MM*).

[107] 204, *MM*.

[108] F. C. T. Moore (1996 & 2010) shows the influence of French spiritualist figures like Lachelier and Ravaisson on Bergson's thinking of wholes.

[109] Leonard Lawlor suggests 'the whole is not given' as a slogan for Bergsonism (Lawlor 2003: ix-x).

[110] Bergson articulates this point through music (67, *E*), while Elizabeth Grosz helpfully elucidates it by discussing language (Grosz 2004: 180-2).

[111] Bergson emphasises this point several times in 'I2', 1310-1316.

[112] See, for instance, *BGE* 203 and *TI*, 'Four Great Errors' 2.

[113] *TI*, 'Expeditions' 37, 39. For a fuller study of Nietzsche's diagnosis of modernity in terms of disintegration, see Patricia Dixon's *Nietzsche and Jung: Sailing a Deeper Night* (1999), where Nietzsche's life-long concern with this theme is shown to echo the basic insights of C.G. Jung. For Dixon, both figures propose the quest for spiritual and psychological wholeness in response to the problem of our disgregated or 'split' nature.

[114] *AC* 14. Nietzsche indicts the 'great sages' Socrates and Plato as 'declining types' on this basis: their *consensus sapientum*, which waged a war on the instincts in the name of reason, was really a '*physiological* accord' that stood them 'in the same negative relation to life' (*TI*, 'Socrates' 2). For more on Socrates and Plato as agents of Greek *décadence*, see *TI*, 'What I owe' 3 & 'Socrates' 4; *EH*, 'BT' 1; *GS* 340; *BGE* 190-191 & 212.

[115] *TSZ* III, 'Old and new' 3. See also *WP* 561.

[116] See, for instance, *TSZ* II, 'Funeral Song' and IV, 'The Greeting'.

[117] See also *WP* 692 and *KSA* 12:9[98]. For a thorough analysis of *BGE* 19, see Clark & Dudrick's entry in Gemes & May 2009.

[118] See also *BGE* 16 and 17 for breakdowns of the apparently simple propositions 'I will' and 'I think'.

[119] In this Nietzsche has a precursor in Hobbes: 'In *Deliberation*, the last Appetite, or Aversion, immediately adhering to the action, or to the omission thereof, is that wee call the WILL; the Act, (not the faculty,) of *Willing*. And Beasts that have *Deliberation*, must necessarily also have *Will*.' (Hobbes 1985: Part I, chapter 6, 127).

[120] For an account of freely willed acts in terms of 'emanations of the entire self' in Bergson, see Fell 2012: Chapter Two.

[121] For Zarathustra on such an economy, see TSZ II, 'Of the Compassionate' & 'Sublime Men', and III, 'Old and New'. Nietzschean sublimation is captured succinctly by Lacan: 'Sublimation is nonetheless satisfaction of the drive, without repression' (cited in Kordela 2007: 1).

[122] Klein 1992: 201. As Nietzsche puts it in a note, 'perhaps the Provençal was already…a high point in Europe – very rich, many-faceted human beings who nevertheless were masters of themselves, who were not ashamed of their drives' (*KSA* 10:256).
[123] I would argue that this replacement of denial by experimentation is key to understanding what Nietzsche means when he says he wants to 'make asceticism natural again' (*WP* 915).
[124] *D* 119. As Babich observes, this places Nietzsche in the same lineage as Spinoza, Leibniz and Montaigne, all of whom invoked the need for self-experimentation 'precisely with an eye to the importance of physiological influences as these may be found on every level of thought' (Babich 2006: 99).
[125] 'Philosophy in the Tragic Age of the Greeks', Nietzsche 2006: 111-12.
[126] *EH*, 'Wise' 7. John Richardson (2013) has articulated this distinction in terms of a shift from 'agent values' to 'body values'.
[127] Ansell Pearson 1987: 9.
[128] Grosz 2004: 245.
[129] *GM* III 12. See also Nietzsche in *EH*, in a passage which echoes Bergsonian remarkably: 'Order of rank among capacities; distance; the art of dividing without making inimical; mixing up nothing, "reconciling" nothing; a tremendous multiplicity which is none the less the opposite of chaos – this has been the precondition, the protracted secret labour and artistic working of my instinct.' (*EH*, 'Clever' 9)
[130] Deleuze claimed: 'Tout ce que j'ai écrit était vitaliste – du moins je l'espère' ('Everything I wrote was vitalistic – or at least I hope so': Deleuze 1990: 196). For further examination of Bergson and Nietzsche's influence in this regard, see Hardt 1993.
[131] Bergson 1977: 311. F.C.T. Moore has expanded on this point wonderfully in his essay on 'Magic' (in Mullarkey 1999a), claiming, with Bergson, that we can look to 'the general structure of the human mind' when searching for explanation of the occurrence of magical practices and beliefs, rather than to any 'pre-logical' or 'primitive' mentality.

Chapter Four

Towards A Fertile Vitalism

This chapter takes up the third theme of vitalism as outlined in Chapter One, the pursuit of concrete alternatives to reductive philosophical and scientific positions, in order to provide a final platform for the comparative study of Bergson and Nietzsche. Here the vitalist optic permits an exploration of some of the substantive claims that the two philosophers arrive at on the basis of the irreducible activity and metaphysical orientations outlined in Chapter Two, and the anti-reductionist methodologies and affirmation of immanence highlighted in Chapter Three. Having affirmed the irreducibility of duration and will to power and begun to articulate it in the immanent directions of naturalism and holism, that is, they can now be compared in terms of how they confront the remaining task of ascribing positive characteristics and powers to these new elements. Anchored around issues that were and remain core components of both the vitalist discourse and modern philosophy in general, the chapter follows Bergson and Nietzsche's application of the metaphysics of duration and will to power, detailing both the concrete alternatives they offer to the material and moral world orders – their delivery of superior empiricism and superior morality – and the contributions they make towards vitalism conceived as a constructive empiricism of the irreducible. Where Chapter Three indicated methodological lines of departure from the anthroscopic perspective, this chapter approaches three aspects of reality from the departed point of view: 'below the turn of experience' and 'beyond good and evil'. The issues themselves represent three of the most foundational yet significantly 'reduced' concepts of philosophy, and their stakes concern our thinking of freedom and necessity. Beginning with Bergson and Nietzsche's efforts to differentiate their new monisms according to distinctive approaches to dualisation and in order to further elucidate the superior directions they each seek for empiricism and morality, the chapter then considers the central role played by a 'heterogenisation' of time in these pursuits, before culminating in causal interpretations of their emphases on holism and prodigality. As attempts to 'solve' the problems of materialism and moralism as stated in Chapter Three, their perspectives on these issues are all continuous with methodological elements of Chapter Three: duality is reconceived according to an expressly *transhuman* remit; time is *naturalised* insofar as sought in introspection or in profound experience; and the axis of causality is *reversed* from static incipience to overflowing excess. But they also converge, moreover, on a final and highly significant component of their metaphysical outlooks as disclosed by the vitalist optic: an 'ontologisation' of anti-reductionism. Their

pursuit of alternatives, that is, ultimately culminates in a 'prodigal' conception of causality, which opposes the reductionist bent of philosophical and scientific thinking by offering a conception of the real as an overwhelming movement, a continuous multiplicity or total economy to which both thinkers ascribe creative, finalistic and non-linear qualities. These qualities inform the concluding implications of their vitalist metaphysics, implications which both re-connect their positions with contemporary discussions indicated in Chapter One, and point towards the normative conclusions that follow.

4.1.
Duality

As Chapter One highlighted, traditional vitalism emerged very much in the context of Cartesian dualism and, even while attempting to challenge its materialist and mechanistic prejudices, to some extent expressed and consolidated it. Indeed, emergentism was said to have assisted the demise of vitalism in the early twentieth century precisely by offering an alternative to the dualistic deadlock that had taken root between mechanism and vitalism. Around the same time, major discoveries in subatomic physics – from the wave-particle nature of photons to Heisenberg's Uncertainty Principle – began to challenge the presupposed separation of matter and agency that had directed and sustained both scientific and philosophic agendas since Descartes and Newton. Yet dualistic structures have proven hard to shake off. In contemporary times, thinkers like Manuel DeLanda and Rosi Braidotti have promoted a new materialism by seeking to shift the implicit dualism of transcendental, humanist and dialecticist traditions, opening up active theory formation by allowing for 'the conceptualisation of the travelling of the fluxes of nature and cultures, matter and mind' (Dolphijn & van der Tuin 2012: 48). Writers associated with the 'new vitalism', on the other hand, have emphasised the need to outflank polarised and unconstructive dualisms, affirming, for instance, complex continua of processes over mutually exclusive oppositions.[1] Bergson and Nietzsche are not only significant negotiators of the dualist character of modern philosophy, but important touchstones for these recent interventions.

Bergson's engagement with dualism was a constant feature of his work – the previous chapter proposed vulgar dualism and its chief manifestation, parallelism, as his unwavering targets – and his highly original re-interpretation of its legacy evolved in complex ways, remaining refractory to traditional interpretations. Bergsonian reality is neither as inarticulately

continuous as Bachelard claimed, nor as crudely dualistic as the Cartesian propensity of his first work might suggest; rather, his philosophy moves between the joint requirements of carefully attending to qualitative articulations while eschewing spurious choices between simpleminded oppositions (not least between monism and dualism). The result is a metaphysics and ontology whose dynamic infrastructure and overall movement incorporate monistic and dualistic perspectives in an inseparable rather than binarised manner.[2] As regards Nietzsche, the critical schema of his philosophy largely revolves around his assessment of traditional dualism as nihilistic and anti-naturalistic – as propagating, that is, a devaluation of actuality by means of an appeal to the unconditional. This critique often plays out in similar fashion to Bergson's attack on vulgar dualisms – Nietzsche likewise exposes the *equally spurious* terms of dyads like true-false, good-evil, body-soul and optimism-pessimism – but his constructive response differs markedly in tone. Nietzsche seeks to characterise the dual forces which operate within life, and thus supplant the oppositions hitherto promoted by the ascetic ideal with what he calls 'the real antithesis': 'the *degenerated* instinct which turns against life with subterranean vengefulness' is pitted against 'a formula of *supreme affirmation* born out of fullness, of superfluity, an affirmation without reservation' (*EH*, 'BT' 2). This duality of life-invigoration and -abnegation, first foreshadowed in *BT* as a clash of Dionysian and Apollonian forces, later orients the theory of will to power towards a naturalistic account of 'ascending' and 'declining' life.[3]

This section looks at Bergson and Nietzsche's constructive confrontation with their dualistic heritage by addressing a question left open in Chapter Three: how are they to *differentiate* their newly established monisms? While the unproductive and life-stifling dualisms of parallelism and nihilism were ultimately attacked for their conception of freedom, these efforts to 'dualise' duration and will to power will be seen to further clarify the superior forms they each seek by generating emergent conceptions of freedom based on a negotiation of necessity.

4.1.1.
Bergson and con-tending duality

The theme of dualism serves to chart key developments in Bergson's thinking, as matter, post-*Essai*, becomes progressively less inert, the intuition of duration continuously extended to illuminate a variety of immaterial and material phenomena alike, and reality ultimately

conceived as a process of dualisation or 'double frenzy' on multiple levels.[4] A particularly significant phase of this progression take place in *MM*, where Bergson seeks to think perception prior to the standard framework of self and world, advancing an image-ontology with the express purpose of bypassing the traditional dichotomy of idealism and materialism, 'pushing duality to its extreme', and arriving at the theses of pure perception and pure memory in order to prepare the way for the rapprochement discussed in Chapter Three.[5] Having established the fundamental continuity of material and spiritual existence in *MM* through the idea of varying degrees of contraction and relaxation of duration, a further advance occurs in *EC*, as Michael Kolkman has highlighted, when Bergson sets himself the task of accounting for the irreducible difference between the living and the non-living.[6] With these two insights in mind, this section aims to show how the monistic conception of duration advanced in Chapter Three gives onto a 'contending' kind of duality with which Bergson not only confronts vulgar dualism by means of a temporal differentiation of terms, but also establishes a model for releasing other previously entrapped terms over the course of the chapter.

The hallmark of Bergsonian duality is its insistence on an intrinsic differentiation of the real according to the very nature of duration itself. This is precisely what the 'rigged terrain' of space inhibits, insofar as it forces an extrinsic differentiation modelled on an abstract representation of the real that is relative to the needs of action, and why duration, contrariwise, can be said to provide a 'level terrain' for 'truly' stating the problem of dualism. Chapter Three already indicated a sort of methodological exigency in this direction: Bergson tasked metaphysics with the effort to both multiply, in order to do justice to a reality that is heterogeneous and 'impure', and to then effect qualitative differentiations on the resultant multiplicities, in order to do justice to a reality that is an integral and relational whole. It also provided the rudiments of this intrinsic differentiation in the form of two articulations of duration. In its 'rhythmic' articulation (§3), duration was said to be incipiently dualistic, exhibiting a 'tension' by virtue of tending in two directions at once. And these two directions were in fact anticipated by the 'virtual' articulation of the continuous multiplicity (§4), which claimed that, although past and present differ in kind, they do so as co-existing elements of the same multiplicity, which accounts for why Bergson defines duration as a tendency to *carry the past*. It is by further elaborating this latter point that Bersgonian dualism is elucidated, for duration can in fact carry its past in *two distinct ways*, according as it 'disposes' of it. This formulation plays upon the dual meaning of 'dispose', which indicates

both ‘getting rid of’ and ‘making use of’. Duration, that is, can tend towards jettisoning or garnering its past. And insofar as the degree to which something carries its past accounts for its margin of indeterminacy, these ‘directions in the disposal of duration’ will also be characterised by their tendency towards, respectively, determinism or indeterminism, necessity or freedom.[7]

This notion of diverging tendencies in the disposal of duration provides the terms on which Bergson reconceives the material and immaterial aspects of the real, making good on his insistence in *MM* that distinctions between body and spirit be drawn according to temporal rather than spatial determinations (354, *MM*). Detailing these tendencies is a highly imagistic affair, which will nonetheless give onto a series of more formal points concerning the nature of Bergsonian duality.

Conceived as a tendency to ‘negatively dispose of duration’, materiality becomes a sort of temporal lassitude or inertia that tends to jettison the past, to dissipate duration. This defines materiality as a process of materialisation, whose ideal limit or terminus is the homogeneous multiplicity of mutually externalised, equivalent moments. Materiality becomes a movement similar to exhalation: a draining in which the past gets spent, a terminal sort of shoring that consists in a ‘forgetting’ or an ideal suspension of time (Bergson recognises in materiality ‘an existence comprised of a present that is in a constant state of recommencement – no more real enduring, nothing but the indefinite death and rebirth of the instantaneous’[8]). The key point is that this movement never goes to the end: the material never actually arrives at fully isolable systems. This is why he depicts it as ‘a series of infinitely rapid repetitions or quasi-repetitions’ (1332, ‘PR’): ‘quasi-repetitions’, precisely, because they nonetheless endure, at most revolving in slow pulsation, persistently falling back on but never fully externalising themselves.[9] But it is also why the speculative conception of matter – which results from artificially drawing the material tendency towards its ideal limit, where it coincides with geometrical extension and takes the form of inert particles subsisting in space – is an exaggeration that yet approximates the nature of materiality. Matter is indeed ‘ballasted with geometry’ (Blanché 1969: 108), that is, because materiality really does *tend towards* a static, fully deployed state in which nothing new emerges. Certain standard features of homogeneous matter can indeed be understood in reference to this tendency to resist duration. Discreteness resolves into a sort of temporal disuse, a repetition so exhausted that it approaches juxtaposition and manifests determinism (‘Absolute necessity would be

represented by a perfect equivalence between successive moments of duration'[10]). The unchanging subsistence or self-identity of matter is explained by the fact that it is uninfluenced by its past, therefore deficient in indeterminacy, and liable simply to remain hung in apparent permanence, manifesting a kind of 'relâchement naturel' (319, *MM*). And the reversibility attributed to isolated material systems is also approximately true: the ideal limit of the material disposal of duration is a pure presence in which past and future approximate symmetry and there is in effect very little to reverse.[11]

On the other hand, conceived as a tendency to 'positively dispose of duration', Bergson proposes the immaterial as a capacity to garner tension in which the past, by means of accumulation, is kept in reserve. This tendency defines the immaterial as a process of 'virtualisation', whose ideal limit is marked by all the traits that characterise the continuous multiplicity: an interpenetrating heterogeneity, a differential unity, and a driving power of drawing more than appears to be contained. The immaterial disposes of duration by storing it, making time count by harnessing the indeterminacy of the past as a kind of resource or reservoir of energy. As such, immaterial storage is the reserve to materiality's release, the inhalation to its exhalation, or, in respect to Carnot's law, the retardation of its entropy. And it is in this storage of time that a capacity for change and novelty consists, such that a close affinity can be affirmed between indeterminacy and irreversibility: to carry time in an operative manner, within a qualitatively evolving whole, is to diminish repetition, and the possibility of mapping the future or the past from the perspective of the present. This is why Bergson, as early as the *Essai*, identifies temporal efficacy with a conception of free activity. While the 're-*lâche*-ment' of materiality suggests a weakness, slackening or lack of motivation owing to the past falling into disuse, the inverse capacity to accumulate and use the past opens up a margin of agency that signals a departure from necessity. The immaterial, as the next section will clarify in more naturalistic terms, is just this tendency to contest the material, harnessing its inertia by means of a sort of subversion of its own disposal of duration in order to climb up upon it (hence Bergson's reproach: 'freedom is not in nature as a kingdom within a kingdom' (377, *MM*)).

These characterisations of the material and immaterial tendencies bring into focus the key elements of Bergson's alternative to vulgar dualism, and the way in which duration provides a 'level terrain' for dualising.

First, Bergson aimed to outflank vulgar dualism by scrambling the abstract simplicity of its framework. Rather than dissociating extremes and opposing a consolidated, sub-divisible extension (pure space) to a refined, evaporated in-extension (pure spirit), Bergson embraces something he calls 'l'extensif', indicating 'something intermediate between divided extension and pure inextension'.[12] He thus starts out from complexity – 'mixed states, all compounded, in unequal proportions' (214, 289, *MM*) – in order to seek singularity, difference and divergence. The notion of diverse disposals of duration responds to this requirement: such tendencies constitute precisely the *tension* of rhythms of duration and the *composite* nature of reality; all phenomena exhibit varying dosages of each. In this way, they allow Bergson to radicalise the problem of dualism by forestalling a traditional dilemma: instead of asking how union is 'achieved', he can ask how duality is in the first place to be conceived, since this union is a fact of experience.[13] Bergson's insistence on the language of tendencies over the definition of essences, alongside his discussion of processes of 'endosmosis', 'condensation', and 'refraction', are all testament to this effort to elicit and elucidate complexity rather than speculate over interaction.[14]

Second, intrinsic differentiations on the level terrain of duration ensure that each term of Bergsonian duality is characterised positively. By conceiving the material and the immaterial according to their own 'disposal of duration' and ideal limit, that is, neither is made reducible to a vulgar double of the other. This applies to other terms associated with Bergson's logic of multiplicities: continuity and discontinuity, change and permanence, the interval and the limit can all be accounted for univocally when problems are stated in durational terms, since duration itself is internally differentiated. The particularly significant upshot of this, as anticipated by the naturalistic rapprochement of Chapter Three, is that Bergsonian duality serves to release the immaterial as a certain kind of durational existence.

Third, while the terms of a vulgar dualism externally opposed one another on rigged terrain, materiality and immateriality conceived positively on the level terrain of duration manifest a different, non-dichotomous relation: they internally 'con-tend' one another. Each side is drawn out or 'con-jectured' from a complexity from which it never fully departs, towards an ideal limit that it never reaches. To speak of the real as dual is thus to approach phenomena as locuses of con-tension, in which the question is never whether one aspect is reducible to the other, but what the respective weights are of each (Gayon 2005: 46). On this basis, Bersgonian dualism can be called 'con-tending duality'. By the same token, this accounts for

the immanent productivity of the real. For Bergson, a tendency achieves all that it aims at only if it is not thwarted by another tendency (505, *EC*). Given the inherent con-tension of reality, however, no tendency is ever able to fully go to its end, such that reality itself is rendered unstable. This is what grounds the self-differentiation of duration, or to put it otherwise, makes of Bergsonian substance a process of dualisation that arrogates to itself the kind of productivity that was, within the Cartesian tradition, reserved to the will of one substance applied to the movement of another. This causal interpretation of con-tending duality will be further articulated in §3.

Lastly, Bergson's interpretation of the material and immaterial by reference to discrete and continuous multiplicities illuminates a key term for the thesis. Parallelism, the hallmark theory of the material world order, was said in Chapter Three to assume a relation of equivalence or direct correspondence between the psychical and physical series. The very possibility of this is premised on a spatial representation of both series, whereby each is fragmented into parts in order to facilitate the reduction of one to the other. For Bergson, this is emblematic of vulgar dualism, and reflects broader causal and ontological issues which will also be treated later in this chapter. Here, however, a particularly fundamental feature of con-tending duality – the fact that the material and immaterial tend towards quantitative and virtual mereologies – makes clear that such a comparison cannot even begin to take place on the level terrain of duration: no part of the one term can correspond to any part of the other, and this not only because each characteristically contains a different metrical principle from the other, but because, more specifically, the immaterial 'overflows' the material in virtue of its tendency towards virtuality.

4.1.2.
Nietzsche and organic power

The duality that Nietzsche establishes between active and reactive kinds of life furnished him with the vital 'optic' through which he sought to overhaul morality, permitting a delineation and new rank-ordering of psycho-physiological types: 'What is good? – Everything that enhances people's feeling of power, will to power, power itself. What is bad? – Everything stemming from weakness'.[15] The trajectory followed by the previous chapter, however, places the onus on carving out a different distinction in support of Nietzsche's transvaluation of values. In light of his translation of the human back into nature by means of a power

monism, that is, and his conception of morality in terms of an organisation of the drives, attention must turn to how Nietzsche proposes to distinguish the organic from the inorganic.[16] This not only serves to differentiate that monistic continuum, and thus isolate what is ontologically unique about living beings, but to thereby broaden the meaning of the notion of rank-ordering on which his re-naturalised morality is premised.[17]

According to Nietzsche's new element of will to power, all things articulate an inner will to express their native power. While he thus affirms an identity of matter and force, he also nonetheless pursues a distinction between organic and inorganic expressions of will to power. Nietzsche understands nature in terms of the necessity of a certain profligacy: in the inorganic realm, that is, power draws its ultimate consequences at every moment, mediated neither by any *mezzo termine* laws of nature nor by any tendency to reserve itself for future expenditure. This 'excessive' kind of expenditure is what was indicated in Chapter Three as the Dionysian pathos of will to power. In the organic, by contrast, there is no such instantaneous coincidence of power and the expression of its ultimate consequences: living organisms cannot afford the luxury of nature's profligacy, inasmuch as to live means precisely to adopt a certain logic with a view to making the kind of interested calculations and selections that are instrumental to their development, but antithetical to the blind indifference of nature (*BGE* 9). The organic is therefore distinguished from the inorganic by a certain mediation or deferral of power-expression, as effected by the law-like regulation inherent in organic development, and as determined by a distinctive tendency on the part of the organic to establish *enduring* forms of processes for establishing greater force (*WP* 642).

