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Hegel and Spinoza on the Philosophy of Nature

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In memoriam

David Kay, 1954-2016

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Declaration

I declare that this thesis does not include any material previously used or published by me before. Further, this thesis is wholly my own work and has not been submitted for a degree at another university.

Abstract

This study argues that the exploration of Hegel and Spinoza's philosophies of material Nature yields a more compelling critique of Spinoza's thought than either Hegel himself or commentators have recognised. Rather than attempting a full comparison of Hegel and Spinoza's accounts of material Nature, this study focuses on elaborating a critique of the deficiencies found, from a Hegelian standpoint, in Spinoza's account of extended Nature. This study argues that the Hegelian critique of Spinoza's theory of extended Nature takes at least two major interrelated forms. Firstly, this critique suggests that Spinoza does not adequately derive the necessity of Substance's existence as Extension, as motion and rest, and as finite bodies. This is demonstrated in this study through an account of Hegel's immanent development of Nature as such and its mechanical forms from the conclusion of the *Science of Logic*. Secondly, this critique suggests that Spinoza's mechanical and quantitative conception of the broader picture of material Nature is inadequate. This is demonstrated through an account of Hegel's critique of any purely mechanical conception of the natural world, arguing instead that Nature is necessarily driven through a series of qualitatively different stages including the chemical and organic. This study makes an original scholarly contribution through its investigation of the Hegel-Spinoza relationship in the specific context of their philosophies of material Nature, an aspect of this relationship previously unexplored. This study thereby makes the first step in the expansion of the scholarship of the Hegel-Spinoza relationship into this new area, opening a promising new avenue for future work on these great philosophers

Chapter 1 - Introduction

We find Hegel's most detailed and wide-ranging discussion of Spinoza in his *Lectures on the History of Philosophy*. Here Hegel attempts to exhibit the development of philosophy as a rationally connected "organic, progressive whole"¹, within which the series of philosophies, far from presenting to us only a series of mistakes to be superseded, in fact shows us the "absolutely necessary" and "essential"² stages of the process by which thought gradually gains "further immersion in and a fuller grasp of the Idea itself"³ and eventually makes Hegel's own standpoint of absolute idealism possible.

However, even within the context of this progressive theory of the history of philosophy, which acknowledges a contribution to the overall progression by each thinker along the way, Spinoza receives special praise. Hegel goes so far as to remark that Spinoza's theory of the unity of all reality in Substance is not only "in the main true and well-grounded", but "the foundation of all true views." Indeed, "to be a follower of Spinoza is the essential commencement of all Philosophy" in the sense that the process of philosophical thinking must pass through Spinozism, liberating itself by "bathing in this ether of the One substance" into which all particularity disappears.⁴

Hegel holds in highest esteem Spinoza's ability to "renounce all that is determinate and particular, and restrict himself to the One, giving heed to this alone."⁵ Indeed, Hegel identifies the thought of the One, the unity of all things in the Absolute, and the commitment to conceiving all things in the context of this unity, as the fundamental insight and key contribution of Spinoza's philosophy. As Macherey points out, it is clear that "for Hegel ... there is something exceptional and inescapable in Spinoza's philosophy" in that Spinoza gives, for

¹ Hegel, G.W.F. (1995). *Lectures on the history of philosophy: Volume One* Lincoln: University of Nebraska Press. p.7

² Ibid. p.19

³ Ibid. p.41

⁴ Hegel, G.W.F. (1995). *Lectures on the history of philosophy: Volume Three*. Lincoln: University of Nebraska Press. pp.257-258

⁵ Ibid.

the first time, a fully developed expression of the unity of thought and the Absolute and “thus all philosophy, all of philosophy, becomes possible.”⁶

However, while Hegel praises Spinoza’s commitment to a full-blooded philosophy of the Absolute, he also argues that Spinoza’s conception of the metaphysical architecture of Substance generates severe problems when it comes to developing determinations from this absolute unity. As we shall see in more detail in chapter two, Hegel argues that Spinoza’s philosophy serves to undermine the reality of everything but the Absolute, and identifies Spinoza’s lack of a Hegelian conception of negativity and dialectical movement as the cause of this central issue.

Recent scholarly interest in the Hegel-Spinoza relationship has largely focused on forming a defence of Spinoza against Hegel’s critiques. Concerning the issue of determinacy, Melamed has played a prominent role, dedicating significant thought to arguing against the acosmist reading of Spinoza’s position suggested by Hegel.⁷ Della Rocca has similarly pushed back against Hegel’s reading of Spinoza as doing away with the reality of the finite and of the attributes as mere conceptions of the intellect.⁸

Due to taking the form of individual articles, this recent work has been limited to a piecemeal response to Hegel, pointing out and disputing misinterpretations rather than forming a systematic Spinozist rejoinder to Hegel’s thought more broadly. This is one reason why Macherey’s *Hegel or Spinoza*⁹ (1979) remains the *magnum opus* of scholarship on the Hegel-Spinoza relationship. In *Hegel or Spinoza*, Macherey constructs a wide-ranging interpretation of Spinoza’s thought which aims not only to refute Hegel’s misinterpretations, but also to present Spinoza as “the true alternative to Hegelian philosophy.”¹⁰ Against the dialectic of Hegel’s Idea, moved forward in an (in Macherey’s reading) inescapable teleology through its internal negativity,

⁶ Macherey, P. (2011). *Hegel or Spinoza*. University of Minnesota Press. p.13

⁷ Melamed, Y. (2010) ‘Acosmism or Weak Individuals? Hegel, Spinoza, and the Reality of the Finite’. *Journal of the History of Philosophy*, Volume 48, Number 1, January 2010, pp. 77-92; Melamed, Y. (2011) ‘Why Spinoza is not an Eleatic Monist (Or Why Diversity Exists)’. In *Spinoza on Monism*. Ed. Goff, P. Palgrave Macmillan Limited.; Melamed, Y. (2012) “‘Omnis determinatio est negatio’: determination, negation, and self-negation in Spinoza, Kant, and Hegel’. In *Spinoza and German Idealism*. Eds. Forster, E. & Melamed, Y. Cambridge University Press.

⁸ Della Rocca, M. (2012) ‘Rationalism, idealism, monism, and beyond’. In *Spinoza and German Idealism*. Eds. Forster, E. & Melamed, Y. Cambridge University Press.

⁹ Macherey, P. (2011). *Hegel or Spinoza*. University of Minnesota Press.

¹⁰ *Ibid.* p.12

Macherey poses Spinoza's Substance as an absolute and infinite causality, free of negativity or teleology.

The challenge to Hegelianism posed by *Hegel or Spinoza*, in the form of both Macherey's rebuttals of Hegel's reading of Spinoza and the metaphysical alternative presented by Macherey's portrait of Spinozism, still lacks a developed answer, and this lack has only gained renewed urgency from more recent work continuing to push back against Hegel's interpretation of Spinoza. This study will begin to address this absence of a Hegelian response, but not through a direct reply to the work of Macherey or more recent scholars. As we shall see in the next chapter, Hegel pitches the problem of deriving determinacy from Substance at a general and highly abstract level. Significantly, the response to Hegel, whether from Macherey or more recent scholarship, has stuck to this abstract level of discussion chosen by Hegel. However, there is no need for the exploration of the Hegel-Spinoza relationship to be limited to the comparison of their conceptions of the Absolute and its relationship to determinacy taken in total abstraction. Rather than sticking to the ground occupied by the direct commentaries in Hegel's *Science of Logic* and *Lectures on the History of Philosophy*, this study will explore the Hegel-Spinoza relationship in the context of the developed Hegelian system, something not carried out in existing scholarship.

Both Macherey's work and more recent scholarship have made it clear that a Hegelian critique of Spinoza cannot rest solely on Hegel's direct comments, particularly when it comes to his reconstruction of the detail of Spinoza's philosophy. However, from a Hegelian perspective, regardless of the accuracy or otherwise of Hegel's reading of Spinoza's philosophy, the only true critique of Spinozism lies in the fully developed system of absolute idealism. That is, the demonstration that the Absolute is Idea, not Substance, can only consist in concretely *showing* that the Idea immanently produces all reality through the cyclical self-unfolding of its content, and not just in its abstract, purely logical form, but as the full richness of Nature and Spirit. It must be shown in detail how, in Hegel's words, the world "is created, is now being created, and has eternally been created" by the eternal Idea.¹¹ Hegel's direct comments on Spinoza can thus at most serve to point to the central themes of the

¹¹ Hegel, G.W.F., Miller, A.V. (2004). *Hegel's Philosophy of Nature*. Oxford University Press. §247, Zusatz

fully developed critique of Spinozism which is implicitly carried out through the course of the elaboration of the system of the Idea as a whole (and the same goes for every other philosophical standpoint).

This study will not attempt to defend the detail of Hegel's reading of Spinoza's philosophy. Rather, it will make a first step toward the elaboration of a fully developed Hegelian critique of Spinozism which goes far beyond Hegel's explicit comments, and as a result can be critical of Hegel's misinterpretations while arguing forcefully for the absolute idealist position. Hegel's work on the spheres of Nature and Spirit yields a wide array of possible avenues for a critique of Spinoza's thought, including politics, the passions, the relationship of mind and body, and religion. However, this study aims to make an original contribution to scholarship by bringing Hegel's account of material Nature into dialogue with Spinoza's, and thereby developing a Hegelian critique of Spinoza's philosophy of extended Nature.

Hegel neglected to discuss Spinoza's theory of extended Nature in any depth, curtly dismissing it in his *Lectures on the History of Philosophy* as a "weak point" appearing "at the extreme limit of Spinoza's system"¹² and mentioning Spinoza barely at all in the course of the *Philosophy of Nature*. However, it will be argued below that Hegel's account of Nature provides the resources for a much more fruitful and compelling Hegelian critique of Spinoza than can be gained from the general remarks sketched in Hegel's direct comments alone.

Specifically, it will be argued that, from a Hegelian perspective, there are at least two major deficiencies in Spinoza's account of extended Nature. Firstly, there is the issue of determinacy focused on in Hegel's remarks in the *Lectures on the History of Philosophy*, namely the problem of deriving attributes and modes from the Substance. In the context of the philosophy of material Nature, this is the issue of deriving the existence of extended Nature as such and its most fundamental determinations from the Absolute. In chapters two to five we will set out the core metaphysical architecture of Spinoza's system, along with Hegel's critique of this, before constructing an interpretation of Spinoza's account of Substance's existence as Extension, as motion and rest, and as finite bodies, leaning heavily on the work of Macherey and Melamed among other scholars. In

¹² Hegel, G.W.F. (1995). *Lectures on the history of philosophy: Volume Three*. Lincoln: University of Nebraska Press. p.273

the course of this, we will point out elements of Spinoza's system misread by Hegel, but also aspects of Spinoza's account of extended Nature which remain, from a Hegelian perspective, seriously inadequate. In chapters six to nine we will then develop a fuller Hegelian critique of the inadequacies of this Spinozist account through a demonstration of Hegel's immanent derivation of the existence of the Idea as Nature and its fundamental determinations.

Secondly, bringing Hegel's philosophy of material Nature into dialogue with Spinoza's highlights the importance in Hegel's account of the metamorphosis of the forms of Nature through a series of stages, in comparison with the 'uniform' character of Spinoza's view of extended Nature. As we will discuss in chapter four and then build on in chapter ten, Spinoza takes a strictly mechanical view of extended Nature, arguing that all bodies, from rocks to animals, are constituted by patterns of motion and rest, varying only in *quantitative* complexity. However, in chapter eleven it will be argued that Hegel's *Philosophy of Nature*, through its demonstration of the necessary development of *qualitatively* distinct stages of Nature functioning through irreducibly different principles, such as the mechanical, chemical and organic, provides an implicit critique of what are, from a Hegelian point of view, deep deficiencies in Spinoza's view of Nature. This Hegelian account of the structure of Nature includes the mechanistic concepts articulated by Spinoza, but ultimately shows these to necessarily sublate themselves, developing into physical, chemical and organic forms of being which are beyond the conceptual scope of Spinozism. From a Hegelian viewpoint, the *Philosophy of Nature* thus raises compelling questions as to the fitness of Spinoza's quantitative and mechanical conception of Nature's forms to account for the real qualitative development necessary to the natural world.

The originality of this study's contribution to scholarship will consist primarily in its using Hegel's account of Nature to set out a previously neglected way of critiquing Spinoza from a Hegelian viewpoint. This is an original approach not carried out in previous scholarship. Indeed, the philosophy of material Nature is an aspect of the Hegel-Spinoza relationship scarcely touched upon in existing work on these thinkers.

Secondarily, this study's discussion of Hegel's *Philosophy of Nature* presents an opportunity to expand our understanding of Hegel's work on

Nature. Hegel's *Philosophy of Nature* is a much-neglected text due to the historical unpopularity of Hegel's work on Nature and the difficulty of interpretation faced by those who take this highly complex and conceptually demanding text seriously. Though scholars such as Hahn¹³ and Pinkard¹⁴ have discussed selected elements of the *Philosophy of Nature* in connection with other topics, in anglophone philosophy there have thus far been only a handful of essay collections and book-length studies focused on it.¹⁵ This study's examination of the *Philosophy of Nature* will not be comprehensive or exhaustive, but will be more detailed than is the case in much of the existing secondary literature. Further, as will be explained in more detail in chapter six, this will be a strongly metaphysical reading, differentiated from those given in much existing work on this topic. Thus, as part of formulating a Hegelian critique of Spinoza's philosophy of material Nature, this study will contribute to the expansion of the scholarship on what is arguably currently the least well-understood part of Hegel's philosophy.

Before concluding this introduction, some limitations to this study must be acknowledged and underlined. Most obviously, it is beyond the practical scope of a study of this length to conduct a comprehensive comparison of Hegel and Spinoza's philosophies of material Nature. This has already been alluded to above in this study's stated focus on developing a Hegelian critique of two major issues in Spinoza's theory of extended Nature. However, the further limitation should be made explicit that this study will only be elaborating a Hegelian response to what are, *from a Hegelian point of view*, deficiencies in Spinoza's thought. That is, this study should not at any point be understood to claim to show definitively where the deficiencies in Spinoza's thought actually *are*, in the sense of pointing out flaws in a way which leaves no space for a Spinozist response. Rather, this study should only be understood as elaborating a

¹³ Hahn, S. (2007). *Contradiction in Motion: Hegel's Organic Concept of Life and Value*. Cornell University Press

¹⁴ Pinkard, T. (2012). *Hegel's Naturalism: Mind, Nature, and the Final Ends of Life*. Oxford University Press.

¹⁵ Houlgate, S. (ed.) (1998). *Hegel and the philosophy of nature*. Albany: State University of New York Press.; Cohen, R. and Wartofsky, M. (eds.) (1984) *Hegel and the Sciences*. Springer Netherlands.; Petry, M. (ed.) (1993) *Hegel and Newtonianism*. Kluwer Academic Publishers.; Stone, A. (2005). *Petrified Intelligence: Nature in Hegel's Philosophy*. State University of New York Press.; Burbidge, J. (1996). *Real Process: How Logic and Chemistry Combine in Hegel's Philosophy of Nature*. University of Toronto Press.

previously unexplored avenue for the Hegelian critique of Spinoza, setting out a fruitful and compelling way of critiquing Spinoza *from a Hegelian standpoint*. This study does not aim to present the last word in the Hegel-Spinoza debate on *any* of the issues discussed below, but to make a first step in the expansion of the scholarship of the Hegel-Spinoza relationship into the new territory of the philosophy of material Nature. A Spinozist reply, far from being ruled out, would be a natural expansion to this project, but one which must be left to future work.

Importantly, Spinoza will not be reduced to a strawman or punching bag for Hegel. Indeed, effort will be made in chapters three to five to present a more powerful interpretation of Spinoza's thought than that suggested by Hegel. However, Spinoza's role will be comparable to that of a dialogue partner for Hegel, as opposed to being given equal footing, and the discussion of Spinoza will be limited to what is necessary to facilitate the articulation of a fair Hegelian critique of his position.

It must also be acknowledged that there is a Hegelian shading to the framing of the concept of 'Nature' in this study. For Spinoza, Nature encompasses the whole content of philosophy. Substance, which can also be understood as God or Nature, exists in an infinity of ways, or attributes, which include both material Nature and thought, encompassing all reality. For Hegel, however, Nature is but one of the three major forms taken by the Idea's self-development, preceded by Logic and succeeded by Spirit. In order to provide a practical scope for this study, we will limit our discussion to Nature in a Hegelian sense, indicating a specific form of reality corresponding to Hegel's Idea as Nature and Spinoza's Substance as Extension. This study will not include what Spinoza places under the attribute of Thought, since this would require a substantial expansion of the thesis into Hegel's philosophy of Spirit. However, in chapter four there will be justification for why the discussion can be limited to the attribute of Extension in a way which is philosophically coherent from a Spinozist perspective, and so does not render the discussion fatally incomplete or unduly stack the deck in Hegel's favour from the start.

To recapitulate, the aim of this study is not to provide a comprehensive comparison of the philosophies of Spinoza and Hegel; nor is it simply to defend Hegel's explicit remarks on Spinoza, remarks that have been seriously challenged

by commentators on Spinoza. The aim of this study is to consider the relation between Hegel and Spinoza in a way that has hitherto been largely neglected. Specifically, it is to demonstrate that a richer and more fruitful Hegelian critique of Spinoza's thought – in particular of his conception of extended Nature – can be found in Hegel's *Philosophy of Nature* than in his explicit remarks about Spinoza. This approach is original and, I believe, will open up a new avenue of research for future students of these great philosophers.

Chapter 2 – Hegel’s Critique of Spinoza

The aim of this chapter will be to lay out the core metaphysical architecture of Spinoza’s system and the problem of determinacy which Hegel sees as springing from this foundation. As we will see, Hegel suggests Spinoza presents us with a ‘dead’ Substance which, having begun with the Absolute, cannot actually progress to further determination as attribute and mode. Further, Hegel identifies the root cause of this problem in Spinoza’s view of negation. Although there is relevant material in the *Science of Logic*, we will be focusing on the *Lectures on the History of Philosophy* because it is here that Hegel gives the clearest and most developed expression of the problem of determinacy he sees in Spinoza’s thought. We will not be laying out Hegel’s analysis of Spinozism in the *Lectures on the History of Philosophy* in detail, since our purpose here is not to defend Hegel’s critique as he presents it there, but to have the core issue of determination in view for what follows.

Importantly, we will not be attempting to explicate Spinoza’s demonstration of his core thesis of Substance monism in book one of *Ethics*, just as later on we will not attempt to lay out Hegel’s demonstration of the *Science of Logic*’s culmination in the Absolute Idea. To give a philosophically satisfactory account of Spinoza’s demonstration of Substance monism would take up significant space but would not add to the discussion below, given both that Hegel’s critique focuses elsewhere and that the core architecture of Spinoza’s metaphysics is comprehensible without this demonstration. Further, there are already a myriad of rich accounts of Spinoza’s demonstration of Substance monism in existing scholarship, and this study does not have anything original to add to these.

Spinoza’s fundamental metaphysical concept is ‘Substance’, defined as “what is in itself and is conceived through itself.”¹ Spinoza argues that no Substance can be produced by anything else, but by its very nature exists

¹ Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. EID3, p.408

necessarily², and therefore also eternally, its essence and existence being one and the same.³ Further, there can only be one Substance⁴, which by virtue of this singularity is therefore fully self-determining⁵, there being nothing else to determine it but the laws of its own nature. Substance, being unique, is therefore also the only thing which exists without depending causally or conceptually on anything else, and so nothing can be or be conceived except in and through Substance.⁶ Spinoza thus argues that a single Substance constitutes the totality of what exists, referred to variously as absolute Substance, Substance, God, or Nature.

Hegel suggests that the core of Spinoza's philosophy is captured in this single thought: "The true is simply and solely the one substance ... and only this absolute unity is reality, it alone is God."⁷ However, Hegel also argues that the greatest difficulty in Spinoza's philosophy lies in grasping the unity of all differences in Substance in such a way that these determinations are preserved and can be understood to proceed necessarily from Substance.⁸ The reason why will become clearer after looking at Spinoza's concepts of attribute and mode.

Spinoza argues that Substance is necessarily absolutely infinite⁹, expressing itself in an infinity of attributes¹⁰, or forms of being. Further, because there is only one Substance, *every* attribute belongs exclusively to and is an expression of the unique Substance's absolutely infinite being. An attribute is defined as "what the intellect perceives of a substance, as constituting its essence"¹¹ and we can conceive of two such attributes: Thought and Extension. An attribute is a basic quality of being which expresses and through which we conceive the essence of a thing, such that independently of its attribute a thing cannot be or be conceived as the thing it is at all. For example, we cannot conceive of the being of our body if it is divorced from its being extended.

² Ibid. EIp7, p.412; EIp11, p.417

³ Ibid. EIp19, p.428

⁴ Ibid. EIp14, p.420

⁵ Ibid. EIp17, p.425

⁶ Ibid. EIp15, p.420

⁷ Hegel, G.W.F. (1995). *Lectures on the history of philosophy: Volume Three*. Lincoln: University of Nebraska Press. P.256

⁸ Ibid. pp.267-268, 281

⁹ Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. EIp11, p.417

¹⁰ Ibid. EId6, p.409

¹¹ Ibid. EId4, p.408

Equally, we cannot conceive of the being of our mind if it is divorced from its being a thinking thing. However, although attributes are distinct in the sense that they must be conceived independently of each other¹², they are essences of Substance which express its infinite being in different ways and do not indicate different sets of things that are independent from each other or from Substance. Rather, Thought and Extension are two ways of conceiving, and two expressions of, the same Substance.

The notion of 'expression', as Viljanen points out, is one which Spinoza nowhere defines. However, Viljanen argues that, in Spinoza's usage of this concept, "if y expresses x, y is, of course, in some way different from x, but still in such a manner that y retains or preserves the basic character or nature of x."¹³ None of Substance's infinite attributes are simply equivalent with Substance's essence, but all are "faithful to that essence in their diverse ways of constituting it" and thus can be said to express it.¹⁴

There is some ambiguity in Spinoza's phrase, "*constantem infinitis attributis*"¹⁵, which could be interpreted as indicating either that Substance consists in an infinity of attributes or only that Substance consists in a number of attributes which are themselves infinite. Commentators have generally favoured the former reading, but Hegel takes the latter, arguing that Spinoza's Substance has only two attributes and 'infinite' "is not to be taken here in the sense of the indeterminate many, but positively, as a circle is perfect infinity in itself."¹⁶ The reason why Hegel reads the definition of attribute in this way will become clear from his critique of this concept, which we will come to shortly.

Spinoza's third principal metaphysical concept is mode, defined as "the affections of substance, or that which is in another through which it is also conceived."¹⁷ This is the reality Spinoza accords to the multiplicity of things we are commonly aware of, including our own minds and bodies: they are not independent things, but exist in the one Substance, and can only be and be

¹² Ibid. EIp10s, p.416

¹³ Viljanen, V. (2011) *Spinoza's Geometry of Power*. Cambridge University Press. p.98

¹⁴ Ibid.

¹⁵ Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. EId6, p.409

¹⁶ Hegel, G.W.F. (1995). *Lectures on the history of philosophy: Volume Three*. Lincoln: University of Nebraska Press. p.263

¹⁷ Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. EId5, p.409

conceived through it. As Bennett puts it, Substance's modes are "properties or 'affections' of it, or ways that it is."¹⁸ Lord makes the point explicit that, though modes are the properties of the unique Substance, this should not be taken in the sense of them being "fixed properties attached to a static thing, but as the changes and interactions, or 'affections'" of Substance.¹⁹ In the same vein, Melamed points out that though both the attributes and modes can be understood as qualities of Substance, "the attributes are the essential qualities of the substance, while the modes are nonessential qualities of the substance (i.e., qualities that the substance can gain and lose)."²⁰ Spinoza argues that from the infinite essence of Substance, infinitely many modes follow under its infinite attributes, and in a necessary order.²¹

To briefly situate within contemporary debate the reading of the meaning of Spinoza's Substance monism taken by both Hegel and the interpretation we will be developing in chapters three to five, these both accord with the 'inherence' interpretation articulated by, among others, Bennett²² and Nadler²³. That is, the modes inhere in Substance as its *propria*, or particular ways in which Substance exists. This can be contrasted with the 'causal dependency' interpretation most famously argued for by Curley²⁴, which, put very briefly, argues that only the attributes are truly 'in' God or Substance, whereas the modes, both infinite and finite, only follow from Substance and do not inhere in Substance as the properties or predicates of a singular being. Contrary to the reading taken by this study, Curley's view proposes that modes are only 'in' and 'follow' from Substance in the sense that they are causally determined by and dependent upon Substance, and are made intelligible by the universal laws which follow from its attributes.²⁵ The interpretation suggested in this study concurs with Newlands' assessment that Curley's reading fails to adequately

¹⁸ Bennett, J. (2001) *Learning from Six Philosophers. Volume 1*. Oxford University Press. p.140

¹⁹ Lord, B. (2010). *Kant and Spinozism: Transcendental idealism and immanence from Jacobi to Deleuze*. Palgrave Macmillan. p.14

²⁰ Melamed, Y. (2016) 'Eternity in Early Modern Philosophy'. In *Eternity: A History*. Eds. Melamed, Y. Oxford University Press. p.151

²¹ Spinoza, B. (2016). *The collected works of Spinoza: Volume 1*. Edited and Translated by Curley, E. Princeton University Press. Elpp16-17, pp.424-425

²² Bennett, J. (2001) *Learning from Six Philosophers. Volume 1*. Oxford University Press. Ch. 7

²³ Nadler, S. (2008) "'Whatever is, is in God': substance and things in Spinoza's metaphysics'. In *Interpreting Spinoza: Critical Essays*. (Ed. Huenemann, C.) Cambridge University Press.

²⁴ Curley, E. (1988). *Behind the geometrical method: a reading of Spinoza's Ethics*. Princeton University Press. p.42

²⁵ Ibid.

capture “the unorthodox closeness in Spinoza’s system between God and everything else”, summed up by Newlands as the claim that “everything follows from God, is caused by God, and is in God.”²⁶

Moving on to Hegel’s critique of Spinoza’s core metaphysical concepts in the *Lectures on the History of Philosophy*, Hegel brings our attention to the definition of attribute as “what the intellect perceives of a substance, as constituting its essence”²⁷, and suggests this has the consequence that although the intellect grasps the attributes as constituting the essence or reality of Substance, they are nonetheless only conceptions of reality through the lens of the intellect, which conceives Substance through the forms that it brings with it.²⁸ That is, the attributes of Extension and Thought and their distinction are merely forms of the intellect’s conception of reality, “a mere matter of the understanding,” and do not correspond to a real diversity of essences in Substance’s infinite reality, but rather have reality only from the perspective of a particular consciousness.²⁹ Macherey remarks that, by following Spinoza’s definition of attribute to the letter, Hegel frames the attributes as mere “points of view about substance” that can afford only an external and incomplete representation of it and have no existence in themselves outside the intellect.³⁰ Hegel regards there as being only two infinite attributes rather than infinitely many for precisely this reason: attributes in his view are only forms of the intellect’s perception of reality and we only perceive reality through two attributes.

Hegel further criticizes Spinoza for not demonstrating or even stating the manner of the development of the attributes from Substance³¹, asking how it is that an intellect now comes to appear beside Substance and apply the forms of Thought and Extension to it, and where these forms come from themselves³² when “there is no necessity evident, why these are thought and extension in

²⁶ Newlands, S. (2018) *Reconceiving Spinoza*. Oxford Scholarship Online. p.76

²⁷ Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. Eld4, p.408

²⁸ Hegel, G.W.F. (1995). *Lectures on the history of philosophy: Volume Three*. Lincoln: University of Nebraska Press. p.260

²⁹ Ibid. pp.268-269

³⁰ Macherey, P. (2011). *Hegel or Spinoza*. University of Minnesota Press. pp.78-79

³¹ Hegel, G.W.F. (1995). *Lectures on the history of philosophy: Volume Three*. Lincoln: University of Nebraska Press. pp.260, 268-269

³² Ibid. p.264

particular.”³³ Hegel argues that, far from adequately showing the development of attributes from Substance, we see the first concrete symptom here of the central malady of Spinoza’s metaphysics: the problem of determinacy. Hegel suggests that the way the attributes are set up means that “everything proceeds inwards, and not outwards; determinations are not developed from substance, it does not resolve itself into these attributes.”³⁴ Since the attributes are found in the perceptions of the intellect alone, the concept of attribute does not explain the development of determinations from or within the absolute unity of Substance, but rather leads to the appearance of the determinations of Thought and Extension and their distinctions being dissolved within this unity.³⁵

In other words, Hegel is suggesting that because the intellect that perceives Substance, and on which the nature of the attributes depends, is itself only a mode of Substance, the order of the system begins to collapse. The attributes, which are the essences of Substance, should precede the existence of modes, but an intellect, a mode, precedes the attributes in the sense that the attributes depend on the intellect. Because it is not shown concretely how Substance comes to express or determine itself in its attributes, these attributes are empty forms, merely external reflections of Substance’s content without necessity, while Substance itself remains, for Hegel, a wholly indeterminate abyss. Since Spinoza’s Substance does not determine its attributes itself, in Hegel’s view, an external intellect has to determine them for it.

Hegel continues this line of critique when he turns to modes, arguing that rather than the modal reality of particular things being developed from Substance, the structure of Spinoza’s system actually deprives these determinations of reality. Since a mode is “that which is in another through which it is also conceived,”³⁶ modes have no reality or even conceivability in themselves but only through and in something else, namely the one absolutely universal Substance which alone is the truly real for Spinoza, and of which all modes are mere modifications.³⁷ Hegel suggests that this reduces individuality to

³³ Ibid. p.269

³⁴ Ibid. p.264

³⁵ Ibid. pp.257-258, 263-264

³⁶ Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. Eld5, p.409

³⁷ Hegel, G.W.F. (1995). *Lectures on the history of philosophy: Volume Three*. Lincoln: University of Nebraska Press. pp.286-7

a “lower stage” or “warped and stunted” form of Substance³⁸, ultimately rendering the mode “a false individuality” as it is only ever a determination of an other, Substance. Later we will see that Hegel makes what might appear to be similar claims in his own philosophy regarding the relation between natural objects and the Idea. However, from the Hegelian perspective, the key difference is that Substance’s modes do not receive the concrete derivation from Substance which would allow them to stand as real and necessary expressions of the Absolute’s self-particularization.³⁹ Rather, Spinoza’s Substance remains a “rigid substantiality” because it does not concretely develop the particularity of the modes as an essential moment of its universal reality and so, as with the attributes, “determinateness continually vanishes from his thought.”⁴⁰

Hegel’s central critique of Spinozism thus concerns the fate of determinacy within the perspective of Substance. Spinoza not only does not provide a derivation of the determinacy of attributes or modes, that is, does not explain why “out of the simple universal the real, the opposed, itself becomes known”⁴¹, but the structure of the relationship between his core metaphysical concepts acts to undermine the reality of determinacy. Indeed, in one of his most scathing passages, Hegel goes so far as to claim that “as all differences and determinations of things ... go back into the One substance, one may say that in the system of Spinoza all things are merely cast down into this abyss of annihilation.”⁴²

As Macherey puts Hegel’s point, the self-sufficiency of Substance’s immediate unity at the foundation of Spinoza’s metaphysics “gives its ontological guarantee to the system but at the same time prevents it from developing.”⁴³ Substance “is the indeterminate that precedes and conditions all determination”, the foundational absolute being upon which all determinacy depends for its reality.⁴⁴ However, the absolutely positive and immediate indeterminacy of Substance is such that it actually undermines the determinacy that depends on it, ‘casting it down into an abyss’, as Hegel puts it, because

³⁸ Ibid. pp.260-261

³⁹ Ibid.

⁴⁰ Ibid.

⁴¹ Ibid. p.269

⁴² Ibid. p.288

⁴³ Macherey, P. (2011). *Hegel or Spinoza*. University of Minnesota Press. p.80

⁴⁴ Ibid. p.26

determinacy, being necessarily constituted through its negative moment of opposition and otherness (a being can only be determinate if it is *this* and *not that*), cannot coincide with Substance's positive, singular universality. In other words, the self-sufficiency of Substance's absolute existence as *causa sui*, in the absence of any determinacy, makes the relation of this foundation to that which it grounds incomprehensible, in the sense that Substance's determinations cannot be understood to develop immanently from it. Instead, Substance's determinations exist arbitrarily, as "adjuncts to it without necessity and without reason."⁴⁵

At his most radical, Hegel goes so far as to suggest that for Spinoza there is really "no such thing as finite reality" and thus Spinozism can be considered a form of acosmism, according to which God alone exists and all that we know as the world is "cast into the abyss of the one identity."⁴⁶ However, it is overall more representative of Hegel's remarks taken as a whole and more productive for engaging in a dialogue with Spinoza to avoid reading Hegel's position as being that there is strictly no such thing as particularity for Spinoza. Indeed, Melamed has argued convincingly that a strictly acosmist reading of Spinoza is implausible.⁴⁷ Rather, a more philosophically interesting avenue of discussion is opened up by understanding Hegel's claim as being that, in the philosophy of Substance, determinacy is deprived of necessary development from its basis in the Absolute, and thereby reduced to an arbitrary adjunct to Substance's reality.

As he sums up his critique of Spinoza in the *Lectures on the History of Philosophy*, Hegel identifies the lack of negativity and dialectical movement in Spinoza's thought as a key factor behind this problem of determination. Hegel claims that "with Spinoza negation or privation is distinct from substance"⁴⁸, seen as only an imposition of external reflection not actually present in the Absolute, and argues that because Substance is conceived as purely positive, it "does not open itself out"⁴⁹ in the movement of becoming which Hegel claims to exhibit in his own philosophy as the dialectic of being's immanent negativity.

⁴⁵ Ibid.

⁴⁶ Hegel, G.W.F. (1995). *Lectures on the history of philosophy: Volume Three*. Lincoln: University of Nebraska Press. pp.281-282

⁴⁷ Melamed, Y. 'Acosmism or Weak Individuals? Hegel, Spinoza, and the Reality of the Finite'. *Journal of the History of Philosophy*, Volume 48, Number 1, January 2010.

⁴⁸ Hegel, G.W.F. (1995). *Lectures on the history of philosophy: Volume Three*. Lincoln: University of Nebraska Press. p.289

⁴⁹ Ibid. p.288

Instead, Substance is an empty, rigid universal in which “the heart, the independence is transfixed – the vital fire is wanting.”⁵⁰ In holding Substance to be free of negation, Spinoza makes it impossible to find the process of the modes’ becoming in Substance. Indeed, because “negation is present only as Nothing” or a “vanishing moment”⁵¹, Substance’s only sense of activity is to divest all things of their particularity and determinacy, subsuming them back into itself.⁵²

Macherey suggests that Hegel understands Spinoza to hold the positive and negative in irreconcilable and irreducible opposition, belonging to two separate orders. Substance is given immediately in its absolutely positive self-identity, thus eliminating all negativity and thereby all determinacy from its order. The negative, to the extent that it is recognized, is cast outside this, appearing only in the sphere of finite modes. Because Spinoza conceives the positive and negative in this abstractly restrictive way, as purely positive and negative, no passage can be established between the two which could initiate a form of conceptual movement of the kind Hegel seeks to show in his own philosophy.⁵³ In the absence of this movement, we find only the stillness of a serene but dead Substance, in the indeterminate, immediate identity of which all contours are dissolved, producing, in Macherey’s words, an “inverse purity ... formally equivalent to an absolute nothingness.”⁵⁴

In contrast, Hegel contends that his own conception of the Absolute, the Idea, has negation intrinsic to it and thus “essentially includes within itself motion and vitality.”⁵⁵ Much more will be said below about Hegel’s Idea and its relationship with negativity, but provisionally the Idea can be understood, in contrast with the immediate all-inclusive totality of Substance, as a structure which, through an immanent negative process of developing and resolving internal contradictions, gradually develops into a richer and more inclusive unity, ultimately showing itself to be the Absolute.

Negativity plays a key role in both the functioning of Hegelian dialectics, providing its self-propelling force, and in the architecture of the structure which

⁵⁰ Ibid. p.289

⁵¹ Ibid. p.289

⁵² Ibid. pp.285-289

⁵³ Macherey, P. (2011). *Hegel or Spinoza*. University of Minnesota Press. pp.115-116

⁵⁴ Ibid. p.23

⁵⁵ Hegel, G.W.F. (1995). *Lectures on the history of philosophy: Volume Three*. Lincoln: University of Nebraska Press. p.289

thereby unfolds itself. In the *Phenomenology of Spirit*, which precedes the *Science of Logic* and *Philosophy of Nature* in Hegel's system, we already find Hegel arguing that the life of Spirit is not separated from death and negation, but lives precisely in it, and achieves its truth only by finding itself "in utter dismemberment".⁵⁶ A moment of self-separation and division is essential, because it is only insofar as it divides itself, breaking up its initial simple oneness, that content can be self-moving. Hegel suggests, further, that in philosophical thinking negativity is part of the content, and indeed "is the *positive*", due to providing the content's immanent movement.⁵⁷ Negativity is held to be intrinsic to the nature of the Absolute, which is necessarily a movement of "self-othering", the splitting up of the simple into opposition, returning to unity in a "self-restoring sameness" which contains otherness within itself, neither an immediate simplicity nor an indifferent diversity.⁵⁸

Negation is once again made central in the *Science of Logic*, it being argued, in words very close to those used in the *Phenomenology*, that it is vital to recognize that "the negative is just as much positive."⁵⁹ In the *Logic*, Hegel places particular emphasis on the importance of internal contradiction, arguing that self-contradiction does not result in nullity, abstract nothingness, but the particular negation of the contradictory content, which is driven to resolve itself. This result, the specific or determinate negation, has a content, since it contains that from which it results, but also something more, being a new and richer Notion, "the unity of itself and its opposite." Philosophy as a whole forms itself through a continuous progression of the emergence of contradiction and its negation (or negation and the negation of the negation), leading to a more developed state.⁶⁰ Indeed, Hegel regards one of the most fundamental advances made by his study of logic to be the recognition that self-negation and contradiction belong to the very nature of rational thought, and so are not merely states of error, but necessary to the structure of both systematic philosophy and its content.⁶¹

⁵⁶ Hegel, G.W.F., Miller, A.V., & Findlay, J.N. (1977). *Phenomenology of spirit*. Oxford [England]: Clarendon Press. pp.18-19

⁵⁷ Ibid. p.36

⁵⁸ Ibid. pp.10-12, 14

⁵⁹ Hegel, G.W.F., & Miller, A.V. (1998). *Hegel's science of logic*. Amherst, N.Y: Humanity Books. p.54

⁶⁰ Ibid.

⁶¹ Hegel, G.W.F., Geraets, T.F., Suchting, W.A., & Harris, H.S. (1991). *The Encyclopaedia Logic: Part I of the Encyclopaedia of philosophical sciences with the Zusätze*. Indianapolis: Hackett. §11, Remark

In the course of this study it will become increasingly clear that, whether or not we agree with the conclusions of Hegel or even a revised Hegelian position, he was certainly right to see the question of negativity as a root issue in the relationship of his own and Spinoza's thought. When we turn to consider Hegel's account of Nature, we will see that the Idea's immanent negativity plays a key role in the Hegelian critique of Spinoza developed in this study. This is because the immanent dialectical movement provided by this negativity is vital in Hegel's explanation of both the derivation of material Nature's existence and the further development of its forms.

In this chapter we have laid out the core concepts of Spinoza's thought, along with Hegel's interpretation of these, his broad critique of the problem of determinacy in the philosophy of Substance, and the connection Hegel draws between this issue and the question of negativity. We will now proceed to lay out a counter-interpretation of Spinozism, borrowing heavily from the work of Melamed and Macherey, which positions determinacy as integral to the being of Substance, and will provide the basis for the account of Spinoza's philosophy of extended Nature to follow. Importantly, it is not claimed that this is the best reading of Spinoza's philosophy, a claim which there is not space to argue for here. However, this reading is reasonable and able both to push back against misinterpretations in Hegel's reading and provide the framework for a philosophically interesting Spinozist view of extended Nature.

Chapter 3 – The Alternative

In the previous chapter we saw that Hegel's interpretation of the concept of attribute, which renders the attributes dependent on the perception of the intellect, a mode, serves an important role in his unravelling of what he sees as the intended order of Spinoza's system. However, Macherey argues that Hegel's reading of the definition of attribute ("what the intellect perceives of a substance, as constituting its essence"¹) improperly imports a Kantian framework of knowledge into Spinoza's philosophy.² Garrett makes a similar observation, noting that "the treatment of appearance and reality as opposing poles on an ontological scale is due not to Spinoza but to Leibniz and Kant."³ Macherey draws attention to Spinoza's use of the word 'perceive' (*percipere*) in this definition, a term given precise meaning later on in the explanation of EIIId3. Distinguishing between his use of the words 'concept' and 'perception', Spinoza specifies here that "the word perception seems to indicate that the Mind is acted on by the object. But concept seems to express an action of the Mind."⁴ Spinoza does not say in his definition of attribute that this is what the intellect 'conceives' of a substance, and Macherey argues deliberately so, because this would imply that the intellect here is active in imposing a form on an object.⁵ Rather, the attribute is specifically stated to be what the intellect 'perceives' of a substance because the intellect here is passive in relation to the substance it perceives, which, as Macherey puts it, "it accepts such as it is, in the essences that constitutes it, that is to say in its attributes."⁶

Thus, the term 'intellect' in the definition of attribute should not be interpreted in a Kantian sense but this is precisely what Hegel does, reading the intellect as, in Macherey's words, "a kind of deforming, or informing mirror,

¹ Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. EId4, p.408

² Macherey, P. (2011). *Hegel or Spinoza*. University of Minnesota Press. pp.85-87

³ Garrett, D. (2012). 'A Reply on Spinoza's Behalf'. In *Spinoza and German Idealism*. Eds. Förster, E. and Melamed, Y. Cambridge University Press. p.255

⁴ Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. EIIId3exp, p.447

⁵ Macherey, P. (2011). *Hegel or Spinoza*. University of Minnesota Press. pp.85-87

⁶ Ibid. p.87

which impresses its own mark on the images that it produces.”⁷ Macherey suggests that, insofar as the intellect can be legitimately likened to a mirror at all, it is not a mirror which is active in shaping reality to its own measure, but one which is perfectly objective in its perception of Substance’s essences. However, Macherey’s deeper point does not concern so much the intellect but the attributes themselves, which he argues are neither active nor passive representations, since they are not images, ideas, or forms through which the intellect apprehends Substance, but are in Substance and constitute its essences.⁸

As evidence, Macherey points to Spinoza’s statement that “by God’s attributes are to be understood what (by D4) expresses (*exprimit*) an essence of the Divine substance, i.e., what pertains (*pertinet*) to substance. The attributes themselves, I say, must involve (*involvere*) it itself.”⁹ Bringing out the significance of this passage, Macherey points out Spinoza’s writing here that the attributes ‘express’ (*exprimit*) an essence of Substance, clearly excluding the idea that the attributes are mere representations or names of Substance; “rather, this means that they constitute it, in what one might call its concrete being.”¹⁰ Further, the attributes ‘pertain’ (*pertinet*) to Substance, indicating that they are contained in Substance and, equally, Substance is contained in them. Indeed, the attributes ‘involve’ (*involvere*) the essence of Substance, meaning the attributes and Substance are inseparable and cannot be or be conceived without one another. Spinoza’s explanation of the nature of the attributes here makes no reference to the intellect and ties them in a real unity with Substance in such a way that it is untenable that they could be mere external reflections, dependent on the intellect’s own categories. Macherey suggests that much of the argument over the interpretation of the initial definition of the attributes might have been avoided if Spinoza had simply worded this slightly differently: “by attribute I understand that which constitutes the essence of substance, and it is thus that the intellect perceives it (such as it is),” thus eliminating any appearance of dependence of the attributes on the intellect.¹¹

⁷ Ibid.

⁸ Ibid. pp.87-88

⁹ Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. E1p19d, p.428

¹⁰ Macherey, P. (2011). *Hegel or Spinoza*. University of Minnesota Press. p.94

¹¹ Ibid.

Melamed also rejects Hegel's reading of the attributes, pointing out a wealth of textual evidence against the notion that the attributes are but images in the intellect. To pick out only a few examples of this evidence, Melamed firstly draws our attention to Spinoza's rephrasing of the definition of attribute in E2p7s, as "whatever can be perceived by an infinite intellect as constituting an essence of substance."¹² Melamed points out that an infinite intellect, that of God, does not suffer misperceptions or illusions, and so the intellect's perception of attributes is not a 'distorted mirror' that fails to represent Substance's nature.¹³ Indeed, as Spinoza asserts elsewhere, "what is contained objectively in the intellect must necessarily be in nature."¹⁴ Further, Melamed points out that the definition of God as "a substance consisting of an infinity of attributes"¹⁵ makes no qualification that God is only perceived as such, making it hard to square with the notion that the attributes are in the intellect alone. Finally, E1p4d states that "there is nothing outside the intellect through which a number of things can be distinguished from one another except substances, or what is the same (by D4), their attributes, and their affections."¹⁶ This not only indicates strongly that the attributes exist outside the perceptions of the intellect, but suggests a further key point about the attributes to which we will now turn, namely that the attributes are 'the same' as Substance.¹⁷

This rejection of the reading of attributes as ideas of the intellect pushes back against a key aspect of Hegel's interpretation of Spinoza, namely his presentation of the attributes as external and secondary to Substance. Contrary to Hegel's interpretation, Macherey argues that Substance does not precede its attributes, but rather Spinoza holds these to be two aspects of an identity in which the same reality, Substance, exists both in the real diversity of its infinite attributes and in its absolute unity.¹⁸ Substance and its attributes are not sequential, with Substance producing the attributes from its indeterminate abyss,

¹² Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. E2p7s, p.451

¹³ Melamed, Y. (2017). 'The Building Blocks of Spinoza's Metaphysics: Substance, Attributes, and Modes'. *The Oxford Handbook of Spinoza*. Ed. Della Rocca, M. Oxford University Press. p.94

¹⁴ Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. E1p30d, p.434

¹⁵ Ibid. E1d6, p.409

¹⁶ Ibid. E1p4d, p.411

¹⁷ Melamed, Y. (2017). 'The Building Blocks of Spinoza's Metaphysics: Substance, Attributes, and Modes'. *The Oxford Handbook of Spinoza*. Ed. Della Rocca, M. Oxford University Press. p.95

¹⁸ Macherey, P. (2011). *Hegel or Spinoza*. University of Minnesota Press. p.88

but simultaneous and inseparable.¹⁹ This identity does not reduce the diversity of the infinite attributes in Substance to an indifferent unity. Rather, Macherey describes this as “a concrete identity, which is an identity in difference.”²⁰ The attributes are not mere external images of Substance, but are themselves the concrete constitution and determination of its reality, which is absolutely infinite precisely because it comprises infinite attributes.²¹ Garrett similarly argues that the attributes “do not ‘arise from substance’ in Spinoza, as Hegel suggested. Rather, they are substance, in each of its manners of existing” or “the very existence of God itself in that dimension.”²²

Macherey argues that this identity-in-difference of Substance and its attributes, firstly, binds Substance to its attributes, without which Substance would be an empty being deprived of the maximum of reality that pertains to it; and secondly, binds the attributes to substance, outside which they would exist in irreconcilable mutual opposition. Macherey suggests that, if we wished to imitate a Hegelian style of discourse, we might say that the identity of Substance and its attributes is “that in which the absolute affirms itself as actual. And this process is that of the *causa sui* or ... the return of substance to itself.”²³

Indeed, Macherey argues further that this interpretation gives the notion of *causa sui* its real significance in Spinozist philosophy. Substance is not *causa sui* in the sense that Hegel interprets it, that is, an immediate foundation, achieved and exhausted in a single stroke. Substance does not have its absolute reality through the abstract formality of an “initial gift”, or immediate givenness, which would render it an “empty form of the One, that would be nothing but the One.”²⁴ Rather, Substance is *causa sui* due to the process of its self-engendering through the infinite essences that constitute it, a real movement through which Substance necessitates its own existence. God, as *causa sui*, is not without cause, but absolutely determined by himself, and the attributes are the forms of this determination, “its internal efficient cause,” making it clear that “substance is not an immediate absolute, because it must be deduced, even if from itself.”²⁵ Wholly

¹⁹ Ibid. pp.95-98

²⁰ Ibid. p.95

²¹ Ibid, pp.95, 98

²² Garrett, D. (2012). ‘A Reply on Spinoza’s Behalf’. In *Spinoza and German Idealism*. Eds. Förster, E. and Melamed, Y. Cambridge University Press. pp.257-258

²³ Macherey, P. (2011). *Hegel or Spinoza*. University of Minnesota Press. p.99

²⁴ Ibid. pp.98-99

²⁵ Ibid. p.91

contrary to Hegel's talk of a 'dead' Substance lacking in real content, this is Substance as an immanent life and activity of self-affirmation.²⁶ Substance is neither an absolute beginning from which the attributes must follow, nor is it a whole composed from the sum of all the attributes. Rather, a single and same necessity determines itself simultaneously as a unique, absolutely infinite unity and an infinite diversity of essences.

While this way of understanding the nature of the Substance-attribute relationship delivers a strong rejection of Hegel's attempt to undermine the basis of Spinozist metaphysics through a Kantian reading of the attributes, from a Hegelian perspective this does not silence Hegel's most fundamental questions concerning the attributes and their derivation. As discussed in the previous chapter, Hegel criticizes Spinoza for not providing a demonstration of the development of the attributes from Substance²⁷ or why the attributes should be Thought or Extension in particular.²⁸ In light of Macherey and Melamed's account of the Substance-attribute relationship, we might prefer to emphasise the unity and simultaneity of Substance and attributes, rephrasing this question as one of why Substance necessarily exists in these ways in particular. However, the core issue remains of accounting for difference within the unity of Substance. Though convincing in its rejection of one aspect of Hegel's interpretation of the attributes, namely their dependence on the intellect and consequent externality to Substance, Macherey and Melamed's counter-interpretation does not address this central issue in a way satisfying from Hegel's point of view.

Garrett makes explicit his view that Spinoza does not need to "offer any further explanation of why there are the attributes there are; each attribute is self-caused (i.e., God as self-caused in that manner) and self-explanatory."²⁹ Insofar as there is a Spinozist response to this issue, it is likely of this kind, that is, it is simply in the nature of Substance, as an infinitely powerful and unique causality, to exist in infinite ways (attributes), indeed every possible way.³⁰ However, while by no means incoherent as a way of understanding the architecture of Substance,

²⁶ Ibid.

²⁷ Hegel, G.W.F. (1995). *Lectures on the history of philosophy: Volume Three*. Lincoln: University of Nebraska Press. pp.260, 268-269

²⁸ Ibid. p.269

²⁹ Garrett, D. (2012). 'A Reply on Spinoza's Behalf'. In *Spinoza and German Idealism*. Eds. Förster, E. and Melamed, Y. Cambridge University Press. p.257

³⁰ Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. Eld6, p.409

from the Hegelian perspective this does not provide an informative explanation. This difficulty in accounting for the necessity of Substance's existence as Extension will come under further pressure from Hegel's detailed and specific explication of the necessity of the Idea's existence as material Nature in chapter seven.

Moving on to discuss Substance's modes, we saw in the previous chapter that Hegel suggests that Spinoza's philosophy reduces the modes to a 'false individuality' in the sense that, although they are conceived as the determinations of Substance, their finitude is incompatible with the infinite unity of Substance and cannot be derived from the latter. Rather than being concretely developed as the Absolute's self-particularization, the modes remain incommensurate with Substance's positive and indeterminate infinitude and so are not shown to be a necessary expression of Substance.

Having pushed back against Hegel's reading of the attributes as external and secondary to an indeterminate Substance by bringing the determinacy of the attributes into the heart of Substance's being, a similar interpretive move can be made against Hegel's reading of the modes. In EIp16, Spinoza states that "from the necessity of the divine nature there must follow infinitely many things in infinitely many modes."³¹ He goes on to argue that this is because from the essence of any thing a number of properties follow necessarily. Further, the more reality an essence involves, the more properties follow from it. In the case of Substance, "since the divine nature has absolutely infinite attributes (by D6), each of which also expresses an infinite essence in its own kind, from its necessity there must follow infinitely many things in infinite modes."³² Melamed points out that this necessary flow of Substance's modes from its essence is clearly part of a different conception of the generation of particularity from the Absolute than the process of dialectical self-negation elaborated by Hegel.³³

In trying to flesh out the reason for Substance's self-expression as modes, Melamed points to two further related claims by Spinoza:

³¹ Ibid. EIp16, p.424

³² Ibid. EIp16d, p.425

³³ Melamed, Y. 'Acosmism or Weak Individuals? Hegel, Spinoza, and the Reality of the Finite'. *Journal of the History of Philosophy*, Volume 48, Number 1, January 2010. p.82

“God’s power is nothing except God’s active essence. And so it is as impossible for us to conceive that God does not act as it is to conceive that he does not exist”³⁴

“God’s power is his essence itself”³⁵ because “from the necessity alone of God’s essence it follows that God is the cause of himself (by P11) and (by P16 and P16C) of all things.”³⁶

Melamed argues that these passages stress the point that the modes do not just follow necessarily from Substance, but it is in the nature of Substance that it must be active in causing itself to exist as the modal universe. Substance necessarily generates its modes due to its nature as an active entity, and it is just as impossible for Substance not to be active as it is for it not to exist.³⁷

Arguing along similar lines, Macherey emphasises that determinacy pertains equally to Substance and its modes. As we saw above, the freedom of the *causa sui* is not the arbitrary activity of a being not determined to act according to any cause. Substance is no less determined to act than its modes, but is determined by the necessity of its own nature. Macherey suggests that the free act of Nature’s self-engendering as *natura naturans*, Substance and its attributes, is not a separate causality to that which produces and determines the activity of the modes, *natura naturata*. Rather, these are one and the same simultaneous (as opposed to successive) act, since Substance does not exist in some abstract state of indeterminacy apart from its modes, but exists nowhere except in its self-determination as an infinity of modes in infinite attributes. Far from Hegel’s portrayal of Substance as an indeterminate void in juxtaposition to the unaccounted for determinacy of the modes, Macherey argues that if no determinations were given in Substance, both the existence of modes and Substance’s existence as such would be taken away.³⁸

³⁴ Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. EIIp3s, p.449

³⁵ Ibid. EIp34, p.439

³⁶ Ibid. EIp34d, p.439

³⁷ Melamed, Y. (2011) ‘Why Spinoza is not an Eleatic Monist (Or Why Diversity Exists)’. In *Spinoza on Monism*. Ed. Goff, P. Palgrave Macmillan Limited. pp.213-214

³⁸ Macherey, P. (2011). *Hegel or Spinoza*. University of Minnesota Press. pp.144-145

This way of conceiving the architecture of Substance's relation to its determinations, both attributes and modes, binding an infinity of determinations into the very constitution of the Absolute, avoids Substance becoming the all-engulfing abyss of indeterminacy Hegel views it as. Indeed, Macherey suggests this interpretation renders Hegel's reading of Substance as harbouring an all-consuming negativism, depriving determinacy of reality, "a fiction, literally incompatible with the (Spinozist) system."³⁹

Melamed suggests that once it is understood that Spinoza derives the modes from the essence of Substance as its *propria* then Hegel's complaints about the lack of proper derivation of the modes and their consequent unreality are shown to be unjustified.⁴⁰ However, Macherey is wary of leaving the issue here, raising the question of whether, even if *omnis determinatio est negatio* is to be rejected, *omnis determinatio est affirmatio* would be any better. The latter formulation would, in a very shorthand manner, capture the counter-interpretation of Spinozism we have been constructing from the work of Macherey and Melamed, according to which determination is integral to Substance as the necessary self-expression of its causal power. Macherey raises the concern that this position might in fact give Hegel's line of critique renewed strength, since the purely positive, singular causality of Substance appears in danger of becoming a mere inversion of the empty Absolute Hegel paints, and reverting ultimately to the same thing.⁴¹ That is, to transpose Macherey's worry more specifically into the concerns of this study, for all the talk of Substance's causing itself to exist as an infinite diversity of determinations, if we cannot make good on actually explicating this causality's self-articulation as modal Nature, we will be left, if not with an indeterminate abyss, then with the empty promise of an absolute causal power that cannot be understood to concretely cause anything but itself.

Garrett rightly raises the question as to what degree of specificity is required from a Spinozist explanation of the derivation of the modes from Substance. Due to his commitment to the Principle of Sufficient Reason, Spinoza is certainly committed to there being an intelligible sufficient reason in the nature

³⁹ Ibid. p.142 Parentheses added

⁴⁰ Melamed, Y. 'Acosmism or Weak Individuals? Hegel, Spinoza, and the Reality of the Finite'. *Journal of the History of Philosophy*, Volume 48, Number 1, January 2010. p.83

⁴¹ Ibid, pp.142-143, 146

of Substance for the existence of its modes. Garrett is sympathetic to the line of thought taken by Melamed above when it comes to accounting for the necessity of the existence of modes as such. However, Garrett points out that Spinoza is also committed by the PSR to there being an intelligible necessary entailment from the nature of Substance to a complete account of both the nature and history of every one of its modes.⁴² Macherey concurs with this strong reading of the determination of modes by Substance, reminding us of Spinoza's claim that Substance is the cause of singular things not only insofar as they exist but also insofar as they produce effects⁴³, which Macherey suggests indicates the complete determination of the infinite sequence of finite modes within Substance, which therefore has no contingency or indeterminacy within itself.⁴⁴

Importantly, though, as Garrett points out⁴⁵, Spinoza does not claim to be able to provide the full explanation or causal history of any individual mode, this being ruled out by the limitations of the ability of our finite minds to trace the infinitude of the causal chains among finite modes.⁴⁶ This is not a limitation Hegel would contest, as we will see later in chapter eight. However, there is a real need, acknowledged by both Macherey and Garrett, for a substantive explanation of the derivation of Substance's modes, not just in their existence as such, but in their concrete forms and activity.

To address this concern, the next chapter will investigate what such an explication might look like. Having spent this chapter pushing back against Hegel's reading of the Substance-attribute-mode relationship, and setting out the case for a framework which binds determinacy intrinsically within the being of Substance, the work remains of actually showing, to an extent and in a manner appropriate and possible within a Spinozist perspective, what shape the self-determination of Substance as extended Nature actually takes. We will see the extent to which extended modes, both infinite and finite, can be given a concrete derivation, in addition to the emergence of substantive theses on the nature of

⁴² Garrett, D. (2012). 'A Reply on Spinoza's Behalf'. In *Spinoza and German Idealism*. Eds. Förster, E. and Melamed, Y. Cambridge University Press. p.254

⁴³ Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. Elp26, p.431

⁴⁴ Macherey, P. (2011). *Hegel or Spinoza*. University of Minnesota Press. p.145

⁴⁵ Garrett, D. (2012). 'A Reply on Spinoza's Behalf'. In *Spinoza and German Idealism*. Eds. Förster, E. and Melamed, Y. Cambridge University Press. p.255

⁴⁶ Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. Treatise on the Emendation of the Intellect. Para.100, p.41

these modes, their formations and their activity, forming the basis for the mechanistic and quantitative picture to be further expanded on in chapter ten.

Chapter 4 - Modal Nature

Our examination of Spinoza's philosophy from this point on will be focused on modal Nature conceived under the attribute of Extension. The relationship between material Nature and the mind represents a significant point of contention between Hegel and Spinoza which is very much deserving of investigation. However, although later we will see the faint beginnings of subjectivity in Hegel's account of organic life, the sphere of Nature in his view does not reach anything fairly comparable to the content of Spinoza's attribute of Thought. A productive comparison of their positions on the nature of thought and the mind would require a substantial expansion of this study into Hegel's philosophy of Spirit, and this is far better left to future work building on this study which can be squarely focused on this aspect of their philosophies.

We might be concerned that side-lining the attribute of Thought to focus on extended Nature will serve to distort Spinoza's system by leaving out a key part of its content. Fortunately, Spinoza's theory of the 'parallelism' (a term Spinoza does not use himself) between attributes means that focusing attention on Nature as expressed in a single attribute does not of itself introduce a theoretical incoherence. Spinoza argues that just as there is only one Substance which determines itself through the attributes of Thought and Extension, equally there is only one set of modes which is expressed in these two ways of being. In Spinoza's words, "a mode of extension and the idea of that mode are one and the same thing, but expressed in two ways."¹ Further, whether Nature is expressed through the attribute of Extension or Thought, the same necessary connection of causes between modes is found. Modes of Thought do not, therefore, have any effect on modes of Extension or vice versa, since these are parallel expressions of the same sequence of causes, not two different sets of things that could interact causally one with the other. This means that the explication of Nature as Extension does not lack anything of itself for not being accompanied by its explication as Thought, since we are not leaving aside a set of things within

¹ Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. EIIp7s, p.451

Spinoza's Nature, only another way in which these same things are expressed. Indeed, Spinoza claims that, insofar as we conceive things as modes of Extension, "the order of the whole of Nature must be explained through the attribute of Extension alone,"² and the same for every other attribute. In other words, not only is it permissible to explain Nature through a single attribute, but the explanation of Nature under any given attribute *must* be given independently of its conception under any other.

Macherey lends further support to the legitimacy of focusing on a single attribute, arguing that, as a result of the reading of the Substance-attribute relationship laid out above, Substance's reality is not a sum of all the attributes. Rather, Substance, being identical to each attribute, is also complete in each one.³ The attributes do not limit one another as opposed spheres of reality, and to understand only one, following its order and connection, "is at the same time to know the nature of all the others."⁴ Indeed, Macherey points out that it is because we understand that every attribute expresses the whole of Substance, and in the same necessary order and connection, that our perception of only two attributes does not render Substance incomprehensible to us.⁵ For the same reason, the focus on a single attribute does not introduce incoherency into the standpoint of absolute Substance. In fact, Macherey makes this move himself, restricting his discussion of the infinite modes in *Hegel or Spinoza* "to the case of extension, that is, to the strict problem of the physical, because it should hold for all the others."⁶

4.1 - The Modal System

It will be useful to undertake a brief overview of the overall structure of the modal system before proceeding to look at its elements in detail. There are multiple 'levels' of mode comprising the modal system. Firstly, infinite modes follow from the "absolute nature" of their attribute and share in the eternity and

² Ibid. EIIp7s, p.452

³ Macherey, P. (2011). *Hegel or Spinoza*. University of Minnesota Press. p.100

⁴ Ibid. p.107

⁵ Ibid.