This distinction between the organic and inorganic generates an important question. As the previous chapter emphasised, Nietzsche promotes a renewed adherence, after two millennia of despising the passions, to the necessity of what one is. In this, he may appear to endorse some kind of emulation of inorganic functioning, in a way that is indeed consonant with his translation of the human back into nature. Yet he certainly did not condone a conception of human flourishing according to which one draws the ultimate consequences of one's power by means of blind obedience to the instincts. This would merely lower one to an uncultivated disarray of drives, what he refers to disparagingly as *laisser aller*.[18] What, then, is the relation between these two poles? Or in what way does Nietzsche aspire towards a Dionysian kind of power-expression?

Daniel Conway illuminates this issue by identifying a specific sense in which nature provides an orienting model for vital activity. Conway observes that the 'deferral' already seen as integral to organic life, in which residual stores of strength are accumulated in reserve, nonetheless occurs in view of the eventual coincidence of organic will to power with its ultimate consequences: it serves to deliver an organism, that is, to an optimal form, a maximal discharge of strength that would reproduce inorganic expenditure (Conway 2006: 533). This explains why, when organisms succeed in discharging their strength under favourable conditions, they are rewarded with a 'feeling of power' (*Machtsgefühl*): the latter allows an organism to experience this discharge 'as if it were an inorganic expenditure of power' (Conway 2006: 534; *GM* III 7). The 'favourable conditions' of discharge sought by an organism thus turn out to be those that are 'most conducive to an experience of itself as lawless and free' (*ibid.*). This view is further supported by something Nietzsche says in *BGE* 36. He proposes there that the inorganic world is a 'pre-form' of organic life in which everything still lies contained in a powerful unity before branching out and diversifying. But he also claims that will to power is 'made weaker and more sensitive' in this process. Organic life, in this respect, precisely insofar as premised on a tension of drives that is greater in both quantity (number of drives) and quality (conflict among such drives), testifies to an attenuated kind of will to power. On Conway's terms, however, the kinds of activity that allow organisms to participate in the distinctively inorganic brand of power-expression also serve to redress this diminution. Organisms increase in strength and constitutional integrity in proportion as they 'return to nature'.

This insight helps to generate a distinctive 'aim' proper to the organic, in terms of a sort of *mediated* organisation or 'gearing' of the drives such as conduces to an activity that feels nonetheless *unmediated*. A uniquely organic feeling of enhanced power, that is, draws us towards and enables our access to an inorganic or Dionysian kind of functioning. As will be seen in the next section concerning Bergson's perspective on life's evolution, there is a paradoxical process at play here, insofar as a naturalised experience of freedom appears to emerge from necessity, in this case via the effort to engage and rank the given components of our constitution towards a higher functioning. And it is this paradoxical process which further develops the nature of a superior morality.

For Nietzsche, the essential and invaluable element in every morality is that it is a 'protracted constraint'; every morality, as such, represents 'a piece of tyranny against "nature"' (*BGE*

188). Chapter Three argued that Nietzsche wanted to 'reverse' morality, from an inferior to a superior sort, by shifting the kind of constraint at play from a transcendent 'tyranny' over the body by the old-style will, toward an immanent 'discipline' of the drives that would generate the feeling of will as an emergent 'affect' of rank-ordering. Nietzsche's differentiation of the organic and inorganic can be seen to inscribe this conception of morality *within the organic process itself*. Indeed, in *BGE* 19, Nietzsche calls morality 'the theory of the relations of dominance under which the phenomenon "life" arises'. Life itself is 'moral', in other words, to the extent that both are conceived in terms of enduring processes of regulation or constraint, which processes aim at enhanced power-expression, experienced as *Machtsgefühl*, or the affectivity of willing. And within this view, moreover, a superior conception of morality can be framed in terms of a superior form of the organic. The former was defined in Chapter Three by means of two standards, hierarchical incorporation and experimentation, inasmuch as these give rise to an active kind of will. But for Nietzsche, these standards are also exhibited as tendencies of both the organic (*GM* II 12) and inorganic (*WP* 1067) worlds. A superior form of morality is not, on this account, a matter of normative codes superadded to and potentially at odds with the natural world, but appears to reflect a sort of upper potential of the organic process: the experimental effort to gear the totality of one's drives towards a superabundant expression of power, as a uniquely living participation in and incorporation of the Dionysian nature of the world.

This perspective on morality sheds both critical and constructive light on previous concerns. Critically, it serves to sharpen Nietzsche's understanding of *ressentiment*. The organic spectrum of will to power runs between declining and ascending specimens of life, or, on the human level which Nietzsche mostly focuses on, between revengeful and superabundant kinds of evaluation. This spectrum itself, however, represents a general weakening of will to power as it passes from inorganic to organic, and in this respect sets up a particular challenge: that of 'returning to nature' by a kind of regulation of the drives. In more familiar terms, this challenge constitutes the affirmation of (organic) life. The ascendant aspect of the spectrum, instantiated in superior morality, succeeds in this challenge: strong will to power affirms life, by experimentally hierarchising the drives towards a maximal feeling of power and an active will. The declining part, contrariwise, appears as the lower, weaker end of will to power and, unable to face that challenge of dealing affirmatively with the conflicts in our drives, issues instead in an inferior morality articulated through *ressentiment* values and a reactive will. *Ressentiment*, in this respect, is symptomatic of will to power's 'falling away' from its

Dionysian essence (to borrow John Richardson's terms[19]), manifesting as a tendency to at best resist and, at worst, negate the fullness we are capable of, whether that be conceived as a total economy of the self or a fuller experience of the world as will to power.

More constructively, the naturalistic conception of superior morality according to a combination of hierarchisation, experimentation and a 'protracted constraint' provides the backdrop to a range of more aesthetic images and affirmations in Nietzsche's writings concerning the self and its flourishing. These include the injunction to 'give style' to one's character – 'to survey all the strengths and weaknesses of [one's] nature and then fit them into an artistic plan' (*GS* 290) – as well as the exhortation of a 'will to economy in the grand style' – that 'economy in the law of life' which 'needs and knows how to use all that which […] the *diseased* reason of the priest rejects'.[20] In a similar manner, Nietzsche's emphasis on health is illuminated by this kind of morality. As Charlie Huenemann has observed, Nietzsche's own, largely self-medicated experiences with illness and recovery allowed him to perceive the intimate relationship between salutary life and an active kind of will, and led him to frame the task of philosophy in the specific terms of a naturalised morality: 'how can humanity gain strength from a clear knowledge of its own limitations, its natural origins, and the pointlessness of its existence, without lapsing into the illusions and superstitions of the past?'.[21] Lastly, this conception of morality explains Nietzsche's high estimation of Goethe. Nietzsche holds up Goethe as a paragon of superior morality insofar as he has 'returned to nature', not in the Romantic sense of 'going-back' – Nietzsche attacks Rousseau for this manner of returning to nature – but in the sense of a 'going-up' – 'up into a high, free, even frightful nature and naturalness'. It is in this 'upper nature' that Goethe is said to stand 'emancipated' with a 'joyful and trusting fatalism' that Nietzsche calls a 'Dionysian' faith in totality.[22]

4.1.3.
Conclusion

For parallelism in Bergson as for nihilism in Nietzsche, the stakes of dualism were always freedom. As such, these dualistic articulations of duration and will to power not only comprise their efforts to generate non-reductive differentiations of the real, but to salvage a naturalised sense of freedom, whether as a tendency to manipulate the indeterminacy inherent in natural necessity or the capacity to gear the necessary elements of one's constitution

towards a certain kind of liberating affectivity. This first component of their 'applied' metaphysics – duration and will to power as platforms for constructive alternatives to traditionally reduced phenomena – will prove fundamental to the remaining trajectory of the chapter.

In Bergson, this plays out in two ways. Firstly, the imagistic and formal features of his dualisation of duration will be fleshed out in the next section. This 'naturalisation' is not only required in order to stave off the threat of con-tending duality congealing into something static, in which ideal limit is pitted against ideal limit in a mere rehearsal of vulgar dualism, but will address two issues which remain over. On one hand, it will specify the intimate point of contact between the two tendencies; on the other, it will further articulate the nature and ideal limit of the released immaterial tendency. The basis for these developments is Bergson's identification of the immaterial with the vital, and the arena for pursuing them is therefore evolution. Accordingly, this evolution will be seen not only as one of life, but of time: the progress of life in the direction of increasingly indeterminate activity, that is, will be conceived in terms of an increasing complexification of the immaterial disposal of duration. Secondly, while Bergson's contending duality of the material and immaterial constitutes the most fundamental dualisation of duration, it also provides a model for addressing two further vulgar dualisms in theories of causality: cause and effect, and mechanism and finalism. In each of these, Bergson argues, one term has always been privileged by a spatial posing of the problem, and the other term derived from it negatively. Just as the level terrain of duration allowed him to release the immaterial from its vulgar entrapment, so will the same model allow for positive re-characterisations of the other previously entrapped terms, causes and finalism, in a way that influences the thesis conclusions.

As regards Nietzsche, the foregoing analysis of superior morality and its relation to superabundance also provide the framework for the remaining parts of this chapter, in a way that further develops the transhuman theme introduced in Chapter Three. Nietzsche was relatively emphatic that individuals already occupy fixed places on the ascending or descending spectrum of life, appealing to a chance instinct for experimentation over any 'trick that enables us to turn a poor virtue into a rich and overflowing one' (*GS* 17). Yet his writings contain resources for broadening the accessibility and appeal of a superior kind of living (such as the two principles appealed to here and in the previous chapter). The elaboration of morality in terms of organic processes furthers this case, indicating a dynamic

and apparent objective in life itself which, transferred to normative ground, open up a moral practice capable of taking different forms and directions. A keen proponent of this point was Deleuze, who argued that the measure of forces and their qualification 'does *not* depend on absolute quantity but rather on relative accomplishment', such that 'the least strong is as strong as the strong if he goes to the limit' (Deleuze 1983: 61). One has a degree of choice, that is, whether to pursue an active or reactive relation to one's drives, determining whether one 'goes back' to nature in practicing an inferior morality, or 'rises up' to it by taking oneself to one's limit in a superior morality. It is precisely this notion of 'going to the limit' that will help steer the two remaining sections of this chapter, which detail two integral features of superior morality. The next will examine a new relation to time, proposing that Nietzsche's thought of eternal recurrence acts as an incitement towards the experimentation constitutive of superior morality; §3, on the other hand, will examine a new kind of evaluation, offering a causal interpretation of superabundance in terms of the creation of new values.

4.2.
Time

Bergson indicted the philosophical tradition for never having sought positive attributes in time (1260, 'I1'). Indeed, from its classical conflation with presence in Aristotle and St. Augustine – one commentator has argued that Book IV of the *Physics* and Book XI of the *Confessions* constitute almost the entire legacy of antiquity's philosophy of time – through its modern reduction to a parallel attribute of space in Leibniz and Spinoza – a reduction continued well into the twentieth century through Einsteinian cosmology and double-aspect theories of mind – time remained for almost two millennia an effectively dormant issue[23]. It wasn't until Kant's transcendental reversal, and in spite of its adoption of the scientific representation of time as outwardly homogeneous and (in principle) eliminable, that a significant new approach to thinking time was instituted, premised upon affirming an autonomous reality of time by unhinging it from presentist and extensive determinations.[24] Installing time in subjectivity as the pure form of interiority, that is, Kant paved the way for temporal experience to be explored phenomenologically, for instance, in the work of Edmund Husserl, Martin Heidegger and Jean-Paul Sartre, and used to articulate the social and political crises of modernity in a lineage comprising Walter Benjamin, Paul Valéry, Maurice Blanchot and Paul Virilio. Parallel developments in the sciences were equally significant. When the

second law of thermodynamics proclaimed that entropy was irreversibly draining the universe-machine of useful energy, time took on directionality, exhibiting an a-symmetrical qualitative decay completely alien to the Newtonian view (as Alvin Toffler has observed, 'With the rise of thermodynamics, science split down the middle with respect to time'[25]). This new notion of irreversibility would contribute to the progressive destabilisation of classical determinism – in which figures like Charles Peirce, Émile Boutroux and Bergson himself lent philosophical weight – generating the idea that time was inseparable from any purported 'content', and culminating in the view that the intimate nature of things can only be grasped through the irreducible specificity of their temporality. Time has come to be viewed as an emergent property of process, just as process is increasingly accepted as the very fabric of reality.[26]

These perspectives indicate the rich historical context of Bergson and Nietzsche's pioneering philosophies of time, which not only engage critically with classical and modern distortions of time, but play instrumental roles in steering the post-Kantian shifts towards 'heterogenised' approaches to time and ontological affirmations of time. Both will be seen, in particular, to challenge linear conceptions of time by rupturing the present, generating new perspectives on the past, the future, and their mutual influence in processes of becoming.[27] As commentators like Keith Ansell Pearson, Elizabeth Grosz and Elena Fell have argued, these philosophical efforts and ideas indicate some of the most 'transhuman' horizons of Bergson and Nietzsche's work, granting them an untimely, unsettling quality that makes of them distinctly contemporary resources.

4.2.1.
Bergson and time's virtuality

Bergson distinguished himself from his philosophical forebears by retrieving time from its commonplace reduction to relations of before, simultaneous with and after, and seeking an unprecedented range of positive attributes for it. As commentators from Ilya Prigogine to Alexandre Lefebvre have emphasised, the most resounding among these proposes time as 'invention or nothing at all'.[28] This effort to restore a qualitative reality to time is of course a well-recognised hallmark of his thinking: as one scholar has argued, it was Bergson, more than any of his immediate predecessors or contemporaries working on time – James, Whitehead, Husserl – who made issues like novelty, process and becoming an essential

component of the twentieth century intellectual milieu (Mullarkey 2010: 33). But Bergson's philosophical legacy far surpasses any naïve opposition between psychological time and abstract space. More accurately, it bears on his efforts to further heterogenise the nature of time *as quality*, which, as the previous chapter showed, involves not only articulating the rhythmic nature of duration, but installing a distinction between virtual and actual planes of duration. Nowhere is this latter distinction more ambitiously applied than in Bergson's engagement with evolution, in which it maps onto his con-tending duality of the material and immaterial to demonstrate how a complex becoming of time is integral to a wholescale thinking of life. Bergson looks to evolution, that is, to both naturalise his conception of the immaterial and to engender his insights concerning continuous multiplicities, finding in the trajectory of life a 'virtual deepening' of time, and in living activity a 'virtual splitting' of time. My analysis here emphasises the emergence and instrumental role of the virtual in life's tendency to self-furtherance, thus offering an alternative perspective on the 'source' of time as explored in relation to Heidegger in Chapter Three.

Bergson claims that matter is shot through with 'quasi-infinitesimal indeterminations' (827, 'CV'). Insofar as it never reaches its ideal limit of necessary determination, the material tendency rather remains 'supple' (579, 709, *EC*), within limits 'forcible' (827, 'CV'), and exhibits a certain 'elasticity'.[29] These qualities, Bergson proposes, provided a foothold for life, which is said to have entered materiality by 'insinuation' (830, 'CV'; 555, *EC*), 'adopting' its mechanical rhythms and 'imitating' its habits.[30] By installing itself in these elastic 'interstices' (723, *EC*), life is said to seize hold of and *contend* material necessity (708, *EC*; 827, 'CV'), turning it to its own advantage by 'bending' and slowly dragging it 'outside of pure mechanism' (825-6, 830, 'CV'). Bergson is identifying here a distinctive capacity of life to indefinitely multiply itself given the smallest sum of indeterminacy (824-5, 'CV'). Whereas materiality is constantly at odds with itself and enslaved to its own inertia (830, 'CV'), the organising work of life is said to spread in concentric waves which go on enlarging around the minimum of matter it needs in order to go to work. What exactly life obtains and exploits here, and how this bears on diverging disposals of duration, is clarified by Bergson's energic conceptions of the two tendencies. Materiality possesses a 'potential energy' that life, by means of a gradual accumulation, is capable of transforming into something else, a kind of movement. Materiality, that is, presents to life a pre-existing *kind of energy*, which Bergson qualifies as a *degradation* and depicts as a falling weight (344-5, *MM*; 703-4, *EC*). Life, though unable to halt this weight, manages nonetheless to resist and retard

it, appropriating and harnessing its energy with a view to converting it into 'an effective instantaneous expenditure'.[31] (This is precisely how Bergson understands the function of chlorophyll in plantlife, on which, he says, all of life remains 'suspended'.) This capacity to 'hold back' the material flow, to 'remount the slope down which matter descends' or 'invert the law of the conservation of energy' (704, *EC*; 841, 'AC'), indicates Bergson's translation of the immaterial into vital terms: life, at its origins, is equated with a tendency to exploit material indeterminacy via a capacity to make wait, or to positively dispose of duration.

On the basis of this originary point of contact between the material and immaterial, Bergson projects the evolutionary trajectory of life along the lines of an effort to indefinitely dilate such margins of material indeterminacy in the form of increasingly broader rhythms of duration. This trajectory is essentially inventive: it involves 'the manufacturing and use of increasingly powerful explosives',[32] in the interests of releasing greater amounts of accumulated energy via minimal amounts of effort, in order to execute increasingly powerful actions and engraft onto the necessity of physical forces 'the greatest possible sum of indeterminacy and freedom'.[33] For the same reason, Bergson characterises this trajectory as paradoxical: not so much because the effort characteristic of life involves 'a double work of gradual accumulation and sudden expenditure',[34] as because 'life as a whole' strives towards a mastery of matter in which the latter's necessity is made an instrument of the former's freedom.[35] This mastery, Bergson claims, can clearly be observed in the evolution of the animal series, which exhibits a progressive canalisation of nervous matter from undifferentiated yet contractile protoplasmic mass to elaborate sensori-nervous systems.[36] But he insists that the body be seen as only a *vehicle* here, one which provides the motor pathways of indeterminate action but is unable to fully account for any determination of the particular direction in which it is unleashed. This 'faculty of choice' must rather be sought in a temporal component, which, though irreducible to the physical capacity for movement, develops in tandem with it by complicating the vital disposal of duration.[37] And this is precisely what the concept of the virtual helps to articulate, as seen at two specific points in Bergson's work.

In the first, Bergson opens up the virtual by identifying choice with a conception of consciousness, which he explains through the example of somnambulism (718, *EC*). Bergson claims that automatic action, of the sort experienced by sleepwalkers, manifests a 'perfect fit' between representation and act. If the execution of this action is somehow impeded by an

obstacle, however, and 'the action performed [is no longer] the only action possible' (617, *EC*), consciousness awakens in the form of hesitation or choice. Living consciousness, in this sense, is said to provide 'the light that illuminates the zone of possible actions or virtual activity which surrounds the action really performed by the living being' (617-8, 647-8, *EC*). This leads Bergson to define consciousness in terms of an 'arithmetical difference' between virtual and actual activity, a margin 'between that which happens and that which could happen'.[38] This recalls Bergson's genesis of conscious perception in Chapter Two, where pure perception was characterised as the continuous reciprocal activity of nature, and living perception as a subtraction from this in the interests of selectivity. This limitation, which foregoes the real whole (*de jure* necessity) for the sake of a virtual part (*de facto* indeterminacy), characterises the 'insinuation' proper to life's beginnings, whereby it installs itself within material processes to make of them an instrument of its own furtherance.[39] The virtual, in this sense, emerges as a vital aid to action, in the form of a margin which, though varying across individuals and species, indicates and measures in all cases a sum of contingency introduced into the world.

It is also in virtue of this margin, however, that the virtual further explicates life as a tendency to positively dispose of duration, its capacity to make wait in order to make indeterminate. Bergson claims that power of choice is commensurate with a certain 'tension' of consciousness in time (377, *MM*), such that this margin of freedom, that which consciousness makes possible, is made a function of life's capacity to complicate time, to garner and intensify it rather than dissipate and homogenise it. This complication is the work of memory, which for Bergson, and for this reason, is synonymous with consciousness (818, 'CV'). Consciousness enables indeterminate action, that is, by accumulating and organising the past with a present that it enriches, and it is indeed an organism's degree of memory, throughout the series of animal life, that pre-eminently measures its power of action upon things, which is to say the degree to which it can detach itself from the entropic rhythm of matter (818, 'CV'; 355-359, *MM*). This is the meaning of the celebrated phrase, 'wherever anything lives, there is, open somewhere, a register in which time is being inscribed' (508, *EC*).

This emphasis on memory informs the second instance of Bergson's genesis of the virtual, which takes place in the context of Bergson's ongoing efforts to broaden the insights of *MM*. In that work, Bergson sought to replace the speculative conception of memory as an intermittent faculty or dormant reservoir with a vital conception that made of memory a form

of activity or 'interior force' (355, *MM*). In *ES*, he elaborates this further through an analysis of false recognition. For Bergson, real duration is 'the continuous progress of the past which gnaws into the future and swells as it advances' (498, *EC*). This notion of a *continuous progression* is intended to counter the speculative notion of the present as a mathematical point travelling linearly 'through time', which he calls a purely theoretical limit separating past from future (819, 'CV'; 917-8, 'FR'). What we actually perceive in lived duration is more complex. On one hand, he says, our activity is borne along by an unremitting *élan* of anticipation, felt as a 'continuous encroachment on a future which constantly recedes' (926, 'FR'). As conscious, however, this anticipatory action is also a continuous *selection* according to material needs, such that living activity is understood predominantly as a mode of *attention* to what is useful. This direction of experience falls under perception, and Bergson refers to this aspect of present activity in terms of its *actuality* (966, 'CP'). Alongside this, however, Bergson also describes our experience of the present as 'a certain thickness of duration which is composed of two parts' (819, 'CV'). Its activity, that is, while primarily giving onto an imminent future, also leaves behind an immediate past: conscious being is indeed defined as a simultaneous pressing forward and leaning back (819, 'CV'). This second direction of experience is the domain of memory, and Bergson refers to this aspect of present activity in terms of its *virtuality*, capturing this idea of a double aspect in the image of a mobile mirror: 'our actual existence, as it unfolds in time, duplicates itself in the form of a virtual existence, like a mirror-image' (917-8, 'FR'; 1340, 'PR').

This splitting image serves several functions. First, it elaborates Bergson's challenge to the presentist metaphysic of time as discussed in Chapter Three. By introducing a vital interest to the present and approaching it as a complex kind of activity, Bergson eschews the central dilemma of Aristotelian and Augustinian philosophies of time, which started out from reified conceptions of the past and future and supposed the present as something that had to cleave them, whether in the sense of binding them or holding them apart. By introducing a vital interest to the present and approaching it as a complex kind of activity that splits in two directions at once – 'Each moment of our lives […] splits in the very process of becoming'[40] – Bergson's notion of the virtual helps him forestall this highly speculative conception of time's passing by overturning its very statement. Second, the splitting image contests the idea that memory is a mere diminished form of perception that differs from it only in degree – an idea which Bergson identifies as the source of innumerable problems.[41] The distinction between virtual and actual aspects of the present, contrariwise, views perception and memory

as two ‘symmetrical jets’ which are born contemporaneously but differ in kind. Most importantly, however, the splitting image clarifies the virtual nature of an activity proper to memory itself. While perception carries forward what is useful for action, what is not useful is rejected and falls behind. But what is rejected is not left for dead: its fall into disuse is, as it were, involuntary, such that memory, like a cork pushed under water, nonetheless exerts a constant push forwards, ‘pressing against the portals of consciousness that would fain leave it outside’ (498, *EC*). Memory thus consists not in a regression from present to past, but in *a progress from past to present* which *creates the future*, an effort to materialise by inserting itself into motor habits.[42] This is why, despite only a small part of the past ever appearing to us in representation, Bergson claims that our past ‘is made manifest to us *in its entirety* by virtue of its impulse and in the form of a tendency’ (*ibid.*, my emphasis). Memory is not only invented as a virtual aid to action, then, but exists as an active, gnawing drive by which the present is dilated with real novelty.