⁶ Ibid. p.149

infinity of the attribute from which they follow.⁷ These are further distinguished into immediate and mediate infinite modes. It is important to understand that infinite modes are not particular objects, but eternal metaphysical structures of infinite extent. The immediate infinite modes are those forms of being which Substance, determining itself in a particular attribute, necessarily and immediately causes itself to take on simply in virtue of the very nature of this attribute. In the case of Extension, the attribute itself is just the very quality of Extension, irreducible to any other attribute or way of being, but 'motion and rest', as we shall see in more detail below, is identified by Spinoza as the immediate infinite mode of Extension. This identification amounts to the claim that motion and rest is intrinsic to and follows immanently from the 'absolute nature' of extended Substance as its most general and fundamental form of existence. Mediate infinite modes are eternal and infinite structures which follow from the immediate infinite mode.⁸ Sticking to the example of Extension, this would be the *facies totius universi*, the unchanging 'form' of the physical universe as a whole.

Finally, there are finite modes, or "particular things."⁹ Though individually finite, these are infinite in number and connected in infinite causal series.¹⁰ In Extension, these are bodies. Lord suggests the finite modes can be understood as "the 'surface features' which rise and fall" from the continua that are the infinite modes, like "waves on the ocean, which come into existence, last a certain amount of time and then fall back into the infinite continuum from which they came."¹¹

Concerning the relationship between the infinite and finite modes, in the *Treatise on the Emendation of the Intellect* Spinoza discusses the "fixed and eternal things" and "the laws inscribed in these things ... according to which all singular things come to be, and are ordered." Indeed, in the same place he goes further in suggesting that the finite modes depend to such a degree on these fixed and

⁷ Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. EIp21, p.429

⁸ Ibid. EIp22-23, p.430

⁹ Ibid. EIp25c, p.431

¹⁰ Ibid. EIp16-18, pp.424-428

¹¹ Lord, B. (2010). *Spinoza's ethics: an Edinburgh philosophical guide*. Edinburgh University Press. p.41

eternal things that “they can neither be nor be conceived without them.”¹² This notion of laws governing the finite modes chimes with statements in the *Ethics*, such as “all things that happen, happen only through the laws of God’s infinite nature.”¹³

However, Spinoza also claims in the *Ethics* that no finite thing can exist or act unless it is determined to do so by another finite thing, which similarly owes its existence and action to the causality of another finite thing, and so on *ad infinitum*.¹⁴ Spinoza here sets up a ‘horizontal’ causal sequence, consisting of the infinite causal chains among the finite modes, along with the ‘vertical’ dependence of the finite modes on the infinite emphasised in the *Treatise on the Emendation of the Intellect*.

Savan suggests these claims can be reconciled through the view that each finite mode is the result of the intersection of two ‘causal axes’.¹⁵ First, the absolute nature of Extension, expressed in the infinite modes, determines the fundamental nature of every finite mode, conditioning its being and the laws its existence and activity must conform to, simply in virtue of being the kind of thing it is. No mode can be or be conceived without this absolute nature of its attribute. Second, the particular way in which the mode exists and the course of its causal history, from generation to destruction, is shaped by the effects of other finite modes upon it, stretching back in infinite causal chains. Spinoza seems to suggest such a view when he writes, concerning finite modes, that “even if each one is determined by another singular thing to exist in a certain way, still the force by which each one perseveres in existing follows from the eternal necessity of God’s nature.”¹⁶

Bearing in mind the interpretation of Spinoza’s philosophy discussed in the previous chapter, this notion of dual causal axes must be treated with care, lest we conceive there to be two separate forms or orders of causality at play. Macherey argues at length against the idea that the infinite, mediate infinite and

¹² Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. *Treatise on the Emendation of the Intellect*. Para.101, p.41

¹³ Ibid. EI p15s, p.424

¹⁴ Ibid. EI p28, p.432

¹⁵ Savan, D. ‘Spinoza: Scientist and Theorist of Scientific Method’. In Lloyd, G. (2001). *Spinoza: Critical assessments*. (Volume I) London: Routledge. p.263

¹⁶ Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. EI p45s, p.482

finite modes constitute a successive hierarchy of forms. Rather, he argues that Substance “expresses itself simultaneously and identically” as finite and infinite¹⁷, which “are nothing without each other”¹⁸, and are one continuous and indivisible reality, “determined by one unique law of causality.”¹⁹ Lord’s suggestion that we can understand the complete causal story of any finite mode’s existence as residing in both the metaphysical ‘depth’ of the universe in the infinite modes, as well as the metaphysical ‘breadth’ of the universe in the chains of causality among finite modes²⁰ may thus be a more helpful way to picture this structure than Savan’s two ‘causal axes’.

Explicating this point further, it is important to avoid falling into the conception that the infinite modes exist independently from the finite modes. Spinoza is not suggesting that there is a pseudo-Platonic realm in which, for example, Extension’s immediate infinite mode, motion and rest, exists in a plane of reality independent of the motion and rest of particular bodies. The laws of motion, the laws ‘inscribed’ in Extension’s immediate infinite mode in the language of the *Treatise on the Emendation of the Intellect*, are neither themselves motions, nor do they exist independently of the motion of finite modes. Rather, these are structures which condition the motion of anything, wholly immanent to particular motions. The laws of motion (infinite mode) are not reducible to particular motions, nor are particular motions (finite modes) reducible to the laws of motion. Each is an equal product of Substance’s singular causality, which expresses itself simultaneously as finite and as infinite in an infinity of attributes.

4.2 - Extension’s Infinite Modes

The notion of infinite modes is enigmatic in the *Ethics*, and Wolfson’s review of Spinoza’s corpus²¹ finds only two terms for Extension’s immediate infinite mode:

¹⁷ Macherey, P. (2011). *Hegel or Spinoza*. University of Minnesota Press. p.142

¹⁸ Ibid. pp.161-162

¹⁹ Ibid. p.201

²⁰ Lord, B. (2010). *Spinoza's ethics: an Edinburgh philosophical guide*. Edinburgh University Press. p.44

²¹ Wolfson, H. A. (1958). *The philosophy of Spinoza*. Cleveland: World Publishing. Vol.1, p.242

'Motion'²² and 'Motion and rest'²³. About motion and rest as such Spinoza says little, leading Adler to suggest that 'motion and rest' is really intended as a placeholder for some set of primary qualities to be specified later. Instead of committing himself to a particular view on these primary qualities, Adler interprets Spinoza as simply putting forward what seems to him the most likely true theory as an aid to comprehension, rather than definitely asserting this to be true.²⁴

In support of this reading, Adler points to a similar move made by Spinoza in EIIp17s. Here Spinoza offers an explanation of how the mind can perceive as existing something which does not, and admits the possibility of alternative reasons for this. However, he regards it as "sufficient for me here to have shown one (cause) through which I can explain it as if I had shown it through its true cause."²⁵ In light of this, Adler argues that motion and rest should be understood as 'motion and rest, or something of the sort', and Spinoza does indeed seem to use this sort of formulation in EIIIp2: "the Body cannot determine the Mind to thinking, and the Mind cannot determine the Body to motion, to rest or to anything else (if there is anything else)."²⁶ In Adler's reading, if another physical phenomenon turns out to be similarly fundamental, this can simply be added to the list of primary qualities, and Spinoza is not committed to motion and rest being the sole such qualities.²⁷

Adler's interpretation is not without merit and, as he points out himself, taking this more conservative approach to Spinoza's position would appear to save Spinoza from the epistemic offence of unwarranted speculation over facts he cannot know. In this reading, Spinoza is certainly allied to the mechanical philosophy of his day, but not to the point of abandoning rigour.²⁸ However, this

²² Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. Short Treatise on God, Man and His Well Being. I.9, p.91

²³ Ibid. Short Treatise on God, Man and His Well Being. I.2, note, p.71; Preface to the Second Part, p.95; II.19, p.131; II.20, note, p.137; Appendix II, p.155; Descartes' Principles of Philosophy. Meyer's Preface, p.229; EIp32c2, p.435; Spinoza, B. (2016). *The collected works of Spinoza: Volume II*. Edited and Translated by Curley, E. Princeton University Press. Ep.64, p.439

²⁴ Adler, J. (2001) 'Spinoza's Physical Philosophy'. In *Spinoza: Critical Assessments by Leading Philosophers*. Vol. II. Routledge. Eds. Lloyd, G. pp.171-2, 175

²⁵ Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. EIIp17s, p.464

²⁶ Ibid. EIIIp2, p.494

²⁷ Adler, J. (2001) 'Spinoza's Physical Philosophy'. In *Spinoza: Critical Assessments by Leading Philosophers*. Vol. II. Routledge. Eds. Lloyd, G. pp.175-176

²⁸ Ibid. pp.172, 175-176

interpretation of 'motion and rest' and the concerns that motivate it are at odds with the way Spinoza attempts to ground our knowledge of material Nature, and indeed the possibility of our reasoning in general.

In the *Treatise on the Emendation of the Intellect*, Spinoza argues that the human understanding is incapable of properly grasping the multitude of particular things and the infinite chains of causes producing and affecting each one.²⁹ This inability is no cause for despair, however, as the infinite series of causes of particular things can only supply us with their extrinsic characteristics, relations and circumstances, from which their essences cannot be derived. The essences of things are deduced solely from "fixed and eternal things" and "the laws inscribed in these things," according to which all particular things occur, are arranged, and on which they essentially depend, it being impossible for them to either be or be conceived without them.³⁰ These fixed and eternal things, due to "their presence everywhere, and most extensive power," function as universals both metaphysically and for our process of reasoning, acting as "genera of the definitions of singular, changeable things, and the proximate causes of all things."³¹

There is some debate over exactly what Spinoza is referring to here by 'fixed and eternal things.' Harris, for example, reads this as a broad indication of "the infinite and eternal essence of God, his attributes and their infinite modes,"³² whereas Wolfson interprets Spinoza as referring more specifically to the infinite modes.³³ In either case, Spinoza is certainly arguing that our comprehension of modal Nature depends on our understanding of the infinite modes.

In the *Ethics*, Spinoza claims that we obtain ideas of these universal structures of Nature, upon which our investigation of Nature and our reasoning in general can be based, from our own embeddedness within Nature. In EIIp29s Spinoza argues that insofar as the mind's perceptions are determined *externally* by its contingent encounters with singular things, it can only gain a "confused

²⁹ Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. *Treatise on the Emendation of the Intellect*. Para.100, p.41

³⁰ *Ibid.* Para. 101, p.41

³¹ *Ibid.*

³² Harris, E. E. (1973). *Salvation from despair: A reappraisal of Spinoza's philosophy*. The Hague: Martinus Nijhoff. p.23

³³ Wolfson, H. A. (1958). *The philosophy of Spinoza*. Cleveland: World Publishing. Vol.1, pp.251-2

and mutilated" knowledge of Nature.³⁴ These singular impressions are rendered confused, firstly, by the fact that their content is determined just as much by the nature of our own bodies as by the nature of the bodies they perceive through contact, and secondly, because experience allows us to trace the infinite chains of cause and effect which determine the existence of finite things only to a certain extent, thus preventing full comprehension. However, when the mind is determined *internally*, bringing together its various perceptions and understanding their "agreements, differences, and oppositions", it can understand this commonality clearly and distinctly, in contrast with the confused and mutilated knowledge yielded by our singular perceptions of things.³⁵

If the mind perceives something to be common to its body and an external body, then its idea of this commonality will not have the confused character which Spinoza attributes to sense perception. This is because the idea of 'something common' does not rely on a knowledge of the general causality of Nature but requires only the mind's ideas of my own and external bodies. The precise set of causes for my body existing the way it does may be unknown, and my ideas of it confused, and similarly I may not know the causes for an external object's existence and imagine it confusedly. However, the idea of commonality or agreement between things speaks for itself in the sense that the idea of an affection of my body which indicates the nature of both my own and an external body allows, by itself, a clear perception of similarities between the two things.³⁶

Spinoza argues that in its joint awareness of its body and external ones the mind discovers that its body has many things in common with the things it interacts with. Indeed, if it had nothing in common with them, interaction would be impossible.³⁷ Furthermore, there are features which the mind finds that its body shares with *all* other bodies. Most significantly for our purposes, the mind perceives clearly that all bodies are capable of motion and rest.³⁸ Spinoza calls these clear and distinct ideas of features common to all things, "which are the foundations of our reasoning," 'common notions.'³⁹

³⁴ Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. EIIp29s, p.471

³⁵ Ibid.

³⁶ Ibid. EIIpp37-40, pp.474-475

³⁷ Ibid. EIpp3, p.410

³⁸ Ibid. EIII2d, p.459

³⁹ Ibid. EIIp40s1, pp.475-476

Yovel argues this theory of common notions amounts to the claim that our reason “must be anchored within nature,” belonging to “an embodied being that exists within nature and is interwoven with its causal network.”⁴⁰ Contrary to Adler’s attempt to water down Spinoza’s commitment to motion and rest as Extension’s infinite mode, Yovel argues that, in its grasp of common notions, the intellect reflects truths which exist objectively in nature, “inscribed in the laws and infinite modes by which the universe works.”⁴¹ Common notions are “reflected from *within* nature, that is, read off the infinite modes by a mind whose organism shares in the general causality of nature.”⁴² Yovel thus identifies common notions as “the epistemological counterparts of fundamental laws of nature,” with their metaphysical basis in law-like uniformities in the structure of the world.⁴³

Franck⁴⁴, Kennington⁴⁵ and Savan⁴⁶ agree broadly with this interpretation of Spinoza as locating the foundations of our reasoning in common notions gained from our perception of universal commonalities among those things given by the senses. However, unlike these scholars, Yovel makes clear that Spinoza argues that the mind perceives these uniformities directly, without going through any process of induction or abstraction.⁴⁷ Harris also emphasises that the infinite modes understood in our common notions, and serving as the first premises of our reasoning, are universal physical realities inherent in reality and “implicit in any experience whatsoever.”⁴⁸

Considering this, we must conclude that despite the brevity of Spinoza’s comments on motion and rest, he is committed to the specific identification of this as the immediate infinite mode of Extension, contrary to Adler’s suggested ‘placeholder’ reading. In identifying motion and rest as Extension’s infinite

⁴⁰ Yovel, Y. (1993) ‘The Second Kind of Knowledge and the Removal of Error’. In Segal, G. & Yovel, Y. (2002). *Spinoza*. Aldershot, Hants, England: Ashgate. p.161

⁴¹ Ibid.

⁴² Ibid.

⁴³ Ibid.

⁴⁴ Franck, I. ‘Spinoza’s Logic of Inquiry: Rationalist or Experientialist?’ In Kennington, R. (1980) *The Philosophy of Baruch Spinoza*. The Catholic University of America Press. p.269

⁴⁵ Kennington, R. ‘Analytic and Synthetic Methods in Spinoza’s *Ethics*’. In Kennington, R. (1980) *The Philosophy of Baruch Spinoza*. The Catholic University of America Press. pp.313-4

⁴⁶ Savan, D. ‘Spinoza: Scientist and Theorist of Scientific Method’. In Lloyd, G. (2001). *Spinoza: Critical assessments*. (Volume I) London: Routledge. p.256

⁴⁷ Yovel, Y. (1993) ‘The Second Kind of Knowledge and the Removal of Error’. In Segal, G. & Yovel, Y. (2002). *Spinoza*. Aldershot, Hants, England: Ashgate. p.162

⁴⁸ Harris, E. E. (1973). *Salvation from despair: A reappraisal of Spinoza's philosophy*. The Hague: Martinus Nijhoff. pp.23-25

mode, Spinoza is committed to the claim that motion and rest is the quality universal to all extended things and necessary to both the existence and conceivability of all extended things. All extended things are necessarily explained through the dynamic relation of motion and rest because this is the fundamental way in which Substance produces itself as Extension, which, in Macherey's words, "acts and affirms itself in this relationship, which represents it absolutely, that is, without intermediary and without restriction."⁴⁹ As Spinoza states in the early *Short Treatise*, "when we consider extension alone, we perceive nothing else in it except motion and rest, from which we find that all its effects derive. And such are these two modes in body, that there can be no other thing which can change them, except themselves."⁵⁰ The immanent dynamic relation of motion and rest constitutes not only the fundamental qualitative being of extended Nature, but also the sole form of its activity and its singular governing principle.

Further, Spinoza is committed to the claim that the idea of motion and rest is a common notion necessarily and clearly perceived by the mind. Importantly, these are not dogmatic assertions on Spinoza's part, but an attempt to give his deductive system of Nature a secure foundation in real metaphysical structures. Motion and rest cannot be read as a conjectural placeholder pending further investigation, but must be understood as the quality of motion and rest we are immediately and necessarily aware of in our physical situation within Nature.

Even if we accept Spinoza's commitment to motion and rest as Extension's immediate infinite mode, however, Schliesser argues that there is in fact no obvious justification for the existence of motion at all in Spinoza's system. This is because Spinoza makes clear in EIII3c that, should matter be at rest, it will continue to be so until determined to motion by an external cause⁵¹, but also rejects Descartes' theory that God begins the chain of motion.⁵² Because Spinoza's

⁴⁹ Macherey, P. (2011). *Hegel or Spinoza*. University of Minnesota Press. p.150

⁵⁰ Spinoza, B. (2016). *The collected works of Spinoza: Volume II*. Edited and Translated by Curley, E. Princeton University Press. Short Treatise. p.131

⁵¹ Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. EIII3c, p.459

⁵² Ibid. EIP28, pp.432-433; Spinoza, B. (2016). *The collected works of Spinoza: Volume II*. Edited and Translated by Curley, E. Princeton University Press. Ep.73, p.467

God is immanent⁵³, this can provide no 'external' cause to set matter in motion, and so motion must be intrinsic to the extended universe in some sense. However, Schliesser finds no satisfying justification for this, suggesting Spinoza must either take motion and rest as axiomatic, as he appears to in EIIa1'⁵⁴, or simply claim that this is one of the infinite things in infinite modes which follow from the divine nature, as indicated in EIp16^{55,56}

However, bringing out the full implications of the identification of motion and rest as Extension's immediate infinite mode, Macherey makes clear that extended Substance expresses itself *absolutely* and *immediately* in a relation of motion and rest. That is, Spinoza does not reject the Cartesian conception of inert matter to which movement must be imparted externally only because he rejects divine intervention in the order of Nature, but because Extension cannot be or be conceived without the animating relation of motion and rest.⁵⁷ Motion is fundamental to Spinoza's intrinsically dynamic conception of materiality, which is why he can remark that "Descartes' principles of natural things are useless, not to say absurd"⁵⁸ and has no need of a prime mover. The worry that Spinoza lacks a justification for the existence of motion raises the question of the absolute nature of Extension through the lens of the nature of particular extended things. It is appropriate to ask what the cause of any particular thing's motion is, but Spinoza locates the existence of motion as such at a more fundamental, qualitative level, such that to ask why materiality is in motion is much the same as asking why all thoughts have objects.

Responding to Schliesser's question as to why motion exists by pointing out that motion and rest is the immediate expression of the nature of Extension, however, only prompts us to ask what it is about Extension that necessitates it exist as motion and rest. As we will discuss in detail in chapter nine, Hegel addresses this question as part of his account of mechanics, but it is not clear that Spinoza has an answer which would be adequate from a Hegelian point of view.

⁵³ Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. EIp18, p.428

⁵⁴ Ibid. EIIa1', p.458

⁵⁵ Ibid. EIp16, p.424

⁵⁶ Schliesser, E. (2017). 'Spinoza and the Philosophy of Science: Mathematics, Motion, and Being'. In *The Oxford Handbook of Spinoza*. Ed. Della Rocca, M. Oxford University Press. pp.180-181

⁵⁷ Macherey, P. (2011). *Hegel or Spinoza*. University of Minnesota Press. pp.149-150

⁵⁸ Spinoza, B. (2016). *The collected works of Spinoza: Volume II*. Edited and Translated by Curley, E. Princeton University Press. Ep.81, p.485

The response most consistent with the interpretation of Extension and its infinite mode constructed above would be that motion and rest is irreducible, in the sense of being that which follows immediately and absolutely from Substance as extended. Macherey seems to support such a line of interpretation when he argues that the laws of Nature expressing this relationship of motion and rest “are irreducible insofar as they are derived immediately from substance.”⁵⁹

However, this claim of irreducibility is, to Hegelian eyes, an admission that Spinoza’s philosophy of extended Nature is haunted by the problem of deriving determinacy discussed above. Just as, from the Hegelian standpoint, it is not adequately explained why Substance necessarily exists as Extension, it is also not explained why Extension necessarily exists as motion and rest. Of course, it may be that Spinoza is correct that motion and rest follows absolutely and immediately from Extension, representing the bedrock of extended Nature incapable of any deeper explanation. However, this claim will have to stand up against Hegel’s account of mechanics.

Extension’s mediate infinite mode will not have as significant a part to play in the context of this study but should nonetheless be outlined briefly. Though the distinction between immediate and mediate infinite modes is referred to in the *Ethics*, no mediate infinite mode is named for either Extension or Thought. However, in a letter to Schuller Spinoza does name one mediate infinite mode as *facies totius universi*⁶⁰, most literally translated as ‘the face of the whole universe’, though Macherey suggests it can be read as “corporeal nature taken in its entirety.”⁶¹ Spinoza describes this as that “which, although varying in infinite ways, yet remains always the same”⁶² and refers Schuller to EIII7s, which contains the claim that we can conceive the whole of Nature as a single individual, “whose parts, i.e., all bodies, vary in infinite ways, without any change of the whole Individual.”⁶³

The simplest and clearest interpretation of what Spinoza intended to indicate by the *facies totius universi* is that argued for by Lord, who suggests that,

⁵⁹ Macherey, P. (2011). *Hegel or Spinoza*. University of Minnesota Press. p.150

⁶⁰ Ibid. Ep.64, p.439

⁶¹ Macherey, P. (2011). *Hegel or Spinoza*. University of Minnesota Press. p.150

⁶² Spinoza, B. (2016). *The collected works of Spinoza: Volume II*. Edited and Translated by Curley, E. Princeton University Press. Ibid. Ep.64, p.439

⁶³ Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. EIII7s, p.462

when expressed under the attribute of Extension, this is the whole of Nature as one infinite physical individual, or “a single, infinite continuum of physicality.”⁶⁴ We can add to this Macherey’s suggestion that Spinoza sought to indicate that corporeal Nature, in its infinite variety of determinations, nonetheless maintains an identical form governed by the same unchanging laws of motion and rest⁶⁵, as well as Garrett’s point that this ‘infinite individual’, composed of every body in corporeal Nature, eternally pervades the causal history of the generation and destruction of finite bodies.⁶⁶

Summing up our examination of Extension’s infinite modes, thus far we have established, firstly, that though Spinoza’s direct comments on ‘motion and rest’ as such are few, he is committed to the identification of this as the immediate infinite mode of Extension, contrary to a deflationary reading of ‘motion and rest’ such as that argued for by Adler. Secondly, as Extension’s immediate infinite mode, the relation of motion and rest is the fundamental way Substance produces itself as Extension. As a result, extended Nature cannot be conceived apart from motion and rest, extended Nature is essentially dynamic, and all extended Nature is explained through motion and rest.

As Macherey points out, Spinoza’s theory of infinite modes shows clearly that he does not hold an infinite, indeterminate Substance on one side and the finite, determinate sphere of modes on the other. Contra Hegel’s interpretation, Spinoza does not hold that determination is “a deprivation, a negation of the indeterminate,” nor is it “necessarily and exclusively finite,” but instead flows from the absolute nature of Substance in a given attribute.⁶⁷ However, in a repetition of the pattern we saw above in examining the lack of a concrete derivation of the attributes from Substance, we have seen that, from a Hegelian standpoint, there are significant deficiencies in the Spinozist framework’s ability to offer a derivation of motion and rest from Extension.

⁶⁴ Lord, B. (2010). *Spinoza's ethics: an Edinburgh philosophical guide*. Edinburgh University Press. p.40

⁶⁵ Macherey, P. (2011). *Hegel or Spinoza*. University of Minnesota Press. p.154

⁶⁶ Garrett, D. (2012). ‘A Reply on Spinoza’s Behalf’. In *Spinoza and German Idealism*. Eds. Förster, E. and Melamed, Y. Cambridge University Press. p.255

⁶⁷ Macherey, P. (2011). *Hegel or Spinoza*. University of Minnesota Press. p.150

4.3 - Extension's Finite Modes

To briefly situate what follows in the context of the preceding discussion of infinite modes, it is important to avoid conceiving Substance's determinations as forming a sequential hierarchy, just as we saw in the previous chapter in the case of the Substance-attribute relationship. As discussed above in section 4.1, Macherey argues that the infinite, mediate infinite and finite modes do not constitute a successive hierarchy of forms. Rather, Substance "expresses itself simultaneously and identically" as finite and infinite⁶⁸, which "are nothing without each other"⁶⁹, and are one continuous and indivisible reality, "determined by one unique law of causality."⁷⁰ It is not that extended Substance first necessitates its existence as motion and rest, with motion and rest then necessitating the existence of an infinity of bodies. Motion and rest does not of itself directly necessitate an infinity of bodies, but rather the infinite causal power of extended Substance necessitates both that it exist as motion and rest (infinite mode) and as an infinity of bodies (finite modes).

Concerning the question of why extended Substance necessarily expresses itself in an infinity of finite modes, or bodies, it is not clear that Spinoza offers any more specific or developed reasons than those discussed in chapter three. Recapitulated very briefly, these reasons were, firstly, that from the infinity of Substance's essence infinite modes must follow⁷¹, modes thus being derived from Substance as its infinite necessary *propria*, and secondly, that it is in the nature of Substance that it must be active in causing itself to exist as the modal universe.⁷² This, of course, leaves unaddressed the concerns brought up at the conclusion of chapter three regarding the insufficiency of these points to satisfactorily explain the necessity of Substance's expression in an infinity of modes. From the Hegelian standpoint, this continues the pattern of explanatory deficiency we have seen so far in the lack of explanation as to why Substance must necessarily express itself as Extension, and why extended Substance must necessarily exist as motion and rest.

⁶⁸ Macherey, P. (2011). *Hegel or Spinoza*. University of Minnesota Press. p.142

⁶⁹ Ibid. pp.161-162

⁷⁰ Ibid. p.201

⁷¹ Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. EIp16d, p.425

⁷² Ibid. EIp34 and demonstration, p.439; EIIp3s, p.449

Spinoza's account of Extension's finite modes does, however, flesh out the mechanical account of extended Nature begun with motion and rest's identification as the immediate infinite mode. As we shall see, motion is not only fundamental to the being of extended things in the sense that it is the qualitative form of being apart from which extended things cannot be or be conceived at all, but also provides the basis for the constitution of all formations of extended modes. Motion is the sole form of activity found among extended finite modes, and stable patterns of motion and rest provide the individuation and nature of bodies. Further, the *quantitative* differences in the complexity of these patterns of motion and rest provide the basis of all the variation we find among the formations of extended Nature.

This mechanical view is of great importance in understanding the divergence of Spinoza and Hegel's views of the broader structure of Nature, the second major area of Hegelian critique this study will explore. As will be elaborated in chapters nine and eleven, motion certainly has a key role in Hegel's philosophy of Nature, and this mechanical element will never be left behind in Nature's progression. However, it is a core Hegelian claim that Nature both necessarily develops through stages, such as the chemical and organic, which are *qualitatively* differentiated from and sublate its purely mechanical existence, and that these stages yield forms and activity which manifest *qualitative* determinations not reducible to the *quantitative* determinations of motion and rest. By 'sublate' Hegel means that Nature's mechanical element is not simply negated, but is taken up into a higher, more comprehensive unity.

By far Spinoza's most detailed discussion of Extension's finite modes takes place in a relatively brief digression from his account of the mind in the second part of the *Ethics*, sometimes called the 'physical interlude' or 'physical digression' by commentators. Spinoza himself acknowledges in the physical interlude that "if it had been my intention to deal expressly with body, I ought to have explained and demonstrated these things more fully"⁷³, leading commentators such as Schliesser⁷⁴ and Peterman⁷⁵ to suggest that Spinoza's

⁷³ Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. EIII7s, p.462

⁷⁴ Schliesser, E. (2017). 'Spinoza and the Philosophy of Science: Mathematics, Motion, and Being'. In *The Oxford Handbook of Spinoza*. Ed. Della Rocca, M. Oxford University Press. p.167

⁷⁵ Peterman, A. (2017). 'The "Physical" Interlude'. In *Spinoza's Ethics: A Critical Guide*. Ed. Melamed, Y. Cambridge University Press. p.103

comments on finite bodies and motion in the physical interlude should not be taken as a serious attempt at formulating a physics. Although neither of these scholars makes mention of Hegel, their interpretation can be seen as in sympathy with Hegel's comment with regard to the finite modes, already mentioned above, that "here we are at the extreme limit of Spinoza's system, and it is here that his weak point appears."⁷⁶ However, while Hegel considers the skeletal nature of Spinoza's account of finite modes as a major issue, these scholars take the interpretive strategy of avoiding problems for Spinoza by deflating the significance of his statements on mechanics, similarly to the way we saw above that Adler sought to save Spinoza from unwarranted claims by deflating the significance of motion's identification as Extension's immediate infinite mode.

While it must be recognised that Spinoza's account of matter in motion in the physical interlude is far from complete, and that it was not his intention there to provide a fully fleshed out physics, it will be shown in what follows, contrary to these commentators (Hegel included), that Spinoza's account nonetheless has an elegance, explanatory power and systematic connection with his broader metaphysics which demands serious attention.

Spinoza begins his highly condensed account of finite extended bodies with two brief axioms: "all bodies either move or are at rest"⁷⁷ and "each body moves now more slowly, now more quickly."⁷⁸ These axioms are clearly built on the identification of motion and rest as the immediate infinite mode of Extension discussed above. Expanding on this, Spinoza proceeds to claim that "bodies are distinguished from one another by reason of motion and rest, speed and slowness, and not by reason of substance."⁷⁹ The second part of this follows quite obviously from Spinoza's core position of Substance monism: since there exists only one Substance, of which all bodies are modes, these bodies cannot be distinguished in virtue of their being or being modes of different substances. The assertion that bodies are distinguished through motion and rest again follows naturally from Spinoza's identification of motion and rest as the immediate infinite mode of Extension. Motion and rest is the form of being which follows

⁷⁶ Hegel, G.W.F. (1995). *Lectures on the history of philosophy: Volume Three*. Lincoln: University of Nebraska Press. p.273

⁷⁷ Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. EIIa1', p.458

⁷⁸ Ibid. EIIa2', p.458

⁷⁹ Ibid. EIII1, p.458

immediately from the essence of Substance conceived as extended, and so is universal to all modes of Extension and absolutely fundamental to any conception of a mode as extended. Extended bodies must ultimately be distinguished by motion and rest and not in any other way, because any other proposed way of distinguishing them will be reducible to a comparison of their states of motion and rest.