It is thus through the account of memory, both in its evolutionary role and its vital functioning, that Bergson elaborates the nature of virtuality, and by that token demonstrates the sense in which life embodies the immaterial tendency towards positively disposing of duration. Life’s characteristic tendency towards indeterminacy proceeds via a capacity on the part of consciousness to complicate or ‘virtualise’ time; this is the primary means by which life expands upon the margins of freedom already present within the determinacy of materiality. In this light, Bergson’s account of evolution is seen to follow a series of virtual expressions of consciousness, all of which constitute vital inventions towards an increasing mastery of matter and testify to life’s plastic capacity to further itself. Pre-eminently, consciousness is memory, which is why plantlife is said to provide the first glimmers of life in its capacity to *store* solar energy, making them the earliest living registers of time, or the first appearance of organic memory (510, *EC*). In animals, which diverge from plants in their tendency to *mobile action*, consciousness invented *perception*, which is inexplicable, according to Bergson’s radical thesis in *MM*, without a positive account of memory in its own regard. And in humans, who diverge from animals in their tendency to *fabricate* by means of concepts and geometry, consciousness invented *intellect* as an ‘annex to the faculty of acting’, which is likewise articulated by Bergson, particularly in the essay ‘L’effort intellectuelle’, as reliant on memory. Accordingly, the concept of the virtual complements the intimate ways in which perception and intellect were shown to be related to matter in Chapter Two, presenting these faculties as increasingly advanced methods for acting upon materiality.

Consciousness, by making a virtual resource out of time, thus constitutes a kind of *excess* which living activity brings to the material, enabling living beings to *construe* the material in certain ways and to make of it a *fulcrum by which it can cultivate its own activity* (just as one construes protruding rocks on a cliff as grips and steps for climbing it).[43] And degree of intensity of consciousness can be said to measure freedom in the sense of indicating how much of a temporal margin can be prized open, how solid a fulcrum it can construe of materiality for its own action, or how much it can bring to its actual activity of what both exceeds and elaborates it.[44] To re-invoke a key term, the virtual can be said to *overflow* in order to *overpower*. As such, the evolution of life becomes, in Keith Ansell Pearson's terms, an 'adventure of the virtual', diverging along differing lines according as it invents new methods for drawing advantage from materiality, opening up freer activity as it broadens the (con-tending) relation between virtual and actual. The organisms generated on this adventure, moreover, from the most basic to the most complex cellular structures, are veritable 'virtual time machines', exhibiting what Bergson calls mechanics for surpassing mechanism ('une mécanique qui triomphat du mécanisme' (719, *EC*)). Organic matter is simply matter organised by memory, become conscious and capable of resisting its own torpor: 'Slowly and skilfully, thought piles complication upon complication to make freedom out of necessity, to compose a matter that is so subtle, so mobile, that liberty can balance itself upon this mobility' ('PPPM': 67).

4.2.2.
Nietzsche and time's recurrence

Novel perspectives on time provide a sustained theme in Nietzsche's corpus, from his early typology of history in its service to life, through his unorthodox genealogies and continued self-styling as an 'untimely' diagnostician.[45] Few ideas have held as beguiling and clamorous a status in any body of work, however, as his vision of eternal recurrence. Described by one commentator as a 'bizarre, twisted reformulation of Darwinism, thermodynamics, and Kantian ethics',[46] traceable in varying forms to Pythagoras, Heraclitus and Lucretius, and considered by Nietzsche himself as 'the highest formula of affirmation that can possibly be attained' (*EH*, 'TSZ' 1), the idea nonetheless received little concrete elaboration in his published works, and appears in fragmentary and inconclusive form in the notebooks. What is certain is that Nietzsche experienced it in a radically transformative manner in 1881,

progressively applied it to recent discoveries regarding energy and heat with a view to complementing his conception of will to power, and ultimately saw in it the futuristic centrepiece of an anti-nihilistic ideal of life-affirmation – an incitement to and index of joy and superabundant vitality.[47]

Two readings dominate interpretation of eternal recurrence, corresponding to two emphases that Nietzsche placed on it. On one hand, a psychological or ethical reading, centring on its formulation in *GS* 341,[48] and according to which eternal recurrence functions as a litmus test of life-affirmation by gauging responses to the question of whether one would live one's life over again to eternity in its exact and every detail.[49] On the other, a cosmological reading, located in the latter sections of *WP* (1062-6), and proposing that, given a finite number of centres of force and an infinite time, the variety of combinations must eventually exhaust itself, and the overall sequence of events inevitably repeat itself – indeed, has already repeated itself, and will do so endlessly into an infinite future. In this section I offer a reading informed primarily by recent scholarship of the cosmological strain,[50] but I look to make sense of both the thought and the purported truth of eternal recurrence in relation to Nietzsche's sustained appeal to necessity – viewing it as instrumental, that is, to the superior moral affirmation of *amor fati*. In order to do this, it is first necessary to consider the 'reactive' conception of time that Nietzsche was looking to expose and surpass.

Declining life and the element of revenge were discussed in Chapter Three in terms of physiological disgregation, a weakening of will to power by which the instincts and the will are said to break down. But Nietzsche also claims that the revengeful will originates in a particular experience of time – one that is linear and, as such, *fragmentary*, meaningless and accidental. Specifically, Nietzsche insists that the will is afflicted and imprisoned by 'It was' (*TSZ* II, 'Redemption'). The latter, as one commentator observes, is not only a type of past, but refers to an experience of 'time itself in its totality, which makes every happening seem like a 'horrific chance'' (Nasser 2015: 235). Insofar as the will can neither change the past by willing backwards, that is, nor impede the past's meaninglessness from invading the present, it 'suffers' time as both burdensome and closed, unidirectional and infinite. Its resultant antipathy towards time's flow turns the will from potential liberator to malefactor, and is, according to Zarathustra, 'revenge itself' (*ibid.*). Nietzsche's point here, as Paul S. Loeb highlights, is that human beings feel impotent with respect to temporal processes like aging, death and entropy, and have so far sublimated this feeling into a spirit of revenge, which only

generates values that accuse and degrade the conditions of immanent existence (Loeb 2011: 26).

Two points merit mention concerning this temporal perspective on revenge. Firstly, this reactive conception of time can be seen to bolster the moral world order by enabling a temporal application of the desire that things be otherwise than as they are. When the latter is combined with a fixation on what has unchangeably been, that is, an illusory possibility is imputed to the past in the form of the subjunctive 'it could-have-been-otherwise'. As Herman Siemens observes, this constitutes an integral presupposition of the non-determinism of the free will – the moral fiction that one is free to act other than according to one's native strength – and thus provides the condition for the moral imperative 'ought-to-be-thus' (Siemens 2015: 100). Secondly, it is important to note how this revenge is also wreaked on time itself, according to Nietzsche, in the form of an ultimate sort of 'punishment'. Time experienced as an ineluctable and captive passing, a source of suffering and incompleteness, eventually generates a revengeful 'law of time', which concludes that everything *deserves* to pass away. Existence itself, in other words, becomes a sort of punishment, and one from which the suffering will seeks redemption not in a transformation of willing itself, but in an annihilation of all willing (Schopenhauerian nihilism).[51]

These points indicate how a reactive conception of time supports an inferior morality, and begin to shape the alternative conception of time that Nietzsche requires in support of a superior morality. The latter would be neither unidirectional (manifesting an asymmetric determinism between past and future) nor infinite (a straight unending line), and would serve to liberate the will towards its potentially Dionysian functioning rather than repress it in revengeful asceticism. It is this conception of time that Nietzsche finds in the thought of eternal recurrence, and it functions according to two stages.

First, a transformative intuition of time induces something instrumental to this new morality. What has thus far been lacking in Nietzsche's naturalistic appeal to the drives as the basis of a new kind of morality is some kind of motivation. Without this, the principles of hierarchical incorporation and experimentation, though themselves inscribed within organic processes, risk remaining sterile – facts without impetus – or a matter of chance: not so much because one's constitution is not of one's choosing, but because Nietzsche claims that one must already, by nature, possess a 'predominant instinct' to incite one to experimentation, and a

'principle of selection' to guide one.[52] Nietzsche's epiphany can be understood to respond precisely to this issue: not as measuring our affirmative embrace of the necessity of what we are, but rather as inciting us towards becoming what we are – bringing into relief, that is, a comprehension of why experimenting on ourselves can generate genuine novelty and not simply revolve among an exhaustible range of configurations. Eternal recurrence thus functions, in Elizabeth Grosz's words, as 'an imperative for the future' (Grosz 2004: 157). Such an interpretation has the merit of framing our response to the ethical challenge of Nietzsche's great thought in intrinsically active terms, as against the rather reflective and passive nature of responding, whether affirmatively or negatively, to the question posed by the demon.[53] The experience itself, that is, functions as an affective exigency.

What induces this experimental affirmation of necessity is the intuition of unbounded finitude contained within the affective experience of eternal recurrence. It is in this respect that Nietzsche calls eternal recurrence 'the most *scientific* of all possible hypotheses' (*WP* 55): his fundamental point in thinking time is that its linearity, as implied in thermodynamics, is an abstraction. This is what is at stake in *WP* 1066, where he attacks the mechanistic view attributed to William Thomson by saying that the world would have reached an equilibrium by now if this were in fact a possibility. Traditionally, this aphorism is cited as evidence that Nietzsche favours a conception of eternal recurrence in terms of Poincaré's theorem of phases – the idea that, in a system composed of a finite number of elements, a given configuration will always recur given a sufficiently long interval of time. But this notion of configurations sits so badly with core aspects of Nietzsche's naturalism – its pretension to a god's-eye-view is collapsed by his insistence on perspectivism,[54] while its patent timelessness is contested by the concrete temporality Nietzsche attributes to forces[55] – that it is better read as an effort to discredit the unidirectional conception of time presupposed by the second law of thermodynamics. Nietzsche, indeed, challenges the linearity of time in two ways, both integral to eternal recurrence.

On one hand, he differentiates the present in such a way as to expose the concept of linear time as experientially meaningless, an illegitimate superimposition on a time that reality discloses as bi-directional. This occurs in a prominent passage of *WP*:

> Nothing can prevent me from reckoning backward from this moment and saying "I shall never reach the end"; just as I can reckon forward from the same moment into

> the infinite. Only if I made the mistake […] of equating this correct concept of a *regressus in infinitum* with an utterly unrealisable concept of a finite *progressus* up to this present, only if I suppose that the direction (forward or backward) is logically a matter of indifference, would I take the head – this moment – for the tail. (*WP* 1066)

But it is also dramatised in the vision-riddle of *TSZ*, where a two-faced gateway, inscribed with the name '*Augenblick*', is presented as the meeting place for two lanes which abut one another, extending an eternity in contradictory directions. The implication of this image is precisely that the past and future do not form a continuous line: the past does not flow *into* the future, as something that led to it. Rather, and similarly to Bergson's 'symmetrical jets', they indicate two directions in which one can look from the perspective of the moment. To speak in terms of what past time has until now contrived to make happen, that is, is a logical error; contrariwise, to look backward in time is not necessarily to swim against a current (this point will soon return).

On the other hand, Nietzsche proposes that these two directions of time, while not passing continuously *through* the present, may be thought to join elsewhere (or elsewhen). While the two paths appear to contradict one another from the perspective of the moment, that is, Zarathustra implies in the gateway scene that the distinct lanes of past and future eventually join together to form a single circular lane that is tremendously extended yet still finite. In other words, time does not run infinitely in a straight line, but *curves* back upon itself ('the path of eternity is crooked'[56]). On a theoretical level, Nietzsche is here arguing for the unbounded finitude of time, in a way that foreshadows the curvature of spacetime as proposed in Einstein's Theory of General Relativity.[57] In this respect, the vision-riddle of eternal recurrence can be understood to instantiate Nietzsche's effort to merge the finitude and perspectivism of the world as will to power with a broader, cosmological conception of time that is neither *bounded* by finitude – i.e. reduced to a universal clock regulating matter and its arrangements – nor made *infinite*, in the sense of extending endlessly in a line. But due emphasis must also be placed on the affective level, where it is the *experience* of this unbounded finitude that induces Nietzsche's liberating epiphany of eternal recurrence. Here the notion of intrinsic geometry is illuminating.[58]

'Intrinsic' as opposed to 'extrinsic' geometry involves the description of spaces not as seen from the outside, mapped onto external space, but in terms of what may be experienced by somebody moving *within* that space.[59] Thus instead of describing the earth as shaped like a

sphere – the view afforded by taking up an external perspective – one can understand a sphere 'internally' as a surface on which all straight lines necessarily lead back to their starting point after traversing the same distance. Similarly, Einstein proposed spacetime as a three-dimensional space with the same properties, known as a '3-sphere': rather than curving in an external space, it is a finite space in which one would nonetheless encounter no boundary to movement, eventually ending up where one started by travelling in a straight line. It is in this sense that Nietzsche says of the world, in *WP* 1066, first that it is 'not something that becomes, not something that passes away' (implying its finitude), then, more precisely, that it 'becomes, it passes away, but it has never begun to become and never ceased from passing away' (implying its boundlessness). If time is understood as 'circular', it is not in the sense that events or configurations recur, since Nietzsche's affirmation of perspectival time fundamentally challenges the very possibility of this idea. (Eternal) recurrence rather indicates the finite boundlessness of the course of time itself.

This notion of the intrinsic geometry of curved space and time helps to stage the transformative affectivity brought on by Nietzsche's great intuition. It enacts a 'moreish' apprehension of the necessity of things, allowing the finite to be embraced in a boundless way, and thus both grounding and inciting an experimental approach to what one is – what David Allison has neatly called a 'psychological incentive to accept immanence' . In Nietzschean parlance, it induces *amor fati*, in the sense of a joyful rather than pessimistic fatalism: a love of 'what is necessary in things' (GS 276), including those sides of existence hitherto excluded and devalued, inspired by an understanding that such necessity can indeed give onto an open, experimental future. Eternal recurrence thereby depicts a time whose eternity is neither meaningless (reducible to the possibilities of material configurations), nor God-guided (reducible to a theophany), and appeals to a universe that is neither liable to attain a final state nor capable of infinite novelty (WP 1062).

These analysis give onto the second way in which eternal recurrence contributes towards the potentially Dionysian functioning of the will, which emphasises not so much the affective *thought* of eternal recurrence, but its purported *truth*. For Nietzsche, recognising the will as will to power means composing into one and bringing together meaningfully what is 'fragment and riddle and dreadful chance' (*TSZ* III, 'Old and new' 3). But the will has hitherto been imprisoned by its inability to perform this unique function on the fragmentary nature of the past. Time disclosed as 'recurring' and bi-directional, on the contrary, not only

incites the will of a superior morality, but *liberates* it towards its ultimate task: that of *unifying the past*, and thereby opening the way towards the creative determination of the future. Thus a telling passage from *WP* 417: 'To the paralysing sense of general disintegration and incompleteness I oppose the *eternal recurrence*'. This involves converting every 'It was' into an 'I willed it thus!', a transformation Nietzsche calls 'redemption'. And this redemption is itself a matter of 'something higher' than simply reconciling the will with time, but requires reversing the asymmetric determining relationship between past and present in *willing backwards*, which is to say setting free the (re)interpretive pathos of will to power on the past. This is precisely what a finite yet boundless time makes possible, which is thereby seen to restore innocence to becoming: by forestalling the imputation of an illusory possibility to the past (the past subjunctive) and retrieving its previously withheld resources, Nietzsche replaces *ressentiment* towards time with a de-deified or superior moral affirmation of time. As Graham Parkes has proposed, this 'resource' reaches beyond the total economy of oneself to open onto the impersonal: 'once I realise that everything that has brought me to this point, everything that has led up to this moment (and that's the entire past), is now poised to further interpret itself, I can allow the full range of appropriate perspectives to play itself out spontaneously' (Parkes 2014: 51).

The affective thought-experience of eternal recurrence thus provides the exhortation to self-experiment towards one's nth degree, while the purported truth of recurring time that it discloses extends the reach of this superior morality to the past, which its single will is now capable of redeeming. Realising one's will as will to power, as Nietzsche's transvaluative project requires, therefore not only involves combatting disgregation of the instincts and drives; it also, at perhaps its ultimate level, means a renewal of one's relation to time, creatively converting what is meaningless and accidental in the past to something of one's own that is superior, whole, and meaningful. Nietzsche notoriously followed this idea out to an evolutionary perspective, where the capacity to embrace eternal recurrence would function as a 'breeding agent' (*WP* 862) and provide a new model of artificial, 'transhuman' selection: 'the races that cannot bear it stand condemned; those who find it the greatest benefit are selected for mastery' (*WP* 1053).[60] The remainder of the chapter will instead follow out the notion of creativity that this new relation to time opens up: the Dionysian kind of evaluation that complements eternal recurrence as integral component of superior morality.

4.2.3.
Conclusion

If these parallel analyses display Bergson and Nietzsche's shared emphasis on 'heterogenising' time, the latter emerges as an effort to think time in such a way that it is neither totalised nor severed from itself. In the first case, Bergson and Nietzsche can be said to challenge the Aristotelian, Newtonian and Einsteinian cosmologies not merely by attacking a quantified, deterministically amenable conception of time, but by resisting the tendency to think time as a whole (Grosz 2004: 135). This is one sense of Bergson's striking metaphor of the multiple radio transmitters, each broadcasting different concerts, all of which co-exist without interfering with one another insofar as they are picked up on different wavelengths; the series of beings in nature, that is, can be affirmed as nested layers of qualitatively differing rhythms of duration.[61] Likewise in Nietzsche, the concept of an overall time must be viewed as a logical extrapolation, since there is no perspective from which it can be experienced: as Friedrich Ulfers and Mark Cohen argue, 'Within a perspectival structure, there is no outside to any system, and thus no time can pertain to […] the system other than the time that is experienced from the perspective of the system' (Ulfers & Cohen 2008: 86). In the second case, Bergson and Nietzsche are both concerned with revivifying the past in order to make it an accessible and operative element of the present – a resource, indeed, out of which the future can evolve differentially rather than deterministically. The key upshot of these points, the latter in particular, is that time takes on a liberating, inciting quality. While a totalised time sits at the same ideal limit of inefficacy that underpins the metaphysics of mechanism and reduces freedom to oblivion, a severed conception of the past – whether as no longer existent or as 'It was' – has only inhibitory and frustrating effects. The heterogenised times proposed by Bergson and Nietzsche, on the other hand, both plant us directly in time, 'reconciling' us with it at its most concrete, lived level, and open up non-linear images and directions of temporal influence, whether 'backward' in splitting/recurring time, or 'forward' as the creative affectivity of change. At this highly specific level, time is no longer the number of motion (Aristotle's definition of time, which is only juxtaposition put into succession), nor a container of events (Kant's notion of time, which is only a medium modelled on space), but the time immanent to and exhibited by change, process, becoming. And in this world of becomings, a shortage of time is only a human figment: beyond the anthroscopic perspective, time is always in excess, an 'overtime', in its multiple breadths and perspectives, its drawing on a wealth of past resources, and its divergent, multi-directional

courses. This ‘overwhelming’ pathos of time generated here can now be taken to its last level for both thinkers in their prodigal conceptions of causality.

4.3.
Causality

Chapter One drew attention to Osamu Kanamori’s insight that traditional vitalism asserted ‘a crack in the law of causation’ between the inside and outside of an organism. It was suggested that, although the horizons of contemporary discussions of life are significantly broader than the organism, the formula itself remains fruitful. If the previous section proposed the effort to ‘heterogenise’ time as an instrumental tactic of vitalism, the principal service of this effort can be seen to consist, precisely, in subsequently ‘cracking’ images of causal influence. The archetypal causal image that vitalism traditionally seeks to crack here, of course, is the reductively ‘consequential’ conception of causality inherent in mechanism, which can be characterised in two ways. On one hand, it is restricted by the lawful sequentiality that bears on time’s irreversible direction, such that causal influence proceeds forwards in a linear fashion, giving its effects in the future, both cause and effect ‘behaving themselves’ by acting in strict accordance with a chronological ordering of things through which events can be reconstructed and explained deterministically. This recalls J.S. Mill’s conception of a ‘homopathic’ causal composition, whereby causes are added aggregatively into their effects, which will thereby remain commensurate and in resemblance with them. On the other hand, the schema is restricted by a privileging of immediate spatio-temporal precedence or ‘locality’ in explanatory approaches: the most recent moments in a unilinear, even-file and homogenised time, that is, take priority over broader reaches and alternative flows of time (such as the past as a whole or a non-linear operation). This leaves, on one side, a majority of potential influence inert, and on the other, a projected future without influence of its own, being already contained in the past and awaiting only an inevitable arrival. This basic schema facilitates and complements other essential features of causal reductionism, such as the idea that more cannot be gotten from a cause than what is found in it (effects resemble their cause or are pre-formed within them); that the same cause can give the same effect more than once; and that there need be only one sufficient cause for each effect. It is also correlated with physicalist arguments for the causal closure of the space-time world, which vehemently denies the possibility of nonspatial or immaterial causes, insisting instead

that all causal work occurs at, and can ultimately be traced to, the fundamental level of concrete physical particulars regulated by an external set of laws.

A superficial schema of this kind, while tending towards a necessary sort of *determinism*, ultimately sheds little light on the nature of *determination*, which is to say the qualitative character of causal processes. It is for this reason that Bergson and Nietzsche sought, in duration and will to power, genuinely active alternatives to the residual kind of activity traced by mechanism; as such, it penetrates their work as both a critical and constructive concern. In this final section, both philosophers will be seen not only to attack our illicit derivations of 'causes' and 'effects' – particularly as we dismember one from the other, and project one out of the image of the other – but to expose an appeal to 'static incipience' as the decisive and definitively reductive presupposition of mechanism.[62] Moreover, it is by reversing this prejudice towards a prodigal conception of causation that Bergson and Nietzsche offer their own definitively anti-reductionist position: reality itself is depicted as 'overflowing', producing a range of new causal perspectives with which the chapter will conclude.

4.3.1.
Bergson and overflowing causality

Bergson's call to think time and change directly had profound implications for his thinking of causation. By seeking to transform the conception of time embedded in modern science – 'an interval that one can prolong or shorten with no affect on the content' (783, *EC*) – to one of metaphysical reality – 'that which gnaws into things and leaves the imprint of its teeth' (533, *EC*) – he challenged the classical deduction of causal relations from the temporal relation of before and after, and insisted that an empirical theory of change reflect a more nuanced thinking of temporality. And by imputing an operative continuity to the past and rendering the future irreducible to it, duration installs *indeterminacy* as a real feature of reality: time is no longer a substrate of regular succession on which a dynamic link might be superimposed – as per Hume, and as contested by Kant – but *fundamentally* change, process, 'invention or nothing at all'.[63] Bergson pursued this transformation from the beginning. Contra a mathematically inspired schema of causality in which mutually external phenomena condition one another, the same causes produce the same effects, and the future can be read in the present, the *Essai* defends free will as a 'dynamic cause' akin to conscious effort, energised by an 'accumulating memory of the past', and manifesting between force and act a

continuous relation of 'emanation' which ensures that effects are produced once and once only (141-143, *Essai*). The same intuition develops progressively throughout his work, from his 1900 essay on the psychological origins of our belief in the law of causality, through his 1902 investigation into intellectual effort, to the hypothesis of an *élan vital* as the cause of evolutionary variation. Along the way, however, the problem of causality takes on a specific form and a double urgency. On one hand, it is said to occupy a central position in the history of metaphysical problems. Many of the most intractable problems in philosophy, according to Bergson, have been premised on a speculative conception of creation, brought about by a tendency to represent creation on the model of human manufacturing – i.e. speculative causality or mechanism – and effectively limit it to a rearrangement of the old rather than an elaboration of the new (1335, 'PR'). On the other, Bergson claims that resolving this confusion would generate a revitalised, immanent vision of the material universe in place of a static, totalised one: a universe shorn, that is, of both our speculative tendency to think of things created and a thing that creates (705, *EC*), and our belief that either creation is effected in a single act or that matter is pre-given as a multiplicity-en-bloc. The key to arriving at these positions is offered by Bergson's engagement with dualism, in both its critical ('vulgar') and constructive ('con-tending') forms.

To begin critically, Bergson's perspectives on mechanism can be elucidated by extending to causality the same framework he applies to vulgar dualism. In their common usage, that is, the terms 'cause' and 'effect' emerge from 'rigged terrain' that favours one side, entraps the other, and vitiates both. Just as Bergson exposes spirit as a negative default of matter due to a spatialised statement of the problem, so too can causes be seen as projected from the image of fully materialised effects: 'the difficulty stems from the fact that we tend to think, in a static manner, of ready-made material parts, juxtaposed to one another, and, also in a static manner, of an external cause which would plaster upon them a skilfully contrived organisation' (707, *EC*). Causes are thus given a derivative existence that has a reductive effect on causal processes and, in particular, on the kind of novelty they are able to generate. The source of this conception of causality is located in a speculative interest. More specifically, it is an intellectual representation of human labour ('fabrication'), at whose heart lies a desire to schematise action into something predictable, coupled with the typically speculative tendency to presuppose a retroactivity of the present. Speculative causality, in other words, provides a capital instance of reverse-order thinking: causes are sought backwards by starting out from given effects in the present, then implanting them in the past, from where they are held to

proceed forwards. Such cause-seeking leads inevitably to a weakened, pragmatic conception of causes. It proceeds, that is, according to what a cause already ought to do – give its effect predictably and on a linear timescale – and what it already ought to look like – as discrete, tangible and divisible as an effect. This means that the speculative mind only imputes to a cause as much as is needed from it, and it leads Bergson to claim that such causes cannot be said to fully explain very much: their role is more akin to an 'occasioning' of effects that are given in advance, such as when a lit fuse explodes gunpowder, or a gramophone plays a record.[64]

A series of formal features proper to speculative causality can be identified by reference to the example of the eye discussed in Chapter Two, insofar as neo-Darwinism and neo-Lamarckism are both said to follow essentially mechanistic procedures. First, there is in speculative causality an external separation of cause from effect: both theories approached the materiality of the eye in terms of disparate elements that required organisation, with the cause assumed to be something externally applied to them (707, *EC*). Second, this separation encourages a notion of causality as a divisible process, in which cause and effect are both fractured into individual tasks by the elements of the assemblage. Consequently, speculative causality presupposes a proportionality or commensurability between parts of the cause and parts of their effects: 'The whole of the result here represents the whole of the work put in, and to each part of that work corresponds a part of the result'.[65] Bergson thus claims that speculative causality tends inevitably towards 'a system in which every change provides the exact measure of its cause' (177, *MM*). Third, precisely because fabrication implies a sort of attainment of effect through a series of causes, it finds in the end result more than there was to begin with, a positive material reality effected by proceeding from part to whole.

It is worth emphasising the second of these points, that of proportional correspondence between cause and effect. For Bergson, belief in this relation between discrete causes and 'their effects' is a primary symptom of a worldview that denies indeterminacy in nature. As such, it forms a core element of the parallelist thesis.[66] Parallelism, that is, as an expression of the material world order, not only divides and quantifies conscious states in the same way it does physical states; it asserts, on this basis, a direct correspondence between parts of one series and parts of the other, and a strictly one-way causal relation between the two: the brain can produce the epiphenomenon of consciousness, but consciousness is permitted no real reciprocal influence of its own. In this way, proportional correspondence between causes and

effects plays a key role in the effort to comprehensively reduce the conscious to the physical, and to affirm a mechanical causality of matter over a causal efficacy of the immaterial.

Bergson's 'vulgar' interpretation of causality informs his general critique of mechanism as a speculative theory of change. It is by starting out from material effects and seeking causes in their image that mechanism ends up reducing change to a 'circle of the given', sacrificing a principle of novelty for one of identity and necessary determination. In this respect, mechanism is not really a 'causal' theory at all by Bergson's standards, since it offers no more than a series of laws derived from and circulating among pre-existent parts, and remains unable to provide an account of the generative process that brought those parts into being (as Bergson argues in *EC*, the elements and causes appealed to by physico-chemical analyses in biology are only relevant to phenomena of organic destruction, not creation (687, *EC*)). Mechanism, in other words, provides us with neither a principle of change nor a satisfactory manner of thinking it: 'no complication of the mathematical order with itself […] is capable of introducing a single atom of novelty into the world' (679, *EC*). And this indicates the most problematic presupposition of the mechanist's metaphysic: if 'all is given', it had to be given all at once and out of nothing.[67] In this way, Bergson's ultimate critique of speculative causality can be seen to target its inevitable regress to a principle of static incipience: creation *ex nihilo*, the reductive position *par excellence*.

These critical perspectives place the onus on Bergson's own philosophy to outline a conception of causality that surpasses the sterile prejudice of something coming from nothing. While the foundations of Bergson's response to this challenge can be found in his critique of nothingness in *EC* Chapter Four, its constructive detail emerges from mapping the insights of con-tending duality onto the vulgar dualism implicit in speculative causality. A productive interpretation, that is, of the intrinsic differentiation of duration and the complication of its con-tending dynamic over the course of evolution, provides the model for a renewed thinking of cause and effect.

According to this model, effects are to be understood in terms of the material tendency, and causes in terms of the immaterial tendency. This means, on one hand, reigning in effects from abstract spatiality: just as materiality never reaches its ideal limit of producing entirely isolable systems, such that even its narrowest rhythms manifest infinitesimal indeterminacy, nor are effects ever fully finished products. On the contrary, *effects continue to be caused*:

they are deposits of a continuous process that is still producing them, like the drift of sea-froth left by a speeding boat, or the lingering notes of music as it fades (a sort of 'stamping on the spot', Bergson calls it in 'CV'). In describing reality in terms of the given and predictable, then, mechanism may be said to only exaggerate: it is indeed in the nature of material effects to go in the direction of mutually external, unchanging parts. A tempered mechanism can thus be embraced, not as an influence as such, but as a legitimate interpretation of the materialised aspect of the real – an account of deposits interacting by force of mere momentum. On the other hand, the model of con-tending duality permits causes to be released from their derivative status, and to be thought in the same manner as the immaterial: characterised positively in terms of the virtual tendency towards continuity, indivisibility and interpenetration. By the same token, the movement of causation takes on the same incessant *poussée* exhibited by memory in the previous section, always 'overflowing' what it effects. These points translate into certain formal features of 'con-tending causality'.

First, cause and effect are no longer externally separate, but 'con-tend' one another: rather than causes discretely and sequentially producing effects, both are generated *pari passu* with one another, in a continuous, reciprocal movement that Bergson describes as 'a constant remodelling of the past by the present, of the cause by the effect' (1343, 'PR'). Second, there can no longer be any proportional correspondence between cause and effect: parts of the effect will in no way correspond to parts of the cause, because their movements differ in kind according to the metrical principles each elaborates, the one tending towards continuous multiplicity and the other towards discrete multiplicity. Third, there can no longer be any 'attainment' in the production of effects, not only because causes can no longer be fragmented in the image of 'their effects', but because causes can be said to *continue into their effects* by dividing among them. Con-tending causality, then, is not a matter of proportional labour, through which a set of external, law-like causes are directly and diligently working on effects – this, as Bergson notes, would be to attribute to nature the labours of Hercules. Rather, it is a holistic process akin to an ever-growing expenditure: cause is to effect what whole is to part, and causes *overflow* effects, producing them as if in passing. This is what the nature of the *élan vital* discloses, inasmuch as it is said to intensify as it proceeds, to divide as it traverses materiality, and yet to impart and conserve itself among its effects (just as parted schoolboys hold onto the same memories, or a wind 'splits' at a corner).[68]

The image that emerges here is the same as that which emerges from the aforementioned critique of nothingness: both contribute to Bergson's intuition of the real as ever-growing and undivided fullness, to which emptiness is unknown, whether in the form of a void from which existence magically arrives, or a hiatus between the action of a cause and the production of its effect. There is no strict separation of influence and influenced on this view, no interactionism, but rather a plenum whose own frictional principle of differentiation accounts for its immanent fertility and continual, global recasting.

It is important to note here that this virtual conception of causal processes allows Bergson to subvert the problematic of causality. Where modern science posed this through the element of space and the lens of prediction, aspiring towards a superhuman perspective that would ultimately 'solve' the problem of change, Bergson restates causality as a continuous, inexhaustible operation. Moreover, by exploring the concept of change and causation through naturalistic phenomena like evolution and human activity, he indicates ways in which that operation can be investigated in concrete and ongoing ways. But the most significant implication of this overflowing conception of causality consists in the way in which it further specifies and, indeed, elevates the vitalist character of Bergson's ontology.

Con-tending duality does not only *release* the immaterial from its entrapment under vulgar dualism, but ultimately *prioritises* it in thinking the productivity of the real. This results, in part, from Bergson's insistence on putting real change at the heart of a theory of causation, and conceiving this change in terms of the vital manipulation of material energy by means of an increasingly complicated tension in time and in the service of freer action in space. But more daringly, it results from Bergson's claim that the production of material forms must be seen as an 'interruption' or 'inversion' of the vital order.[69] Bergson argues that the material order of reality, that is, insofar as bound in con-tension with another direction of things, 'is an order that must be born of itself whenever the inverse order is suppressed' (703, *EC*). In *EC*, Bergson addresses this through his critique of the concept of disorder. There he claims to uproot a profound bias endemic to both modern epistemology and science: both, he claims, tend to consider the geometrical order of nature as a victory over disorder, something positive constructed on top of it according to mathematical laws.[70] On the contrary, Bergson says, the complication and mathematisation of the material order represent nothing positive, but rather express 'a diminution of positive reality'.[71] The material tendency to spatialise into stable, discontinuous forms, that is, must be thought on the basis of the relaxation of a pre-eminent

kind of movement, such that the effects produced by con-tending causation have a 'negative' sort of reality. This is why the metaphor of the hand through iron filings in Chapter Two proposed the materiality of the eye as 'a sum of obstacles avoided' rather than a sum of means employed'.[72]

Bergson can therefore be seen, through this ultimately causal interpretation of con-tending duality, to ascribe an entirely new status to the immaterial in nature: not only a causal efficacy from which it was previously excluded (viz. parallelism), but an overriding pre-eminence in regards to thinking ontological production. This position represents the end of the trajectory laid out by Bergson's critical engagement with the material world order, as well as the furthest reach of his metaphysical intuition: the virtual capacity to draw more than appears to be contained extended to a cosmological principle of production and appealed to as the source of continuous novelty.

4.3.2.
Nietzsche and superabundant causality

Nietzsche was unremittingly critical of causal thinking throughout his work. An early suspicion of the 'sublime metaphysical illusion' by which we seek to 'penetrate the deepest abysses of being' using 'the thread of causality' (*BT* 15) matured into a concern with causality as a certain kind of interpretation achieved by thinking into processes a range of spurious notions, from anthropomorphic fictions like bodies, compulsion and reciprocity, to morally-inflected influences like lawfulness and free moral agency.[73] Critically, he considered the task of 'transvaluing' causality as a continuation of Kant, whom he credits for placing a 'tremendous question mark […] after the concept of "causality" and cautiously *delimiting* the realm within which it makes sense.[74] Constructively, however, the challenge it presents constituted a crucial moment in elaborating the function and, particularly, the dynamics of will to power. Accordingly, Andrea Rehberg has observed that Nietzsche's 'transvaluation of causality' occupies 'a central role in his attempt to envisage an affirmative type of science' (Rehberg 1999: 279), and as such provides a significant point of entry for discussions of his naturalism. While scholars have debated the extent to which the term 'causal' remains suitable for describing the processes that would remain operative within Nietzsche's re-naturalised world, particularly given his typically anti-causal attitude, such debates are themselves testament to Nietzsche's point.[75] His primary task, that is, consists in

decoupling our thinking of causal processes from traditionally reductive articulations, and reorienting it towards an image that is both 'purified' and rendered fundamentally productive. This new image, moreover, gives onto one of the most significant contributions of Nietzsche's philosophy, whose causal implications are also profoundly normative.

In order to carve out this alternative image, three critical perspectives on causality must first be noted.

One of Nietzsche's most pervasive critiques follows out a trajectory from the linguistic origins of our causal framework to its absurd apotheosis in the moral eminence attributed to the concept of a *causa sui*. In *BGE* 20, Nietzsche argues that the grammatical functions of language determine the terms and rules of discursive thought, such that a double axiomatic set of identity and causality emerges from its subject-predicate structure.[76] This serves to arbitrarily dismember continuous processes into discrete 'causes' and 'effects' (*GS* 112; *D* 121), leads us to presuppose a 'doer' behind deeds (*WP* 631; *GM* I 13), and construes not only all activity as conditional upon a subjective-atomistic agency (*BGE* 17; *TI*, 'Reason' 5), but ultimately all becoming as conditional upon being.[77] In these respects, Nietzsche considers causality a 'dangerous' concept 'so long as one thinks of something that causes and something upon which an effect is produced' (*WP* 552). This danger is seen to culminate in the concept of a *causa sui*, where the fragmented schema of conditionality clashes with the moral appeal to unconditionality. This is the target of some of Nietzsche's most scathing and humorous attacks – he describes it as 'the best self-contradiction hitherto imagined', and reduces it to the effort 'to pull oneself into existence out of the swamp of nothingness by one's own hair' (*BGE* 21) – as well as a meeting ground for his critique of other supremely moral concepts like God, free will and the thing-in-itself.[78] *Causa sui* in fact signifies the ultimate unconditional, combining two key reactive tenets: the insistence that the 'highest' concepts both *exist independently of becoming*, and *be placed at the beginning as the beginning*, the principle not only of all else but of themselves too (*TI*, 'Reason' 4). This makes it not only one of the moral concepts *par excellence* for Nietzsche, but demonstrates one of the crucial horizons of his causal critique: like Bergson, he exposes at the heart of our causal thinking a principle of static incipience where there ought to be one of genuine productivity.

A second critical perspective targets the various illicit ways in which we identify 'causes', which Nietzsche crystallises in *TI* as 'Four great errors'.[79] These errors, which originate in physiological degeneration, issue in psychological falsification, and are said to underpin no less than all morality and religion, detail a range of spurious derivations of 'causes'. Alongside the error of free will discussed in Chapter Three, these include the confusion of cause and consequence (a specific instance of the 'backward inference' which Nietzsche attributes in large part to the tendency of consciousness to deal only with 'terminal phenomena'[80]); the 'false causality' generated by our having modelled an empiricism of cause and effect on the realm of 'inner facts' (the human experience of identity and agency foisted onto reality[81]); and the error of 'imaginary causes', through which Nietzsche examines the doubly reductive exercises of our 'cause-creating drive' as it both postulates synthetic 'sums' of effects and then super-adds thing-like causes to them.[82]

Lastly, many of these points are condensed in Nietzsche's critique of mechanism, which also elevates them to a more stable target. As seen in Chapter Two, Nietzsche attacks mechanism for its importation into science of moralistic concepts like lawfulness and compulsion, and for its falsification of reality in the service of calculability and predictability. But he also finds it guilty of universalising the above-cited errors, making of cause and effect, for instance, 'material things', and naively reducing the causal process to one 'producing' the other (*BGE* 21). This universalisation generates a god's-eye framework of interacting forces which becomes paradigmatic of our reactive causal thinking, and reveals its capital error: 'it does not touch upon the causal force' (*WP* 635; *GS* 112). The purported 'dynamic' of this schema, that is, merely schematises the residue of actual activity, offering neutralised 'reactions' and 'results' in place of any real qualitative insight into the nature of productive activity. Through mechanism, for instance, we still fail to comprehend motion itself, viewing it rather in terms of *something* being moved, or as evidence of an effect being caused (*WP* 635); and quality, Nietzsche claims, still appears as a 'miracle' in chemical processes viewed mechanistically (*GS* 112). In part, Nietzsche acknowledges the role of human perception and psychology in this tendency to simply formulate consecutive appearances in a semeiotic way (*WP* 635), and maintains that, thus far, we have only tried to explain what we can see and feel (*BGE* 14). But a causal account that fails to mature beyond such grounds will necessarily remain 'incomplete', or 'merely descriptive': on one hand, it will fail to *explain* anything, since it only presents a 'manifold one-after-another' without reaching behind or within the images (*GS* 112); on the other, it will fail to demonstrate the (causal) nature of force, since feelings

of tactile pressure and impact only translate it into 'a completely foreign language', that of perceivable, quantifiable effects (*WP* 620).

In light of these criticisms, Nietzsche's resultant demand for a more adequate explanation of causal processes operates on multiple fronts. It seeks to dissolve the thing-like formulation of 'causes' and 'effects' – particularly as these conduce towards the great errors of cause-creation and the moral eminence of a *causa sui* – while divesting the causal framework of all-too-human notions like compulsion, law and succession; to fulfil the distinctly philosophical task of conceiving the inherent qualitative character of force;[83] and to adumbrate a non-mechanistic image of complexes of activity, in which his idea that 'nothing ever happens otherwise than as it does' can nonetheless be seen to exhibit an irreducible and productive dynamic.

It is in view of these tasks that the theory of will to power enters as a *causal* hypothesis, and two specific angles on this are illuminating.

On one level, Nietzsche presents his causal hypothesis as an *experiment* prescribed by the 'conscience of method'. This experiment concerns taking our conception of the causality of will 'to its ultimate limit', where the activity of 'will upon will' would stand, hypothetically, as the absolutely only kind of causality (*BGE* 36, *WP* 658). Nietzsche is here referring not to the atomistic will of the old-style psychology, which would only implicate an anthropomorphic framework of tactile contact, impact and compulsion, but will as perspectival pathos or power-quantum. This discloses the distinctly causal premise of the 'agonistic' vision of the world as will to power: that vision, in effect, seeks to deny conditionality, understood either from the abstract perspective of universal mechanism or as a fractured operation built upon anthropomorphic concepts, in order to affirm, in its place, only interpretive encounters between forces understood in primarily qualitative terms, exerting their varying degrees of strength, and thus entering into and out of relations of dominance. Cause and effect by way of external laws, in other words, is replaced by situational complexes of mutually interpreting powers and counterpowers; a mechanics of quantitative interactions is replaced by an ontology of qualitative production; a semeiotics of results is replaced by a pathos of processes. 'In real life', as Nietzsche puts it, 'it is only a question of *strong* and *weak* wills' (*BGE* 21), of a 'struggle between two elements of unequal power' in which 'the adiaphorous state is missing' (*WP* 633, 634). Nietzsche's transvaluation of

causality, from this angle, turns upon the effort to think relational hierarchies as fundamentally constitutive of ontological dynamics, in which it is precisely the processes of formation, tension, and reformation among inherently interpretive forces that themselves constitute an effecting – a continuum of emergent, differential productivity. These dynamics are precisely what Nietzsche claims is left once our anthropomorphic and reactive overlays are eliminated from the picture: 'no things remain but only dynamic quanta, in a relation of tension to all other dynamic quanta: their essence lies in their relation to all other quanta, in their 'effect' upon the same' (*WP* 635).

This interpretive relationality is illuminated from both critical and constructive standpoints. In the first case, it not only follows negatively from his critique of causality as modelled on subjective atomism, but itself furthers the critique of mechanism by forestalling the isolation and abstraction of forces from hierarchical complexes, since the quantity of any force is always a relational consequence of still other forces (*ad infinitum*). By the same token, it forestalls any ultimate appeal to static incipience, since the formation of new complexes and relations always involves a process of re-appropriation in which origins, like texts, tend to disappear beneath interpretations.[84] In the second case, this relationality follows positively from Nietzsche's conception of will to power in strictly perspectival and interpretive terms. It represents, indeed, its 'ultimate limit', insofar as it pushes perspectivism towards the brink of that which it fundamentally challenges: Nietzsche asks us to conceive a *qualitative coexistence* of forces, that is, without lapsing into that god's-eye view of mechanism which tends to annul this in the form of a *quantitative simultaneity*. The causal experiment of will to power thus sees perspectivism at its most vertiginous.

The causal hypothesis of will to power, however, also functions on another level: alongside the *agonistic* aspect, it bears on the intrinsically *excessive* 'pathos' of will to power already described as Dionysian. As Andrea Rehberg observes, the causal import of will to power in this respect consists in offering an alternative principle of originary productivity (Rehberg 1999: 279), or what Nietzsche calls 'the most elemental fact from which a becoming and effecting first emerge' (*WP* 635). This Dionysian quality of will to power revaluates causality by stripping it of both agents (dismembered 'doers' behind deeds) and of intentions (Nietzsche claims that belief in *causae* falls with belief in *télē*[85]), in order to premise it instead on the nature of the doing, which is to say the prodigal, evaluative terms outlined in Chapter Three. And this second causal perspective on will to power is the key one: it both

deepens the background of Nietzsche's re-naturalisation of morality – thus shedding further light on a superior morality – and brings Nietzsche's vitalism to the same anti-reductionist apex as Bergson's. The way to approach it is by finally confronting Heidegger's critique of Nietzsche.