Spinoza further elaborates that any body's state of motion or rest is determined by the motion or rest of another body, which is in turn determined by another, and so on, in an infinite causal series.⁸⁰ This is simply the application of the infinite transitive causal series among finite modes already established in EIp28⁸¹ to the case of finite extended modes. Further, the way in which a body is affected by another is co-determined by the nature of the affecting and the affected bodies, with the result that one and the same body can be moved in many different ways due to differences in the bodies affecting it, and conversely different bodies may be moved in different ways by one and the same body.⁸²

In a move which follows less obviously from his already established positions, Spinoza distinguishes between the "simplest bodies," which "are distinguished from one another only by motion and rest, speed and slowness," and "composite bodies"⁸³ or 'individuals', which he introduces in a very significant unnumbered definition:

"When a number of bodies ... are so constrained by other bodies that they lie upon one another, or if they so move ... that they communicate their motions to each other in a certain fixed manner, we shall say that those bodies are united with one another and that they all together compose one body or Individual, which is distinguished from the others by this union of bodies."⁸⁴

Spinoza's claim here that a compound body "is distinguished from the others by this union of bodies" suggests that compound bodies are not distinguished from

⁸⁰ Ibid. EIIl3, p.459

⁸¹ Ibid. EIp28, p.432

⁸² Ibid. EIIa1'', p.460

⁸³ Ibid. EIIa2'', p.460

⁸⁴ Ibid. EIIp13def, p.460

other simple or compound bodies only by their motion and rest as such, but by the specific pattern of motion and rest among their elements. Compound bodies are constituted by the particular structural arrangement and composition of the union which they are, or the fact that “they communicate their motions to each other in a certain fixed manner”, as Spinoza puts it. Spinoza goes on to offer the example of hardness and softness, which he explains arise insofar as the parts of a composite body “lie upon one another over a larger or smaller surface,” making changing their position more or less difficult.⁸⁵

Adler cautions against the temptation to give an overly specific interpretation to the notion of a ‘simple body’, such as viewing these as infinitely small particles, corpuscles or some other elementary body, suggesting instead that the concept of a simple body is intended as a placeholder to be filled in later by the advancement of physical science. In a move similar to his argument concerning motion, Adler suggests that a commitment on Spinoza’s part to a specific candidate for these simplest bodies would only undermine his position by making it dependent on facts he cannot be certain of.⁸⁶

Macherey, on the other hand, takes the position that simple bodies cannot be interpreted as really existing absolutely simple and indivisible bodies, since Spinoza rejects such an atomistic understanding of extended things in EIp15s.⁸⁷ Here Spinoza argues that Extension is infinite but not composed of finite parts, in the sense that it cannot be divided in such a way that its parts are really distinct. Indeed, “it is no less absurd to assert that corporeal substance is composed of bodies, *or* parts, than that a body is composed of surfaces, the surfaces of lines, and the lines, finally, of points.”⁸⁸ He goes on to explain that we are inclined to conceive Extension as divided because we most commonly conceive it abstractly through the imagination, and so find it to be finite, divisible, and composed of parts. But when we conceive it through the intellect, which is much more difficult, we understand Extension as it is in Substance, and find it to be infinite, unique and indivisible. As understood by the intellect, ‘parts’ of Extension are only distinguished “insofar as we conceive matter to be affected in different

⁸⁵ Ibid. EIIa3’, p.460

⁸⁶ Adler, J. (2001) ‘Spinoza’s Physical Philosophy’. In *Spinoza: Critical Assessments by Leading Philosophers*. Vol. II. Routledge. Eds. Lloyd, G. pp.171-172

⁸⁷ Macherey, P. (2011). *Hegel or Spinoza*. University of Minnesota Press. pp.155-157

⁸⁸ Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. EIp15s, p.423

ways, so that its parts are distinguished only modally, but not really.”⁸⁹ Unpacking this claim that Extension’s ‘parts’ are distinguished ‘only modally, but not really’, Spinoza is making the point that Extension, as an attribute of Substance, is not an aggregate of separate parts, but a specific way or quality of being. Finite bodies are *modes* of the indivisible, singular extended Substance, that is, ways in which Substance exists, not *parts* of it.

Macherey expresses concerns over how Spinoza’s denial of truly distinct parts can be reconciled with simple bodies, and interprets extended Nature as being comprised only of composite bodies, that is, complex realities irreducible to isolated elements. Macherey suggests that the notion of a simple body aids us in constructing our discourse on reality, enabling us to grasp the essential properties of finite modes, and this is why Spinoza makes use of this concept in the physical interlude, but nonetheless simple bodies do not actually exist in Nature.⁹⁰

However, Garrett gives a more elegant interpretation of simple bodies which reconciles them with the denial of Extension’s having separate parts in a way which fits more naturally with Spinoza’s remarks in the *Ethics*, which give no clear indication that the notion of a simple body is only an aid to comprehension, while also avoiding having to regard this notion as a mere placeholder. Garrett suggests that we can understand simple bodies, ‘distinguished from one another only by motion and rest’, to be constituted by those regions of Extension which are, at a given moment, entirely homogeneous with respect to the quantitative distribution of motion and rest. Indeed, simple bodies “might, in effect, be such homogeneities.”⁹¹ This reading of simple bodies avoids any conflict with the denial of distinct parts within Extension, while also giving simple bodies a great deal of flexibility. Garrett points out that, understood in this way, the quantity of motion and rest constituting a simple body “need not remain the same throughout its spatiotemporal path” as long as the path is “continuous and that distribution of quantity of motion ... remain homogeneous throughout the body.” Further, a simple body conceived this way

⁸⁹ Ibid. EIp15s, p.424

⁹⁰ Macherey, P. (2011). *Hegel or Spinoza*. University of Minnesota Press. pp.155-157

⁹¹ Garrett, D. (2018) *Necessity and Nature in Spinoza’s Philosophy*. Oxford University Press. p.302

can change in size, as well as it being possible for different simple bodies to be different sizes.⁹²

Spinoza concludes the physical interlude with a series of lemmas concerning the identity of composite bodies through change, arguing, firstly, that if some of the bodies composing a compound body are removed, but the same number of bodies of the same nature take their place, then the compound body will retain its nature.⁹³ This, Spinoza reasons, is because what constitutes the nature of a compound body is only a union of bodies, i.e. a compound body is defined by the set of simple bodies that constitute it, and more specifically by their particular arrangement and the fixed proportion of motion and rest maintained between them. As a result, even if the set of bodies composing the compound body is continually changing, this in itself poses no challenge to its retaining its nature. This is because the nature of the compound body is constituted by a particular relationship of motion and rest between its parts, changes to the membership of which are irrelevant as long as the bodies being lost and replaced are of the same 'nature', that is, their motion and rest is the same and they are thereby incorporated into the system of motion and rest that is the compound body.⁹⁴

Having set out this most simple case of a compound body maintaining its nature through change, Spinoza argues additionally that if the number of parts composing a compound body becomes greater or less, but in a proportion such that the same ratio of motion and rest is maintained as before, then the compound body will retain the same nature as before.⁹⁵ In his demonstration of this claim, Spinoza simply refers us back to the previous lemma. Spinoza might seem to be in contradiction here of his previous argument for the persistence of compound bodies through change, in which he had posited the same number of simple bodies as being lost and replaced. However, rather than thinking Spinoza would miss such an obvious conflict, it is more plausible to regard the maintenance of the same number of bodies in the case of EIII4 as a way for Spinoza to aid comprehension of his point by intentionally simplifying the

⁹² Ibid. p.303

⁹³ Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. EIII4, p.461

⁹⁴ Ibid. EIII4d, p.461

⁹⁵ Ibid. EIII5, p.461

example. That the particular number of bodies at any stage was never the core point is made explicit by EIII5, which precisely indicates that the nature of a compound body only ever depends on the ratio of motion and rest among its parts, regardless of their number. Additionally, although Spinoza does not make this explicit, we can add a qualification that as we ascend to progressively more complex structures of motion and rest, it may be that these require a minimum number of parts in order to exist. However, this does nothing to damage Spinoza's point, since what indicates any such threshold will always be the point at which a certain ratio of motion and rest can exist, rather than the nature of a thing being directly dependent on a particular number of bodies, which, if exceeded or fallen short of, will destroy the thing.

The scholium to EIII7 expands the scope of the theory of simple and compound bodies to explicitly encompass the whole of corporeal Nature. Remarking that thus far we have considered only those compound bodies constituted by simple bodies, seeing that such compound bodies can alter in many ways without losing their nature, Spinoza moves to suggest that we may now consider a second kind of compound body, itself composed of many compound bodies. Drawing on the same reasons we considered above in the case of the first kind of compound body, we can see that this second kind of compound body is capable of sustaining its nature through an even greater breadth of change, since each of its parts, themselves composed of a number of bodies, can move with different speeds, in different directions, can change their constituents, and communicate their motion differently to the other composite parts of the body. Going further, we can of course extend this reasoning to a third kind of compound body, itself composed of compound bodies of this second kind, which will similarly be able to undergo an even greater degree of change while sustaining its nature. Indeed, Spinoza makes explicit that, "if we proceed in this way to infinity, we shall easily conceive that the whole of nature is one Individual, whose parts, i.e., all bodies, vary in infinite ways, without any change of the whole Individual."⁹⁶

At no point does Spinoza make clear exactly what he means by a 'ratio' of motion and rest, the concept upon which he rests the nature of compound

⁹⁶ Ibid. EIII7s, p.462

bodies. Is this a mathematical ratio of two quantities, or is 'ratio' used here in a more general sense, meaning something like 'pattern' or 'relationship'? Garrett⁹⁷ and Adler⁹⁸ both point out that the Latin word *ratio* in *ratio motus et quietis* has a wide range of potential meanings, including quantitative ratio, definition, pattern and relation. Indeed, Adler argues that no individual use of the term by Spinoza points definitively to one interpretation, and neither does the original Dutch translation of the *Ethics*, the translator of which may have consulted with Spinoza, decide the issue.⁹⁹

As a result, we must look to the theoretical implications of these interpretations. Adler suggests that the most reasonable way of understanding 'ratio of motion and rest', if meant in a primarily mathematical sense as a relation of two quantities, would be to take a body's quantity of motion as its momentum and its quantity of rest as its inertial mass. An object's essential ratio of motion and rest would then be arrived at by dividing the sum of the momenta of all its parts by the sum of their mass.¹⁰⁰ Garrett points out a number of difficulties with a mathematical interpretation of *ratio*, the most obvious of which is the difficulty in clearly explaining how an individual can retain its nature through changes such as acceleration and warming when these would seem to change an individual's ratio of motion and rest if this is understood mathematically.¹⁰¹

Both Garrett and Adler favour a more flexible interpretation of 'ratio of motion and rest' as referring to a certain pattern of motion and rest, though this does not at all preclude this pattern from being put into mathematical terms.¹⁰² Bennett also argues for this reading, interpreting 'ratio of motion and rest' as indicating a "coherence of organization."¹⁰³ Giving more detail to this route of interpretation, Garrett suggests that this understanding of *ratio* imposes at least two minimal conditions on individuals which have such a ratio of motion and rest: First, the individual's parts must not vary in motion completely

⁹⁷ Garrett, D. (2018) *Necessity and Nature in Spinoza's Philosophy*. Oxford University Press. p.306

⁹⁸ Adler, J. (2001) 'Spinoza's Physical Philosophy'. In *Spinoza: Critical Assessments by Leading Philosophers*. Vol. II. Routledge. Eds. Lloyd, G. p.178

⁹⁹ Ibid.

¹⁰⁰ Ibid.

¹⁰¹ Garrett, D. (2018) *Necessity and Nature in Spinoza's Philosophy*. Oxford University Press. pp.304-306

¹⁰² Adler, J. (2001) 'Spinoza's Physical Philosophy'. In *Spinoza: Critical Assessments by Leading Philosophers*. Vol. II. Routledge. Eds. Lloyd, G. p.178; Garrett, D. (2018) *Necessity and Nature in Spinoza's Philosophy*. Oxford University Press. pp.306-307

¹⁰³ Bennett, J. (1984) *A Study of Spinoza's Ethics*. Hackett. p.232

independently of the motion of the other parts. Second, the way in which the motion of the individual's parts is interrelated must conform to an enduring pattern, "even though the identity, size, number, position, direction, and motion of the parts playing these roles may change."¹⁰⁴

This second interpretation is indeed more promising, since the broader understanding of 'ratio' as indicating a pattern fits better with the way Spinoza describes the principles governing finite bodies and allows a stronger, more flexible, and more philosophically interesting reading of his mechanics. In particular, when we consider very complex compound bodies, such as our own, it is both much more plausible and more informative for Spinoza to claim that the human body's nature consists in a pattern of motion and rest among its many organs and systems, rather than that the human body consists in a certain relationship of its total inertial mass and momentum.

Also taking this reading of the 'ratio' of motion and rest, Macherey suggests that, for Spinoza, an individual natural object is no more than "a 'being' in which distinct existences coexist."¹⁰⁵ Referring us to Spinoza's definition of an 'individual' quoted above, Macherey argues that an individual is only a circumstantial union of bodies, "a certain assemblage of elements of the same nature that agree among themselves."¹⁰⁶ Further, Macherey suggests that "individuals do not exist absolutely but relatively, according to circumstances or a point of view"¹⁰⁷, as Spinoza indicates in EIId7:

"By singular things I understand things that are finite and have a determinate existence. And if a number of Individuals so concur in one action that together they are all the cause of one effect, I consider them all, to that extent, as one singular thing."¹⁰⁸

Macherey draws our attention to Spinoza's qualifying that this unity only exists 'to that extent', meaning that "the unity that constitutes an individual ... depends

¹⁰⁴ Garrett, D. (2018) *Necessity and Nature in Spinoza's Philosophy*. Oxford University Press. p.307

¹⁰⁵ Macherey, P. (2011). *Hegel or Spinoza*. University of Minnesota Press. p.175

¹⁰⁶ Ibid.

¹⁰⁷ Ibid.

¹⁰⁸ Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. EIId7, p.447

on conditions that make and unmake it.”¹⁰⁹ This unity does not come from the intrinsic reason of an internal principle of assembly, according to which the parts would complete each other in an immanent harmony. Rather, the individual is composed in the encounter and coexistence of bodies without this indicating a privileged relationship of internal order. The singular bodies composing an individual are unified only through the mechanical actions of mutual external constraint and the pressure of ambient forces applied by other bodies in the environment.¹¹⁰

Taking the human body as an example, Spinoza states that:

“The parts composing the human Body pertain to the essence of the Body itself only insofar as they communicate their motions to one another in a certain fixed manner (*certa ratione*), and not insofar as they can be considered as Individuals, without relation to the human Body.”¹¹¹

Spinoza clearly presents the parts of the human body as themselves being individuals here, just as he does also in the first postulate following the physical interlude where he states that “the human body is composed of a great many individuals of different natures, each of which is highly composite.”¹¹² Spinoza makes clear that the human body’s parts are themselves complex individuals, each of which can be separated from the human body without taking away the nature of either that part or the human body, and can establish relationships of motion and rest with other bodies.¹¹³

The human body’s parts are elements that coexist in and together form its total organization but also remain independently existing things, complete in themselves, which only circumstantially belong to this overall ensemble.

Macherey argues that, from a Spinozist perspective, it is illusory to attempt to blend these two aspects, considering each part as constituted in itself in such a way as to form a harmonious totality with the others. This would be to abstractly summarize “an infinite sequence of determinations in the fiction of a unique

¹⁰⁹ Macherey, P. (2011). *Hegel or Spinoza*. University of Minnesota Press. p.176

¹¹⁰ Ibid.

¹¹¹ Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. EIIp24d, p.468

¹¹² Ibid. EIIp13post1, p.462

¹¹³ Ibid. EIII4, p.461; EIIp24d, pp.468-469

intention.”¹¹⁴ Rather, Spinoza calls for a strictly causal and mechanistic understanding of the formations of extended Nature, no matter how complex, according to which the reason for the harmony of the human body’s parts is found only “in the transitive relationship of determination that constrains them, provisionally, to associate.”¹¹⁵ Each part of the human body belongs to this overall form only due to the transitive causality that has brought about this liaison and continues to constrain its elements, holding them together only until these causal conditions change, following which the assemblage unravels and other associations emerge.¹¹⁶

Carriero, arguing for a similar picture of the nature of individuals in Spinoza’s philosophy, suggests “there is a fine line between what an individual is and its activity.”¹¹⁷ Carriero points out that we find it intuitive to conceive of a hurricane, for example, as being its motive activity, without some prior subject being invoked in which this activity exists. Spinoza can be understood as universalising this intuition into a way of conceiving bodies generally.¹¹⁸ In chapter eleven we will see Hegel arguing directly contrary to this view of bodies in his account of the internal formative principle of ‘Shape’.

Connecting this view of individual bodies to the broad picture of the whole of corporal Nature brought into view by Spinoza in the scholium to EII7, Newlands reads Spinoza’s position as one according to which things are individuals or parts depending on the perspective they are conceived from and its greater or lesser scale. Extension is internally structured by a distribution of motion and rest, and individuals are constructed from this distribution insofar as motion and rest form stable patterns. However, the individuation of these stable patterns depends in part on how the distribution is conceived. In a maximally broad conception, a single quantity and pattern of motion and rest is conserved through the whole of extended Nature in a global distribution composing a single individual. This is the all-encompassing infinite individual of EII7s. But in a narrower conception of the distribution of motion and rest, “discrete, stable, and more localized patterns of activity persist and compose discrete individuals,

¹¹⁴ Macherey, P. (2011). *Hegel or Spinoza*. University of Minnesota Press. p.177

¹¹⁵ Ibid.

¹¹⁶ Ibid.

¹¹⁷ Carriero, J. (2017). ‘Conatus’. In Melamed, Y. (Ed.), *Spinoza's Ethics: A Critical Guide*. Cambridge University Press. pp.146-147

¹¹⁸ Ibid.

or composite bodies.”¹¹⁹ Similarly, Carriero has suggested that we can understand Spinoza’s conception of physical Nature as consisting “in a fluid-like matter in motion, a plenum,”¹²⁰ which is, however, “not some chaotic flux” but “populated by relatively stable physical individuals.”¹²¹

While there is not room here for an exhaustive examination of the many avenues for further thought opened up by the subtle reading of Spinoza’s physical philosophy traced above in the work of Macherey, Carriero, Garrett and Adler, it should nonetheless be evident that Spinoza’s view of extended Nature, though committed to purely mechanical explanation, is far from simplistic, and is certainly not the glaringly deficient weak point of Spinozist thought which Hegel dismisses it as. We will discuss Spinoza’s theory of finite modes in further detail in chapter ten, particularly regarding the issue of qualitative and quantitative differences in Nature, what a Spinozist philosophy of Nature has to say about the organic, and the role of Spinoza’s theory of the *Conatus*. To facilitate the dialogue with Hegel in chapters seven to nine it is sufficient for the moment to have followed Spinoza’s view of Substance and its infinite modes to its most fundamental consequences in finite material Nature, namely the centrality of motion and rest and its patterns as the reality of all that is found in extended Nature. Before moving on to consider Hegel’s philosophy, we will more explicitly tie the findings of the last two chapters back into this study’s central concerns.

¹¹⁹ Newlands, S. (2018). *Reconceiving Spinoza*. Oxford Scholarship Online. p.155

¹²⁰ Carriero, J. (2017). ‘Conatus’. In Melamed, Y. (Ed.), *Spinoza's Ethics: A Critical Guide*. Cambridge University Press. p.144

¹²¹ Ibid. p.145

Chapter 5 – Nature without Negation

Having followed through Spinoza's view of the modal universe, we are now in a position to consider, firstly, the ways in which the interpretation of Spinoza's philosophy of Nature constructed over the last two chapters pushes back against Hegel's reading of Spinoza's thought and, contrary to Hegel's dismissal of Spinoza's physical philosophy, carves out an account of the natural world which demands a proper answer from the Hegelian position. We will then point out the key ways in which the Spinozist framework set out above, despite being bolstered through the interpretive work of scholars such as Macherey and Melamed, struggles from a Hegelian perspective to provide an adequate derivation of extended Nature's determinacy from Substance's unity.

We can begin by spelling out with greater clarity what it means to conceive of extended Nature as Substance's affirmative self-expression, without contradiction or negation, as well as how Spinoza's view of the Absolute gives shape to his account of material Nature. Having focused in the previous chapter on the detail of Spinoza's view of modal Nature, the issue of negativity has taken a back seat. However, Macherey has a keen eye for the intertwining of these strands.

In *Metaphysical Thoughts*, Spinoza writes:

“From the fact that we compare things with one another certain notions arise which nevertheless are nothing outside the things themselves but modes of thinking ... These are such notions as *Opposition, Order, Agreement, Difference, Subject, Adjunct*, and whatever others are like these.”¹

Order, agreement and opposition represent only relations between things, and depend on our comparison of them in our thought, these being abstract, formal notions which do not correspond to real content. Macherey suggests that

¹ Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. Appendix Containing Metaphysical Thoughts. p.311

negativity, likewise, is only an abstract representation of something according to its limits, in contrast to the positive, concrete representation of a thing in its physical reality.² Macherey argues that in Spinoza's Nature everything is "in a relationship of immutable and unlimited coexistence; in this sense, its 'order' excludes all contradiction."³ That is, contradiction only presents itself insofar as we engage in the external comparison of things and there is neither negativity nor contradiction in or between things in Nature, the only real relations between things being their transitive causal chains.⁴

It is one of the first axioms of the *Ethics* that "knowledge of an effect depends on, and involves, the knowledge of its cause."⁵ Although modes present themselves to the imagination as a discontinuous succession, mutually opposed and separated, Macherey points out that this perspective does not understand the modes through their cause, namely, the infinite and undivided Substance which expresses itself in an infinity of modes absolutely continuously.⁶ In light of the discussion in the previous two chapters, we can see that Hegel's reading of Spinoza's account of modes falsely conceives the architecture of his system in at least two major ways. Firstly, it falsely conceives the modes as a sequential production by Substance, which supposedly generates a finite world in addition to its infinite, indeterminate nature, rather than modes being recognised as a simultaneous and integral expression of Substance's infinitely rich determinacy. To be clear, what is rejected is the notion that Spinoza understands Substance, its attributes, infinite modes and finite modes to form a sequence, beginning with the first and ending with the latter. Instead, it has been argued above that Substance exists *in and as* the modal system. This, however, is not to deny that the finite modes form infinite transitive causal sequences among themselves.

Secondly, this view falsely views modal Nature as an aggregate of separable and mutually opposed parts. As Macherey points out, to attempt to understand finite bodies in this way, "from the point of view of their reciprocal limitation," is to conceive them "independently of the effective order of nature."⁷

² Macherey, P. (2011). *Hegel or Spinoza*. University of Minnesota Press. p.141

³ Ibid. p.180

⁴ Ibid. p.183

⁵ Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. E1a4, p.410

⁶ Macherey, P. (2011). *Hegel or Spinoza*. University of Minnesota Press. pp.129-130

⁷ Ibid. p.129

To understand the finite modes we must not conceive them strictly in terms of their finitude, but also “in terms of the infinity on which they are dependent.”⁸

As we saw in the previous chapter in our discussion of compound bodies, the being of a compound body consists purely in the stable ratio of motion and rest among its constituent bodies. Its parts are not held in union by any other force, nor do they have a relationship of internal tension or contradiction. When a compound body comes into contact with another body, it will always either maintain its ratio of motion and rest or lose it, preserving its existence or being destroyed in binary fashion as determined by the results of the mechanical collision of bodies. These bodies do not enter into a contradiction which must be resolved, nor do they have any relation of opposition. Everything that occurs is an affirmation of the being of Substance as an infinity of finite modes in infinite causal chains.

Unlike in Hegel’s view, which we will turn to in detail shortly, of internal contradiction as a structuring principle in both the structure of reality as such and the constitution of bodies in Nature, Macherey suggests that Spinoza displaces the notion of contradiction outside the essence of things altogether, demoting it to a formal principle of external comparison. Spinoza eliminates contradiction from Nature, not by claiming to follow through its resolution, but by making reality an affirmation of Substance, outside all negativity or contradiction.⁹ Thus, Macherey contends that Hegel’s critique of Spinoza’s thought as ‘lacking’ negativity improperly applies an alien concept to it. Spinozism does not ‘lack’ negativity, but rather operates on an entirely different basis.¹⁰ Indeed, Macherey asserts that it is essential to Spinozist philosophy that it ‘constitutes a refutation in advance’ of the Hegelian dialectic.¹¹ Rather than Spinoza’s thought being hamstrung by its neglect of the negative, Macherey suggests that Hegel’s conception of dialectical reason, negativity and contradiction is precisely the form of thought “that Spinoza’s reasoning definitively excludes.”¹² Spinoza’s philosophy cannot be understood as an embryonic form or anticipation of Hegel’s position, sadly crippled by Spinoza’s

⁸ Ibid. p.132

⁹ Ibid. pp.183-185

¹⁰ Ibid. p.142

¹¹ Ibid. p.127

¹² Ibid.

lack of insight into the true nature of the negative, as Hegel seeks to paint it. Rather, Spinoza's thought represents an alternative vision of philosophical thought, of the Absolute, and of material Nature which demands to be answered.

The last two chapters have developed an interpretation of Spinoza's philosophy which challenges significant aspects of Hegel's critique. Contrary to Hegel's reading of the indeterminate abyss of Substance alongside which the modal world is left a disconnected and estranged shell, the work of Macherey and Melamed brings determinacy into the heart of the Absolute, conceiving Substance's singular unity and its infinity of modes in infinite attributes as two inseparable aspects of its affirmative self-determination. Against Hegel's dismissal of Spinoza's thought on the natural world, we have followed extended Substance from its immediate expression as motion and rest through to the elaboration of a compelling mechanical account of physical Nature, woven entirely from the patterns in this immanent dynamic relation.

Despite this, however, from a Hegelian perspective the core contention of the critique from Hegel with which we began, that Spinoza fails to show the necessity of determinacy within the infinite unity of Substance, retains its teeth. Firstly, as we saw in chapter three, it is difficult for Spinozism to give a satisfying explanation as to why Substance should necessarily exist as the attribute of Extension at all, or in other words, why material Nature should necessarily exist. As it has been interpreted here, the best the Spinozist framework can do is to argue that it is in the nature of Substance, as an infinitely powerful and unique causality, to exist in infinite attributes, and indeed every possible attribute. Secondly, Spinoza has not explained why Extension should intrinsically and necessarily exist as motion and rest, giving no further explanation beyond the claim that motion and rest follows absolutely and immediately from Extension. Thirdly, Spinoza has not explained why infinite Substance should necessarily express itself in an infinity of finite modes, other than through an appeal to the infinity of Substance's essence. In short, from a Hegelian standpoint it still seems entirely legitimate for Hegel to pose the question to Spinoza of why the determinacy of material Nature exists at all, and why it exists in the way Spinoza claims that it does.

As Macherey remarks, Spinozism seems to be faced with a problem when it comes to explaining exactly how Substance comes to "express itself absolutely,

immediately, in a determination."¹³ As he also points out, though, even if "it is not clear that Spinozist concepts allow us to resolve this difficulty ... they do allow us to confront it."¹⁴ It is not enough for the Hegelian standpoint to merely point out a limit to the derivation of determination possible within the Spinozist framework. In itself, the acknowledgement of a limit to Spinozist philosophy, whether this is owed to the need for more research or the bounds of philosophical thought as such, does not constitute a critique. Hegel and Spinoza alike acknowledge limitations to possible philosophical knowledge concerning particular natural objects, for example. The Hegelian critique of Spinoza's philosophy of extended Nature must show that it is possible to go beyond the limit-point of the Spinozist framework, and this must consist in concretely demonstrating that Hegel can offer a more fruitful account of Nature.

In the next chapter we will begin to examine Hegel's philosophy and his account of the derivation of material Nature from the absolute Idea, seeing how Hegel avoids the deficiencies of the Spinozist account indicated above. This will occupy us until the end of chapter nine. Chapters ten and eleven will then turn from this first major issue of the derivation of Nature to the second major issue of the broader picture of the natural world, and in particular the question of the place of quantitative and qualitative determinacy within it.

¹³ Ibid. p.150

¹⁴ Ibid.

Chapter 6 – Hegel’s Philosophy

Before directly discussing the conclusion to the *Science of Logic* and the derivation of the Idea as Nature, it will first be necessary to discuss Hegel’s presuppositionless and immanent dialectical ‘method.’ This is because, due to the close union of Hegel’s manner of presentation and the content of his philosophy, it is not possible to understand his account of Nature without a clear view of this. The discussion of these topics will also provide opportunity to contextualise the interpretive position on Hegel’s philosophy taken by this study in relation to previous scholarship.

In his *Science of Logic* Hegel argues that if philosophy is to be fully self-critical and scientific then it cannot make presuppositions about its method or object. Philosophy cannot rest on a set of presupposed axioms, as in mathematics, nor can it defer to intuitive truths or the findings of experience, however suitable such starting points might be for ‘subordinate’ sciences. Rather, Hegel proposes “an altogether new concept of scientific procedure”, according to which the content is allowed to show its spontaneous development, immanently working itself through without the imposition of external presuppositions as to its nature or how it ‘should’ progress.¹

Hegel’s commitment to purifying philosophy of presuppositions leads him to explicitly reject the presupposition of even the most basic and seemingly obvious logical principles, such as the distinction of infinity and finitude or mediation and immediacy. The presupposition of any of these would not only be technically unjustifiable but would indicate an ignorance of the purpose of logic itself, which Hegel conceives as the inquiry into the truth of these very concepts.² The exposition Hegel demands of logic is such that at no stage can any concept be introduced which does not immanently emerge from the one preceding it. Likewise, no conceptual relation, such as the oppositions just mentioned, may be

¹ Hegel, G.W.F., & Miller, A.V. (1998). *Hegel's Science of Logic*. Amherst, N.Y: Humanity Books. Preface to the First Edition, p.27

² Ibid. Preface to the Second Edition, pp.41-42

assumed unless they are shown to develop from the nature of the concepts themselves.³

This rejection of presuppositions requires at the same time a new conception of what 'truth' consists in. Hegel comments in the *Encyclopaedia Logic* that we ordinarily consider truth to be a form of agreement between an object and our representation of it, and thereby presuppose an object with which our representation should conform. However, Hegel suggests that, in its philosophical sense, truth means the agreement of a thought with itself.⁴ This conception of truth becomes much clearer in light of Hegel's dialectical 'method', which Hegel characterizes as an effort to "sink myself in the matter" and "let thought follow its own course," as opposed to applying a methodology externally onto thought.⁵ As Althusser remarks, against the externality of method to a given content, "Hegel counterposes a vision of philosophy deeply immersed in the life of its object."⁶

To take a simple example from the very beginning of the *Logic*, the concepts of being and nothing are usually taken to be direct opposites, each isolated cleanly from the other. Being is simply *not* nothing and vice versa. However, Hegel suggests that when we resist importing any presuppositions into the content of these concepts, however minimal, and allow them to follow their own logic through, these supposed immediate, self-subsistent opposites in fact show themselves to immanently resolve themselves into one another. Pure being, conceived without further determination of any kind, qualitative or quantitative, is in fact *nothing*. But the resulting pure nothingness nonetheless *is* nothing, or a pure being without any determinacy. The concepts of pure being and pure nothing, without any interference or imposition by the philosopher, have this dialectical movement immanent in themselves, and the flux of their continual 'vanishing' into one another, coming-to-be and ceasing-to-be, is itself a third concept, *becoming*, generated by the dialectical relation of being and nothing as the truth of their intrinsic relation. This is what Hegel has in mind when he suggests that philosophical truth consists in the agreement of a thought or

³ Ibid. Preface to the Second Edition, p.40

⁴ Hegel, G.W.F., Geraets, T.F., Suchting, W.A., & Harris, H.S. (1991). *The Encyclopaedia Logic: Part I of the Encyclopaedia of philosophical sciences with the Zusätze*. Indianapolis: Hackett. §24, Zusatz 2

⁵ Ibid. §24, Zusatz 2

⁶ Althusser, L. (2014) *The Spectre of Hegel: Early Writings*. Verso. p.52

concept with itself. Concepts are not static, but show themselves to be dialectically mediated with one another, and through their self-development unfold and display their full content, or truth. This truth does not consist in or need verification through agreement with something else, but instead “in philosophy, ‘proving’ amounts to exhibiting how the object makes itself what it is through and of itself.”⁷

Insofar as dialectical thinking is a method, it is one that is “self-construing” and “at the same time ... the immanent soul of the content itself.”⁸ As shall be argued below, Logic ultimately shows itself to be the first part of the self-actualisation of the Idea, the second being Nature, and so the unity of method and content in dialectics is not just the necessary form of scientific exposition, but at the same time the necessary form of what exists.⁹

However, this approach of taking Hegel at face value when he seems to indicate that the *Logic*, and indeed his philosophy in general, is a metaphysical project would not go unchallenged in Hegel scholarship. A fundamental issue which has taken up much attention in this field is whether it is Hegel’s intention, in a neo-Kantian vein, to provide only an account of the concepts necessary to rational thought, or whether Hegel intends his derivation of these categories to be, at the same time, an explication of the structures necessary to *being* as such. In other words, is Hegel giving a category theory only, or is he developing a full-blooded metaphysics? For those few scholars who have taken Hegel’s *Philosophy of Nature* seriously, a further core issue of interpretation, intertwined with the first, presents itself; namely, the balance accorded to empirical and *a priori* elements in Hegel’s account of Nature. In contextualizing the reading argued for in this study, it will be useful to briefly consider the interpretations of Hahn, Burbidge, Maker and Stone as a representation of the spectrum of positions taken by scholars who have engaged in detail with the *Philosophy of Nature*.

Hahn offers an interpretation which emphasises the importance of Goethe’s critical empiricism to Hegel’s intellectual formation, particularly the former’s insight into the identity of concepts and objects and his directive to ‘stay

⁷ Hegel, G.W.F., Geraets, T.F., Suchting, W.A., & Harris, H.S. (1991). *The Encyclopaedia Logic: Part I of the Encyclopaedia of philosophical sciences with the Zusätze*. Indianapolis: Hackett. §83, Zusatz

⁸ Hegel, G.W.F., & Miller, A.V. (1998). *Hegel's Science of Logic*. Amherst, N.Y.: Humanity Books. Preface to the First Edition, p.28

⁹ Hegel, G.W.F., Geraets, T.F., Suchting, W.A., & Harris, H.S. (1991). *The Encyclopaedia Logic: Part I of the Encyclopaedia of philosophical sciences with the Zusätze*. Indianapolis: Hackett. §§6, 24, 28

with the object' and work from life. Hahn's 'naturalistic' reading, as she describes it¹⁰, argues that Hegel is neither an uncritical empiricist nor a dogmatic rationalist, neither seeking to debunk *a priori* claims, nor putting in place a metaphysical dualism dividing the conceptual and empirical worlds. Instead, in Hegel's thought the line between the empirical and logical becomes necessarily blurred.¹¹

Hahn argues that Hegel thinks through the concepts of the *Logic* synthetically, making the bold claim that "the truth of the logical categories lies in their application to empirical instances" and that the purpose of the various empirical examples found in Hegel's work on logic is not merely to provide minor illustrations and aids to comprehension. Rather, the logical concepts only have meaning and justification in their correspondence to the objects of possible experience in these empirical examples.¹² Hahn goes so far as to read the dialectic, even at the most abstract level of pure being, nothing and becoming, as naturalistic, conceived "synthetically through continuous contact with empirical instantiations of Being."¹³ Indeed, Hahn argues that the principle of the dialectic's negative self-development is derived from the self-contradictory structure of development Hegel observed in organisms.¹⁴

In Hahn's reading, Hegel intends his dialectical principles and concepts to have a "developmental structure continuous with the self-developing, self-correcting power of nature" and "fashions them out of the tendencies he observes still from a position inside nature, in a way that tries to impose onto nature the least amount of conceptual revision from the outside."¹⁵ Hegel first establishes contradictions empirically, accepting Nature's "basic, prerational structure," and then, "from a position *immanent* in nature," conceptualizes this natural dynamic movement into rational dialectical principles.¹⁶ Hegel does not impose animistic concepts onto Nature, but shows contradiction's presence as a force in Nature which drives forwards its self-corrective development. Further,

¹⁰ Hahn, S. (2007). *Contradiction in Motion: Hegel's Organic Concept of Life and Value*. Cornell University Press. p.33

¹¹ Ibid. pp.18-19

¹² Ibid. pp.17-18

¹³ Ibid. p.19

¹⁴ Ibid. pp.26-27

¹⁵ Ibid. p.33

¹⁶ Ibid.

he derives the content of his dialectical principles from their being emanations of the rationality implicit in Nature itself, independently of human consciousness.¹⁷

However, Hahn recognises that Hegel does not leave Nature simply 'as is.' Since Nature has no awareness of its latent rationality, it requires a "higher-order commentary ... from a self-conscious standpoint of human reason" to give this explicit logical form. Nature already has an immanent rationality with an affinity for human reason, but it takes the mediation of rational reflection "to read thought processes out of (not into) nature."¹⁸ Hahn suggests that Hegel attempts to reproduce the structure of contradiction he finds empirically present in Nature in the form of dialectical principles which "make explicit nature's blind goal to eliminate contradictions."¹⁹ Hegel thus goes beyond unthinking Nature, and thereby avoids uncritical empiricism, by "*completing and fully realizing* at a conscious interpretive level what nature has really achieved," while simultaneously using the naturalistic basis of his analysis to ground his account of Logic.²⁰

Hahn acknowledges that Logic's preceding Nature in Hegel's system indicates that its concepts have some form of atemporal existence 'prior' to their appearance in Nature.²¹ However, she argues that these concepts are not 'timeless' in a Platonic sense of standing purely a priori and eternal, since this would make everything settled from the start, with no room for revision, and thereby mistakenly cast the concepts of Logic in isolation from the way they unfold dynamically in Nature and history. Hahn suggests rather that logical concepts are atemporal in the sense that, at the highest level of generality which Logic is concerned with, the accidental contingencies introduced by temporality cease to have relevance.²²

Burbidge adopts a less radical reading of Hegel's *Logic* than Hahn, arguing that the *Logic* is a non-metaphysical but wholly *a priori* and non-empirical explication of thought's consciously thinking through its own operations and thereby exploring the nature of reasoning.²³ However, similarly to

¹⁷ Ibid. pp.33-34

¹⁸ Ibid.

¹⁹ Ibid. p.35

²⁰ Ibid.

²¹ Ibid. p.51

²² Ibid. p.52

²³ Burbidge, J. (1996). *Real Process: How Logic and Chemistry Combine in Hegel's Philosophy of Nature*. University of Toronto Press. p.9

Hahn, he emphasises the importance of empirical investigation to Hegel's account of Nature. The *Philosophy of Nature*, as Burbidge interprets it, emerges when thought, having reasoned through the implications of its own concepts, finds it must come to terms with "the givens of the natural order."²⁴ Indeed, in order "to do justice to nature, thought must abandon its own pretensions. It must let nature be itself. It must decide to be thoroughly empirical."²⁵ Burbidge thus makes a sharp distinction between the explication of purely theoretical principles of knowing found in the *Science of Logic* and thought's being confronted by the contingency and finitude of sensible experience in the *Philosophy of Nature*.²⁶ Burbidge stresses that Hegel does not externally impose rational categories from the *Logic* onto experience, instead allowing Nature to 'go its own way.'²⁷ Indeed, it is fundamental that Nature is not inherently logical, but rather explicitly other than and external to thought. Logic does not find direct instantiation in Nature, and the natural world's rational patterns are found implicit, dispersed and often incompletely manifested in the range of contingent bodies and processes yielded by observation.²⁸

Burbidge sees Hegel's procedure in approaching the philosophical study of Nature as following in the mould of Aristotle, in the sense that he gathers together observations, taking all their determinations together and carefully noting their relations, and in this way synthetically 'constructs' natural concepts without appeal to anticipations or pre-judgements. As Burbidge reads him, Hegel's conception of philosophy of Nature demands we reflect on its givens, analysing their most abstract features first and gradually progressing to more complex structures.²⁹ When it comes to think about the natural world, thought learns that it must accommodate its givens in conceiving them in particular ways, then considers every experience relevant to this perspective, and "finally discerns in the synthesis of all the resulting descriptions patterns that point forward to the next plateau."³⁰ At each stage in the philosophy of Nature, it's setting has been derived from reflection on what experience has indicated in the previous stage.³¹

²⁴ Ibid. p.186

²⁵ Ibid. p.206

²⁶ Ibid. p.23

²⁷ Ibid. p.201

²⁸ Ibid. p.162

²⁹ Ibid. p.207

³⁰ Ibid. p.203

³¹ Ibid. p.201

Maker similarly adopts a non-metaphysical reading of the *Logic*, raising the concern that if Hegel is read as a metaphysical idealist, making his system wholly autonomous, self-contained and free of all given determinacies, this would seem to make it difficult for Hegel to make any claims about reality. That is, “unless the real is taken to be identical to, or a product of, or is otherwise derivative from and dependent upon, philosophical thought”³², a position Maker takes to be obviously unattractive. However, Maker does recognize that Hegel is a ‘methodological idealist’, meaning that he regards self-determining, autonomous reason to be the only form of philosophically justifiable cognition, as well as a ‘critical idealist’, meaning that he thinks that this autonomous reason can articulate the truth about reality. In line with this, Maker argues that Hegel acknowledges the radical otherness of Nature to thought but maintains his ‘methodological idealism’ in preserving the autonomy and systematicity of reason in the philosophical investigation of Nature. In this reading, the *Philosophy of Nature* does not require input from empirical observation and proceeds as systematic and *a priori*, but details only the various ways in which rational thought must conceive of this existence radically exterior to it, and does not constitute a metaphysics of the forms Nature must necessarily exist in.³³ Maker’s interpretation thus combines a non-metaphysical reading of the *Logic* with a similarly non-metaphysical but nonetheless *a priori* interpretation of the *Philosophy of Nature*.

Unlike Hahn, Burbidge and Maker, Stone takes a metaphysical reading of Hegel’s *Logic* and system generally, seeing the project of his philosophy as the description of “the forms of thought – collectively called the ‘idea’ – which structure the world as a whole.”³⁴ In Stone’s reading, the forms of thought which make up the Idea are not only subjective categories, but “primarily exist as objective structures embodied in both nature and mind.”³⁵ Though at a certain point in the development of the mind its thinking will give subjective guise to these objective forms of thought, this subjectivity is a development from

³² Maker, W. ‘The Very Idea of the Idea of Nature, or Why Hegel Is Not an Idealist’ in Houlgate, S. (ed.) (1998). *Hegel and the philosophy of nature*. Albany: State University of New York Press. p.2

³³ Ibid. pp.3-4

³⁴ Stone, A. (2005). *Petrified Intelligence: Nature in Hegel’s Philosophy*. State University of New York Press. p.53

³⁵ Ibid. p.24

thought's fundamentally non-subjective structures.³⁶ Stone argues that Hegel's *Logic* describes these forms in abstraction, deriving the most general structures manifest in any form of reality, and the *Philosophy of Nature* traces how these structures are instantiated in the natural world, giving a *sui generis* and *a priori* account of Nature's forms.³⁷

Stone develops an interpretation she calls 'strong a priorism' to describe Hegel's method in the study of Nature. According to this Hegel first works out wholly *a priori* what forms Nature contains by following the dialectic of Nature's necessary rational development, and only subsequently incorporates empirical scientific terms and claims which can be interpreted as corresponding to the forms which have been derived *a priori*. Importantly, this incorporation of empirical claims is done on a strictly interpretive and provisional basis, and this has the considerable virtue of not only preserving the strictly systematic and *a priori* nature of Hegel's account, but also allowing Hegel to avoid absolutizing the fallible claims of contemporary natural science.³⁸

In relation to the spectrum of positions just set out, the interpretation argued for in this study is closest to that of Stone but can also be seen as an inversion of Hahn's position. The reading of Hegel's thought argued for here is strongly metaphysical, holding that though the *Logic* is articulated in pure thought and consists in thought thinking through its own determinations, the determinations so derived are not merely those of thought specifically but those of *being* as such. In other words, the *Logic* concerns the *being* of thought, not just the *thought* of being, unfolding the structures rationally necessary to any being whatsoever, and not just regulatory structures for thought or conditions of the being specific to thought.

Whereas usually we take the objects of our ideas to be the 'real' content to which our thoughts are related, Hegel argues that "it is not logical thoughts ... that are 'only' so-and-so, in comparison with all other content; on the contrary, it is all other content that is an 'only' in comparison with them. Logical thoughts are the ground that is in and for itself of everything."³⁹ Indeed, relating this point

³⁶ Ibid. pp.24-25

³⁷ Ibid. p.53

³⁸ Ibid. pp.xviii, 12

³⁹ Hegel, G.W.F., Geraets, T.F., Suchting, W.A., & Harris, H.S. (1991). *The Encyclopaedia Logic: Part I of the Encyclopaedia of philosophical sciences with the Zusätze*. Indianapolis: Hackett. §24, Zusatz 2

specifically to natural things, Hegel claims that the nature, permanence and substantiality of the objects of Nature in fact resides in “the *notion* of the thing, the *immanent universal*,” and the basis of “everything natural” is “the pure Notion which is the very heart of things, their simple life-pulse.”⁴⁰

Stone stands apart from the other commentators whose positions we have outlined in adopting a fully metaphysical and a priori reading of Hegel’s account of both Logic and Nature. She does suggest, though, that Hegel makes the “metaphilosophical assumption” that thought and matter, or concept and reality, are “intrinsically opposed to one another”⁴¹, and further, that this informs Hegel’s conception of Nature (as Stone explicates it) as initially constituted by the division of its two elements of thought and matter, and progressing through a process of the gradual unification of this opposition.⁴² Thus we find a common thread in Burbidge, Maker and Stone in their identifying a division or exteriority of some form between thought and matter, or the conceptual and the real, as fundamental to Hegel’s account of Nature and its relationship to the rest of his system. Although Stone, by virtue of her metaphysical idealist interpretation, casts this division as much weaker and more subtle than the sheer alien otherness of Logic and Nature found in Burbidge and Maker, this residual non-idealist element sets her position apart from that which will be argued for below.

Whereas Stone interprets the Idea as a set of “forms of thought that organize reality,” which in the course of Nature’s development are “instantiated in, or combined with, matter in increasingly harmonious ways”⁴³, this study will argue that Hegel’s absolute idealism does not indicate only that the Idea’s forms find necessary instantiation in matter, but that the Idea has no ‘other’ except that which it itself produces in its self-particularization, and matter is only a way in which the Idea exists. This position can be seen as the inverse of Hahn’s fully naturalistic reading in the sense that whereas Hahn attempts to remove the dualism of the natural and conceptual domains by grounding everything in the natural, here it is suggested that the Idea is the One that produces Logic and

⁴⁰ Hegel, G.W.F., & Miller, A.V. (1998). *Hegel's Science of Logic*. Amherst, N.Y: Humanity Books. Preface to the Second Edition, pp.36-37

⁴¹ Stone, A. (2005). *Petrified Intelligence: Nature in Hegel's Philosophy*. State University of New York Press. p.100

⁴² Ibid. pp. xviii, 52, 100

⁴³ Ibid. p.58

Nature as modes of its existence and for which there are no natural 'givens' except that which it gives itself.

These commentators consistently describe the content of the Idea as Logic as 'thought', conceived in a way which distinguishes this from 'reality.' Maker and Burbidge's interpretations particularly, which emphasise the radical otherness of Nature to thought and the Idea, put forward a conception of the Idea comparable to that which Hegel regards as the Kantian understanding of the Notion⁴⁴, that is, the Notion as not giving content to itself, but 'finding' it outside itself. However, as we will see below, Hegel describes the Idea as Logic as "the absolute, self-subsistent object, the logos, the reason of that which is, the truth of what we call things"⁴⁵, the movement of which is the absolutely universal activity of reality's self-determination and self-realization.⁴⁶ The Idea is not limited to a domain of 'thought' distinguished from 'reality', and the move to Nature does not involve the Idea's need to come to terms with or give scope to a reality outside itself. Rather, Hegel claims in the *Logic* that "logic exhibits the elevation of the *Idea* to that level from which it becomes the creator of nature"⁴⁷, and again in the *Philosophy of Nature* that "creating is the activity of the absolute Idea."⁴⁸

This study began by pointing out the special place Spinoza holds in Hegel's conception of the history of philosophy, describing Spinoza's theory of the unity of all reality in Substance as "the foundation of all true views" and "the essential commencement of all Philosophy."⁴⁹ In the context of the strongly metaphysical interpretation of Hegel's philosophy argued for here, the reasons for this high esteem of Spinoza are clear. As Macherey expresses particularly well, despite the disagreements between Hegel and Spinoza, "it is incontestable that Hegel and Spinoza met one another," and even if they do not travel the same path, "it remains a fact that their paths crossed, connecting at certain moments in order to separate in strongly opposing directions. ... It is these that explain the

⁴⁴ Hegel, G.W.F., & Miller, A.V. (1998). *Hegel's Science of Logic*. Amherst, N.Y: Humanity Books. p.593

⁴⁵ Ibid. Preface to the Second Edition, pp.38-39

⁴⁶ Ibid. p.826

⁴⁷ Ibid. p.592

⁴⁸ Hegel, G.W.F., Miller, A.V. (2004). *Hegel's Philosophy of Nature*. Oxford University Press. §247, Zusatz

⁴⁹ Hegel, G.W.F. (1995). *Lectures on the history of philosophy: Volume Three*. Lincoln: University of Nebraska Press. pp.257-258

strange feeling of familiarity all Hegelian readers of Spinoza experience, as do all Spinozist readers of Hegel.”⁵⁰

However, as Macherey emphasises repeatedly in *Hegel or Spinoza*, the meeting point of Hegel and Spinoza is also the site of their confrontation and opposition, presenting us with “a real alternative” at precisely the points at which these philosophies intertwine.⁵¹ Having focused in chapters two to five on the core architecture of Spinoza’s system and how this is reflected in Substance’s expression as extended Nature, we are now in a position to flesh out the Hegelian side of this ‘real alternative’ in the context of the philosophy of Nature. The next three chapters will develop a fuller Hegelian critique of the deficiencies of Spinoza’s account of extended Nature, as summarised at the conclusion of chapter five, by giving a detailed interpretation of Hegel’s derivation of the existence of Nature, its fundamental structural distinction from the Idea’s existence as Logic, and the further immanent development of the concepts of mechanics from this.

⁵⁰ Macherey, P. (2011). *Hegel or Spinoza*. University of Minnesota Press. p.10

⁵¹ Ibid. p.73

Chapter 7 - The Genesis of Nature in Hegel's Philosophy

7.1 - Preparatory remark

The systematic character of Hegel's philosophy is such that no subject matter can come up for consideration without having been derived as the necessary development of the preceding stage of the system. Hegel does not give an account of Nature because he finds it given to him in experience; rather, he argues that Nature follows necessarily from the culmination of Logic. This presents an issue for anyone seeking to write about Hegel's *Philosophy of Nature*, in that the full justification for the existence of Nature and its first form, space, from which the rest of the account of Nature will develop, lies in the several hundred pages of Hegel's *Science of Logic*. The multitude of logical categories traversed in this work ultimately develop into a single category, 'absolute Idea', which contains them all and has no other content than the totality of these categories. Nature emerges from this absolute Idea, and so the absolute Idea must be understood in order to grasp this transition. However, a full grasp of the absolute Idea relies upon a complete account of Hegel's *Science of Logic*, a work not only of considerable length and complexity, but concerning which there is much continuing debate over even its most basic aspects.

In the face of this, one option would be to lay down the condition that any study of Hegel's philosophy of Nature must be preceded by a full account of the *Logic*. However, this would effectively preclude any writing on his philosophy of Nature not underpinned by what would likely amount to thousands of pages of commentary, and rule out any comprehension of the philosophy of Nature without years of preparatory study of the *Logic*. Thankfully, although a fully systematic understanding of Hegel's philosophy would indeed demand this, it is possible, for the sake of practicality and making available Hegel's rich thought on the natural universe, to forego a comprehensive study of the *Science of Logic* with a modest and acceptable cost to philosophical rigour.

The chief thesis that will need to be granted to Hegel in order to make such an entrance into his philosophy of Nature possible is that a full understanding of the structure of Logic reveals it to develop into the absolute Idea. Importantly, it is not necessary for us to take for granted that his account of Logic up to the absolute Idea is completely without error. What is required, rather, is that Hegel be correct with regard to certain key structural claims, as will be laid out below. This is not to say that the course of the Logic up to this point is a matter of contingency, for Hegel will in fact draw on multiple findings from the Logic in his account of Nature. The point, rather, is that the study of Hegel's philosophy of Nature does not commit us to blind orthodoxy in our view of the Logic. We can have a great many points of disagreement with the details of Hegel's Logic without at all rendering his thought on Nature untenable. Further, although an account of why Logic develops into the absolute Idea is beyond the bounds practically available to this study, this does not mean that it is not possible to explain what the absolute Idea is. This can fairly be called a modest cost to philosophical rigour because although the explanation for why the system has led to this point is lacking, one is not being asked to have faith in the existence of something thereby made incomprehensible.

7.2 - Absolute Idea

The Notion comprises the third and final major conceptual structure of Logic, preceded by Being and Essence. However, though the Notion can be said to result from the development of Being and Essence, the Notion is nonetheless "their *foundation* and *truth* as the identity in which they are submerged and contained."¹ The Notion is absolutely universal, purely self-related and has no exteriority, but it is nonetheless not a "trivial, empty identity."² Rather it is a *negative* self-relation, and this moment of negativity gives it internal determinacy and differentiation.³ Though Hegel makes clear that we are still in the sphere of pure thought and not yet physical objects, nonetheless he calls the Notion "the

¹ Hegel, G.W.F., & Miller, A.V. (1998). *Hegel's Science of Logic*. Amherst, N.Y: Humanity Books. p.577

² Ibid. p.592

³ Ibid. pp.582-583

absolute, self-subsistent object, the logos, the reason of that which is, the truth of what we call things.”⁴

However, the apprehension of this totality as such, an “absolute form” that “has in its own self its content or reality”, is as yet only a formal or abstract truth, which must be made actual by showing concretely how the Notion produces this reality, or determinate being, “from its own resources.”⁵ The exposition of this derivation of determinacy from the Notion constitutes the final part of the *Logic*, and the ‘Idea’ is the term Hegel gives this union of the Notion with the reality demonstrated as its own.⁶ ‘Absolute Idea’ in turn signifies the culmination of this process of bringing the Notion from its first emergence as the all-embracing totality ‘in-itself’ or in principle to its full and explicit actuality.

As the absolute Idea, the Notion encapsulates the totality of being, in the sense that it “*is everything* (der Begriff alles ... ist)” and its movement (Bewegung) is the absolutely universal activity (Tätigkeit) of reality’s self-determination and self-realization.⁷ The content of the absolute Idea, the particularity into which this negative universality determines itself, is the full system of concepts articulated in the course of *Logic*, which can now be seen to all fold back into the unity of the one Idea. Further, it becomes explicit at this point that the whole series of categories leading up to the Idea has, from the start, been implicitly the development of this absolute. Each stage traversed in the development of *Logic* has been “an image of the Absolute (ein Bild des Absoluten)”⁸, a manifestation of it which was not fully developed. In the progress of the immanent derivation of the categories which has led from the absolutely minimal and indeterminate thought of pure being to the Idea, it was not at all clear that what was being considered were the particular forms of one universal. However, having reached this universal, we can see that this unity was the true nature of the categories all along, only now made explicit and actual.

From the perspective of the end, it can be seen that the indeterminacy of pure being with which the *Logic* began was not a bare abstraction, but actually

⁴ Ibid. Preface to the Second Edition, pp.38-39

⁵ Ibid. pp.591-592

⁶ Ibid. p.587

⁷ Hegel, G.W.F., & Miller, A.V. (1998). *Hegel's Science of Logic*. Amherst, N.Y: Humanity Books. p.826; Hegel, G.W.F. (1970). *Werke* 6. Suhrkamp Verlag. p.551

⁸ Hegel, G.W.F., Geraets, T.F., Suchting, W.A., & Harris, H.S. (1991). *The Encyclopaedia Logic: Part I of the Encyclopaedia of philosophical sciences with the Zusätze*. Indianapolis: Hackett. §237, Zusatz; Hegel, G.W.F. (1970). *Werke* 8. Suhrkamp Verlag. p.389

the full concrete totality in an undeveloped, implicit form yet to be unfolded into its complete actuality. Pure being has proved itself logically to develop immanently into the full system of concepts which comprises the absolute Idea, and having reached the absolute Idea we can now see that the immediacy with which we began is in fact a being-in-itself yet to acquire its being-for-itself. The beginning and the end are the same, with the exception that the latter has its content fully articulated and developed. Insofar as we have been dealing with the in-itself of the Notion, every stage and advance has been the exposition of the absolute with which we unknowingly began.⁹

One way in which it may be helpful to picture the architecture Hegel is suggesting is as a fourfold inclusion eliding into one: firstly, all determinations of the Idea are immanently contained within the absolute simplicity of the beginning of logic; secondly, all the determinations of the Idea are further determinations of this absolute beginning, thereby themselves containing this and carrying it forward; thirdly, the ultimate totality contains and unifies all preceding determinations; and fourthly, the totality is also itself contained in undeveloped form in all of these determinations. But what would seem to be the two poles of this structure, the initial simplicity further determining itself outward and the final totality gathering all the determinations back inward, are in fact one, unified as the in-itself and for-itself of one absolute Idea.

This interpretation is supported by many of Hegel's comments, but particularly his claim that Logic's advance is, in fact, "a *retreat into the ground ... with which the beginning is made*" and it is essential "that the whole of the science be within itself a circle in which the first is also the last and the last is also the first."¹⁰ The notion of cross-inclusions forming a circle is also suggested by Hegel's remarks in the *Encyclopaedia Logic* that each part of philosophy is itself a whole, "a circle that closes upon itself," in which the Idea is "in a particular determinacy or element," but each circle ultimately breaks beyond this restriction of particularity because "it is inwardly [the] totality" and becomes the ground for the next circle in the Idea's development. The whole is described as a circle of

⁹ Hegel, G.W.F., & Miller, A.V. (1998). *Hegel's Science of Logic*. Amherst, N.Y: Humanity Books. p.829

¹⁰ Ibid. p.71

circles, each a necessary moment, together constituting the Idea which, conversely, also appears in all of them.¹¹

Although the absolute Idea is the universal, it is not so in an abstract form which stands over against the differentiation of its particular content. Rather, it is a concrete, negative universal which ‘sublates’ its internal differences, meaning that they no longer have the character of standing opposed to and separate from one another, but are now configured as differentiated moments of a single whole. The course of the Logic has constituted a dialectic whereby the categories have shown themselves to come into necessary relations with one other of progressively more complex kinds, ultimately leading to their unity as the diverse moments of the absolute Idea.¹²

The absolute Idea has an immediate, singular self-identity, an “impenetrable atomic subjectivity (undurchdringliche, atome Subjektivität)”¹³, since it is the totality of all determinations and these are emphatically *its* moments. But, at the same time, it contains internal opposition and differentiation, for its status as ‘absolute’ depends precisely on its containing and bringing to unity the full series of determinations developed in the Logic, each of which maintains its full content.¹⁴ However, although the particular categories have a dynamic structure of differentiation and transition into each other, the absolute Idea itself does not undergo transition. This is because, as the totality of all determinations, no determinacy arises for it which is not part of itself.¹⁵

Halper points out that this structure is key to understanding the emergence of the concept of Nature and describes it through a distinction between the form and content of the absolute Idea. He identifies its content as the totality of Logic’s categories and its form as its determinate character as this totality. The union of form and content in the absolute Idea is crucial to its qualifying as the final category of logic, since its individuality is just the totality of the transformations of all preceding categories. Importantly, though, it is also different from any other category, being a ‘single universal’, as Halper describes

¹¹ Hegel, G.W.F., Geraets, T.F., Suchting, W.A., & Harris, H.S. (1991). *The Encyclopaedia Logic: Part I of the Encyclopaedia of philosophical sciences with the Zusätze*. Indianapolis: Hackett. §15

¹² Ibid. §213, Remark

¹³ Hegel, G.W.F., & Miller, A.V. (1998). *Hegel's Science of Logic*. Amherst, N.Y: Humanity Books. p.824; Hegel, G.W.F. (1970). *Werke 6*. Suhrkamp Verlag. p.549

¹⁴ Ibid.

¹⁵ Hegel, G.W.F., Geraets, T.F., Suchting, W.A., & Harris, H.S. (1991). *The Encyclopaedia Logic: Part I of the Encyclopaedia of philosophical sciences with the Zusätze*. Indianapolis: Hackett. §237

it, distinguished from the categories contained within it and their conceptual transformations. Unlike the other categories encountered thus far, the absolute Idea does not transform itself into a new concept, and this is because it already contains its own transformation. Transformation does not affect it, because it is itself transformation, in the sense that the absolute Idea *is* the self-unfolding of all the categories of logic. In this respect, Halper claims the absolute Idea is in fact indifferent and external to the process of transformation that logic is, and it is alone among the logical categories in not developing. Indeed, it is this externality of the form of the absolute Idea from its content, the fact that the absolute Idea, in Halper's words, "in being just what it is, is also something else", that Halper suggests releases the concept of Nature out of the closure of Logic, as we shall examine below.¹⁶

7.3 - Absolute Method

From the perspective of the absolute Idea it is also possible to lay out an 'absolute method', Hegel's description of which will prove useful in understanding his sparse account of the movement from Logic to Nature. As already discussed above, the 'method' of Hegel's Logic is one of simple immanence, avoiding presuppositions about the nature, relationships or progression of the categories of thought. Strictly speaking, pure being was not, from the perspective of that stage, the 'beginning' of Logic, as it was yet to be determined what, if anything, this category might immanently develop into. However, from the perspective reached at Absolute Idea it is possible to look back on the path traversed and see the developmental structure that has been cyclically working itself through, and it is this general structure that Hegel calls absolute method.