Heidegger credited Nietzsche with the historical feat of bringing Platonic metaphysics full circle, by exposing the nihilistic structure of metaphysics and reversing the priority of Being over Becoming. But while Nietzsche thereby prepared something new for philosophy, Heidegger maintained that he himself never escaped that circle, and that his thinking thus remained thoroughly 'nihilistic'.[86] The reason for this is that Heidegger saw in will to power the latest expression of the 'technological' character of Western metaphysics: its pervasive tendency, that is, to approach things by requisitioning them for use, and to contribute, in the process, to the withdrawal of Being (in Heidegger's terms, metaphysics only reveals Being reductively, by 'Enframing' it). Heidegger models this claim not only on the intractably appropriative, exploitative nature of will to power, but, pre-eminently, on the fact that will to power functions by positing values, which is to say by ordering things for use (Heidegger 1977: 83-4). Above all, Heidegger accuses Nietzsche of taking Being as a value – a condition posited in the will to power for its own preservation and enhancement. Nietzsche is said to make of Being a determinative aim, thus taking disposal over it and degrading it as 'standing reserve': 'When the Being of whatever is, is stamped as a value and its essence is thereby sealed off, then within this metaphysics […] every way to the experiencing of Being itself is obliterated' (Heidegger 1977: 103). On Heidegger's reading, then, Nietzsche's thinking still leaves something out: Being evades him because he conflates it entirely with the ultimate technological ontology, the world as will to power.

It could, however, be argued that Heidegger's reading too leaves something out, or at least appears to halt prematurely. This is what the causal perspective on will to power illuminates when taken in a superior moral direction. One of the reasons Nietzsche calls upon the hypothesis of will to power is to outline a causal theory that is genuinely productive. This productivity is the import of agonistic relations between Dionysian forces, generating relational arrangements whose 'effectiveness' is a matter of power-expression on the quantal and collective levels. Such arrangements, as argued earlier, can be seen to characterise morality too, wherein drives are said to be 'geared' according to differing economies with a view to enabling differing kinds of willing activity. The causal perspective brings to light that

morality can be approached not only in terms of its relational economy, but of the productive activity this gearing engenders. Morality, that is, can be seen as an organic instance of a productive activity modelled on interpretive relationality. What humans of course produce, as Nietzsche makes abundantly clear, is values: 'A table of values hangs over every people. […] Behold, it is the voice of its will to power'.[87] Of these, he claims there are broadly two sorts, revengeful and superabundant, corresponding to inferior and superior kinds of morality. The productive interpretation of will to power allows this distinction to be articulated according to its highest stakes by identifying a radical change in kind between them.

The horizon of a superior morality, informed by the principles of hierarchical incorporation and experimentalism, is not just to produce values which maximally serve one's own economy, as if efficiency in drive relations were an end in itself. This kind of requisitioning would, in Heidegger's terms, retain will to power within a nihilistic or 'technological' metaphysics. For Nietzsche, the highest form of living rather consists in attaining to an order of rank within one's constitution that is entirely transformative in just this respect. A functioning becomes truly Dionysian not when it becomes internally proficient, but when that proficiency becomes such as to overflow itself, and in the process dissolve the boundary of inside and outside: 'I love him whose soul is overfull, so that he forgets himself and all things are in him' (*TSZ*, 'Prologue' 4). In this excessive kind of functioning, the evaluative nature of will to power brinks onto a superabundant mode of activity, and issues in the free kind of giving lauded by Zarathustra as the 'bestowing virtue'.[88] This transformation in evaluative activity is the cardinal point of Nietzsche's transvaluation. It is in this way that will to power might be seen, at its highest level, to surpass the 'technological' mode, which might be limited to an inferior kind of power-being.[89] While there is evaluation carrying on, that is, it is no longer in the service of a directing aim, but inscribed within something broader, a kind of pathos which in fact comes to a head in superior morality: 'In the foreground stands the feeling of plenitude, of power which seeks to overflow, the happiness of high tension, the consciousness of wealth which would like to give away and bestow' (*BGE* 260). The task of a superior morality can thus be framed in terms of tapping into and channelling the excessive quality of will to power, not in order to prolong an instrumental mode of being, but to overcome this by permitting the Dionysian character of nature to flow through and possess one in an overfullness of spirit. And in this consists the creation of a future, which is to say an overcoming of nihilism: that flow is itself an energy 'pregnant with future' (*GS* 370), the 'great tide' of life that Zarathustra enjoins the human animal to let continue rather than let

ebb (*TSZ*, Prologue 3), and all the difference between the preservation of the pre-established and the present and the creation or 'legislation' of the new.[90]

Nietzsche's aspiration towards a Dionysian kind of willing can thus be seen to subvert traditional causal imagery in two ways: affirming the possibility of willing backwards, by appeal to the thought of eternal recurrence, and of willing out of superabundance, by elevating a total economy of the self to a new kind of creative generation. These two conceptions of willing not only converge on the kind of creativity that Nietzsche exalts in *TSZ* – the great redeeming power and antidote to nihilism that is motivated by eternal recurrence and executed in superabundance – but respond, as such, to the problematic of the moral world order as set out in Chapter Three. The sham identity of the moral free will, first decentred by being reversed in the direction of an emergent and unifying will, is both thrust into experimentation by eternal recurrence, and ultimately lost in the fullness of the self as it dissolves in the process of becoming what one is: 'Becoming as inventing, willing, negating the self as self-overcoming: no subject, but a doing, positive, creative'.[91]

4.3.3.
Conclusion

For both Bergson and Nietzsche, mechanistic causality is the reductive theory of change *par excellence* not only because it appeals to a linear, uniform time, nor because it models its predictive laws on the mere fossilised results of real activity, but because it aspires toward the principle that 'all is given', that the in-the-making is reducible to the ready-made. This is what commits mechanism, inevitably, to a principle of static incipience, the antithesis of a principle of change. Both philosophers not only identify this issue by exposing the intellectual illusions and moral prejudices built around it, but address it by reversing it, premising productivity on immanent, relational multiplicities and replacing static incipience with prodigality as causal image. The causal process, on these terms, is neither one of miraculous appearance (creation *ex nihilo*, *causa sui*) nor of an unproductive circulation of laws (mechanism), but a continuous, swelling differentiation and re-interpretation. Through this reversal, both Bergson and Nietzsche appeal to a reality of becoming in which causation is to be approached in terms of a burgeoning wealth being continuously and complexly re-channelled. Contra the reductive idea that something comes from nothing, these prodigal visions affirm something coming from something much more. Bergson provides an image of

this in *EC*, where he describes a container of steam at high pressure, escaping in jets here and there through cracks in the container, and immediately condensing into droplets of water (705, *EC*); Nietzsche indicates something similar when he has Zarathustra warn, 'Whoever today lets drops fall like a big-bellied bottle out of a too-narrow neck – people like to break the necks of such bottles today' (*TSZ* IV, 'Voluntary beggar'). There is in Bergson as well as Nietzsche, then, the appeal to a 'virtual' sort of prodigality, a kind of influence that is continuous albeit heterogeneous, always in excess of the present, irreducible to a sealed-off, self-identical past, and premise of a new, unforeseeable future.

In doing so, the concept of causality is revised in two important ways. On one hand, it is reoriented towards the elaboration of the new, rather than the expectation of the familiar. In this, Bergson and Nietzsche are able to re-inscribe human activity within nature at large, conceiving freedom, in the sense of a self-determining spontaneity that is intimately organised with necessity, not as an exception to natural laws of causation, but as an emergent and progressively superior kind of causal process. On the other hand, their ideas require that the productive dynamics of reality be re-imagined entirely: in place of an artificially dismembered series of interactions between 'causes' and 'effects', Bergson and Nietzsche both affirm a creative continuum, inviting new interpretations of the kinds of correlations existing among qualitatively diverse agents or agendas. This new platform is captured succinctly, if not entirely deliberately, by C.G. Jung, who articulated his concept of synchronicity as an 'a-causal connecting principle'.[92] The virtual movement of an *élan vital* is one proposal for such a principle, the agonistics of wills to power another. But Bergson and Nietzsche also share a set of illuminating and radical perspectives on what is left in the aftermath of their overthrow of mechanism. These perspectives consolidate their prodigal ontologies by providing further inflections on their vitalist reversals of causality, and serve to conclude the chapter.

Conclusion: prodigality, non-linearity, finalism

This chapter has used the third theme of vitalism as highlighted in Chapter One – the search for constructive alternatives to reductionism – in order to open up a final series of comparisons between Bergson and Nietzsche. This last platform furnished by the vitalist optic thus served to bring into focus three key constituents of their empiricisms of the irreducible: radical perspectives on the duality of nature, the heterogeneity of time, and the

prodigality of causality. These empiricisms, and in particular the prodigal causalities outlined in the final section, represent a culmination of the trajectories described in the preceding chapters. This is, on one hand, because they draw the metaphysical activities of duration and will to power as first discerned in Chapter Two to their furthest ontological consequences, as well as offer concrete responses to the problems of the material and moral 'world orders' as outlined in Chapter Three – 'solving' those problems, in keeping with the general ethos of Bergson and Nietzsche's thinking, not so much by closing them off but by setting them on new, naturalistic and open paths. But it is also because the final component of Bergson and Nietzsche's shared metaphysics to emerge from the vitalist optic – that of prodigality – also represents a sort of arch-vitalistic contribution to that tradition. This overwhelming conception of the real, that is, overturns reductionism by elevating it to an ontology. As such, this aspect of their vitalist metaphysics requires some further and concluding exploration, according to its two most pertinent aspects.

A first noteworthy aspect of Bergson and Nietzsche's 'prodigal' causalities is their non-linear scope. Non-linearity was raised in Chapter One as a prominent feature of the new vitalism, as well as of other new approaches to life and materiality in the last fifty years. While it was foreshadowed in the early emergentists' concern with alternative channels of causal influence, from Mill's notion of the 'heteropathic' to the concept of 'downward causation', the main reference point for the contemporary interest in non-linearity is Ilya Prigogine and Isabelle Stengers' research into non-equilibrium thermodynamics in the 1970s. Their innovation was to contest the tendency of classical dynamics to treat systems as theoretically closed and stable, and instead propose that exchanges of matter, energy and information between open systems is what generates complex order within a reality that seethes with disorder. Non-linear relations play a central role in this new approach: they are said to take hold at the onset of far-from-equilibrium conditions, when a system becomes inordinately sensitive to fluctuations in external activity, and minor inputs, instead of yielding uniformly proportional results as per linear systems, can amplify into disproportionately large, structure-breaking effects.[93]

Bergson and Nietzsche can be seen as prescient forebears of this kind of view. Both sought, well before Prigogine and Stengers, to subvert the stability inherent in classical dynamics by affirming reality as a fundamentally processual, relational and open becoming; and both advanced notions of non-linearity as part of this task. This comes into relief negatively, on

the basis of their critiques of mechanism, where a 'cracking' of linear causality clears the ground for the non-linear. But it is also affirmed positively. On one hand, it is empirically imputed to organic becoming: both philosophers place a high value on non-linearity by framing conceptions of life in terms of the pursuit of increasingly efficient economies of expenditure, which is to say minimum input for maximum output, or freedom progressively carved out of necessity. Thus for Bergson, evolution charts life's invention of methods for releasing greater amounts of accumulated energy using minimal amounts of effort,[94] while for Nietzsche, life aims at 'an ever more thrifty and more far-seeing economy, which achieves more and more with less and less force' (*WP* 639). On the other hand, non-linearity is metaphysically consequent upon their heterogenised conceptions of time, where a rupturing of the present allows them to re-sequence the potential passages of causal influence, from linear, 'consequential' flows, to an effecting that might run 'backwards', dilate 'forwards', and proceed unbounded by predictable timescales and spatial coordinates. Thus Bergson not only uproots causal processes from determinate places and times and from proportional relations between causes and effects, depicting them more in the style of rippling, entangled waves throughout a whole, but can be seen to affirm an unorthodox image of causation according to which effects can be seen to travel 'backwards' in relation to the 'forward' surge of virtual causes (what Vladimir Jankélévitch has called the 'retroaction of the present on the past', and Elena Fell has more recently explored in terms of 'the retrospective enrichment of reality').[95] And Nietzsche not only proposes the capacity of will to power to will backwards and even remember prospectively, but frequently appeals to the protracted and unpredictable manners of influence that our whole past is capable of exerting, citing long, formative periods of pre-history, 'intercalated periods of constraint and fasting', 'late offshoots', 'atavisms' and 'untimely after-echoes'.[96]

In these respects, their appeal to the non-linear sees Bergson and Nietzsche inscribed within a broader tradition of thinkers who go beyond the thermodynamic remit of Prigogine and Stengers. These are figures who have challenged a basic prejudice in causal thinking, influenced largely by Hume, according to which causality proceeds in the limited terms of contiguity and succession in place and time.[97] As David Ray Griffin has argued, the modern conception of causation largely restricts it to efficient causation in terms of contiguous events, and to material causation in terms of the energy embodied in the entities studied by physics.[98] Implicit in this prejudice is a tendency to single out the most recent and 'local' factors in histories of events, and to therefore reconstruct those events on the model of

'consequential' or 'homopathic' patterns. Such an interpretation views the past and the future as generally inoperative, stranded or intangible on either side of a static present. Contrariwise, those who reject this restrictive, 'anthroscopic' approach are united by an effort to outline alternative sources, directions and scopes of influence, and to affirm 'nonlocal' images of activity out of which our own reduced vision of things is extracted. This lineage includes figures like Gilles Deleuze (for his concept of the machinic phylum and his sustained elaboration of Bergsonian virtuality), C.G. Jung (for his concepts of synchronicity and archetypal psychology), David Bohm (for his concept of the quantum potential and his work on wholeness and the implicate order), and Rupert Sheldrake (for his theory of morphic resonance in evolutionary biology). The proposed 'ontologisation' of anti-reductionism into a prodigal conception of reality has sought to include Bergson and Nietzsche within this lineage, and show, moreover, why it might be considered 'vitalistic'.

The second feature of Bergson and Nietzsche's prodigal causalities is the finalistic inflection they each give to them. This is historically pertinent, insofar as finalism, like vitalism, has been a traditional adversary of both mechanism and naturalism, as well as an apparently irrepressible theory despite its orthodox rejection: J.B.S. Haldane has described it as a 'mistress' to the biologist – 'he cannot live without her but he's unwilling to be seen with her in public'[99] – while Bergson claims that mechanism can only succeed in evolutionary theory by smuggling in a finalistic principle. Despite their unwavering attacks on mechanism, however, neither Bergson nor Nietzsche fully embraces finalism. Bergson exposes finalism as an inverted form of mechanism, while Nietzsche too proclaims their identity – '*Causa efficiens* and *causa finalis* are fundamentally one' (*WP* 551) – but mainly condemns teleology on moral grounds: for corrupting becoming with ideas of divine governance (*WP* 552), for reading human intentionality into nature in the form of 'superfluous' teleological principles (*BGE* 13). But nor does either thinker fully reject finalism, seeking instead pathways in between mechanism and finalism which account for a certain direction in life's movement. For Bergson, there is between mechanism and finalism an 'intermediary activity' that gives onto the 'general metaphysical problem of causality' – an activity which he describes in terms of 'the growing materialisation of the immaterial', traces through the evolution of life as a whole, and uses as a model for thinking causal processes in general. For Nietzsche, an 'afterworld' is as repugnant as a '*causa sui*': both the mechanistic interpretation of the world and the appeal to teleology of any sort subordinate nature to external concepts and inhibit a thinking of nature on its own terms; but these terms, an evaluative, interpretative activity

based on the necessity of power-expression, themselves give onto an immanent lawfulness that appeals to a direction of sorts.[100] The mitigated kind of finalism that characterises life's movement can be understood by placing Bergson and Nietzche within a tradition established by Spinoza.

As A.K. Kordela has argued, Spinoza was the first philosopher to affirm causality in 'immanent' or 'differential' terms. On this model, distinct causes and effects no longer follow one another in a linear or transitive chain which is doomed to either an infinite regress or appeal to a first cause, but causes are considered effects of their own effects. This, for Kordela, is the primary ramification of Spinoza's equation of God with nature.[101] Bergson and Nietzsche's prodigal conceptions of causality continue this tradition both in attacking cause and effect as reified components of a more continuous process, and in pursuing causality itself in terms of immanent complexity and production.[102] But they are also able to identify a certain kind of finalism within this movement, by highlighting the essential role of limitation at play there. Bergson is explicit about this, insisting that failure to account for limitation is what makes speculative finalisms 'puerile' (603, *EC*). By un-limited here, Bergson indicates a cause that would exist separately from its effects, pre-conceived and given in its entirety before being added to parts it would coordinate. A fertile finalism, contrariwise, must be considered as *not yet given*, but in the process of giving: a tendency, defined by Bergson in terms of a certain resistance to materiality's falling weight, and defining itself progressively by virtue of what it can get from what it encounters. Rather than *converging* on some distinct telos, Bergsonian finality indicates a process of *dilation* which, as Cunningham argues, itself comprises the creation of further ends.[103] Nietzsche's appeal to limitation, on the other hand, consists primarily in his effort to install necessity not in external lawfulness, but in force itself, and to then pursue the image of multiple forces encountering and *resisting* one another in a ubiquitous struggle. The world as will to power, that is, runs on a specific kind of constraint: not so much that exhibited by isolated forces drawing their full consequences at all times, but that agonism determining and driving the collective interpretations at play in *complexes* of forces, each of which strives towards expressing its native strength, yet each of whose quantum of power is inconceivable in isolation from the resistance it encounters.[104] For both, the limitation inherent to immanent processes constitutes a sort of internal friction, a principle of differentiation within reality. But it is also this limitation, whether in terms of the constraining influence of the past, of situational conditions, or of co-present rhythms of duration and wills to power, that *gives rise* to a

semblance of finalism, an appearance of an order of means and ends, or what Nietzsche calls 'a sketchy purposiveness' (*WP* 562). Even where becoming is affirmed as fundamentally open, in other words, the novel can appear preformed precisely because it can only emerge out of finite conditions.

This emphasis on limitation discloses the two key features of Bergsonian and Nietzschean finalism, both of which further qualify prodigality. The first of these affirms the *intransitivity* of the movement or 'law' of life. There are no final causes producing effects, but intransitive loops of effects acting back on causes and causes growing by means of effects. The appearance of directedness or struggle that emerges is without pre-defined aim or incentive: reality becomes neither as mere mechanical execution nor teleological procession, but *pari passu* with its own immanent differentiation. The finalisms that characterise Bergson and Nietzsche's conceptions of life, in other words, whether engrafting greater margins of indeterminacy within natural necessity or destroying and establishing relations of dominance, are distinctly in-the-making rather than pre-ordained or end-directed: not driven *towards* any particular state, but driven *by* an excessive or prodigal impulsion towards self-furtherance and self-overcoming.[105] This perspective gives onto the second feature of their finalisms, which is their essentially *creative* nature. Just as Nietzsche targets our reactive separation of doers and deeds, Bergson claims that we inveterately think of creation in terms of things created and a thing that creates, and limit ourselves to believing either that creation is effected in a single act or that matter is pre-given as a multiplicity-en-bloc (705, *EC*). Their efforts to think intransitive movements of immanent causality fundamentally challenge these speculative tendencies: thinking creativity becomes a matter of thinking a force capable of climbing up on itself, a cause putting something in in order to get something out, a capacity to reinterpret received conditions as conditions conducive to furtherance. In terms used to characterise the virtual movement of life in Bergson, such a movement *overflows* in order to *overpower*; its finalism is strictly a matter of its intransitive prodigality and internal differentiation. This, for Bergson and Nietzsche alike, characterises the 'direction' of life, which appears to create machines for the overcoming of mechanism in the one, and to pursue relations of dominance for the expression of power in the other. In the last instance, then, the difference between Bergson's defence of freedom and Nietzsche's appeal to necessity in their challenges to the material and moral world order dissolves into a difference in the angle from which we view limitation: that which Bergson emphasises as the irreducible margin of indeterminacy within

material necessity, is what Nietzsche foregrounds as the ineliminable necessity that determines what one might experimentally become.

[1] See especially Parisi 2007 and Fraser et al 2005.
[2] This was an important feature of Bergsonism for Deleuze, who claimed that rediscovering and accounting for dualism on a new plane was critical in articulating a determinate notion of the virtual (Deleuze 1991: 94), and that dualism is itself 'only a moment, which must lead to the reformation of a monism' (*ibid*: 29).
[3] See *GS* 370, including footnote 126. This is an evolved distinction in which, as Walter Kaufmann highlights, Dionysus is no longer contrasted with Apollo, but now celebrated over the Christian and the 'romantic', as super-abundance versus under-privilege. Nietzsche considered himself particularly qualified to this task: 'I have a subtler sense for signs of ascent and decline than any man has ever had, I am the teacher *par excellence* in this matter – I know both, I am both' (*EH*, 'Wise' 1).
[4] On the law of 'double frenzy', see *DSMR* 1227-30.
[5] 317-8, 373-4, *MM*.
[6] Kolkman 2010: 81-2. See 1291, 'I2' for Bergson's comments on vulgar, i.e. explanatorily defunct, monisms.
[7] This distinction between disposals of duration implicitly contests a tendency in Bergson commentary to contrast duration with matter. This tendency derives from Deleuze, and is taken up, for instance, by Robin Durie (2002: 372-4).
[8] 665, *EC*. Bergson says we glimpse this in simply relaxing (665, 744, *EC*).
[9] In Milič Čapek's terms, 'elementary physical events are *almost* without duration, that is, *almost* instantaneous. […] [E]ven in the most "diluted" duration, the exteriority of successive phases, even the most distant ones, is far from being as complete as that of arithmetic units or geometric points; their very succession prevents their complete separation. But the *tendency toward exteriorization* is there; and it is precisely this tendency which, according to Bergson, constitutes materiality, that is, concrete extension' (Čapek 1969: 303-4).
[10] 376, 345, *MM*.
[11] Several of these points cohere with Ilya Prigogine's perspectives on the varying applicability of universal laws of nature within equilibrium and far-from-equilibrium systems. See, for instance, Szendrei 1989: 191 and Wallerstein 1998: 85.
[12] 364, *MM*. See 374, *MM* for Bergson's extended definition.
[13] 'We can distinguish two things from one another, and to a certain degree determine their relations, without necessarily knowing the nature of each of them. […] So it is with the body and the soul: defining the essence of each of these would be a very demanding task, whereas it is relatively straightforward to know what unites and what separates them, because this union and this separation are facts of experience' (836, 'AC').
[14] As Elena Fell has insisted, this *refusal to define* in fact plays an integral role in Bergson's pursuit of philosophical *precision* (Fell 2012: 8-9).
[15] *AC* 2. As Dylan Jaggard has observed, Nietzsche's perspective on modernity hinges on this distinction: modernity is said to consist in a refusal to experience the opposites of life-affirmation and -abnegation *as opposites* (Jaggard 2013: 358-9; see also Nietzsche, *CW*, 'Epilogue').
[16] Pierre Montebello has articulated this distinction succinctly in terms of progressive differences between that which repeats and that which remembers: 'La grande distinction à faire lorsqu'on a compris que tout obéit à la loi de la volonté de puissance n'est donc pas celle de l'organique et de l'inorganique mais plutôt celle du mémorisé et du répété. L'exploration du jeu des forces dans la volonté de puissance conduit en effet à distinguer trois sortes de rapports de forces : *les forces de répétition sans mémoire, les forces d'assimilation avec mémoire, les forces de création brisant le cadre de la mémoire*. Les

premières sont confondues à tort avec les lois de la nature ; les secondes sont les forces instinctives qui expriment la volonté de rendre identique, de simplifier et donc la logique nécessaire de la vie ; les troisièmes sont les forces artistiques, poétiques, créatrices, plastiques qui inventent de nouvelles formes de vie.' (Montebello 2000: 4)

[17] My reading here is largely influenced by Daniel Conway's paper, 'Life and Self-Overcoming' (1996).