The absolute method gives only a general characterisation of the way in which concepts come to immanently transform their content and cannot be taken as a structure to be laid on top of the content being examined. As has already been established, the method is simply the necessary movement of the content itself, and the general structure of the absolute method is simply what, looking

¹⁶ Halper, E. 'The Logic of Hegel's *Philosophy of Nature: Nature, Space and Time*' in Houlgate, S. (ed.) (1998). *Hegel and the philosophy of nature*. Albany: State University of New York Press. pp.31-32

back retrospectively, the path of development of the Idea through its various determinations has proved to be through the course of the Logic. The proof that this structure obtains in any individual case is wholly reliant on the close examination of the way in which the particular concepts immanently determine themselves, and it is entirely illegitimate to appeal to the general structure of the absolute method as laid out at the end of the Logic as evidence for its own applicability in any individual example. At the end of the Logic it is possible to look back and observe that this is the structure that has been taken by the progress of the Idea, but the progress of the Idea has not been guided by this structure as if it existed beforehand as the blueprint of Logic.¹⁷

Concerning the beginning of the absolute method, Hegel tells us this is an immediacy, and specifically an immediacy of pure thought, a notion which is simple and universal.¹⁸ But this determinateness of the beginning as simple and universal “is itself the *determinateness* by reason of which it is deficient (mangelhaft).”¹⁹ Simple universality is but a one-sided moment of the Notion which does not represent it as it is ‘for itself’, or in its full actuality. Importantly, the concept is not driven beyond this immediacy by an external impetus or imposition. Rather, the immediacy of the beginning is deficient in its own self, in its own conceptual structure, and thus itself has the “*urges (Triebe)* to carry itself further.”²⁰ Again, though, this ‘urges’ should be understood as a purely immanent movement in the concept itself and not implying a teleological trajectory formally dictating its development from the start.

Describing the movement from the first stage of immediate simplicity, Hegel tells us the universal “shows itself to be the other of itself”²¹, meaning that when its content is fully thought through, the immediate actually turns out to be mediated, that is, to be intrinsically related to an other, and the universal is found to be a particular alongside another particularity. What appears at the beginning as an abstract affirmation of being is in fact “*negation (Negation), positedness*

¹⁷ Hegel, G.W.F., Geraets, T.F., Suchting, W.A., & Harris, H.S. (1991). *The Encyclopaedia Logic: Part I of the Encyclopaedia of philosophical sciences with the Zusätze*. Indianapolis: Hackett. §240

¹⁸ Hegel, G.W.F., & Miller, A.V. (1998). *Hegel's Science of Logic*. Amherst, N.Y: Humanity Books. pp.827-828

¹⁹ Ibid. p.829; Hegel, G.W.F. (1970). *Werke 6*. Suhrkamp Verlag. p.555

²⁰ Ibid.

²¹ Hegel, G.W.F., & Miller, A.V. (1998). *Hegel's Science of Logic*. Amherst, N.Y: Humanity Books. pp.833-834

(*Gesetzsein*), mediatedness (*Vermitteltsein*) in general.”²² As the dialectic progresses, it becomes explicit that what appeared as a simple immediacy is not really so at all, but one moment taken or ‘posited’ in abstraction when in truth it is intrinsically interrelated with other concepts.

This second term to the initial immediacy is its negative, in the sense that it is particular and mediated rather than immediate and universal. It may appear as a result that the first, immediate determination has been wiped away altogether in this transition. Our usual way of thinking finds it obvious that, upon finding something to be particular, its status as a universal is simply lost, revealed as a mistake. Contrary to this, Hegel maintains that the negative of immediacy is not empty negativity or nothingness, but instead a determinate negation, the negation of immediacy, and is therefore a mediation, containing the first determination of immediacy within itself. As a result, the beginning is preserved even through its transition, though in a sublated form now brought into relation with its opposite. This structure of holding the positive and negative together and not allowing one to simply destroy the other is described by Hegel as “the most important feature in rational cognition.”²³ In the progression from the beginning, its immediacy and universality are reduced to a moment in relation to the other negative moment of particularity and mediation that arises in it. Hegel calls this relation of distinct, opposed determinacies “the *moment of reflection* (*Moment der Reflexion*).”²⁴

In the third stage of the absolute method, the opposition of these contrary particular determinations is sublated and they become related as ideal moments of one unity. The content of each moment is preserved, but made ‘ideal’ in the sense that they are now understood to have no real independent reality of each other, instead being intrinsically interrelated as moments of one whole.²⁵

²² Hegel, G.W.F., Geraets, T.F., Suchting, W.A., & Harris, H.S. (1991). *The Encyclopaedia Logic: Part I of the Encyclopaedia of philosophical sciences with the Zusätze*. Indianapolis: Hackett. §238; Hegel, G.W.F. (1970). *Werke* 8. Suhrkamp Verlag. p.390

²³ Hegel, G.W.F., & Miller, A.V. (1998). *Hegel's Science of Logic*. Amherst, N.Y: Humanity Books. pp.833-834

²⁴ Hegel, G.W.F., Geraets, T.F., Suchting, W.A., & Harris, H.S. (1991). *The Encyclopaedia Logic: Part I of the Encyclopaedia of philosophical sciences with the Zusätze*. Indianapolis: Hackett. §239; Hegel, G.W.F. (1970). *Werke* 8. Suhrkamp Verlag. p.391

²⁵ Hegel, G.W.F., Geraets, T.F., Suchting, W.A., & Harris, H.S. (1991). *The Encyclopaedia Logic: Part I of the Encyclopaedia of philosophical sciences with the Zusätze*. Indianapolis: Hackett. §242

7.4 - From Logic to Nature

We can now approach the question of why the absolute Idea gives rise to Nature, described in the introduction to the *Philosophy of Nature* as “the Idea in the form of *otherness (Andersseins)*” or the Idea that is “the negative of itself (das Negative ihrer selbst), or is *external to itself (sich äußerlich)*.”²⁶ The first step in this development is that, in reaching the absolute Idea, Logic withdraws back into the simple unity with which it began in pure being. This is because, as the Idea that relates itself only to itself, that holds together within itself all the determinations of Logic and is all of these determinations, “it is therefore the *simple self-relation* that is *being (die einfache Beziehung auf sich, welche Sein ist)*.”²⁷ It would be wrong to say that the absolute Idea has become identical once again with the total indeterminacy of pure being, because it is now in fact maximally determinate, possessing all possible logical determinations in a concrete totality. The key point, though, is that despite now possessing this completeness of internal content, the absolute Idea folds back down into a simple immediacy, one Idea that is all that there is.²⁸ Hegel comments earlier in the *Science of Logic* that in Logic the internal differences of the Idea are “not yet *otherness (Anderssein)*” but remain perfectly ‘transparent’ (durchsichtig) and self-integrated.²⁹ In light of this, it becomes more apparent why the absolute Idea should contract into simple being. Having reached the absolute Idea we can see that, from the perspective of this totality, the differentiated logical categories in fact lack *Anderssein*, other-being, and are but different aspects of one being in ‘simple self-relation’, the absolute Idea.

But how does a conceptual structure lacking otherness progress to one defined by its otherness? Hegel’s descriptions of the progression from the absolute Idea as simple being to the Idea as Nature are infamously condensed and cryptic. Indeed, by themselves the handful of paragraphs directly devoted to

²⁶ Hegel, G.W.F., Miller, A.V. (2004). *Hegel’s Philosophy of Nature*. Oxford University Press. §247; Hegel, G.W.F. (1970). *Werke* 9. Suhrkamp Verlag. p.24

²⁷ Hegel, G.W.F., & Miller, A.V. (1998). *Hegel’s Science of Logic*. Amherst, N.Y: Humanity Books. p.842; Hegel, G.W.F. (1970). *Werke* 6. Suhrkamp Verlag. p.572

²⁸ Ibid.

²⁹ Hegel, G.W.F., & Miller, A.V. (1998). *Hegel’s Science of Logic*. Amherst, N.Y: Humanity Books. p.825; Hegel, G.W.F. (1970). *Werke* 6. Suhrkamp Verlag. p.550

this development provide but the skeleton of an account. However, if read closely and in tandem with the account of the absolute method immediately preceding them, Hegel's remarks strongly suggest a particular structure of explanation for which it is possible for us to provide the missing detail.

Turning first, then, to the structure that can be ascertained from Hegel's descriptions, his first claim in the *Science of Logic* concerning the development from this new immediacy is that despite having achieved systematic totality as absolute Idea, the Idea is at this point purely logical, "enclosed within pure thought", and is now the "urge (*Trieb*) to sublimate this."³⁰ As we saw earlier, when describing the immediate beginning of the absolute method Hegel claimed this was logically deficient in its own self and had the "urge (*Triebe*) to carry itself further."³¹ This pattern in Hegel's use of 'Trieb' gives us our first piece of evidence that he conceives the emergence of Nature from absolute Idea to be a further instantiation of the dialectical pattern of absolute method. Specifically, as we will see in more detail as we proceed below, if this interpretation is correct, the simple, universal immediacy which the absolute Idea collapses into will show itself to be the negative of the absolute Idea.

The *Encyclopaedia Logic* provides strong further evidence for this way of thinking about the general structure of the development from absolute Idea. Hegel tells us in the principal section on this point, §244, that as simple being "the Idea is posited (*gesetzt*) in the one-sided determination of immediacy or negation."³² The description here of the Idea as 'posited' (*gesetzt*) in this determination links up well with Hegel's description, six sections earlier in the *Encyclopaedia Logic*, of the absolute method's movement from the initial stage of immediacy. As we saw above, in this movement what initially appears as the abstract affirmation of being comes to be understood as "negation, positedness (*Gestztsein*), mediatedness in general"³³, that is, one moment posited in

³⁰ Hegel, G.W.F., & Miller, A.V. (1998). *Hegel's Science of Logic*. Amherst, N.Y: Humanity Books. p.843; Hegel, G.W.F. (1970). *Werke* 6. Suhrkamp Verlag. p.572

³¹ Hegel, G.W.F., & Miller, A.V. (1998). *Hegel's Science of Logic*. Amherst, N.Y: Humanity Books. p.829; Hegel, G.W.F. (1970). *Werke* 6. Suhrkamp Verlag. p.555

³² Hegel, G.W.F., Geraets, T.F., Suchting, W.A., & Harris, H.S. (1991). *The Encyclopaedia Logic: Part I of the Encyclopaedia of philosophical sciences with the Zusätze*. Indianapolis: Hackett. §244; Hegel, G.W.F. (1970). *Werke* 8. Suhrkamp Verlag. p.393

³³ Hegel, G.W.F., Geraets, T.F., Suchting, W.A., & Harris, H.S. (1991). *The Encyclopaedia Logic: Part I of the Encyclopaedia of philosophical sciences with the Zusätze*. Indianapolis: Hackett. §238; Hegel, G.W.F. (1970). *Werke* 8. Suhrkamp Verlag. p.390

abstraction from its necessary relation with other concepts. We can see this dynamic being played out in §244 in Hegel's claim that the determination of the Idea as immediate is one-sided, indicating there is in fact another 'side' of the logical determination at hand which the simple being of the Idea is actually, when properly understood, in mediation with.

This of course raises the question as to what this other determination is which must be thought alongside the Idea's simple immediacy. The brevity of Hegel's account here is frustrating, but there is evidence, both textual and from reasoning through the dialectic, to suggest we should identify the absolute Idea's simple immediacy as its universality and the other determination as its particularity or otherness. Hegel ends §244 with the claim that "in the absolute truth of itself" the absolute Idea "*resolves to release (entlassen) out of itself* into freedom the moment of its particularity or of the initial determining and otherness."³⁴ When taken in conjunction with the claim, earlier in the same paragraph, that "the Idea is posited (gesetzt) in the one-sided determination of immediacy or negation"³⁵, the most logical way to read these remarks is to take the moment of particularity or otherness as the opposing moment to the moment of immediacy, or simple universality.

Further textual evidence in support of this interpretation comes from the introduction to the *Philosophy of Nature*, where Hegel claims that "The totality of the disjunction of the Notion exists in Nature as a tetrad because the first term is the universal as such, and the second, or the difference (Unterscheid), appears itself as a duality."³⁶ Leaving aside for the moment the significance of Hegel's characterising Nature as a tetrad, it is clear that he regards the general conceptual structure of Nature as having two major terms: the universal and the difference, otherness or particularity. In order for Nature to have these determinations in disjunction, this arrangement must arise immanently from the logic of the preceding concept, absolute Idea, and interpreting the absolute Idea as contracting into a simple universality confronted by an opposing moment of

³⁴ Hegel, G.W.F., Geraets, T.F., Suchting, W.A., & Harris, H.S. (1991). *The Encyclopaedia Logic: Part I of the Encyclopaedia of philosophical sciences with the Zusätze*. Indianapolis: Hackett. §244

³⁵ Ibid.

³⁶ Hegel, G.W.F., Miller, A.V. (2004). *Hegel's Philosophy of Nature*. Oxford University Press. §248; Hegel, G.W.F. (1970). *Werke* 9. Suhrkamp Verlag. p.30

particularity clearly paves the road for this, though a full account of the dialectic is still forthcoming.

In addition to this textual evidence as to Hegel's line of thought, thinking through the dialectic for ourselves (something we should, of course, always be doing) gives us good reason to identify the terms issuing from the absolute Idea as the universal and the particular. Given the nature of the absolute Idea as the universal harmonizing all the particular determinations of Logic, the contraction of the absolute Idea into simple universality necessarily leaves particularity as the other determination set against it. As noted above, the development of concepts does not result in the negation of their previous content, but in its being brought into new arrangements. The Idea progressively becomes more concrete and determinate with each development, rather than being demolished and built anew at every step. Thus, the moment of particularity, which was essential to the absolute Idea's nature as the concrete unity of all particularity in one universal, does not vanish but now stands in opposition to the contracted form of the Idea as simple being. The structure of absolute Idea is such that it collapses into simple immediacy, apparently eschewing *Anderssein* from itself. However, otherness (sublated otherness, but otherness nonetheless) played a key role in making the absolute Idea *absolute*, that is, the unification of all the particular logical determinations into one. The contraction of the absolute Idea into simple being does not smother out this particularity or otherness, but releases it, or uncouples it from its unity with the universal.

Hegel ends §244 with the claim that "in the absolute truth of itself" the absolute Idea "*resolves to release (entlassen) out of itself* into freedom the moment of its particularity or of the initial determining and otherness, [i.e.,] the *immediate Idea* as its reflexion (Widerschein), or itself as *Nature*."³⁷ This passage indicates a number of points worth bringing into view before we attempt to tie everything together. It is notable here that in the Geraets, Suchting and Harris translation of the *Encyclopaedia Logic* they translate Hegel's term 'Reflection', referring as discussed above to the moment of opposition emerging from an initial immediacy, simply as 'reflection'. But they translate Hegel's use of 'Widerschein'

³⁷ Hegel, G.W.F., Geraets, T.F., Suchting, W.A., & Harris, H.S. (1991). *The Encyclopaedia Logic: Part I of the Encyclopaedia of philosophical sciences with the Zusätze*. Indianapolis: Hackett. §244; Hegel, G.W.F. (1970). *Werke* 8. Suhrkamp Verlag. p.393

as ‘reflexion’, a potentially questionable choice since in English there is no generally established distinction between ‘reflection’ and ‘reflexion’.

‘Widerschein’ is a compound of ‘wider’, meaning ‘contra’, ‘anti’, ‘versus’ or ‘opposed to’, and ‘Schein’, best understood here as meaning ‘appearance’. Thus the immediate Idea is characterized here by Hegel as the ‘opposing appearance’ of the absolute Idea. Minimally, we can interpret this as indicating the immediate Idea is the negation of the absolute Idea, and, given its origin, therefore the absolute Idea’s self-negation. Further, this immediate Idea is clearly identified here as Nature. Indeed, as we find in the addition to §244, Hegel is reported to have emphasised this point, claiming “now we have the *Idea* as *being*; and this Idea that *is*, is *Nature* (die *Idee* als *Sein*; diese seiende Idee aber ist die *Natur*).”³⁸

This is significant in making more explicit the specific arrangement Hegel has in mind for the concepts of (1) absolute Idea, (2) the simple, immediate universality of absolute Idea, and (3) its particularity. Hegel’s suggestion is not that the absolute Idea becomes simple being and then Nature is the particularity opposed to it. Rather, the absolute Idea freely releases itself into simple being and particularity, allowing these sides to fall apart. In doing so, the absolute Idea becomes the negative of itself, Nature. Further, in describing the emergence of Nature as the ‘absolute truth’ of the absolute Idea in §244, Hegel makes clear that Nature results from and is made necessary by the structure of absolute Idea itself. Nature is what absolute Idea proves to be. The negation of the simple being of the absolute Idea into particularity and otherness is precisely what Nature is, namely the Idea in the form of otherness spoken of at the beginning of the *Philosophy of Nature*.

Hegel’s talk of ‘freedom’ here may come across as puzzling. Indeed, Welchman has suggested it is not obvious that the Idea’s act of positing Nature is in fact free.³⁹ However, this claim is made clearer in the *Science of Logic* in the course of his explaining the related point that the absolute Idea has not *become* a simple being nor transitioned into it, since the nature of the absolute Idea is such that there is no longer any determination that is not already part of its totality.

³⁸ Hegel, G.W.F., Geraets, T.F., Suchting, W.A., & Harris, H.S. (1991). *The Encyclopaedia Logic: Part I of the Encyclopaedia of philosophical sciences with the Zusätze*. Indianapolis: Hackett. §244; Hegel, G.W.F. (1970). *Werke* 8. Suhrkamp Verlag. p.393

³⁹ Welchman, A. (2016) ‘Eternity in Kant and Post-Kantian European Thought’. In *Eternity: A History*. Eds. Melamed, Y. Oxford University Press. p.200

Rather, Hegel describes this as “an absolute *liberation* (absolute *Befreiung*)” in the “freedom (Freiheit)” of which “no transition takes place.”⁴⁰ The notion of freedom here should not be interpreted as suggesting the absolute Idea has a personified form of free choice or whim, but rather as a metaphorical way of expressing the fact that since the absolute Idea is all that there is, there is no possible other to determine it, and so it is perfectly free in the sense of being completely and explicitly self-determining. The logical process is one of necessity, not contingency or caprice, but it is the necessity of the absolute Idea itself. In determining itself as simple being, the Idea does not meet with an other to itself in any sense and “abides with itself (bei sich selbst bleibende)” in this determination.⁴¹ Rather than a becoming or a transition, Hegel suggests we should understand the determination of absolute Idea as being as the Idea ‘freely releasing’ itself “in its absolute self-assurance and inner poise (ihrer absolut sicher und in sich ruhend).”⁴² Further, this makes clear that the emergence of the concept of Nature does not involve the absolute Idea ‘encountering’ an other from outside it, such as the givenness of an externally existing material universe, but rather involves a self-determination of the absolute Idea alone.

The basic structure Hegel has in mind for the way Nature emerges from absolute Idea can thus be made out reasonably clearly, constituting a continuation of the general dialectical pattern that has worked itself through in various forms up to this point at the end of the Logic. The structure of this next dialectical movement will of course be different to any seen thus far since we are dealing, firstly, with the self-determination of an absolute totality, and secondly, therefore, with an absolutely free determination. But nonetheless we can see an already familiar pattern cycling round again in the sense that immediacy is revealed to be in necessary mediation with particularity.

However, no matter how clear this framework might be, without the support of a detailed account of the reason why the simple being of absolute Idea necessarily develops in this way, it demonstrates nothing whatsoever. If the Hegelian standpoint is to present a compelling critique of Spinoza as failing to properly show the derivation of material Nature from the Substance, then this is

⁴⁰ Hegel, G.W.F., & Miller, A.V. (1998). *Hegel's Science of Logic*. Amherst, N.Y: Humanity Books. p.843; Hegel, G.W.F. (1970). *Werke* 6. Suhrkamp Verlag. p.573

⁴¹ Ibid.

⁴² Ibid.

a vital point in the Hegelian system to press for a full explanation and not allow Hegel's fragmentary account to slip by. If the Hegelian standpoint is to assert that it can show the derivation of Nature, and thereby overcome an issue that presents a stubborn problem for Spinozism, then this is a juncture at which a full and detailed demonstration is key.

As already discussed above, our examination must always turn to the particular logical development of the concepts at hand, rather than using the absolute method as an external plan forced on the content. Reference to the absolute method alone proves nothing. Unfortunately, this detail is precisely what is lacking in Hegel's treatment of the emergence of the concept of Nature. This is not to say that Hegel himself made the logical error of thinking that the general indication he does give was sufficient. The reason why the account he gives of this part of the system (or at least that which has survived for us to examine) is so brief is beyond the scope of this work to speculate upon. Whatever the reason, however, it does now fall to us to work out what the precise detail of the dialectic consists in, and this is what we shall now attempt. In the course of interpreting Hegel's somewhat fragmented remarks some of the major landmarks of a full account have already been anticipated, but these various strands now need to be pulled together.

Despite the apparent obscurity and unhelpful brevity of much of Hegel's account of the emergence of the concept of Nature from the absolute Idea, this in fact manifests the principle most pervasive to the Logic leading up to it and indeed Hegel's philosophy as a whole; namely, that something, in being most purely and absolutely what it is, in fact thereby becomes the negative of itself. Hegel makes clear that a key part of what is distinctive about the absolute Idea is that simple immediate universality is present in it only as an abstract one-sided moment, sublated within its concrete unity of the universal and the particularity of Logic's determinations.⁴³ The absolute Idea is the intensively concrete, oppositional and dynamic system of interrelated particular determinations which constitute it, the unity of all the preceding determinations of Logic into one. However, in taking the form of this single Idea containing all determinations as part of itself, the absolute Idea possesses an immediate self-relation, and so

⁴³ Hegel, G.W.F., & Miller, A.V. (1998). *Hegel's Science of Logic*. Amherst, N.Y: Humanity Books. p.829

contracts into simple being. The absolute Idea is not a totality of simple, universal identity, but one characterised by internal particularity, tension, negativity, opposition, transition and mediation. As noted above, the moment of otherness is key to making the absolute Idea the complete totality that it is. As a result, this collapse of the absolute Idea into simple being is in fact the negation of the absolute Idea, and, given the absolute Idea's complete freedom and singularity, specifically the free self-negation of the absolute Idea. The truth of the culmination of the sphere of Logic in absolute Idea thus proves to be the free dissolution its own absolute universality, negating itself into the Idea as Nature.

At this point it is vital to remember a key principle of Hegel's conception of thought, the one which, as we saw above, he calls "the most important feature in rational cognition"⁴⁴, namely, holding positive and negative determinations together as they arise. We must not conceive the advance of a concept as automatically destroying or simply leaving behind that which it negates and progresses from, but rather bringing the original determination forward into a new formulation and relationship with its negative.

In light of this, we can see why the absolute Idea becoming the negative of itself does not result in the death of the Idea or the birth of a separated new domain of reality as material nature. Hegel calls Nature "the Idea in the form of *otherness*"⁴⁵ because the formation of the concept of Nature does not involve the erasure of the Idea but the determinations of the Idea being brought into a new arrangement and structure. More specifically, even though the absolute Idea has become the negative of itself, it remains the one Idea and thus the one totality and one all-inclusive reality. It also remains the case that universality and particularity are determinations of this reality. However, the relationship between these determinations has changed dramatically. In the absolute Idea universality and particularity were held together in unity, but this Idea has now contracted into a simple universality, a one-sided determination lacking the moment of *Anderssein*. This moment of otherness or particularity has not arbitrarily vanished, however, but now stands apart as the opposing moment to simple universality. Universality and particularity therefore fall asunder, and this

⁴⁴ Ibid. pp.833-834

⁴⁵ Hegel, G.W.F., Miller, A.V. (2004). *Hegel's Philosophy of Nature*. Oxford University Press. §247

is what Hegel is referring to when he claims that the absolute Idea 'freely releases' its particularity.

To be as clear as possible about why it is these determinations come apart, if the Idea is the unity or immanent interconnectedness of its moments, then the negation of the Idea (that the Idea itself proves to be when it proves to be simple being) must consist in the negation of this interconnectedness.⁴⁶ The notion of the Idea's freely releasing its particularity "in its absolute self-assurance and inner poise"⁴⁷ is significant in that it emphasises that this is the Idea's necessary logical development, and that the Idea is Nature because of what it *is* and proves to *be*, rather than because it 'fails' in some sense to maintain itself as the absolute Idea.

As just mentioned, this release does not initiate the emergence of a separate sphere of particularity 'outside' the Idea. The Idea is still the one reality and all universality and particularity is still *its* universality and particularity. The falling apart of universality and particularity and the externality of each from one another and also of the particulars from each other must thus be conceived alongside their being determinations of the one Idea. This is why Hegel calls Nature the Idea as "*external to itself*" or self-external.⁴⁸ Self-externality is the only form particularity can logically take given that the unity of universal and particular in the absolute Idea has collapsed but the Idea remains all that there is. The Idea must therefore be external to itself, inwardly self-external, rather than something becoming external to it.

It is important to clarify at this point what the particularity is that we are speaking of here. It might be tempting to answer that it is the set of particular logical determinations that composed the absolute Idea. However, there is good reason to reject this interpretation. The particular determinations developed through the course of Logic cannot stand in a relation of externality from each other and from universality because doing this would involve them ceasing to be the very determinations which they are. For example, if pure being ceased to spontaneously vanish into pure nothing and vice versa then pure being and nothing would not be what they are. More broadly, it has been the general result

⁴⁶ Houlgate, S. (2005). *An introduction to Hegel: Freedom, truth, and history*. Malden, MA: Blackwell. pp.108-110

⁴⁷ Hegel, G.W.F., & Miller, A.V. (1998). *Hegel's Science of Logic*. Amherst, N.Y: Humanity Books. p.843

⁴⁸ Hegel, G.W.F., Miller, A.V. (2004). *Hegel's Philosophy of Nature*. Oxford University Press. §247

of the Logic that the categories necessarily do not stand external to each other but transition into one another and come into relations of various kinds, ultimately developing into the universal absolute Idea. In other words, the course of the Logic shows that universality is intrinsically necessary to the particular logical determinations, and as a result this particularity cannot be the self-externality made necessary by the absolute Idea's free dissolution.

So what then is this particularity? The answer is that this is not yet determined and will now become the subject matter of the *Philosophy of Nature*. We know the Idea to necessarily have particularity and difference within it. This, to reiterate the point once more, has not been lost through the Idea becoming the negative of itself. However, this particularity cannot be that which the Idea possessed as 'internal' to itself, in Logic, for we have advanced now into a new conceptual sphere, that of self-externality, Nature. This new sphere will have to develop and show for itself the nature of its particularity, and it is because of this particularity's initially undetermined state (though not utterly indeterminate, since we do know that this particularity must have the character of self-externality for example) that Hegel describes Space, the first category of Nature, as having only a "still quite *abstract*" form of asunderness and containing within itself "keinen bestimmten Unterscheid", meaning no determinate, specific or definite difference.⁴⁹

7.5 – The Necessity of Nature

Our consideration of Spinoza's philosophy of extended Nature showed, among other things, that to Hegelian eyes his explanation of why Substance necessarily exists as Extension is very limited. In this chapter it has been shown in detail how a Hegelian standpoint can avoid this deficiency, explaining in detail the self-determination of the absolute Idea as Nature. The immanent negativity of the Idea has been shown to play a crucial role in this fuller account of the necessity of Nature, in line with Hegel's tracing the root of the problem of the genesis of determinacy in Spinoza's thought back to his rejection of negativity, and

⁴⁹ Ibid. §254; *Werke* 9, p.41

negativity will maintain this importance in Hegel's account of Nature's further development.

This of course as yet leaves Hegel with only the barest and most abstract form of Nature as self-externality, a far cry from even the most fundamental structure of Spinoza's account of Extension, motion and rest, let alone the full picture of the mechanical world which this underpins. However, from the Hegelian standpoint, this derivation of the necessity of Nature as such represents a major advance over what the Spinozist standpoint is capable of under the interpretation set out above.

It has been important to give as much of the full detail of this development as is practical within the context of this study, because the power of the Hegelian position, and its avoiding falling into the same problem of determinacy it sees in Spinozism, resides precisely in the detail in which it can show the development of the Absolute's self-determination, following through the labour of the Idea's sometimes tortuous self-movement.

A further reason for taking pains over the subtleties of this derivation is that the detail of the way we interpret this hinge-point in Hegel's system dramatically affects our understanding of everything to come in the *Philosophy of Nature*. Looking ahead to chapter nine, the precise way we understand the progression from absolute Idea to Nature has profound consequences for our conception of the first form of Nature, space. As discussed briefly in chapter six, Maker argues, contrary to the interpretation argued for here, that Nature is to be understood as radically other to thought. From this, he goes on to suggest that, in its initial form as the self-externality of space, Hegel is attempting to recognise Nature's genuine otherness from Logic's self-determination by formulating Nature as a sheer givenness. When we conceive this givenness without determinate reference to something to which it is given or for which it exists, Maker argues that we arrive at the concept of self-subsisting outsideness, or externality. Externality is that which is always 'different from', but without there being a determinate other from which it is different. Maker argues, further, that in the first form of Nature as externality we have achieved the conception of a

non-self-determining determinacy which is nonetheless determinate in and for itself and able to maintain stable differentiation.⁵⁰

However, as we shall see in detail in chapter nine, this stable differentiation which Maker identifies with space is in fact, as a consequence of the interpretation of the move to Nature argued for above, precisely the determination space lacks. Further, it is space's lack of stable determinacy that drives on the dialectical progression which, from a Hegelian perspective, results in a fuller account of the necessity of Nature's mechanical determinations, including motion and rest, and of its existing as finite bodies, than that possible for Spinoza.