[18] *BGE* 188; *TI*, 'Expeditions' 41. The idea that Nietzsche recommends such an uncultivated indulgence of the instincts in his struggle against the empire of reason is an unsophisticated though familiar criticism of Nietzsche; see for instance Schutte 1984: Introduction.

[19] Richardson 2001: 172. Richardson also articulates this distinction in terms of end-directedness (Richardson 2013: 772).

[20] *AC*, Foreword; *TI*, 'Morality as anti-nature' 6. Often in the same breath, Nietzsche identifies a resistance to constraint on the part of modern *décadents*, whom he diagnoses as 'precisely those for whom no curb *could be too strong*' (*TI*, 'Expeditions' 41; *GS* 290; *BGE* 188; TSZ I, 'Way of the creator'). This issue is a recurrent theme in the literature, from Walter Kaufmann's early treatment of psychological sublimation in Nietzsche, up to Ken Gemes (2013) identification of the 'prescriptive component of perspectivism' in terms of the maximal expression of the richest set of drives (or 'sublimation over suppression'), and given particularly focused and renowned treatment in Nehamas 1985. John Richardson (2004) argues for the role of genealogy within this picture of morality, which he claims reconciles two aspects of Nietzsche usually held apart: 'his biologism (with its insistence on "fate") and his value of freedom'. See also Brian Domino's entry in R. & C.D. Acampora 2004, in which a 'polyp psychology' is proposed with a view towards measuring the harmony of one's drives.

[21] Huenemann 2013: 69. Huenemann also proposes an intriguing, if dangerous, affinity between this kind of healthy overfullness and a 'philosophical madness', which he distinguishes from the kind of 'psychological madness' associated with Nietzsche's mental breakdown (2013: 74).

[22] *TI*, 'Expeditions' 48-9. See also *GS* 347, where Nietzsche discusses this ideal in terms of the free spirit *par excellence*. For an interesting example of Nietzsche's own Goethean effort to 'inculcate culture in the body', see *EH*, 'TSZ' 4, where he discusses the effect on his thinking of his musculature while walking. Graham Parkes also discusses this in Parkes 2014: 56, suggesting that Nietzsche's highly habitual form of exercise induced a sort of meditative state.

[23] Mehlberg 1980: 42-3. See in particular Aristotle (1930), *Physics*, Book IV 218a and Augustine (1960), *Confessions*, Book XI, Chapters XIV-XXI, for their general posing of the problem of time in terms of its perplexing existence and measurability.

[24] Time for Kant is 'nothing but the form of inner sense': it 'does not inhere in the objects, but merely in the subject which intuits them' (Kant 2007: 77 (A33-34/B50-51)). As Deleuze has claimed, this move ensures that 'time ceases to be *originary* or *derived*, to become the pure form of interiority, which hollows us out, which splits us, at the price of a vertigo, of an oscillation that constitutes time […] "Time gets unhinged".' (Foreword to Alliez 1996: xii-xii).

[25] Foreword to Prigogine & Stengers 1984: xx. Manuel DeLanda, for instance, has argued that the history of statistical mechanics testifies to a grand scientific effort 'to reconcile time asymmetry at the level of large aggregates with the still accepted time symmetry at the level of individual interactions', suggesting that the mechanistic pull of rendering time inoperative remained strong despite the thermodynamic revolution (DeLanda 1999: 29).

[26] It is worth noting that such a heterogenisation of time does not include J.M.E. McTaggart's distinction between A-theorists and B-theorists of time. The former insist on understanding

time as a dynamic passing from future to present to past, in which the unpredictable emergence of novelty is essential; the latter, instead, view time objectively, in terms of relations between events of anteriority, posteriority or simultaneity, thereby denying any flux or flowing of time, and reducing temporal direction to the linear dictates of the arrow of causality. While I would align B-theorists with a reductive or 'speculative' conception of time, I would exclude the distinction generally for its apparent effort to close off the possibility of more than two types of conception of time. As John Mullarkey argues (1999: 12), Bergson may appear to fit the A-theorist camp, but on closer inspection is seen to overflow it, allowing for 'a stratified series of temporalities nested together in a relation of ever-larger contraction'.

[27] A similar rupturing of the present was effected around the same time (1905) in Husserl's phenomenology of internal time consciousness (Husserl 1991: Part A, Section 2).

[28] See Prigogine 2003: 10 and Lefebvre 2008: 89.

[29] 824-5, 'CV'. Pete Gunter proposes that this interpretation could account for the 'hair-trigger' behavioural mechanisms of the brain (Gunter 1999: 285).

[30] 830, 'CV'. Thus elementary life – 'beings which vibrate almost in unison with ethereal oscillations' (749-50, *EC*) – could be chemical or physical as much as vital (579, *EC*). In *EC* and 'CV' Bergson uses the image of diverging train tracks to indicate this insinuation.

[31] 704, 710 *EC*. Howard Caygill (2007), analysing the historical emergence of the discourse of energy, specifically regarding its division into physical and physiological dimensions, argues that 'philosophy […] very rarely reflects directly on the concept of energy, let alone the nexus between the concepts of energy and life' (2007a: 19), and concludes that 'it is perhaps necessary to discover a perspective on life/energy that is neither a revival of vitalism nor an endorsement of a purely physical understanding of life' (*ibid.*: 25).

[32] 704, *EC*; 841, 'AC'; 825-6, 'CV'.

[33] 708, 602, *EC*; 824-5, 'CV'.

[34] 825-7 'CV'. This formulation leads Bergson to make a considerable claim embracing a broad understanding of life: the latter is said to be possible 'wherever energy descends the slope indicated by Carnot's law, and a cause, working in the inverse direction, is able to retard that descent' (712, *EC*; cf. 703-4, *EC*), which is to say 'in all the worlds suspended from all the stars' (712, *EC*). Life as such is neither limited to the carbonic form it took on earth – he claims it could assume completely different guises through use of other chemical substrates and physical conditions (713, *EC*) – nor even to organismic forms: Bergson hypothesises that energy could be accumulated and released 'on varying lines running across a matter not yet solidified'. He also suggests that the difference between this kind of vitality and that which we know may be the same as that between the dreaming and waking states of psychological life (712-3, *EC*).

[35] What Bergson calls 'a mechanics which would triumph over mechanism' (719, *EC*). See also 829-830, 'CV'. He discusses this *sui generis* relation memorably in 'PPPM'.

[36] 587, 597, 709, *EC*.

[37] 822, 827, 'CV'; 708-9, *EC*.

[38] 617-8, 647, 717, *EC*. This definition also allows him to define the unconscious: see 617-8, *EC*; 1332, 'PR'; 1398, 'IM', as well as his 'Le Rêve'.

[39] 'this consciousness does but remove an obstacle, extracting from the real whole a virtual part, choosing and, finally, disengaging that which interests it' (377, *MM*).

[40] 917, 'FR'. '[The present] duplicates itself at every moment, in its very emergence, into two symmetrical jets, one of which falls back towards the past while the other launches itself towards the future' (914, 'FR').

[41] 214-5, *MM*.

[42] 296, 307, 357, *MM*.

[43] This allows us to understand why consciousness or spiritual life, contra parallelism, 'overflows the brain'. Consciousness, for Bergson, is 'a system of functions, each related to its own particular apparatus', and each of which would, left to itself, give rise to a host of useless or vexing effects, liable to disrupt the functioning of the others as well as disturb our mobile equilibrium' (910, 'FR'). The brain is an organ for holding these powers in check, its role being to 'remove from consciousness all that would be of no practical interest to it' (873, 'FV'), and its malfunctioning serving to liberate those powers. This is why Bergson defines it as 'the organ of attention to life' (851, 'AC'), and claims that its activity represents only a very small proportion of mental activity (858, 'AC').

[44] If the virtual represents an excess, however, it is an excess that is brought to or loaded onto a limitation, inasmuch as conscious perception operates by selectively *limiting* the whole – the reciprocal universal action characterised by necessity – with a view to inscribing a margin of indeterminacy onto it. This is why Bergson claims, in *MM*, that there is 'nothing positive' in conscious perception, but that there is, 'in this necessary poverty of our conscious perception, something that is positive and that foretells spirit: it is, in the etymological sense of the word, discernment' (188, *MM*). There is therefore a double operation at play: living activity sacrificially accepts a virtual part of the real whole, in exchange for creating temporal methods for bringing to that part a measure of ('overflowing') influence.

[45] On the latter, see *GS* 380; *TI*, 'Maxims' 15; and *GM* III 8-9.

[46] Grosz 2004: 136.

[47] On eternal recurrence and joy, see *TSZ* IV, 'Intoxicated Song'.

[48] See also *BGE* 56, where eternal recurrence is presented as the 'opposite ideal' to pessimism.

[49] Many prominent scholars pursue this line, including Berndt Magnus (1978: 111-54), Alexander Nehamas (1985: chapter 5), Maudemarie Clark (1990: chapter 8), Bernard Reginster (2006: chapter 5), and Christopher Janaway (2013). This reading lends itself to the Kantian formulations of Deleuze: 'Whatever you will, will it in such a way that you also will its eternal return' (Deleuze 1983: 68). Reginster's commentary is a highly fruitful exploration of the light that eternal recurrence sheds on the nature of life-affirmation, which he pursues in both 'practical' and 'theoretical' senses, converging on a 'substantival' rather than (conventionally) 'formal' account of the values this involves.

[50] Principally Ulfers & Cohen 2008 and Loeb 2001, 2008 & 2011.

[51] Deleuze articulates this point by indicating how the power of forgetting atrophies in reactive individuals, such that their sensations and affects become embedded in a painful and prodigious memory. This process is instrumental to their becoming separated from what they can do (Deleuze 1983: 26).

[52] *GM* III 8; *EH*, 'Wise' 2. The influence of Ralph Waldo Emerson on Nietzsche on this point is clear: 'A man's genius, the quality that differences him from every other, the susceptibility to one class of influences, the selection of what is fit for him, the rejection of what is unfit, determines for him the character of the universe. As a man thinketh, so is he; and as a man chooseth, so is her and so is nature. A man is a method, a progressive arrangement; a selecting principle, gathering his like to him, wherever he goes. He takes only his own, out of the multiplicity that sweeps and circles round him.' (Emerson 1995: 'Spiritual Laws', 71)

[53] My reading thus bears some affinity with that of Keith Ansell Pearson (2006), who understands eternal recurrence as a transformative thought in relation to the experimental task of incorporation and 'care of the self'; stands opposed to that of Karl Löwith, for whom the thought of eternal recurrence induces resignation; and, in its emphasis on motivating totality, is influenced by that of Pierre Klossowski (1995), who finds in eternal recurrence a new principle of unity replacing the one god and the identical self.

[54] It would be incongruous, within perspectivism, to speak of a definite 'state' (embodied in a definite instantaneous configuration of self-identical units) of the universe at a particular 'instant', let alone that particular states might determine unambiguously all subsequent states. The conception of eternal recurrence in terms of recurring configurations was classically refuted by Georg Simmel in his *Schopenhauer und Nietzsche: Ein Vortragzyklus* (Leipzig: Dunker & Humbolt, 1907). Čapek observes that, 'Once one concedes the undiscernibility and also non-permanence of particles […], the very concept of configuration is devoid of meaning' (Čapek 1991: 272); however, since he fails to acknowledge this aspect of Nietzsche's thought, he mistakenly attributes to him a rigorously deterministic conception of eternal recurrence (*ibid.*: 276).
[55] 'Time, which belongs to the 'essence' of force, impedes the exhaustion of becoming (*KSA* 11:35[55]). See also *WP* 1064.
[56] *TSZ* III, 'Convalescent'. See also *WP* 1064: 'The *shape* of space must be the cause of eternal movement'.
[57] Einstein's theory was itself modelled on Riemann's geometry of curved spaces in three or more dimensions.
[58] For Friedrich Ulfers Mark Cohen, indeed, it is this geometrical distinction that proves 'foundational to the proper reading of eternal recurrence' and marks the reason for the profound emphasis Nietzsche gave to the thought: 'The deepest and most far-reaching revolutions of thought are always those that involve an alteration in the very geometry of thinking, for thinking does have a geometry, a set of rules for the space in which it occurs and according to which one thought follows upon another' (Ulfers & Cohen 2008: 84).
[59] Rovelli 2016: 84. Rovelli uses this notion to suggest how medieval thinkers like Brunetto Latini and Dante Alighieri could appear to have conceptualised curved three-dimensional spaces prior to the mathematical innovations of C.F. Gauss and G.B. Riemann (2016: 80-88). Ulfers & Cohen argue that Nietzsche may have gleaned an understanding of this aspect of geometry from reading Friedrich Zöllner, one of the first physicists to apply Riemann's non-Euclidean geometry to space, rendering it finite but unbounded (Ulfers & Cohen 2008: 79).
[60] The most daring interpretation of Nietzsche on the relation between this new conception of time and the task of taking control of our evolutionary destiny is, I believe, Paul S. Loeb. Loeb claims that, 'Just as the human animal rose above all other animals through its socially inculcated mnemonic control of the future (*GM* II 1), so too the superhuman animal will rise above the human animal through its additional recurrence-enabled mnemonic control of the past' (Loeb 2011: 19). The overman thus indicates a species that, having learned the truth of eternal recurrence, enjoys a new power over time, both past and future. See especially Loeb 2001, 2010 (chapter 7) and 2011.
[61] 1301-2, 'I2'. The question of whether Bergson proposed one or multiple durations is a controversial one, and contributed to the difficulties associated with *Duration and Simultaneity*. For discussions of this, see Ansell Pearson 2002: Chapter Two. It is also important to note in this context the 'founding principle of *durée*' as Paul Atkinson has claimed: that time is 'what hinders everything from being given at once' (Atkinson 2013: 89).
[62] It is important to emphasise that the question of illicit derivations of causes and effects is different from the question of the general derivation of a concept of causality, which I do not address here. Bergson analyses this in his 1900 paper, 'Note sur les origins psychologiques de notre croyance à la loi de causalité' (reproduced in *Mélanges*, 419-428), where he takes issue with the traditional empiricist/Humean interpretation of causation as a habit contracted through observing external phenomena. Nietzsche discusses its origins in our experience of volitional agency.
[63] For a fuller study of the 'causal theory of time', particularly as propounded in Leibniz and Kant, and more recently in Reichenberg and Carnap, see Mehlberg 1980.

[64] Bergson elaborates this in an aside (557-8, *EC*) where he identifies three senses of causality which are often confused: impulsion (as when a billiard ball strikes another), release (as when a lit fuse explodes gunpowder), and unwinding (as when a gramophone plays a record). What he claims distinguishes these meanings is the varying degree of solidarity between cause and effect – the extent to which the quality and quantity of the cause determine the quality and quantity of the effect – and he concludes that only in the case of impulsion can cause be said to *explain* effect, because only there do both quality and quantity of effect *vary* with those of cause (in release and unwinding, the 'cause' merely *occasions an effect that is given in advance*).
[65] 574, *EC*. This representation leads, amongst other things, to the possibility of conceiving that one or several steps might have been mistaken or missed out along the way, generating a misplaced sense of wonderment at natural processes (such as the formation of the eye).
[66] Indeed, Bergson maintains in 'PPPM' that parallelism 'expresses immediately, radically, and simply the requirements of the principle of causality itself, expressed in the simplest possible way' ('PPPM': 65).
[67] See Kolakowski 1985: chapter 7, for how Bergson's elimination of creation *ex nihilo* courted Thomist critique.
[68] 'Harmony among terms that are mutually complementary on certain points is not, in our opinion, produced over the course of their advance by means of a reciprocal adaptation; on the contrary, this harmony is complete only at the start. It derives from an original identity. It is explained by the fact that the evolutionary process, which splays out like a sheaf, effectively sunders from one another, in proportion to their simultaneous growth, terms which were once so complementary that they coalesced' (595, *EC*).
[69] Čapek calls this 'the most delicate, the most difficult, and the least known aspect of Bergsonism' (1969: 303-4).
[70] See 680-95, *EC* and 1338, 'PR'.
[71] 673-4, *EC*. He also describes the two orders in terms of *ascent* and *descent* (728, *EC*), and refers to materiality as a *deficit*, an *abandon*, and an 'entirely negative tendency' (765, 680, *EC*).
[72] 575, *EC*. This point is one on which Bergson can be fruitfully compared with Whitehead, for whom the matter-aspect of the real is an abridged version of the mind-aspect.
[73] *GS* 112, *BGE* 21.
[74] *GS* 357. This does not prevent Nietzsche from placing his own question mark after Kant's thinking of causality: in *WP* 497, for instance, he calls belief in the *a priori* 'truth' of the law of causality one of the greatest 'assumptions until further notice' (*WP* 497).
[75] Richard Schacht, for instance, has objected to the centrality that Brian Leiter attributes to causality in Nietzsche's naturalism, while Peter Kail, in turn, has criticised Schacht for conflating causality with mechanism, and argues that his naturalism can both surpass mechanism and legitimately appeal to causation (Kail 2015).
[76] See also *KSA* 12:4[8].
[77] For a particularly lucid account of how these grammatical errors influence the 'separatist' metaphysics that Nietzsche challenges with an 'identity' metaphysics, see Strawson 2015.
[78] For Nietzsche's attacks on the thing-in-itself, see *TI*, 'Reason' 4, 'Four great errors' 3; *BGE* 21, 281.
[79] Christoph Cox has proposed that Nietzsche's four great errors ultimately propose a world stripped of Aristotle's four kinds of cause (efficient, formal, final and material), which he sees as the 'shadows of God' that Nietzsche wishes to eliminate (Cox 1999: 104).
[80] *GS* 370, *WP* 478. Nietzsche also refers to this as mistaking first for last or cause for effect/symptom: see *GS* 39, 109, 205, 217, 355, 357.

[81] Nietzsche also calls this 'the error of spirit as cause mistaken for reality', and calls this 'alleged empiricism' a 'spiritual causality' (*AC* 39). See also *GS* 127; *BGE* 12, 17 & 54; *WP* 552.
[82] *WP* 551, 561. In *AC*, Nietzsche also describes this error as 'anti-natural causality', and discusses the priest's role in promoting it in opposition to the scientific conception of cause and effect: see *AC* 15, 25 & 49. On this point, Nietzsche appeals to an example concerning dreams which is echoed almost exactly by Bergson: compare Nietzsche at *TI*, 'Four great errors' 4, with Bergson (citing Alfred Maury) at 894, 'R'.
[83] Whether Nietzsche succeeds in this, or even takes a consistent line on it, is another matter. Peter Poellner (2013) has scrutinised the issue in great detail, claiming in particular that Nietzsche takes different positions in different places on the central issue of whether volitional experience can legitimately and directly acquaint us with the quality of force, and that his vacillations and hesitation on it are 'one of the main reasons for interpretive disagreements concerning the will to power' (Poellner 2013: 682).
[84] Nietzsche also expresses this in terms of 'interpenetration' rather than the dismembered succession of cause and effect: 'It is a question, not of succession, but of interpenetration, a process in which the individual successive moments are not related to one another as cause and effect' (*WP* 631). This is a core feature of David Allison's presentation of Nietzsche's world of will to power: see his Introduction to *The New Nietzsche* (1977).
[85] *WP* 627. See also *BGE* 32.
[86] Randall E. Havas (1992: 245) has argued that Heidegger does not so much *condemn* Nietzsche on this point as he does *credit* him for drawing Platonic metaphysics to a climax, while *excusing* him for being unable to be his own best reader (a point Nietzsche himself makes).
[87] *TSZ* I, 'Thousand and one goals'.
[88] *TSZ* is almost a hymn to this quality, expressed consistently through the sun metaphor. See also *TI*, 'Expeditions' 8-10, where he discusses it in terms of intoxication.
[89] Gary Shapiro argues that Heidegger fails to grasp this aspect of Nietzsche insofar as he misunderstands the double meaning that Nietzsche ascribes to 'squandering' (*Verschwenden*). Heidegger, according to Shapiro, particularly towards the end of *Introduction to Metaphysics*, interprets this term in an exclusively 'economic' manner, where the implied sense of wastage and exhaustion lends itself to a 'nihilistic' reading of Nietzsche in which values are seen as 'one more expression of the demand for presence that has constituted the *hybris* of philosophy since Plato' (Shapiro 1997: 284). But Nietzsche, Shapiro claims, more often uses the term to suggest a superior, 'Dionysian' kind of expenditure which manifests in destruction and creation alike, and even serves to account, as Andrea Rehberg argues, for preservation too: 'preservation and expenditure are not simply opposite to one another but […] the economy in which they interact is itself only possible because of life's insatiable desire for expenditure' (Rehberg 1999: 283). (For more on this response to Heidegger, see David Farrell Krell's 'Analysis' in Heidegger 1984.) Shapiro's paper appears in a volume dedicated to a tradition of thinkers who look to logics and practices of gift-giving in the pursuit of alternative kinds of economies, whether political, social or ethical (Schrift 1997). The volume includes discussion of Heidegger's own concept of the *es gibt* of Being, as well as of George Bataille's notion of an economy of expenditure, itself strongly influenced by Nietzsche. It is worth noting in this respect that Bergson was influenced by the conception of generosity he found in Ravaisson's philosophy (see, for instance, 1477, 'VOR').
[90] Prominent appeals to Dionysus and superabundance come at *GS* 370 & 382; *TSZ* III, 'Convalescent' 2; *BGE* 295; *TI*, 'Expeditions' 14 & 49, 'Ancients' 4-5; *EH*, 'BT' 1 & 4, 'TSZ' 6.
[91] Cited in Parkes 2014: 52. See also *TSZ* III, 'Convalescent' 2.

[92] See Jung 1955: 7-8, 144. Deleuze echoes Jung: 'For though the supposition of a real causality may be the simplest way of understanding the phenomena associated with such a composite, its actions and passions, it is not for all that the most convincing or intelligible way. It overlooks the rich and deep world of *noncausal correspondences*. It is possible, moreover, that real causality is established and reigns only in certain regions of this world of noncausal correspondences, an actually presupposes it. Real causality might be merely a particular case of some more general principle' (Deleuze 1992: 326).
[93] John Protevi provides a succinct summary of the impact this innovation would have for ontology: 'by overthrowing long-term determinism in locating innovation, novelty, creativity in matter (albeit in its virtual thresholds), chaos/complexity disrupts the materialism = determinism equation and its concomitant forced choice of monistic materialist determinism or spiritualist dualist freedom' (Protevi 1999: 2).
[94] 704, 709-10, *EC*; 841, 'AC'; 825-7, 'CV'. Čapek (1992) elucidates this in highly concrete biological terms through the notion of the 'amplificatory techniques' used by organisms to marshal material energy towards indeterminate activity. Life can thus be said to manifest, for Bergson, a double disproportionality that contests the proportional correspondence central to speculative causality: the movement of life as a whole overflows its manifestations – nature, as Bergson says in his essay on William James, is 'profligate', always putting more into the cause than the effect would suggest (1441, 'PWJ') – while individuated life appears to invert this by means of non-linear conversions of material energy into indeterminate activity.
[95] 'In Bergson's evolution, as in all volition or causation, there is a retroaction of the present on the past and, after the fact, an ideal reconstruction of becoming' (Jankélévitch 2015: 2). For Fell's analysis of this, see her *Duration, Temporality, Self* (2012), 96-103. These ideas mark Bergson as a precursor of significant aspects of twentieth century physics: they are echoed, for instance, in quantum mechanical concepts like uncertainty, entanglement, nonlocality, and complementarity.
[96] Examples of this abound in *GS* – see aphorisms 9, 10, 40, 54, 57, 233, 348, 354 – but see especially his *tour de force* account of genius at *TI*, 'Expeditions' 44.
[97] See Hume 1978: Book I, Part 3, Section XV.
[98] Griffin 1989: 5. Griffin connects this causal paradigm to a 'sensate empiricism' which has equally defined the modern outlook, and according to which all knowledge originates in sensory perception.
[99] Haldane cited in Bedau 1993: 23.
[100] C.D. Acampora (2004) has indeed presented Nietzsche as negotiating, like Bergson, a position between mechanism and finalism.
[101] Kordela 2007: 31. Kordela takes this insight into politics, via Marx, and psychoanalysis, via Lacan. Spinoza's influence on new materialism is particularly strong on this point: it would appear to inform Karen Barad, for instance, in her pursuit of a kind of causality that is 'intra-actional' rather than 'interactional'.
[102] It should be noted, however, that Bergson and Nietzsche, inasmuch as they seek to decouple a thinking of causality from logico-mathematical frameworks, nonetheless contest another key element in Spinoza's monism, namely the collapsing of any distinction between entailment and causation, according to which the relation between cause and effect is identical to that between ground and consequent (Kemp Smith 1962: 143-4). This identification of causality with logic is perhaps nowhere more clearly stated than in Malebranche: 'A true cause as I understand it is one such that the mind perceives a necessary connection between it and its effect' (Malebranche 1997: 450 (Book 6, Part 2, Chapter Three)).
[103] Cunningham 1916: 654. This accounts for a series of claims on Bergson's part: his insistence on the *intransitivity* of the evolution of life; his protection of an essential margin of

human *ignorance* in attempts to characterise it, which he accuses mechanism of consenting to forget; his claim that there is neither 'life in general' nor universal biological laws (516, 508, *EC*); and his redefinition of the kind of harmony manifested by the vital movement, which is not to be realised in the future (radical finalism) but lies 'behind' us, strewn as the wake of a continuous growth (finite finalism). The future, the 'end', though never *already there* and readable as per speculative causality, can nonetheless be seen as *foreshadowed* in the past insofar as it *dilates* and progressively explains the present.

[104] Drawing the connection between this 'resistant' quality of the will to power hypothesis and the immanent nature of Nietzsche's philosophy, especially in relation to 'meaning-making' or value-creation, is a crucial feature of C.D. Acampora's 2013 account of agonism in Nietzsche.

[105] For an illuminating example of this in the Bergson literature, see Paul-Antoine Miquel (2007) on the evolutionary variation of orchids.

Conclusion

‘For Bergson, as for Nietzsche, philosophy is an activity of incitement
to action, as well as a space for the resolution of that which
underlies action and makes it larger than itself’
(Grosz 2004: 12)

‘There is the hint […] that if man only dared to *imagine* the dazzling
possibilities that life offers he would realise them to the full’
(Henry Miller 1995: 129)

The foregoing chapters have provided a series of comparative perspectives on Bergson and Nietzsche’s philosophical projects, serving not only to display their philosophical kinship, but to elucidate their metaphysical visions according to shared vitalistic origins, applications and results. The contributions of the thesis can be surveyed according to its original aims as stated in the Introduction.

First, it has provided a programmatic comparative study of Bergson and Nietzsche’s philosophical projects by exploring the affinity of their thinking across a comprehensive range of topics. Chapter Two saw them negotiate decisive encounters with epistemology, science and Darwinism, which revealed the similar ways in which responding to Kant provided a pivotal departure point for their philosophical projects, disclosed the critical orientations of their thinking through the concepts of speculation and reactivity, and lay the foundations of their post-physicalist metaphysics. In Chapter Three, an ‘anthroscopic’ – their specific sense of anti-reductionist – framing of problems and a ‘transhuman’ articulation of methodologies revealed their parallel interventions in an important naturalistic strain of post-Cartesian philosophy, their participation in an effort to reverse our ingrained habits of thinking, and highlighted important relations with figures like Spinoza, Heidegger and Bachelard. And Chapter Four discussed Bergson and Nietzsche’s affinity through three central aspects of modern philosophy, indicating their radical ideas concerning the dual nature of the real (in particular the ways in which they each distinguish the living and non-living), the heterogeneous nature of time (especially as it ‘splits’ and ‘circulates’), and the prodigal nature of causality (converging on an ‘overwhelming’ conception of reality).

Second, the thesis has participated in a contemporary, cross-disciplinary attention to life by engaging with a recent return to vitalism and using this to stimulate and direct the comparative study. Chapter One offered a history of the vitalist tradition comprising its origins in Eighteenth Century medicine through its twentieth century demise, disfavour and eventual resurrection, and argued that three sustained concerns can be seen to emerge from this discourse which elevate its significance above the stereotypes which have dogged it: a heuristic appeal to life, an anti-reductionist commitment, and a search for constructive alternatives to reductionist approaches. These themes were in turn used to channel the use of vitalism as an optic through which to view Bergson and Nietzsche's parallel projects: each theme was made a platform for accentuating and focusing the role played by life within their work, and for thereby allowing the various components of their shared metaphysical visions to emerge. In this way, the vitalist grounds played a strongly constitutive role in the comparative study by enabling an appreciation of the ways in which 'life' can be seen to operate as a complex but crucial reference point within their work, helping to articulate the full force and trajectories of their individual philosophical projects insofar as they take their cue from an appeal to life, and framing a comprehensive analysis of their philosophical affinity as philosophers of life.

The theme of a heuristic appeal to life in Chapter Two not only provided the conditions for a series of pivotal encounters, but grounded Bergson and Nietzsche's discernment of a kind of activity that our perceptual habits and scientific interpretations tend to obscure; it is this irreducible kind of activity that they use to challenge the underlying metaphysic of mechanism, and which informs their own post-physicalist sense of metaphysics – an affirmation of intensive movement that is inherently temporal, active and creative. The second metaphysical component to emerge from their comparison under the vitalist optic was that of immanence in Chapter Three. There the vitalist theme of anti-reductionism permitted further articulation of the new philosophical elements proposed by Bergson and Nietzsche, duration and will to power, whose naturalistic processuality and holistic relationality were inscribed within a commitment to immanence that traverses their work, illuminating both their 'transhuman' methodologies and some of the key substantive positions they arrive at on that basis. And Chapter Four, following out the vitalist theme of a search for constructive alternatives to typically reductive interpretations, culminated in the central component of their shared metaphysical visions, prodigality. Advancing a concrete and 'superior' empiricism of the irreducible on the basis of their original discernment of duration and will to

power as irreducible forms of activity, this final vitalist platform saw Bergson and Nietzsche raise anti-reductionism to the ontological level, where it converged on a conception of the real as 'overflowing' (Bergson) and 'superabundant' (Nietzsche)

Lastly, the comparative study of Bergson and Nietzsche through the lens of vitalism can be seen from this vantage point as one of mutual benefit, not only serving to disclose the metaphysical kinship of those two thinkers, but showing how they can be viewed, in turn, as themselves significant figures within the vitalist tradition, especially as that tradition has been re-opened under the 'new vitalism'. What the optic of vitalism has brought into focus within their work, that is, can be said to enrich the vitalist tradition itself. The double moves of engendering with a view to expanding that characterised Bergson and Nietzsche's engagements with epistemology, science and Darwinism in Chapter Two are characteristic of the new vitalists' efforts to reinvigorate the vitalist tradition by re-assessing the crucial moments of life's surfacing in modern philosophy, while their proposal of an irreducible kind of activity by means of an appeal to life thoroughly inscribes them within a tradition of heuristic vitalists who sought non-mechanistic explanations for living phenomena. The convergence of Chapter Three on immanence, in particular as part of an overall effort to replace an ontology of static substance with one of inter-relational processes, contributes to the explicit programmatic concerns of the new vitalism, while the naturalistic bent of their methodologies testifies to the general effort of the life scientists – few more so than Georges Canguilhem – to insist on the specificity and originality of life as an object of study and a curb on scientific abstraction. And the effort to construct an empiricism of the irreducible in Chapter Four, turning largely on an alternative conception of causal processes and a prodigal sense of the real, continues a long-standing focus of the vitalist tradition on challenging orthodox images of causation – up to and including the recent new vitalist interest in non-linear processes, to which Bergson and Nietzsche both contribute.

The metaphysical emphasis of the thesis, despite the framing of Nietzsche's problematic in distinctly moral terms, has largely left to one side a significant element of their work, namely its transformative intent – its desired effect, that is, on how we live. Indeed, both urge us away from false conceptions of transformation – away, that is, from the closed and the ascetic, from the contemplatives and the improvers of humankind – and seek to ground new ones: premised on decisions concerning humanity's future (towards dynamic religion, towards a new relation to the body and the earth), and drawing on sources of creative change

that are as manifest within us as they are immanent to the whole of nature (the *élan vital*, the Dionysian). This is, in fact, the one point on which Bergson acknowledged his kinship with Nietzsche, recognising in him the idea that 'the moral ideal must be sought in the highest possible expansion of life'.[1] As regards Nietzsche's corpus, this topic barely needs introducing: his 'existential' thinking of life – one which situates his engagement with Schopenhauer, his kinship with Kierkegaard, and his influence on figures like Heidegger and Camus – was explored by early commentators like Karl Jaspers and Walter Kaufmann, and has recently been revisited by scholars like John Richardson, Bernard Reginster, and Ashley Woodward. (Nietzsche is also, perhaps more than any other philosopher, frequently assessed in terms of the extent to which he enacted his ideas concerning life in his own life.) And while Bergson himself insisted that his philosophy of change remained neutral in respect of ethical maxims – 'One might just as well imagine that the bacteriologist recommends microbic diseases to us when he shows us microbes everywhere'[2] – the possibility of human renewal and mystical conversion nonetheless sets the stakes of his last book, and has influenced interpreters from William James, Vladimir Jankélévitch and Pierre Hadot, to Frédéric Worms, Leonard Lawlor and Alexandre Lefebvre.[3]

This emphasis on the transformative capacity of philosophy is indispensable to a vitalistic interpretation of Bergson and Nietzsche's work, if not its apotheosis: a liberation of life by means of a thinking of life, a regeneration found not in the discovery of a great beyond, but in probing the nature of life itself with a view to informing new, 'transhuman' kinds of physical and spiritual activity. Indeed, if a metaphysical kind of naturalism provides one of the lynchpins of their philosophical trajectories as described in the preceding chapters, there is a second, overarching kind of naturalism in which their work must be inscribed, namely an Epicurean one, according to which philosophical activity and inquiry is viewed not as an end in itself, but as contributing to a joyful and salutary kind of living. In this lineage of thought, what is at stake is not only an enriched conception of nature, but the cultivation of a kind of philosophical affectivity which is as significant a contribution of Bergson and Nietzsche's work as their metaphysical inquiries, and which binds them to figures like Lucretius, Henry David Thoreau, Gilles Deleuze and, in particular, Spinoza.

In view of this Epicurean strain I want to conclude the comparative study by drawing the core themes of each chapter towards this horizon. Such a move has to tread carefully. For while Bergson and Nietzsche may claim to outflank the naturalistic fallacy on one side by means of

their monistic rapprochements outlined in Chapter Three, they expose themselves, on the other side, to the normative difficulties raised by a commitment to immanence.[4] In approximating this horizon, then, I do not aim to identify any normative codes or injunctions contained in their work, but offer perspectives from which Bergson and Nietzsche's life-inspired metaphysics can be said to incite more life. Rather than identifying a species of 'ought' that would bridge the fact-value divide, that is, I want to suggest how the furthest reaches of their vitalistic tasks help shape a sort of threefold 'exigency of life'.

Life or nothing at all: appeal to life as reductio ad absurdum

> 'It makes me happy that men do not want at all to think the thought of death! I should like very much to do something that would make the thought of life even a hundred times more appealing to them.'
> (Nietzsche, *GS* 278)

If Bergson and Nietzsche both appeal to life with a view to inciting its transformation, this appeal does not deliver solely in the form of concepts like a 'vital interest' or a 'total economy', nor as an ethical component superadded to their metaphysics of life, but by *bringing that incitement into relief* via a reduction to absurdity of all that defiles and devalues life. Their vitalisms, in this respect, operate by means of a crucial 'reduction' of their own, one which grasps in the negative moments of their work a series of critiques compelled to terminate only at the irreducible exigency of an active engagement with life.[5]

In the first instance, this bears on two key targets of Bergson and Nietzsche's work. In Bergson's, it provides the rationale behind his unremitting attacks on parallelism, whose burial of consciousness and freedom under the material world order represents for him the greatest threat to theory of life and theory of knowledge alike. It is no coincidence that he closes two books, *Énergie spirituelle* and *Les deux sources*, with renewed appeals against it, highlighting in the former four ideas which form 'une ligne de défense imposante' and protect its hegemony (972-4, 'CP'), and insisting in the latter that parallelism is responsible for inhibiting both philosophic and scientific maturity (1242-4, *DSMR*). This is why the theme of dualism is so central to Bergson's thinking: parallelism, the quintessential expression of vulgar dualism, can only fall, and a positive conception of life and freedom be salvaged, by means of a new, 'contending' conception of duality. The same concern sustains Nietzsche's antipathy towards the pessimist devaluation of life.[6] For Nietzsche, as Chapter

Three made clear, we speak of values under the inspiration and from the perspective of life, since life itself evaluates through us when we establish values (*TI*, 'Morality as anti-nature' 5). A transvaluation of values thus neither revaluates life itself, nor proposes a new value of life, but rather puts the question of the value of life out of bounds: he calls it an 'inaccessible problem', insofar as 'one would have to be situated *outside* life, and on the other hand to know it as thoroughly as […] all who have experienced it, to be permitted to touch on the problem of the *value* of life at all'.[7] This is why the assessment of pessimism as 'a condemnation of life by the living' diagnoses a sort of vital hypocrisy for Nietzsche, exposing such a perspective as *itself only a value judgement* on the part of *an ailing kind of life*: incapable of saying yes to life, it denies and casts aspersions on it. For Nietzsche, as Chapter Four suggested, the will does not need denied, but revitalised through a new vision of time.

For both philosophers, however, this vitalistic reduction is most forcefully effected through their efforts to demolish the pseudo-idea of *nothingness* and the contradictions of *nihilism*. Bergson's critique of Nothingness indeed intertwines with a general analysis of negation, and provides one of the most refined and devastating arguments in his work, by which he attempts to dissolve the inveterate question as to how something has come from nothing into a pseudo-problem sustained by a pseudo-idea.[8] Detailing the complex operation by which the mind seeks to abolish an object – an abolition achieved by confusing two positive elements, the feeling of a preference, on the subjective side, and the idea of a substitution, on the objective side (733, *EC*) – Bergson claims that the representation of a 'partial nothingness' in fact results from a comparison of one fullness with another (what is and what could be), leading him to assert that *there is more in the idea of nothing than in that of something* (733-7, *EC*). The notion of absolute Nothingness arrives by illegitimately extending this operation to cover a totalised reality, and implies for Bergson an absurdity, insofar as one could only abolish the real by abolishing the intellectual operation of abolishing (he compares this to an image of reality indefinitely chasing itself in a circle (745, *EC*)). For Nietzsche, on the other hand, nihilism is fundamentally a moral opposition premised on a reactive depreciation of 'this world' – that of actuality, becoming, sensuality – and has oriented Western culture since Socrates in the form of an opposition between the worlds of truth and of life: knowledge set against error, appearance, degradation. But Nietzsche also identified in this moral opposition an ascetic contradiction, that subtle, paradoxical undercurrent that runs through *GM* Essay Three. Even the ascetic, he claims, places values in the service of life, but a service that only

preserves and sets limits to life, and a life that is already impoverished. This is why the priestly type held such fascination for Nietzsche, in its suggestion that life must have an interest in preserving something hostile to itself – a life which contradicts life by using power to block the sources of power (*GM* III 11). It is in this way that Nietzsche not only transformed the nihilistic antithesis between real and apparent, but maintained that the 'real antithesis' he would put in its place, that between 'world' and 'nothing', is ultimately a false contest (*WP* 567). There are only different kinds of life-affirmation, oscillating between healthy and sick, tragic and moral. Those who claim to affirm the latter, moreover, are caught up in absurdity: in the final analysis, they would prefer, like Schopenhauer on his violin, to will nothingness than not will at all.

The real force of such critical angles, alongside those of retrospection, speculation, deification and disgregation, consists not only in revealing how we fail to enhance life by indulging in so many existential distortions that cut us off from what we can do, but in leading us to perspectives of irresistible affirmation. As John Mullarkey has argued, Bergson and Nietzsche stand at the head of a modern tradition of 'metaphysical positivism or antinihilism', premised on the idea that 'the Real does not lack anything: it is its own full plenitude in all positivity'.[9] Thus Bergson's reduction to absurdity of Nothingness lands us directly in a plenitude that requires no initial victory over emptiness: in the end we can only compare fullness to fullness; shorn of pseudo-ideas and pseudo-problems, intuition reveals reality as an absolute that acts freely and endures eminently (728-30, *EC*). For Nietzsche, on the other hand, modern nihilism, the event of the devaluation of the highest values, is the event that would bring the history of ascetic nihilism to its logical conclusion, and it is by following this logic, and affirming this cataclysm in an active rather than a passive form – with an 'increased power of the spirit' rather than a 'recession' of the spirit (*WP* 22) – that he would plant us in a moment of 'supreme coming-to-oneself on the part of humankind' (*EH*, 'Dawn' 2). The exigency of value-creation thus comes into relief against the absurdity of the mere negation of all values and evaluation (passive nihilism, pessimism, atheism).[10] Always underlying Bergson and Nietzsche's critical perspectives, in other words, are the prodigal new elements elaborated throughout this thesis: all being is durational for Bergson, all being is power being for Nietzsche (as Galen Strawson puts it, 'The only way to exist without being potent, without being disposed to have an effect on other existing things, is not to exist!'[11]). The attempt to discount and discard time, quality, perspective, evaluation, only reveals more

of the same and the senselessness of the operation: perception is neither 'speculative' nor 'immaculate', yes and no are sterile, beneath the denial of will only a wilful *horror vacui*.[12]

The preceding chapters showed how this basic metaphysical intuition converged on distinct causal perspectives: by cutting away the pre-eminent and external as grounds for the Being of Becoming – whether in the form of abstract unities, static mechanisms or pre-established ends – Bergson and Nietzsche proposed principles of differentiation and production that were *internal* to the real: an 'interruptive' movement constitutive of material individuation, a law of self-overcoming driving the interpretive processes of will to power. As will be further elaborated below, however, their diverse reductions to absurdity can ultimately be seen to open onto more extravagant apotheoses of that same trajectory, the nth degree of the same appeal to life: the transformative exigencies indicated by Bergson under mystical experience and by Nietzsche under Dionysian tragedy.

Naturalism, finitude, immanence: anti-reductionism as embracing indeterminacy

'Vitalism and naturalism are indissociable'
(Canguilhem 2008: 62)

'Immanence is the very vertigo of philosophy'
(Deleuze 1992: 180)

The reduction to absurdity of what devalues life not only raises the stakes of the appeals to life explored in Chapter Two, but runs through Bergson and Nietzsche's methods as outlined in Chapter Three. Here it is their resistance to reductionism, in particular via commitments to naturalism and immanence, that can be seen to incite life. This proceeds, however, not so much by bringing the metaphysical intuitions of plenitude and power-being into relief, nor even by framing reductionism as a negative relation to life through a detachment from its immanence, but by forcing an encounter with indeterminate kinds of finitude. Once again, the inseparability of the critical and constructive paths of their thinking comes into focus here, centred on a distinction between two kinds of naturalism briefly introduced in Chapter Three. Naturalism was raised there as the effort to explain by appeal to finite conditions, and inscribed within an evolving project. It is in fact the evolution and shifting targets of this project that disclose the crucial standard running through it, for the appeal to finite conditions is at once an opposition to transcendent or supernatural standards – myth, theology, afterlives and other worlds – which betray a tendency to put explanation beyond human

comprehension. The commitment to finitude and immanence is thus, more precisely, the expression of a long-standing anti-obscurantist ethos that defines naturalism: one which denies that the universe is infinite in extent and divisibility, and insists that the mind is capable of more than subservience, scepticism or relativism. This spirit runs from Democritus' atoms and Archimedes' sand-reckoning, through the observational and experimental techniques developed by Kepler and Galileo, to the Planck scale of quantum physics and the gravitational loops currently propounded in its most progressive branches. But it is crucial to see how such an appeal to the finite can nonetheless be taken up by different forces.[13]

In some hands, it can be taken in the direction of closing things off. And while Nietzsche's merciless symptomatology might generally be contrasted with Bergson's establishment manners, it is Bergson who is most forceful here. He captures this direction with the term 'all is given', an abstract perspective he identifies as the metaphysical presupposition of mechanism – a mechanism which indeed sits at the ideal limit of such a naturalism. To lay things out, to treat the finite as an invitation to exhaust the real, always invites a reduction of change to the changeless, an elimination of time, a negation of freedom. But this reductionist naturalism is older than modern mechanism, harbouring indeed an anti-naturalism that goes back to Platonic idealism. Bergson traces the abstraction of all-being-given to a 'Platonising' tendency of the mind, the same one he claimed Kant only consolidated in his Analytic of Concepts. And it is in Kant, in particular, that the motivating desire of this tendency is most patently revealed: to delimit the range of the possible, to complete our epistemological inventories, to totalise and have done with. Several figures and ideas, including Kant and the transcendental categories, have taken the finite in this direction, whether by appealing to abstract perspectives or actively delimiting and delineating their contents: the *mathesis universalis* of Newton, the parallelisms and pre-established harmonies of Spinoza and Leibniz, the block universe of spacetime and distaste for non-local action of Einstein, and the genetic reductionisms and dogmatisms of Richard Dawkins and Daniel Dennett.

Bergson and Nietzsche constantly rally against this kind of pseudo-naturalism, by scrambling the abstractions of simultaneity and god's-eye-views in order to pursue finitude in terms of an immanent perspectivism. Both philosophers, that is, strive to show that it is possible to make finite without closing off, but rather with a view to liberating an investigation of the real. The key factor, however, is that their conceptions of the finite are not de-activated, de-

temporalised units susceptible to homogeneous treatment and enumeration, but disclose an irreducible indeterminacy and dynamism. Thus Bergson's durational monism was articulated in terms of its *rhythms*, whose discontinuities nonetheless exhibit a continuity and inherent 'elasticity': a partial closure of the open, a constant opening of the closed. Nietzsche's power monism, on the other hand, was premised on drives, articulated in terms of both their quantal nature – non-atomistic perspectives or 'willing-centres' – as well as their 'pathos' – their necessity of drawing their full consequences at all times in agonistic relations with others. These approaches testify to an effort to straddle the open and processual on one side, and the discontinuous and discrete on the other. Through an emphasis on concrete, situated and temporal phenomena, whether of a psychological, physiological or societal nature, both thinkers thus arrive at a conception of the real as *granular* without being *homogeneous*. Such ideas echo the quantum outlook not only in affirming an indeterminate finitude, but in consequently dissolving the *possible* – which classical determinism sought to exhaust – into open clouds of *probability*.