The way that we understand space has consequences in turn for every further determination as the dialectical effects ripple out, as we will see through the course of chapter nine and again in chapter eleven. In Maker's interpretation, as Nature's radical otherness to thought is developed through to fuller determinacy, it gains determinations which are increasingly different from the sheer externality with which it began. Just as logical self-determination was led to think its other, sheer externality is also led beyond itself. This other is neither logical self-determination nor externality, but the further development of what is determinate in externality. This turns out to consist in modes of gradually greater degrees of independent self-subsistence, including the emergence of individual things. In Maker's reading, as Nature gains greater determinacy through its development, this manifests itself in things gaining greater individual self-subsistence. The trajectory of the dialectic of Nature thus runs opposed to that of Logic, in the sense that the progression of Logic showed determinacies to be not at all independent of one another or self-subsistent, but rather inextricably interconnected, whereas this intrinsic interconnection is absent from Nature's radical externality.⁵¹

The interpretation argued for in this study, that Logic and Nature, rather than being radically other, are two ways in which the one Idea shows itself to exist, unfolds into a very different picture of Nature's development. As we will see in detail in chapter eleven, although Maker is correct that Nature moves on

⁵⁰ Maker, W. 'The Very Idea of the Idea of Nature, or Why Hegel Is Not an Idealist' in Houlgate, S. (ed.) (1998). *Hegel and the philosophy of nature*. Albany: State University of New York Press. pp.9-13

⁵¹ Ibid. pp.18-19

from its sheer externality and comes to exist as individual things, as Hegel's physics progresses into an account of the chemical processes and organisms, those bodies which appeared at one stage to be self-subsistent and independent show their being to be intrinsically bound up with and relative to their place within processes and unities. Far from Nature being an alien other, the Idea remains the foundation and 'inner' being of Nature and this self-determining, ideal unity, though at first only implicit in Nature's externality, becomes gradually more explicit as it develops itself as Nature. This process of qualitative metamorphosis will result in a view of the structure of the natural world which poses a strong Hegelian critique of the mechanical and quantitative account Spinoza offers.

Before turning to Hegel's account of the specific forms of Nature which develop from its initial self-externality, in the next chapter we will look in more detail at the structural consequences of the emergence of Nature's existence. This is a development in the Hegelian system which involves a structural change in the Idea itself, with consequences for the whole sphere of Nature.

Chapter 8 – The Idea as Nature

Hegel argues that Nature is a specific phase in the Idea's self-development, an overarching process which I will term the 'macro-dialectic' of the Idea. The move from Logic into Nature does not represent the end of the dialectic of Logic and the beginning of a new one, but is the moment when it becomes apparent that the whole of Logic has been but the first phase of a greater dialectic, the next phase of which is Nature. Logic, Nature and Spirit are the different moments of this macro-dialectic, meaning different phases (in a logical rather than chronological sense) of the Idea's process of articulating and concretizing itself, in which the concepts involved, their complexity and their interrelation change. Hegel suggests these three moments of the Idea can be understood as the universal (*das Allgemeine*), the particular (*das Besondere*) and the individual (*das Einzelne*). The course of philosophy shows the eternal process of the Idea releasing itself from its pure inward unity and universality in Logic, to its self-external particularity in Nature, and finally returning back into itself in Spirit, manifesting itself as a free individuality which is the union of the universal and particular.¹

Crucially, the Idea has this macro-level structure only because this is the way it develops immanently through the course of its micro-dialectical movements. These latter developments are not the contingent or superfluous way in which some pre-existing grand plan of the Idea gets fulfilled but are the sole constituents of this movement through Logic, Nature and Spirit. Indeed, though these divisions do correspond to major conceptual shifts, it is a mistake to interpret the division of philosophy into these spheres as indicating their exteriority from one another. In the *Encyclopaedia Logic*, Hegel warns that we must be careful not to represent the division of philosophy as if its parts lie "side by side", immobile and substantial in their independence.² To take the image Hegel himself uses many times, in truth the three circles of Logic, Nature and

¹ Hegel, G.W.F., Miller, A.V. (2004). *Hegel's Philosophy of Nature*. Oxford University Press. §247; Hegel, G.W.F. (1970). *Werke* 9. Suhrkamp Verlag. p.24

² Hegel, G.W.F., Geraets, T.F., Suchting, W.A., & Harris, H.S. (1991). *The Encyclopaedia Logic: Part I of the Encyclopaedia of philosophical sciences with the Zusätze*. Indianapolis: Hackett. §18, Remark

Spirit are but links in the chain of the one circle of the Idea unfolding itself out in these different phases of its activity.³

This macro-dialectical process has no analogue in Spinoza's thought. For Spinoza, Extension is one of an infinity of attributes in which Substance expresses itself in parallel, each of which is (in a logical rather than chronological sense) simultaneous and eternal, and which all share in an identical order and connection of modes. Further, though Substance expresses itself in an infinity of finite modes which come to be and cease to be, the structure of Substance as such does not undergo development or change, and does not exist in any other manner than in its purely positive, infinite unity.

In contrast, what it means for the Idea to be the Idea, or to be the Absolute that it is, changes through the course of its self-development, becoming richer and more complex. The self-determination of the Idea as Nature is not just the genesis of particular expressions of the Idea, that is, particular ways in which an undisturbed unity of the Idea exists. Rather, this self-determination alters the structure of the Idea itself as it freely dissolves the harmonious interconnection of its moments, sundering itself into self-externality. This dissolution results in a complex relationship between the universality of the Idea and its particularity as natural objects, in comparison with which the union argued for by Spinoza between the universality of Substance and its existence as extended modes represents, from a Hegelian perspective, an inadequate conception of the specificity of Nature's existence.

On the one hand, Nature is fundamentally structured by the Idea, but on the other hand Nature also falls away from complete conformity with the Idea, with important consequences. Looking first at Nature's harmony with the Idea, we see a strong continuation in the *Philosophy of Nature* of the relationship between Idea and Nature given in the *Science of Logic* in the section on absolute Idea, where Nature is described as one of the two major modes, the other being Spirit, in which the existence of the Idea becomes manifest.⁴ Hegel reaffirms clearly in the *Philosophy of Nature* that "Nature is one of the ways in which the

³ Hegel, G.W.F., Miller, A.V. (2004). *Hegel's Philosophy of Nature*. Oxford University Press. Introduction, Zusatz, p.2; Hegel, G.W.F., & Miller, A.V. (1998). *Hegel's Science of Logic*. Amherst, N.Y: Humanity Books. pp.825, 842

⁴ Hegel, G.W.F., & Miller, A.V. (1998). *Hegel's Science of Logic*. Amherst, N.Y: Humanity Books. p.825

Idea manifests itself, and is a necessary mode of the Idea.”⁵ Indeed, the Idea is not only “immanent in Nature as such”⁶, but “present in each grade or level of Nature itself.”⁷ Further, it is the essential and distinctive metaphysical characteristic of Nature to be “the Idea in the form of otherness” and thus to be “essentially related to a first.”⁸ The Idea is the absolute metaphysical ground of Nature, that is, everything in Nature (with certain caveats to be introduced shortly below) is not only conditioned by and in conformity with the rational conceptual structures of the Idea, but has its “affirmative element”⁹, or is what it is, in virtue of its being a manifestation of the Idea and having the Idea manifest its structure through it.

To see in more detail what Hegel means by this claim, we can turn to a discussion we find in the introduction to the *Philosophy of Nature* concerning the theoretical approach to Nature and the relationship between concepts and particular natural objects. Hegel remarks that it may seem, contrary to his view, that the theoretical approach to Nature is self-defeating, for what is sought is knowledge of Nature, but in thinking Nature, as opposed to perceiving it, it is made into something different than it actually is. The thinking of things transforms them into universals, like ‘the Lion as such’ to take Hegel’s example, but Nature is populated entirely by singular things, and such universals do not actually exist. Thus it may seem that instead of capturing things as they are, thought actually gives them a subjective, human character, making them something produced by us, “for natural objects do not think, and are not representations or thoughts.”¹⁰

In contrast, by deriving Nature as the Idea in externality, Hegel is in a position to argue that the universal aspect of things is not a subjective addition, but “the noumenon, the true, objective, actual nature of things themselves.”¹¹ Hegel compares his conception of the reality of universals to Plato’s Forms, in the sense that these do not exist far off in some other realm, but are present in

⁵ Hegel, G.W.F., Miller, A.V. (2004). *Hegel’s Philosophy of Nature*. Oxford University Press. §247, Zusatz

⁶ Ibid. §245

⁷ Ibid. §247, Zusatz

⁸ Ibid.

⁹ Ibid. §248, Zusatz

¹⁰ Ibid. §246, Zusatz

¹¹ Ibid.

particular things as their true substantiality and foundation.¹² A passage from the first Zusatz to §24 of the *Encyclopaedia Logic* is helpful in bringing further clarity to this standpoint of “true idealism.”¹³ Hegel reasons here that, in one sense, if in speaking of a particular animal we say ‘it is an animal’, it can be replied that ‘animal as such’ does not exist, and cannot be pointed out. This is because ‘animal’ refers to the universal nature of all animals, and each existing singular animal is a much more determinate particular. However, the universal nature of animality not only pertains to every particular animal but in fact constitutes its essential nature. Elaborating, Hegel claims that to deprive a dog of animality would render it impossible to say what it is. Things have an “äußerliches Dasein”, an external ‘thereness’ or determinacy, which comes to be and passes away, but they also have a “persisting, inner nature” which is not just a common property between things but provides things with the substantial essence which makes them the kind of thing that they are.¹⁴

Concepts are not removed into another metaphysical zone from things but actually supply their essential being and internal necessity, as opposed to the external necessity which provides their contingent characteristics. The ‘lion as such’ does not exist, but the network of conceptual structures, from determinate being, to finitude, to the self-perpetuating unity of life, which provide the necessary structures of any lion’s existence, are very much real and present in every lion. Indeed, these in fact provide its genuine and enduring reality, as opposed to the fleeting contingencies of the number of its hairs, its height, and so on. ‘True idealism’, as Hegel conceives it, asserts that the singular things present to sensuous intuition “are only a show, an appearance (*Schein*)”¹⁵, not in the sense that they do not exist, but in the sense that they are but transient phenomena which owe their substantial reality to the conceptual structures of the Idea, and indeed are what they are only through their being a manifestation of the Idea.

In line with the interpretation of Spinoza’s thought developed in chapters three to five, Macherey emphasises that the power of Substance’s immanent

¹² Ibid.

¹³ Ibid.

¹⁴ Hegel, G.W.F., Geraets, T.F., Suchting, W.A., & Harris, H.S. (1991). *The Encyclopaedia Logic: Part I of the Encyclopaedia of philosophical sciences with the Zusätze*. Indianapolis: Hackett. §24, Zusatz 1

¹⁵ Hegel, G.W.F., Miller, A.V. (2004). *Hegel’s Philosophy of Nature*. Oxford University Press. §246, Zusatz

necessity acts within and *as* Nature, both finite and infinite, and not *on* it.¹⁶ Substance does not externally act on or structure the infinity of finite modes; rather, Substance necessarily expresses its own being as infinitely many modes in infinitely many attributes. Further, the expression of Substance in its modes is not a realization or manifestation, because Substance does not precede or lie behind its modes as their 'true reality' or metaphysical foundation. Rather, Substance is nothing other than the immanent act of expressing itself immediately in an infinity of modes.¹⁷

Under the reading of Hegel's thought argued for here, the Idea is certainly not acting externally *on* Nature, since this is a mode of the Idea's own being and necessary activity. However, in Nature the relationship between the universality of the Idea and its particular determinations is different to that found in Logic. Whereas it is characteristic of the Idea as Logic, particularly in the form of absolute Idea, that the Idea's universality and particularity exist in immediate unity, the Idea as Nature, conversely, is characterised by its self-externality, the sundering of this unity of universality and particularity.

The particular objects of Nature are not an external other which the Idea now acts on, but one element of the *self-externality* of the Idea that Nature is. The internal negativity of the Idea, in contrast to the purely positive being of Substance, gives its existence as Nature a real self-externality and diremption. In addition to manifesting itself as space, this structural self-externality can be seen, for example, in the persistence of Nature's stages, such as the mechanical, physical and organic, 'side-by-side' as they progress, in the sense that although Hegel claims that the mechanical and physical stages of Nature lead necessarily to the organic, he does not thereby claim that all of Nature is organic. We will discuss this in greater detail in chapter eleven. Nature's structural self-externality also plays a key part in Hegel's account of necessity and contingency, as we will see shortly. Further, Natural objects have an intrinsic negativity in the sense that, contrary to their appearance as independent and self-subsistent, they are the transitory manifestations of the Idea, the truly "affirmative element in Nature"¹⁸

¹⁶ Macherey, P. (2011). *Hegel or Spinoza*. University of Minnesota Press. pp.161-162

¹⁷ Ibid. p.200

¹⁸ Hegel, G.W.F., Miller, A.V. (2004). *Hegel's Philosophy of Nature*. Oxford University Press. §248, Zusatz

which timelessly and universally “posits all particularity in existence.”¹⁹ As we will see in chapters nine and eleven, this negativity subjects finite bodies to perishability, but also forges the gradual path whereby these finite bodies show their reality to reside in their being moments of higher unities, such as systems of motion, chemical processes and organic bodies.

At multiple points in the introduction to the *Philosophy of Nature* Hegel uses theological concepts and imagery to convey the passage from Logic to Nature. In §247 he poses the question of why Logic leads into Nature thus: “If God is all-sufficient and lacks nothing, why does He disclose Himself in a sheer Other of Himself?” Hegel answers that, on a maximally general level, it is the nature of the divine Idea as Logic to posit its other, Nature, outside itself and then bring this back into itself in becoming Spirit. Importantly, the Idea imparts its full content to this other, and “God, therefore, in determining Himself, remains equal to Himself.” Nature is not some fragment of the Idea, or a mere shadow or shallow reflection, but “is itself the whole Idea and must be posited as the divine totality.” Indeed, the Idea is described as having an “indivisible nature,” indicating that its status as the one totality does not fall apart through developing into Nature and Spirit.²⁰

However, Hegel claims in §247 that “Nature is the son of God, but not as the Son (der Sohn Gottes, aber nicht als der Sohn), but as abiding in otherness – the divine Idea as held fast for a moment outside the divine love.”²¹ Nature is certainly the son of God, or the Idea, and keeping in mind that in Hegel’s interpretation of the trinity this means that Nature *is* God in the form of his son, we can see that Nature is being affirmed as itself being the Idea in the form of its son, or its otherness. On the other hand, though, Nature is this ‘not as the Son, but as abiding in otherness.’ In Hegel’s conception, the significance of Christ as the Son of God is that God is not just the Father, the creator metaphysically separate from His creation, and is not just a singular physical individual, but has manifested through the body of Christ the union of the finite and infinite in God, and thus God’s concrete, fully actual infinity (as opposed to the abstract infinity

¹⁹ Ibid. §249, Zusatz

²⁰ Ibid. §247, Zusatz

²¹ Ibid.; *Werke* 9, p.25

of the Father which does not encompass the finite within His nature).²² Thus when Hegel identifies Nature as the 'son' which is not the 'Son' but abides in otherness, he is indicating Nature falls between the infinite of pure thought in Logic and the infinite in unity with particularity achieved in Spirit. Nature is just as much the Idea as Logic or Spirit, but "held fast for a moment outside the divine love," meaning that it is a sphere of externality and particularity which has arisen as the negative to the abstract, inward totality of Logic but has yet to achieve the union of these moments in Spirit.

This reading finds support from other passages in the introduction to the *Philosophy of Nature*, such as when Hegel claims that "*In itself*, in the Idea, Nature is divine: but as it *is*, the being of Nature does not accord with its Notion; rather is Nature the *unresolved contradiction (unaufgelöste Widerspruch)*."²³ Nature is certainly not other to the Idea; indeed the Idea is the implicit inner foundation, the 'in itself', of Nature. However, Nature presents a rupture within the Idea itself, the emergence of a contradiction which cannot be resolved within the inward, abstract being of the Idea as Logic, and necessitates a new conceptual domain of self-externality. Hegel's characterisation of Nature as the 'unresolved contradiction' here additionally lends support to the reading of the move from absolute Idea to Nature we have been proceeding with, since within this interpretation it is immediately clear why he should characterize Nature in this way: the reason why the concept of Nature arises at all is because the absolute Idea freely releases its universality and particularity, letting these fall apart rather than holding them in harmony together, and this unresolved contradiction, the terms of which stand in externality to one another, is precisely what constitutes the basic character of Nature as self-externality.

Indeed, the Idea's "*self-degradation (der Abfall der Idee von sich selbst)*"²⁴ and internal disparity as Nature is such that Hegel argues the structure of the disjunction of the Idea should not be seen just as a dyad, with the universal and the particular in opposition, but rather as a tetrad, the first term being the universal and the second term, the moment of difference, being a duality, for "in

²² Hegel, G.W.F., Miller, A.V., Wallace, W. (2007). *Philosophy of Mind*. Oxford University Press. §381, Zusatz

²³ Hegel, G.W.F., Miller, A.V. (2004). *Hegel's Philosophy of Nature*. Oxford University Press. §248; Hegel, G.W.F. (1970). *Werke* 9. Suhrkamp Verlag. p.28

²⁴ *Ibid.*

Nature, the Other must exist explicitly as Other (das Andere für sich als Anderes existieren muß."²⁵ The otherness of Nature is not just that of particularity from universality, but also the otherness of particularity from itself, and thus the particularity of Nature exists explicitly as otherness in itself and not just in relation to the universal.

When we recall Hegel's description in the *Science of Logic* of the internal differences of the Idea as Logic as "not yet *otherness*"²⁶ it becomes apparent just how far the structure of the Idea has progressed in the emergence of Nature. Whereas the mutual otherness of the absolute Idea's determinations was sublated within the unity of this singular totality, in Nature, "the Idea in the form of otherness"²⁷, the moments of otherness and unity have their positions inverted. In Nature, "the unity of the Notion is concealed"²⁸, and "present only as something inward"²⁹ as otherness in the form of self-externality becomes the dominant conceptual structure. To reiterate, the Idea remains the basis of the determinations of Nature. They are still *its* determinations. However, the structure of Nature is such that the truth of the absolute unity of the Idea is not made explicit in the way it manifests itself, rather having the place of an implicit truth which, as we shall see below, gradually gains actuality once again through the course of Nature's development.³⁰

This specific structural character of the Idea as Nature is important to grasp in order to understand the development of Nature's forms which we will be following in chapters nine and eleven. It also has more general consequences for Hegel's account of the natural world, particularly regarding the issue of necessity and contingency.

8.1 - Necessity and Contingency

²⁵ Ibid.

²⁶ Hegel, G.W.F., & Miller, A.V. (1998). *Hegel's Science of Logic*. Amherst, N.Y: Humanity Books. p.825

²⁷ Hegel, G.W.F., Miller, A.V. (2004). *Hegel's Philosophy of Nature*. Oxford University Press. §247

²⁸ Ibid.

²⁹ Ibid. §248

³⁰ Hegel, G.W.F., & Miller, A.V. (1998). *Hegel's Science of Logic*. Amherst, N.Y: Humanity Books. p.829

Due to the self-externality of the Idea as Nature, Hegel writes that Nature's determinations have "the show of an *indifferent subsistence* and *isolation* in regard to each other" and, as a result, "Nature exhibits no freedom in its existence, but only *necessity* and *contingency*."³¹ Earlier we saw that Hegel argues that the absolute Idea's transition to Nature is free in the sense that the absolute Idea is completely self-determining. The absolute Idea stands at the end of Logic as an all-inclusive totality, and so there can be nothing determining its transition other than its own immanent necessity. However, in the self-externality of Nature, the unity of the Idea is now only an implicit foundation, sunk into the background. The particular determinations of Nature in turn are no longer explicitly united as the manifestations of a single totality but take on the appearance of independent self-subsistence.³² It is because of this appearance of independence that Hegel ascribes necessity, and not freedom, to Nature, describing necessity as the "merely external ... relation of mutually independent existences,"³³ or "the inseparability of different terms which yet appear as indifferent towards each other."³⁴ The determinations of Nature do not exhibit freedom because these particulars are mutually subject to the external necessity of one another's action.

By 'contingency' Hegel does not mean random chance but another aspect of this external necessity.³⁵ Though Nature's forms are rationally determined by the inner necessity of the Idea, they also display "indifferent *contingency* and indeterminable irregularity." Hegel characterizes this as "the *impotence* of Nature", remarking that "it preserves the determinations of the Notion only *abstractly*, and leaves their detailed specification to external determination."³⁶ This sets limits to the philosophy of Nature, making it impossible to deduce the detail of every product of Nature, since although every natural object is conditioned and determined in various ways by the necessary structures of the Idea, nonetheless "these traces do not exhaust its nature."³⁷ However, this does not present a barrier to the philosophical study of Nature. Unlike in the case of

³¹ Hegel, G.W.F., Miller, A.V. (2004). *Hegel's Philosophy of Nature*. Oxford University Press. §248

³² Ibid. §248, Zusatz

³³ Hegel, G.W.F., Miller, A.V., Wallace, W. (2007). *Philosophy of Mind*. Oxford University Press. §381, Zusatz

³⁴ Hegel, G.W.F., Miller, A.V. (2004). *Hegel's Philosophy of Nature*. Oxford University Press. §248, Zusatz

³⁵ Ibid.

³⁶ Ibid. §250, Remark

³⁷ Ibid.

empirical science, philosophy has no need to explain every detail of finite Nature, since the rational structure developed in philosophy has validity in its own right and yields the general forms and structures of Nature, not particular facts.³⁸ To use Hegel's example, philosophy shows organic life to be a necessary manifestation of Nature, but the fact that philosophy cannot determine *a priori* how many species of parrot exist poses no challenge to this.³⁹

In this defence of the project of a philosophy of Nature against the misplaced critique that it cannot determine every particular fact, Hegel finds agreement with Spinoza's position, discussed above, that we come to understand Nature through its concrete universal structures, the 'fixed and eternal things', and not our confused and limited perceptions of finite things, our inability to trace the infinite causal chains of which presents no issue to philosophy. However, Hegel's acknowledgement of contingency in Nature would seem to put him into conflict with Spinoza, who makes it very clear that "in nature there is nothing contingent, but all things have been determined from the necessity of the divine nature to exist and produce an effect in a certain way."⁴⁰ As Spinoza explains, this is because Substance's modes follow necessarily from its nature and Substance is the cause of both the existence of its modes and of their being determined in particular ways in causal chains. If a mode has not been determined by Substance, it is impossible for it to determine itself, and conversely it is impossible for a mode, having been determined by Substance, to render itself undetermined.⁴¹ Contingency is therefore a confused idea caused by our failure to understand the substantial reality of the modes and the necessity of their interaction.

However, in relating this to Hegel's position on contingency we need to make a distinction between the fact of a thing's being determined and what it is determined by. Insofar as the question is whether everything in Nature is determined, Hegel agrees with Spinoza. Hegel does not claim there is contingency in Nature in the sense that there exist events or objects which are random or otherwise undetermined sheer given facts. Regardless of whether we

³⁸ Ibid. §353, Zusatz

³⁹ Hegel, G.W.F., & Miller, A.V. (1998). *Hegel's Science of Logic*. Amherst, N.Y: Humanity Books. p.804

⁴⁰ Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. EIp29, p.433

⁴¹ Ibid. EIp29d, pp.433-434

ever discover what causes a particular thing to exist in the way it does, it certainly has an external cause among other things. The sense in which Hegel affirms the existence of contingency is rather that, due to the structure of the self-externality of the Idea as Nature, the Idea does not fully determine the existence of finite things. Everything in Nature is certainly conditioned by and has its essential reality in the Idea, as discussed above, but although a lion is not what it is without the structure of organic life determined by the Idea, nonetheless the Idea does not determine how many teeth the lion has. The number of the lion's teeth is contingent, not in the sense that it has no cause, but in the sense that this is not determined by the Idea. Importantly, this contingency is not due to a limitation of philosophical knowledge, but a structure intrinsic to the way natural things exist and the 'impotence' of Nature to instantiate the Idea, as Hegel puts it. Although Nature and all natural things are manifestations of the Idea and nothing else, the structure of self-externality present in Nature means that its particulars have a self-subsistence which, although lessening as Nature develops, prevents them from being unified in the same way as the categories of Logic were with the absolute Idea. In contrast, the modes of Substance are enveloped within its complete and unfractured necessity, with no externality or negativity appearing at any point.

Bringing this discussion more explicitly into relation with the central argument of this study, in this chapter we have seen that Hegel's conception of Nature as the Idea in self-externality, the outcome of his more adequate derivation of the existence of Nature, affords him, from a Hegelian perspective, a more subtle conception of the specificity of Nature's existence than Spinoza provides. More precisely, Hegel's *Philosophy of Nature* suggests that Spinozism lacks a satisfactory conception of the structural relationship between, in Spinoza's terms, the universality of Substance and its particularity as extended modes.

Spinoza certainly distinguishes between the immanent causality of Substance and its infinite modes and the transitive causality of the finite modes – a distinction that looks somewhat like that between 'universality' and 'particularity' in Nature as Hegel conceives it. However, Spinoza conceives the order and connection of finite modal Nature as totally determined by the singular causal necessity of Substance, the transitive causality among the finite

modes being, as Macherey puts it, the totally necessary expression and realization of the infinite in the finite.⁴² In contrast, Hegel argues that, because the Idea as Nature no longer exhibits the harmonisation of universal and particular definitive of the absolute Idea, it is intrinsic to the structure of Nature that particularity, though conditioned by the universal, can exist in ways not determined by it and in this sense contingent. Spinoza's banishing of contingency from Nature reveals, from a Hegelian perspective, an inadequate understanding of the constitution of the natural world and the relation of the universality of the Absolute and its existence as particular natural things.

We will now proceed to follow the dialectic of the Idea's sundered universality and particularity as it works itself through in Hegel's account of mechanics, and thereby develop a Hegelian critique of what he takes to be the explanatory deficiencies of Spinoza's account of extended Substance's necessary expression as motion and rest and finite modes.

⁴² Macherey, P. (2011). *Hegel or Spinoza*. University of Minnesota Press. pp.157-158

Chapter 9 - Hegel's Dialectical Mechanics

In chapter four it was pointed out that, from a Hegelian standpoint, the interpretation of Spinoza set out there cannot adequately explain, firstly, why Extension necessarily exists as motion and rest, and secondly, why extended Substance must necessarily express itself as finite bodies. Going beyond merely pointing out these limitations, this chapter will give a detailed interpretation of Hegel's dialectical account of mechanics, showing that the absolute idealist position can avoid the deficiencies it finds in Spinozism through Hegel's immanent development of the structures of Nature.

9.1 - Space

The challenge posed by a dialectical account of Nature is that the concept of Nature must be shown to necessitate, through its own immanent development, such things as space, time, motion and matter. The philosophical account of Nature Hegel is attempting does not operate by first taking a phenomenon of nature identified by empirical investigation, such as space, and then considering how this might be explained theoretically. Instead, the philosophical investigation of Nature only ever has the necessary and immanent content of the Idea as Nature for its object.

In order to understand Hegel's account of space, the first determination of Nature's self-externality, and indeed any of the categories that follow, it is vital to appreciate the level of abstraction which is still demanded. Though we are now in the sphere of Nature, this does not mean that we are dealing yet with anything remotely resembling the natural world we are habitually familiar with. The 'space' with which the dialectic of Nature begins will, as we shall see, turn out to be in a highly abstract form, which might be called absolute space, but this will

ultimately show itself to be superseded by the fuller, more adequate concept of relative space, that is, the space of material bodies in time.¹

This brings to the fore the further general point that we should not jump to the conclusion that Hegel's account of any particular category, upon its first appearance, is necessarily intended to exhibit the full truth of this determination. Rather, determinations become more concrete and specified through their being placed in interrelationship with the growing set of Nature's categories. As a result, when Hegel first brings forward a term such as space, we should not fall into the trap of immediately importing into the category those features we usually regard as belonging to space. The full nature of existing space as we usually understand it is something which will emerge through its relationship to other categories, such as time, and if we take this to be the space Hegel begins his account of Nature with, we will be unable to understand his reasoning at all.

Having described space, along with time, as "self-externality in its complete abstraction" in his brief anticipatory summary of the first categories of Nature in §253 of the *Philosophy of Nature*, Hegel gives his first detailed account of space in §254. Firstly, he claims space is "the abstract *universality of Nature's self-externality*, self-externality's mediationless indifference." To see why Hegel characterises this self-externality specifically as being in a state of abstract universality, we need to remember the conceptual context of this category. In its self-externality the Idea is a universal which is no longer the harmonious interconnection of its particular moments, as it was at the end of Logic, but in a state of asunderness. Though the Idea remains the one all-inclusive reality, its moments now stand external to one another, and so the task at the outset of this new phase of conceptual development is to identify the most minimal determination made necessary by this conceptual structure. This is the 'abstract universality of self-externality', because although the Idea has the specific structure of self-externality this has yet to receive any further determination. It thus stands in a minimal and abstract state. We are not yet at the point where this self-externality proves to be, for example, the externality of particular physical objects from one another. Indeed, as yet the Idea as Nature has not proved itself to have concretely identifiable particulars at all.

¹ Hegel, G.W.F., Miller, A.V. (2004). *Hegel's Philosophy of Nature*. Oxford University Press. §254, Zusatz

Hegel's characterisation of the abstract universality of self-externality as 'self-externality's mediationless indifference' can be understood as indicating precisely this relationship of the moments of the Idea which yields its abstract self-externality. These determinations stand, at this point, without any explicit mediation or connection between them, that is, in a relation of sheer indifference. Hegel goes on to give further specification to this abstract self-externality in §254, describing it as a "wholly ideal *side-by-sideness* because it is self-externality". In characterizing this abstract self-externality as 'ideal side-by-sideness', Hegel is indicating that this is not the externality of separate things from each other (there being no such separate objects at this point) which could constitute a real or concrete side-by-sideness, but the externality of a single thing, the Idea, from itself. This ideal side-by-sideness is constituted by the indifference and lack of mediation between the determinations of the Idea, yet their being at the same time determinations of a single entity.

In the same section, Hegel also describes the category of space as "absolutely *continuous*, because this asunderness is still quite *abstract*, and contains no specific difference within itself." Abstract self-externality has a moment of ideal separation and discreteness, but also a moment of absolute continuity, and this is because, to reiterate the point once more, the determinations of the Idea are in a state of bare abstraction, to the point where they lack 'specific difference', as Hegel puts it, between each other. Indeed, in the addition to §254 Hegel claims that "the unity of these two moments, discreteness and continuity, is the objectively determined Notion of space."²

In §255, Hegel brings the notion of difference within space into the foreground, writing "Space, as in itself the Notion as such, contains within itself the *differences* of the Notion."³ The issue of difference within space dominates the rest of Hegel's explication of this concept, and so it is worth making clear why Hegel takes spatial difference to be both necessary and highly problematic. It is useful in this regard to understand the sense in which space and its self-externality are driven by a logic of self-negation. Space, abstract self-externality, is the self-negation of the Idea, or the Idea as the negative of itself. The content of space is, indeed, generated by its self-negation, in the sense that it internally

² Ibid.

³ Ibid. §255

negates its unity into a self-external plurality. Further, the being of each of the 'Heres' of space, or the spaces that it is self-externalised into, simply consists in their *not* being the other spaces. The abstractness of space is such that there is no more determinate content that its differences can have. Negation, and specifically self-negation, is thus intrinsic to the concept of space.