This is why their naturalisms were called not only anti-reductionist, but 'inflationary', and it is here that the second kind of incitement to life comes into view, in the form of that immanent kind of activity that mechanism can only miss, and that Bergson and Nietzsche's metaphysical hypotheses of duration and will to power were intended to provide. Brian Goodwin has insisted that the 'myth' about particles as 'tiny bits of billiard-ball-like matter that get pushed and pulled about by fields external to themselves' is a hard one to put to rest (Goodwin 1994: 160). Going further, George Kampis has argued that even seemingly progressive conceptions of dynamics, such as considerations of circular, 'self-supporting' processes – of the sort that characterise progressive, non-linear accounts of materiality[14] – only succeed in describing 'how these mechanisms work once established, and do not give account of the very process that produces and re-produces them'.[15] Change does not occur, after all, *because of* the described parameters of a far-from-equilibrium system, any more than it does because of discrete mass particles or mechanical laws of motion. The question that emerges here is whether descriptions of dynamics, even by appealing to disproportion, complexity, or self-regulation, can ever generate a grasp of the processes of production, or whether they merely offer highly elaborate accounts of what is going on without reference to where any of it is coming from, like trying to describe a game of pinball without reference to the person playing it. The immanently prodigal activity characteristic of Bergsonian rhythms and Nietzschean drives, with their finite yet indeterminate nature, can be viewed as attempts

to provide and introduce us to what is missing here: quantal elements which allow us to articulate the real while retaining, rather than reducing to obscurity, the processes responsible for producing and re-producing it. Perspectivism thus relocates activity from the god's-eye-view, where it can only exist as a *reactivity* or 'fossilised residue', to the beating heart(s) of things, where it always manifests a lackless agenda, a desire, an indeterminate and Dionysian determination. It is on this ground that immanence, in Deleuzian terminology, becomes vertiginous, and in such a vertigo that naturalism, tapping into the various pulses and drives of life, can open onto an incitement to life.

Prodigal finalism and the meaning of life

'Everything happens as though the principal function of
the intellect's grip on matter were to *let something*
pass through that matter is holding back'
(Bergson, 650, *EC*)

'I have discovered for myself that ancient humanity and animality,
indeed the entire primal age and past of all sentient being,
continues in me to create, to love, to hate, to infer.'
(Nietzsche, *GS* 54)

That vitalism has traditionally pursued a crack in the law of causation was taken as a guiding thread throughout this thesis. That thread culminated in the finalistic conclusions of Chapter Four, where Bergson and Nietzsche attributed a certain 'direction' to the movement of life, said to create machines for surpassing mechanism by one, and to establish relations of dominance for the expression of power by the other. But this in turn leads to a second relation of vitalism to causation, in which life so conceived is looked to as a normative standard: the effort to penetrate vital activity offers to transform life, in this respect, not by taking up perspective outside of it, but by dissolving us into it with a view to opening up the possibilities of what we can do. This second relation of vitalism to causation thus gives onto a more personal 'meaning of life' modelled on incorporating into oneself the kind of finalism that Bergson and Nietzsche use to characterise life as a whole.

For Bergson as for Nietzsche, and despite the latter's emphasis on ascribing an 'inner will' to force, finalism is something exhibited in the movement of the whole, covering evolution globally: 'external or nothing at all' for Bergson, a general law of re-interpretation and re-creation for Nietzsche. This whole, moreover, in differentiating and passing into parts by

means of an immanent, creative causality, manifests a prodigality: it overwhelms and overflows its manifestations in a way quite contrary, as Bergson observes, to the schematic representations we make of our own action: 'While our own motto is *Exactly what is necessary*, that of nature is *More than is necessary*' (1441, 'PWJ'). As productions of this differential movement, we provide partial views on it: the result of their monistic rapprochements, after all, is that 'the Whole is the same nature as myself'.[16] The channelling through us of this holistic wealth is precisely what Bergson and Nietzsche both indicate in the above epigraphs, in which Bergson detects in intelligence an effort on the part of life to create a passage for its own furtherance despite the resistance of matter, and Nietzsche affirms the presence in him of the whole of organic history.[17] One might conjecture on this basis that a full participation in life would involve facilitating the continued passage and growth of this prodigal, creative movement by replicating its nature, as microcosms to its macrocosm.[18]

In order to fully frame the challenge of human life in such terms, however, we also require a conception of the uniqueness of the human. This is something that Bergson addresses through his contentious claim that the human represents a *raison d'être* of life on our planet.[19] Bergson's position on this matter is far from the kind of humanism that this statement appears to endorse: he insists, in fact, on using the term as only a 'manner of speaking', and for several reasons.[20] In the first instance, the phrase is heavily qualified by the fact that it is inscribed within a finalism whose chief characteristic consists in being worked out as it goes along: for Bergson, as for Nietzsche, finalism is intransitive, limited, 'virtual', such that the human need not be understood here as the pre-determined end of evolution. Rather, according to the movement of life, the human represents a sort of *raison d'être* of life on our planet inasmuch as our species has attained to an unprecedented mastery of matter (719-20, 723, *EC*; 831, 'CV'). There is as such a momentous difference in kind between the animal and human series, in that our brain's capacity to form motor habits and our intellect's capacity to think materiality in formal and flexible ways represents the possibility, for apparently the first time, of an *indefinite* increase in margins of freedom.[21] In Keith Ansell Pearson's words, 'with the human animal the life of consciousness reaches its highest state of emancipation from the restricted movement of matter'.[22]

The human, in other words, is posed not as the ultimate end of life's evolution, but as the hitherto highest expression of its definitive tendency: the most successful machine for overcoming mechanism.[23] But these terms also formulate a challenge that is ongoing.

Incorporating life's finalism within us, that is, translates as the requirement of making experimental machines of ourselves, calibrating and positioning ourselves in such a way as to permit life's movement to pass through us. The challenge of life is not to solve oneself as a self-referential jigsaw puzzle, that is, but to gear oneself as a conduit of the flux of creative prodigality. This is why both philosophers urged mereological reversals towards holistic unities, whose internal harmonies and productivity can be seen from this normative perspective to assist in the passing through oneself of a broader creative movement – one which discordancy and disgregation would only serve to clog. This was particularly borne out in the Nietzschean notion of sublimating the drives towards a superior morality. Crucial to these unities, moreover, was their decentring and impersonalising of the self and human agency – made relational, inasmuch as multiplied, as well as instrumental, inasmuch as aimed at allowing something greater to pass through. It is in the form of such hierarchised wholes or 'total economies', in which everything is incorporated and nothing repressed or falsified, that we permit of an affirmative evolution of ourselves and feed into a continued evolution of life in general. Both philosophers are conscious of the difficulty and risk of such enterprises: attaining to greater levels of complexity with a view to superior experiences of freedom takes us to edge-of-chaos conditions, and entails higher levels of vulnerability. For Bergson it involves 'a real physical paradox and […] near-exhausting effort' ('PPPM', 67), while Nietzsche recognises in the genius 'the sublimest machine there is – consequently the most fragile' (*WP* 684). For both, however, this exhaustion and fragility are at once the price and pathway of a creative and open approach to living, whether in the part or the whole.

Both philosophers are explicit as to the ultimate reaches of such machines, as indicated earlier. For Bergson, it is the open soul able to make the leap to universal love – the *élan vital* reinterpreted, in John Mullarkey's words, as an *élan d'amour*, lived as an emotion of indefinite creativity and untrammelled giving.[24] This is attained in those spirits he calls mystics, who also represent the transhuman renewal of our spirit of invention that Bergson appeals for at the end of his last work: a shift away from its hitherto mechanistic expression – whose essential staticism and closure aim at dominance and law, misusing the intellect in failing to view its operations in the service of life and not at its helm – towards a dynamic and open form that draws on 'the indigenous divinity of impersonal life'.[25] For Nietzsche, it involves not only attaining to 'the virtue that gives' through a Dionysian relation to one's drives, but ultimately approximating the soul who 'falls in love with becoming',[26] dramatised in Zarathustra's love for personified Life in the culminating passages of *TSZ* (as John

Richardson has argued, Nietzsche's love for life is *erotic* in the sense of being 'inspired by and directed at life's beauty, not its truth or moral rightness' (Richardson 2013: 781). This love, moreover, can be seen as reciprocal with an affirmation of the *innocence* of becoming, that radical, extra-moral facticity revealed when life is viewed from beyond good and evil; it is in this sense, more precisely, an *amor fati*.

But equally so, both philosophers project these ultimate reaches of human life as enfolding within themselves the broader movements of life. Bergson indicates the continuity between the mystical way of life and his metaphysics of life in his 1901 paper on psychophysical parallelism and positive metaphysics. Identifying the very concrete separation between the physical and the psychical, he claims, not only illuminates the progressive 'contension' of the material and immaterial through the evolution of life, but also opens the way for an increasingly better understanding of the precise relation between 'man the thinking being' and 'man the acting being'.[27] This, in turn, highlights 'the very special kind of limitation that life gives to our thought' ('PPPM', 67), and urges us to consider how this might be transgressed. Bergson's answer envisions an indefinite increase in the fertility and force of *spiritualism*: the human mystic, in this sense, can be understood as pushing this limit precisely by pushing the human 'disposal of duration' towards its own ideal limit – that of an experience of eternity (1419, 'IM') – whence it would issue in an empowered kind of action. As David Lapoujade has argued, there is in the mystic way of life a life-changing opening of history: 'now it is the depth of our past that operates in the manner of a vocation, passing completely into action, as a function of its own requirements and no longer because of material or social requirements [...] The present becomes a bridge between our deepest past and our most personal future'.[28] In Nietzsche, the ideal of human self-overcoming is not only modelled on the law of overcoming proper to life itself, as well as the need to provide a salutary alternative to the hitherto predominant ascetic ideal and to counter reactive evolutionism by instantiating excess over preservation, but is incited by the eternally recurring temporality of cosmological reality. The teaching of eternal recurrence is in this respect so fundamental to Nietzsche, providing a centre of gravity with regard to this historical task (*WP* 1053), precisely because its experience dissolves the inhibitive notion of time as 'it was' and instils in us instead a stimulating sense of the endlessly creative and 'redemptive' dynamic in which we participate.

Lastly, both philosophers ultimately portray these upper, creative reaches of organic life in terms of a certain 'return to nature'.[29] This was already discussed in Chapter Four concerning Nietzsche, where returning to nature means attaining to a certain kind of functioning, but a broader point can now emerge that unites them in a unique way. In effect, both philosophers attribute a certain 'truth' to the inorganic world, and understand organic life as involving a sort of deviation from this, in the form of choice or 'discernment' in Bergson, and 'error' in Nietzsche.[30] This deviation consists in a perspectival limitation effected by the living being, coming in the service of creating a margin of indeterminacy – of advancing life's aims, that is – but considered by both philosophers to involve important sacrifices. For Bergson, the material world of pure perception is characterised by the capacity of any given material point to perceive the influence and action of all other material points (in this he is curiously close to Leibniz).[31] For Nietzsche, on the other hand, organic indeterminacy contrasts with the 'exactitude' that prevails in the inorganic or 'dead' world: as Eduardo Nasser has argued, perspective and perception are said to coincide in the latter, insofar as 'a force centre perceives the other forces from the perspective of its own level of power' (Nasser 2015: 234), rather than through the error of 'compassion' that Nietzsche thinks is necessary for holding together the multiple wills to power that compose complex organic structures. This in fact gives onto a series of unique perspectives on the meaning of death for both thinkers. Given their rapprochement of the organic and inorganic, both can see in death something continuous with life rather than an interruption or terminal end to it. Bergson frequently entertains the possibility of life after death and of disembodied life in the essays composing *ES*, and the idea crowns his rousing description of the *élan vital*'s progress in *EC*, in which humanity is compared to a cavalry charge beating down all obstacles, and perhaps capable, one day, of beating down death. Nietzsche, as Nasser continues, considers dying a 'feast' in which the living being is freed from the errors that, in defining its life, also cause its suffering; the transition from organic to inorganic thus represents a certain advancement, a 'reconciliation with the actual'.[32] The ethical corollary of these thoughts is expressed in his desire to convert the 'stupid physiological fact' of death into a 'moral necessity', meaning to live in such a way that one can also '*will at the right time to die*'.[33]

More importantly than the meaning of death, however, the notion of a return to nature allows their ultimate perspectives on the 'meaning of life' to be framed.

Bergson and Nietzsche's vitalisms pose the challenge of realising a superior freedom that is always there in potential but rarely realised in action. Too often we lack the required effort, remaining 'badly analysed', obfuscated by spatial representations, moral inhibitions, temporal misgivings. In the face of the challenge presented by the complexity and multiplicity of our constitution, we retain a naïve and perhaps frightened proclivity towards the lesser degrees of our humanity, not so much trusting instinct over intelligence as seeing in those conditional, preservative and instrumental aspects of our nature a goal, a path to fulfilment: inventing under mechanism, uniting under religion. Bergson and Nietzsche both see the superior degree of the human in a creative approach to our own finitude, and inscribe this estimation of creativity within a larger cosmology: it serves to perpetuate the creative movement of life by replicating it. The openness to which Bergson and Nietzsche aspire is thus also a desired effect, something redoubled when we live a certain way and allow a general openness to traverse us. We perpetuate these things, that is to say, not by capriciously pursuing spontaneous acts, but rather in virtue of a reversal which sees the new and the free experimentally bred out of machine-like forms of living: 'L'invention n'est jamais qu'une variation sur le thème de la routine' (718, *EC*). Founded on a wholescale, hierarchised affirmation of what we are, conscious and unconscious, sub- and trans-human, such machines are progressively able to draw more than appears to be contained, to see that becoming what one is implicates the becoming of all one isn't. The effort towards superior freedom thus consists in deepening our contact with our virtuality, sounding and exploring those reaches, planes and dimensions of our existence that the practical exigencies of living force us to ignore or filter out. This turning inwards towards our own complex necessity in order to transform our outward action – the criterion of truly religious living for Bergson, who found the contemplative tradition of Eastern mysticism wanting – is the human's sole purchase on freedom, our possibility of reducing surplus suffering if not suffering itself. This, indeed, is precisely what Nietzsche's man of *ressentiment* fails to grasp: his suffering of outward necessity leads him to search inside for an innately free will that would somehow compensate his disempowerment, but only cuts off the source of his own liberation. It is perhaps in this hiatus, between the complex multiplicity of a human life and its 'returning to nature' through experimental configurations that raise it to higher levels of freedom – what Nietzsche called 'higher organic systems' (*GS* 113) – that the ultimate affect of human life might consist, that which both Bergson and Nietzsche's philosophies seek most to incite: joy.

[1] Bergson 1972: 1180.
[2] Bergson, cited in Ansell Pearson 2002: 125.
[3] See especially the second appendix to Jankélévitch 2015 ('With the Whole Soul'); the first appendix to Lawlor 2003 (in which he reads Bergson's *Two Sources* as 'an archaeology of originary experience' that draws him close to Nietzsche's genealogical philosophy, and raises some of the same issues explored by Ansell Pearson & Urpeth 2012); Gunter 1992; and Florence Caeymaex, *Sartre, Merleau-Ponty, Bergson: les phénoménologies existentialistes et leur héritage bergsonien* (Hildesheim: Georg Olms Verlag, 2005). Pierre Hadot found in Bergson 'the idea of philosophy as transformation of perception' (cited by Lefebvre in Jankélévitch 2015: Introduction, xvii).
[4] This point has informed critics of new materialism. Paul Rekret (2016), for instance, argues that a tendency to collapse the ontological and the ethical – by both framing the grounds for ontological speculation in the ethical terms of an 'attunement' to materiality and simultaneously portraying critique as anthropomorphic and conceited – permits thinkers like Jane Bennett, Rosi Braidotti and Karen Barad to sidestep any questioning of the conditions of thought, in particular the social forces that determine thought. Nietzsche's susceptibility to the naturalistic fallacy is explored well in Richardson 2013. His susceptibility to the genetic fallacy on the other hand – the conflation of something's value with its origins – is discussed by Solomon (2003: Chapter Two).
[5] For Bergson on the negative force of one's philosophical intuition, see 1347-8, 'IP'. Richard Schacht likens Nietzsche to Wittgenstein in his tendency to undermine and discredit rather than refute (Schacht 1983: 3-4).
[6] Bergson too attacks pessimism, which he sees as the foundation of 'contemplative' religions like Buddhism and Hinduism: these religions posit life as a form of suffering, and, since death can only offer a reincarnated perpetuation of the same, claim that escape from this can only come by means of meditation and the elimination of desire.
[7] *Ibid.* Alain Badiou has grasped quite succinctly how this point of Nietzsche's influenced Deleuze's conception of ontological univocity, and the sense in which immanence allows for life to serve 'as a name of being': 'This is why Deleuze is the one who thinks through one of Nietzsche's fundamental ideas with the greatest profundity. […] Life, as Nietzsche says, cannot be evaluated, which also means: there is no life of life, because it is only from the standpoint of a life that a being can be evaluated. This is univocity: there is no being of being. And if "life" can serve as a name of being, it is because there could never be a life of life.' (Badiou 2000: 195)
[8] 745, *EC*. Bergson's critique has an interesting precedent in Duns Scotus: 'The very odd assumption here, spelt out clearly enough elsewhere by Scotus, although never defended, is that it is non-existence, rather than existence, that somehow needs explaining: "Nothing can not-be, unless something positively or privatively incompossible with it can be"' (Scotus, cited in Cross 2005: 223).
[9] Mullarkey 2010: 32.
[10] Nietzsche also describes what comes into relief here as a higher, 'Dionysian' form of pessimism: see *GS* 370, and *BT*, 'Attempt' 1.
[11] Strawson 2015: 33.
[12] For Nietzsche on 'immaculate perception', see *TSZ* II. On the *horror vacui* of the human will, see *GM* III 1.

[13] Or what Hilary Putnam, on the basis of a similar distinction between an 'internalist' and a 'God's Eye' point of view, calls two different 'philosophical temperaments' (Putnam 1981: 49).
[14] For example feedback loops, whether 'negative' (involving mutually stabilising causes, as exemplified by the thermostat) or 'positive' (involving mutually intensifying causes, as exemplified by spiralling arms races.
[15] Kampis 1991: 352. This is because, Kampis claims, the tools of dynamics were actually developed, originally, to describe such a view of things, having been 'tailored' for the purpose of expressing the atomistic properties of systems.
[16] Kolakowski 1985: 70.
[17] See also Bergson in 'PPPM': 'I cannot envisage general evolution and the progress of life throughout the organised world […] without arriving at the conclusion that life is an immense effort made by thought to obtain something from matter that matter does not want to give up' (67). See Nietzsche in *TI*, 'Expeditions' 33 & 44, and *GS* 1 & 360.
[18] To borrow from Arthur Berndtson: 'The creature may be said to be most fully the result of creativity when, by its character and being, it advances future creation' (Berndtson 1975: 4).
[19] 720, *EC*, and again at 1300-1, 'I2'. Bergson insists on using this term as a 'manner of speaking' (581, 652, 720, *EC*).
[20] Such a naïve humanism, moreover, is implicitly rejected by Bergson's transhumanist orientation – philosophy, as Chapter Three made plain, must consist in the effort to go beyond the human condition – and by his break with the philosophy of Spencer.
[21] 'The faculty of animals to form motor habits is limited. But the human brain accords Man the power to learn an infinite number of "sports".' This leads Bergson to call man 'the sporting animal' and the brain 'an organ of sport' ('PPPM', 68).
[22] Ansell Pearson 2005a: 68.
[23] In *DSMR*, Bergson articulates the significance of the human line of evolution in terms of the species' ability to instantiate a particular ethical state, namely openness. This ethical perspective was already indicated in *EC*, where Bergson claims, somewhat in passing, that the human only represents a *raison d'être* of life on earth by virtue of its 'moral' form – a form which might well have been assumed by another kind of being (721, *EC*).
[24] Mullarkey 2010: 41. See Bergson 1006-7, *DSMR*.
[25] Ansell Pearson & Urpeth 2012: 26. See Bergson 1239, *DSMR*. On the relation between mysticism, creation and the nature of divine love, see 1189-92, *DSMR*.
[26] *KSA* 10:20[10], cited in Thomä 2015: 266.
[27] It is by restricting spiritualism to extremely narrow boundaries that he thought we could 'indefinitely increase its fertility and its force', allowing us, by studying this limitation, 'to find, with increasing accuracy, in which direction we should make an effort to transcend it' ('PPPM', 63). It is worth noting that the title of *EC* Chapter Three is 'De la Signification de la Vie'. Frédéric Worms argues otherwise, claiming that Bergson moves the destiny of the human away from metaphysical theory and towards mystical practice: '[*DSMR*] shows how, in the case of the mystics, the human mind can, and did, achieve the experience of openness, not by pretending to have any contemplation whatsoever of God, but by acting in the direction of an open morality. […] For the first time though […], it is not the philosopher's intuition that prevails: *the summit of time thinking is not in the thinking of time, but in the opening of history*.' (Worms 2005: 1231). While it is true that the mystic is propelled by something other than a metaphysical thinking – Bergson notes, for instance, that 'les mystiques laissent de coté ce que nous appelions les "faux problèmes". On dira peut-etre qu'ils ne se posent aucun problème, vrai ou faux, et l'on aura raison' (1188, *DSMR*) – this does not mean, however, that Bergson's broader metaphysics of life is not here at play.

[28] Lapoujade 2005: 1154. Lapoujade's essay provides a rather Nietzschean take on Bergson's last work, depicting the intellectual life as a sort of sickness and the mystical life as the path towards a new health. This emphasis on illness also informs François's (2007) comparison of Bergson and Nietzsche.
[29] It is in this context that the echo of Ravaisson in Bergson and Nietzche's work is clearest: 'The history of Habit represents the return of Freedom to Nature, or rather the invasion of the domain of freedom by natural spontaneity' (Ravaisson 2008: 77).
[30] It is worth noting, however, that both figures acknowledge that excessive attention to the 'truth' of the inorganic is a threat to the organic: this is seen in Bergson's understanding of déjà vu in 'FR', and in Nietzsche's observations concerning the salutary functions of forgetting.
[31] 'To perceive all the influences of all the points of all bodies would be to descend to the level of a material object. To perceive consciously means to choose, and consciousness consists above all in this practical discernment' (198, *MM*). By starting with the hypothesis of pure perception, Bergson is able to frame the question of conscious perception in terms of a practical limitation of what would by rights perceive all (see 187-8, *MM*). See §14 of the *Monadology* in Rescher 1991, plus commentary; see also Leibniz's Letter to Arnauld of October 1687 (G., II, 111-29) in Leibniz 1969.
[32] Nasser 2015: 234-5, citing from *KSA* 9:11[70 & 125] and 11:4[177]. Nasser draws heavily on *Nachlass* material to make these points.
[33] *WP* 916. For a nuanced study of how Zarathustra enacts this will, see Loeb 2014-5.

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