As Hegel points out, within the abstract self-externality of absolute space we have been explicating, we can already see a certain form of difference, though this is "superficial" and "completely empty."⁴ The determination of self-externality is fundamental to space, giving it a necessary internal plurality, but space thus far lacks any determinate internal difference or distinction, rendering it a perfect continuity. Hegel suggests we can see this empty difference within the philosophical concept of space reflected in our empirical concept of space, in the three spatial dimensions, "which are merely *diverse* and possess no determination whatever."⁵ Hegel specifies in the remark to §255 that the inability to distinguish height, length and breadth stems precisely from the empty difference of abstract self-externality, which yields this diversity of dimensions but cannot supply any determinate difference within its abstract continuity to actually differentiate them. In Hegel's words, "these three dimensions only *ought* to be different, but ... they *are* not yet differences."⁶ Of course, if we posit a material body in space, such as the planet Earth, it is possible to construct definitions for the dimensions, characterizing height, for example, as in the direction of the centre of the Earth and then placing breadth and length as each perpendicular to this pole. As Hegel is quick to point out, though, this does not inform us about the nature of space itself, in abstraction from bodies, and does nothing to remove the indifference of its dimensions therein.⁷

Immediately following this discussion of the indifference of space's dimensions, though, Hegel claims "the difference of space is, however, essentially a determinate, qualitative difference."⁸ This assertion is driven by the internal contradiction within the concept of space posed by the empty difference thus far found in it. Specifically, in the absence of determinate difference within

⁴ Ibid. §255, Remark

⁵ Ibid. §255

⁶ Ibid. §255, Remark

⁷ Ibid.

⁸ Ibid. §256

space, its self-negation ceases to have any content since there are no real differences to be marked off. Space thus threatens to collapse into a wholly homogenous self-identical point. However, space is necessarily self-external, as it is the Idea as the negative of itself. Thus, the coherency of the concept of space requires, as Hegel phrases it, a 'determinate, qualitative difference.' Space's self-negation cannot be limited to an empty indifference, but must extend to a concrete, determinate self-negation of some kind. Another way of expressing this would be to point out that, as already discussed above, space is the unity of discreteness and continuity. However, in the absence of any determinate difference within it, the moment of discreteness in space falls away, since there is no genuine multiplicity of spaces within it to be discrete from each other at all. Thus, the concept of space requires determinate difference for its coherency.

Turning, then, to the question of what this determinate difference within space must be, Hegel argues that it must first take the form of the negation of space, namely the point. Since space is an unbounded self-external continuity, the simplest determinate negation of this is an exclusive, self-contained point. However, Hegel is quick to indicate that, in the case of such a point, "the negation is the negation of *space*, i.e. it is itself spatial."⁹ This claim may seem paradoxical at first, but Hegel is actually making a fairly simple observation. If the point were not itself spatial, then it would not be the negation of space required. That is, it would not pose a determinate difference within space, but would simply be other to space, another kind of being altogether. In this case, the existence of any point would be irrelevant to the question of how determinate negation exists in space. However, it is the nature of the point to be the negation of space, and it must therefore in fact be a *spatial* point.

Hegel goes on to argue, though, that this result consists in the self-sublation of the point. Through its own logic, the point must be spatial, and therefore extend itself in space. The point thus falls into precisely the indifferent self-externality which it was supposed to be the negation of. This self-external, extended point is the line. Importantly, the line has the status of the negation of the negation (the first negation of space being the point, which then negates itself in becoming a spatial line), and this nature of the line as the negation of the

⁹ Ibid.

negation leads it into a further movement, namely becoming the plane. This is due to the specific logical structure of the negation of the negation. This is not just a further negation, but a self-reflexive movement which restores the original affirmative character of space, or in Hegel's words, "the restoration of the spatial totality which now contains the negative moment within itself, an *enclosing surface* which separates off a *single* whole space."¹⁰

A further step which is not made fully explicit in the *Philosophy of Nature* but which is made more clearly in Hegel's lectures on this topic is the move from the two-dimensional space of the plane to three-dimensional space. In his lectures on the philosophy of nature in the winter semester of 1825/26, he phrases the development of the third dimension thus: the plane is negation of the negation, and so the sublation of limit in space, giving a total space wherein 'volume' arises ("ein Volumen entstanden ist").¹¹ He goes on to specify that there are three determinations to be taken account of here: negation, negation of the negation, and negation relating itself to itself. This third determination, the self-relation of negation, is "the third dimension, this third limit is at the same time the sublation of limit (die dritte Bestimmung, die dritte Dimension, diese dritte Grenze ist zugleich die Aufhebung der Grenze)."¹² In being the negation of the negation, the whole space contains negation completely within itself, and so becomes the volume of universal space.

Houlgate suggests we should understand Hegel's line of thought here, and in other places in his lectures where he makes similar statements, through carefully distinguishing the different forms of negation present at each stage. The point was the simple negation of space, and the line the self-sublation of this point. However, the line, insofar as it is just a line or boundary in space, does not exhibit its double negativity explicitly, but remains a simple negation. In becoming explicitly the negation of the negation which it is, then, the line will have to negate itself, relating itself to itself in becoming a plane, that is, an enclosing surface. Houlgate points out that the plane is in this way qualitatively different from the line, in that it is a bounded affirmative space and not just a boundary in space. Further, because of this qualitative difference, the plane

¹⁰ Ibid.

¹¹ Hegel, G. W. F. (2010) *G. W. F. Hegel: Vorlesungen*. Electronic Edition. Volume 17. Eds. Bal, Maramasse, Pasch, Viewig. InteLex Corp. p.82, line 83

¹² Ibid. p.82, lines 86-88

cannot be conceived as a plurality of lines but as the negation of the line. Coming now to the move from the plane to the three-dimensional body, in Houlgate's reading this does not involve another qualitative change, as the shift from the line to the plane did, but rather the removal of the restriction placed on the plane in virtue of its being the negation of the line. The third negation of space is not the negation of the plane (which is the second negation, the negation of the negation), but rather space shedding the negative character it still has in the form of the plane and thereby becoming fully affirmative.¹³ This interpretation fits well with Hegel's key claim, quoted above, that the third negation, bringing forward the third dimension, is the third limit which in fact sublates limit, i.e. negates the negative character of space as the line, and in so doing restores full positivity to space, which is now a total, unbounded space.

Tracing the logic of negativity in space in this way has afforded a philosophical account of the existence of the spatial dimensions, something not found in Spinoza's philosophy. However, the most significant result of this examination for our purposes is not the derivation of the spatial dimensions as such, but the fact that space has proven unable to address its internal contradiction, since the development of negativity within it has only produced the indifferent and indistinguishable subsistence of its dimensions, and not the genuine self-negation which the coherency of space requires. As Winfield puts it, the spatial limits of point, line and plane continuously become external to themselves, transgressing the boundary separating them from what they demarcate. If the points, lines and planes cannot hold themselves apart, space's externality collapses, but space's continuity leads these boundaries necessarily to transgress themselves.¹⁴

Space requires a negative moment of difference within itself in order to maintain its character as space. If no difference can be located, logically space collapses into a single non-extensional point, as it will not be possible to justify in what sense any part of space is different from and thereby has another spatial location from any other. However, the bare and abstract concept of space currently before us cannot provide this negation, or more precisely the negations

¹³ Houlgate, S. (2005). *An introduction to Hegel: Freedom, truth, and history*. Malden, MA: Blackwell. pp.124-126

¹⁴ Winfield, R.D. 'Space, Time, and Matter: Conceiving Nature Without Foundations' in Houlgate, S. (ed.) (1998). *Hegel and the philosophy of nature*. Albany: State University of New York Press. p.58

within it have the 'defect' of indifference or mutual subsistence with each other. One can posit an infinity of points, lines, planes and three-dimensional geometrical constructs in space, and not one will give a real limit in space nor preclude any of the other infinite posited divisions, for none generate or correspond to any real difference within space itself. No negation internal to space can resolve its contradiction of externality and continuity, forcing the transition to the more radical negativity of time.

9.2 - Time

In space we have seen negativity locked in indifferent subsistence, and so unable to attain to the self-negation which space must be. As Hegel puts it, "space is this contradiction, to be infected with negation, but in such wise that this negation falls apart into indifferent subsistence."¹⁵ We have seen space's negativity unfold into the diversity of spatial dimensions. However, as Hegel is pointing out here, the contradiction within space remains, in that it has, as abstract self-externality, the essential character of self-negation, but its negativity, when worked through, falls short of this. This is because although space's dimensions, along with the various 'spaces' within it, can be said to be different from each other, and are produced, as we have just seen, by space negating itself, they 'fall apart into indifferent subsistence' in that each negation of space, each particular 'Here' or dimension, is completely indifferent, mutually subsisting and exchangeable (in the sense that every 'Here' or dimension can just as well be any other, as all are identical). Thus, although space is essentially self-negating, none of the determinations arising from its negativity concretely exclude any other, and so they remain indifferent and in perfect continuity. Hegel comments that in space even the limit has the form of subsistence, that is, that which is supposed to negate and exclude, setting itself apart as concretely different, does no such thing, lying adjacent to and undistinguished from its other.¹⁶

¹⁵ Hegel, G.W.F., Miller, A.V. (2004). *Hegel's Philosophy of Nature*. Oxford University Press. §257, Zusatz

¹⁶ Ibid.

In short, as Hegel helpfully summarises later in §260, “space is within itself the contradiction of indifferent asunderness and differenceless continuity”. He further adds here that space is therefore “the pure negativity of itself, and the transition, first of all, into time.”¹⁷ We find a very similar formulation in the addition to §257, where it is suggested that since space is “this inner negation of itself, the self-sublating of its moments is its truth.”¹⁸ But why should the contradiction within space lead to its outright negation or sublation of itself? Space, to reiterate once more, is the abstract universality of self-externality, the first form of the Idea as the negative of itself. Space is fundamentally self-negating, as self-negation is both that which gives rise to space at all and that which drives the logic of its internal otherness or self-externality. However, having worked through the dialectic of space’s self-negation in the unfolding of its dimensions, it has turned out that space is not truly self-negating at all, but rather that negation is “paralysed” within it and “does not therefore yet receive its due.”¹⁹ In order to be the self-negation that it is, space must therefore negate its spatiality as such, sublating its own structure entirely. We see here the most familiar pattern in Hegel’s system emerging once more: in being most purely what it is, something must in fact become what it is not. Space must become explicitly self-negating in order to be what it is, but this is precisely what it has proven unable to be. Thus, space must negate itself, but not in the limited and ultimately paralysed way thus far seen. Instead, space must become pure self-negation, and so cease to be space at all, transitioning to time.

In time, negativity or difference is “posited for itself”, having “stepped out of space.”²⁰ Whereas negation in space was always attached to an other, time is “self-existent difference, is what is negative in itself ... the negation of the negation, the self-relating negation.”²¹ We may recall the characterisation of the plane earlier as the negation of the negation in the form of a bounded, self-relating space. However, Hegel argues that though it is correct to call the plane the negation of the negation, “in its truth it is distinct from space.”²² That is, although we do find negation of the negation in the plane, this negativity is

¹⁷ Ibid. §260

¹⁸ Ibid. §257, Zusatz

¹⁹ Ibid.

²⁰ Ibid.

²¹ Ibid.

²² Ibid.

stifled in its spatial context, and 'in its truth', or made actual in a way corresponding to the necessity of the Idea, negativity steps beyond space as negativity in its own right: time. Indeed, "in time ... the point has actuality."²³ The lack of the point, an exclusive, determinate, qualitative difference, was that which drove the dialectic of space forward, and this negation which could only ever be the 'should be' of space is now the reality of time.

It is important to make explicit at this point that Hegel is arguing that the dialectic of Nature has led us to the standpoint that "the truth of space is time, and thus space becomes time," and further, "the transition to time is not made subjectively by us, but made by space itself."²⁴ This transition does not amount to space being left behind in some sense as time emerges as a new, separate form of being, no longer shackled by spatiality. Rather, space has sublated itself and "time is precisely the existence of this perpetual self-sublation."²⁵ Space has turned out to make time necessary, this being the truth of space's self-negation.

Giving more detail on the nature of time as self-sublation in §258, Hegel writes that time is "that being which, inasmuch as it *is*, is *not*, and inasmuch as it is *not*, *is*: it is Becoming directly *intuited*." He goes on to specify that "this means that differences, which admittedly are purely *momentary*, i.e. directly self-sublating, are determined as *external*, i.e. as external to *themselves*."²⁶ In calling time 'Becoming directly intuited', Hegel is of course comparing time to the third category of the Logic, the vanishing movement of being into nothing and vice versa, coming to be and ceasing to be. Hegel does not intend to suggest that the two categories are identical, but that time is the closest thing to the absolutely abstract becoming of the Logic which can actually be 'intuited' by us, that is, concretely experienced. But why exactly does time take the form of becoming? Why does the contradiction of space not simply result in its negation into sheer nothingness? This is because space's negation has the specific determination of self-negation, and so when this negativity 'steps forward' out of space to assert itself in its own right, it does so specifically as self-negation, retaining this determination. As a result, time has the structure of an abstract coming to be and ceasing to be, continually negating that which it is. Time ceases to be what it is,

²³ Ibid.

²⁴ Ibid.

²⁵ Ibid.

²⁶ Ibid. §258

but time again immediately ceases to be this ceasing to be, negating this negation to constitute itself as being once more. As Hegel phrases it in the *Science of Logic*, “time is an absolute coming-out-of-self, a generating of the one (a point in time, the now) and immediately the annihilation of it, and again the continuous annihilation of this passing away.”²⁷

Hegel makes explicit in the *Philosophy of Nature* that the dimensions of time are to be understood as the various moments of this process of becoming. Indeed, past, present and future provide for us, in our ‘intuition’ or experience of Nature, with a sense of the totality of the concept of time, laying out for us the logical phases of time’s continual self-negation.²⁸ Hegel suggests that each dimension, not just the totality, exists as a movement of becoming, but each dimension is distinguished in that it posits the movement of coming-to-be and passing away in a different determination. Taking the past first, in this dimension being is the starting point, in that the past has been formerly actual, but non-being has now been added to it. This is the movement from being to nothing. The reverse is true in the case of the future, where non-being is the first determination and being is later. This is the movement from nothing to being. The present is the unity of past and future. On the one hand, the present has being only because the past is no longer. The being of the past is precisely the negation of the present, and so the being of the present is the non-being of the past. On the other hand, the being of the present has non-being as a determination, and this non-being of the present is the future. The future has being only insofar as the present has non-being, that is, insofar as the present negates itself, becoming the past and being replaced by the future.²⁹ Importantly, though, in Nature only the present exists. The past is the non-being which the present negates itself into and the future is the non-being which is not yet at all. It is not until we arrive at the sphere of Spirit that the past and future gain something of the concrete reality enjoyed by the present, in the form of memory, fear and hope, for example.³⁰ As Houlgate points out, time is thus very different from space in that it is restricted to a one-dimensional existence, albeit a single dimension which continually

²⁷ Hegel, G.W.F., & Miller, A.V. (1998). *Hegel's Science of Logic*. Amherst, N.Y: Humanity Books. p.189

²⁸ Hegel, G.W.F., Miller, A.V. (2004). *Hegel's Philosophy of Nature*. Oxford University Press. §259, Zusatz

²⁹ Ibid.

³⁰ Ibid. §259, Remark

negates itself.³¹ The past and future do not gain positive reality of their own in Nature, but are limited to the non-being of the present.

An important point to appreciate, in order to understand this abstract concept of time and why, as we shall see, it ultimately sublates itself, is that time's negativity is, at this point, not to be understood as its difference from anything else or the alteration between two states of something else, but as an abstract self-relation consisting in its own self-negation. In Hegel's words, it is simply "the negativity abstractly relating self to self."³² Indeed, similarly to the abstract conception of space which preceded it, time is, at this point, "an out-and-out abstract, ideal being."³³ At this stage of the development of Nature there are not any particular things, let alone particular differences or changes among these things, with which time might be populated. Just as we were dealing before with absolute space, not the relative space of material things, we are now considering what is necessarily an absolute time.

This is helpful in making sense of Hegel's claim, already noted above, that the differences of time are "directly self-sublating, are determined as *external*, i.e. as external to *themselves*."³⁴ Time is 'directly self-sublating' in the sense that any difference, in being established, is immediately negated, as time is simply sheer restless self-differentiation, constantly negating itself and so becoming other to itself. Further, the differences can be understood as 'external to themselves' or having self-externality in the sense that they are constantly becoming other to themselves, negating what they are and becoming what they are not, while yet remaining in the same structure of self-relating negation. This is equally true of each of the dimensions of time as it is of the whole. As we saw above, past, present and future are not static beings, but are each themselves a movement of becoming. As Hegel phrases it, this is "pure being-within-self as sheer coming-out-of-self."³⁵ Time, in being what it is, becomes what it is not, that is, differentiates itself from itself, but in so doing it is only being the sheer self-differentiation that it is. We find a similar description of time in the *Science of*

³¹ Houlgate, S. (2005). *An introduction to Hegel: Freedom, truth, and history*. Malden, MA: Blackwell. p.129

³² Hegel, G.W.F., Miller, A.V. (2004). *Hegel's Philosophy of Nature*. Oxford University Press. §258, Remark

³³ Ibid. §258

³⁴ Ibid.

³⁵ Ibid. §258, Remark

Logic, where Hegel states that “this spontaneous generating of non-being is equally a simple self-sameness and self-identity.”³⁶

This comment in the *Science of Logic*, pointing to a structure of both self-identity and self-differentiation, leads us on to consider the contradiction within time which leads to its self-sublation back into space. It is Hegel’s claim that, despite time being pure self-negation, it is in fact ultimately driven back into the indifferent positivity and self-subsistence of space, and this is because it does not resolve the root issue which led to space’s transition into time in the first place, namely the lack of determinate difference. Time’s logical structure of continual self-negation, negating its own being and then negating its own ceasing-to-be, makes time necessarily continuous and unending in the sense of its being a continuous succession of momentary presents or ‘nows’. However, Hegel claims that this same structure of self-negation makes time continuous in the stronger sense that “the true Present ... is eternity.”³⁷ That is, the true present does not come to be and pass away but is an enduring presence that simply *is*. Why is this? Hegel states in his remark to §258 that in the abstract negative self-relation which time is, “there is as yet no real difference.”³⁸ Making this thought fully explicit, we can see that, since time’s self-negation is a completely abstract self-relation with no determinate content, the negation of the being of each moment and the negation of this negation into the being of the next moment are empty negations. They mark out no determinate difference between any moment and any other. The present is an enduring, uninterrupted being in that not only is there no ‘gap’ between any of the moments, but no moment can sustain itself as exclusive of, or set itself apart as determinately different from, any other.

As Hegel makes explicit in §260, time has thus sublated itself in showing itself to be, for all its negativity, only the “immediate *collapse* into indifference, into undifferentiated asunderness or *space*, because its opposed moments which are held together in unity, immediately sublate themselves.”³⁹ The result of the logic of time, when carried through, is the collapse of its abstract negativity into an eternally abiding affirmative being in which all moments are absolutely

³⁶ Hegel, G.W.F., & Miller, A.V. (1998). *Hegel's Science of Logic*. Amherst, N.Y: Humanity Books. p.189

³⁷ Hegel, G.W.F., Miller, A.V. (2004). *Hegel's Philosophy of Nature*. Oxford University Press. §259, Zusatz

³⁸ Ibid. §258, Remark

³⁹ Ibid. §260

continuous and indistinguishable. Time has logically proved itself to be *timeless*, undifferentiated asunderness, or the affirmative subsistence of a difference which is equally no difference, and this is nothing other than space. Space and time have thus shown themselves each to necessitate the other, in that the abstract positive self-externality of space and the abstract negative self-externality of time each logically mutate into the other without resolution.

9.3 - Place, Motion and Matter

We have seen that the abstract positivity of space and the abstract negativity of time are unable to sustain themselves, each logically slipping away into the other. However, the dialectic of Nature does not end in this fruitless dance of opposites, but necessitates a new category: place, the unity of space and time. In attempting to understand this category and why it becomes necessary at this stage, we may begin with the notion of unity. Why is it that space and time do not simply continue vanishing into each other, but unify to form place? In the *Philosophy of Nature* we only find explicit argument for this in the addition to §260. Here Hegel suggests that this unity, rather than being a new structure for space and time appearing only now, has actually been at their core all along, but is only now becoming explicit. Indeed, their apparent perpetual vanishing, each falling away as the other is posited, is only what results when we attempt to conceive them separately. In truth, space and time each require the other to be what they are. The question of why space and time must unify thus depends for its answer on the question of why space and time each require the other for their being.

The first move towards this comes in §260, where Hegel writes that, as a result of the unity of space and time, “the *negative* determination in space, the *exclusive* point, no longer only implicitly [or in itself] conforms to the Notion, but is *posited* and *concrete* within itself, through the total negativity which is time; the point, as thus concrete, is *Place*.”⁴⁰ The point was the negative moment of qualitative difference which was necessary for space, but which it could not bring forward to actuality, generating the internal contradiction within space and the

⁴⁰ Ibid. §260

transition to time. This is what Hegel is referring to by the point 'implicitly' conforming to the Notion. It is clearly necessary to making space coherent, but nonetheless cannot be made actual, or 'explicit', in space. However, "through the total negativity of time", the point, an exclusive space, is now concrete, and this is a place. Significantly, in §261 Hegel claims place is "spatial, and therefore indifferent, *singularity*; and it is this only as a *spatial Now*."⁴¹

Houlgate suggests that what Hegel has in mind here is that the unity of space and time is not just an external combination of these categories, as in a simple addition of a fourth dimension to the three spatial dimensions. Rather, Hegel is arguing that space and time must each, without losing their own structure, adopt the logical determinations of the other. Specifically, time must 'spatialize' itself, giving its dimensions positive subsistence outside one another, and space must 'temporalize' itself, allowing it to become explicitly self-negating.⁴²

Looking at time's taking up of space's determinations first, we may recall that the structure of time as self-relating negativity had the result that its self-differentiation in fact collapsed back into the indifference of space, and so time sublated itself. However, time makes its negativity actual in the form of place by articulating the temporal dimensions in space, and so giving each a separate existence. In the addition to §261, Hegel comments that "there are three different places: the present place, the place about to be occupied, and the place which has just been vacated; the vanishing of the dimensions of time is paralysed."⁴³

Houlgate suggests that we can read this quite literally, as arguing that when the moments of time are bound up with specific places, or spaces in time, then this prevents the abstract negativity of time from falling into undistinguished indifference, since it can be specified that the past *was over there*, the present *is here*, and the future *will be over there*.⁴⁴ This interpretation chimes well with Hegel's claim that "the negative of space is time, and the positive, i.e. the being of

⁴¹ Ibid. §261

⁴² Houlgate, S. (2005). *An introduction to Hegel: Freedom, truth, and history*. Malden, MA: Blackwell. p.130

⁴³ Hegel, G.W.F., Miller, A.V. (2004). *Hegel's Philosophy of Nature*. Oxford University Press. §261, Zusatz

⁴⁴ Houlgate, S. (2005). *An introduction to Hegel: Freedom, truth, and history*. Malden, MA: Blackwell. p.130

the differences of time, is space.”⁴⁵ Space is that being in which negativity is ‘paralysed’, a plurality which positively abides with itself, and this positive being provides a medium in which time articulates and gives actuality to its differences.

Similarly, space overcomes the lack of determinate negation within it, which, as we saw, proved to undermine its logic and force its transition into time, by articulating spatiality in the pure self-negation of time, and so giving it qualitative negation and differentiation. By being a “*spatial Now ... place* is immediately indifferent towards itself as *this place*, is external to itself, the negation of itself, and is *another place*.”⁴⁶ Through the intervention of temporality, a given place is negated in time, becoming a different one. However, the outright negation of a given place in time would break the union of space and time which place is. Time requires the endurance of place through the negation of time, otherwise time will be without a subsisting spatial structure through which to articulate its differences. What is required, then, for the union of space and time in place to be possible, is a way in which place can cease to be the place that it is while also enduring as the place that it is. The solution to this is that an enduring place “uncouples” itself, in Houlgate’s words⁴⁷, from its initial place and relocates itself to a new place. It ceases to be ‘here’ and is now ‘there’, while being one and the same place. This change of an enduring place’s location over time is motion.

Motion is not the merging of space and time into a single category, but the manifestation of their necessary and intrinsic interrelation, “a process in which time posits itself spatially as *place*, but in which place, too, as indifferent spatiality, is immediately posited as *temporal*.”⁴⁸ Indeed, “it is in Motion that Space and Time first acquire actuality”, and this is because “it is Time which has a real existence through Space, or Space which is first truly differentiated by Time.”⁴⁹ That is, the interrelation of space and time in motion allows each to resolve its own defect through the logic of the other. Time gains ‘real existence’

⁴⁵ Hegel, G.W.F., Miller, A.V. (2004). *Hegel’s Philosophy of Nature*. Oxford University Press. §260, Zusatz

⁴⁶ Ibid. §261

⁴⁷ Houlgate, S. (2005). *An introduction to Hegel: Freedom, truth, and history*. Malden, MA: Blackwell. p.130

⁴⁸ Hegel, G.W.F., Miller, A.V. (2004). *Hegel’s Philosophy of Nature*. Oxford University Press. §261

⁴⁹ Ibid. §261, Zusatz

through its relation with space because its self-negation is no longer limited to a purely abstract form but can be given concrete content as the negation of space. Space in turn is 'truly differentiated' in its relation with time since it is no longer limited to an indifferent positive subsistence of its determinations, but now temporal differentiation allows a place to be distinguished from other places.

Further, the combination of space's positivity and time's negativity in place is such that this immediately takes the form of motion. Place, as temporal space or spatialized time, both subsists positively, due to its spatial element, and negates itself, due to its temporal element. This combination of subsistence and negation is motion, that is, the negation of a place as *that place there and then*, and its transition to *this place here and now* while subsisting as the same place throughout this negation. Hegel's claim is that motion is not a contingent state that place may happen to be determined to, but that motion is intrinsic to place as such. The internal logic of the unity of space-time demands that it necessarily exists as motion.

The logic of motion in turn immediately makes the further category of matter necessary in order to complete the conceptual structure so far laid out. We find a very simple formulation of this move in the addition to §261: "since there is motion, something moves; but this something which persists is matter."⁵⁰ Place endures through movement, which is its relocation in space over time, and matter is simply this persisting self-identity of place through its motion. Importantly, Hegel is not suggesting any independence between the concepts of matter and motion. There is neither matter without motion nor motion without matter, and this is because, at this point in the development of the Idea as Nature, matter and motion are the same relationship of space and time, considered in its two necessary determinations: motion is the process of space and time's transitioning into one another and matter is the "peaceful identity" or existent unity of the two.⁵¹ However, matter does have the particular significance of being the first 'concrete' reality in Nature, in the sense that whereas thus far the dialectic of Nature has yielded only abstract, ideal forms of being, matter is the reality which space in its abstraction could not be: a positively existing space which excludes other spaces. The negative determination of abstract space, the

⁵⁰ Ibid.

⁵¹ Ibid.

point, as we saw above, could not provide real negation and exclusion, but matter, as the unity of space with time's negativity, can provide the first real limit in space. Thus, what is often thought of as the 'filling' of space and time, that which has material reality and poses resistance in comparison with these abstract entities, consists simply in the unity of space and time.⁵²

The above exegesis has demonstrated that Hegel's philosophy of Nature can provide a detailed and immanent development of the most fundamental determinations of mechanics from the structure of Nature as self-externality, this itself being an immanent result of the conclusion of Logic as demonstrated in chapter seven. Hegel's account of mechanics has shown that the structure of motion, which from a Hegelian perspective is not given adequate derivation by Spinoza, can be derived as a necessary result of the relationship of space and time. In contrast with Spinoza's conception of motion and rest as following immediately from Extension, Hegel argues that motion requires an intervening derivation of time from space. Space and time are then shown to exist only in their explicit unity with each other, which is matter in motion. Thus, motion and matter are derived together as the two sides of the unity of space and time. As a result, the necessary existence of, in Spinoza's terms, finite modes of Extension has also been arrived at, though the nature of matter and its differentiation into bodies is, at this point in the dialectic, very minimal, consisting only in the persisting identity of place through motion which also provides a limit that excludes other spaces. This furthers the central argument of this study by demonstrating in concrete detail that the Hegelian standpoint can not only point out the deficiencies, from Hegel's point of view, of Spinoza's ability to explain the necessity of motion and finite modes, but also carry out the fuller critique of supplying a systematic explanation of these itself.

However, Hegel's account of mechanics does not end here. Through his account of gravity, Hegel shows that the concepts of space, time, motion and matter achieve a more concrete union in a system of the free motion of multiple bodies. This brings more detail to Hegel's account of the necessity of motion and of finite bodies. Additionally, this will set up our turn in the next chapter to the second major critique of Spinoza's philosophy of extended Nature, which will

⁵² Ibid.

occupy the remainder of this study, concerning the divergence of Hegel's account of the broader structure of the natural world from the purely mechanical picture constructed by Spinoza.

9.4 - Gravity

Hegel argues that matter at this stage is in the tension of two moments: attraction and repulsion. Matter's repulsion comes from its negative self-externality, which now separates it into distinct and exclusive parts, as opposed to the wholly abstract multiplicity of 'Heres' we saw in the initial concept of space. Matter's attraction comes from the fact that though these parts repel each other, they remain but many identical 'ones', and this empty difference gives matter a lingering moment of singular identity and continuity.

The moment of repulsion alongside it means that this identity cannot be material, but only ideal, taking the form of a centre. This ideal singularity formed by the tension of matter's attraction and repulsion is what Hegel calls 'gravity'. Gravity's unity must remain a mere 'ought', never concretely realized as a material singularity, because the satisfaction of this unity would require matter to collapse into a single point, but repulsion is no less essential to matter, and indeed gravity, than attraction. Gravity is called a 'negative' and 'ideal' unity because it is not a positive, simple identity of matter's parts as actually one and the same or coinciding in a single point, but a singularity that preserves, and indeed only exists through, the negativity of its members – their *not* being each other.⁵³

It is not until we reach the sphere of physics that matter itself will begin to develop individuality, its parts gaining determinate, qualitative differentiation. At the present stage, still in the sphere of mechanics, materiality exists only as a self-external continuity, and so the singularity of gravity, though determined as rationally necessary, is 'outside' of this materiality. That is, although gravity is the substantiality of matter, the unity of its two contradictory moments, the centre of gravity falls outside matter in the sense that it is not any material point.

⁵³ Ibid. §262 and Zusatz

If the centre of gravity is conceived as a material point or body, then this will itself be mutually attracted and repelled by other material points, thus yielding a new centre of gravity co-determined by these points and distinct from any of them. Though the centre of gravity is not material, it is still matter and nothing else which posits this centre.⁵⁴

Being thus far without any qualitative differentiation, matter possesses only quantitative differences, but can nonetheless be particularized into quantitatively different masses. At this point, the concept of a 'body' is simply a superficial way of determining these masses as singular wholes.⁵⁵ We say 'superficial' because matter's parts do not themselves posit their interconnection in particular masses, but rather they can be conceived as such only on the basis of their relative closeness of position over time. The parts themselves are mutually indifferent and merely exclusive of one another. As Stone puts it, material bodies at this stage distinguish themselves only "by negating a differentiated quantity of the surrounding units of externality."⁵⁶

Hegel can be understood here to put more flesh on his explanation of the necessity of a multiplicity of bodies in Nature by tying this to the tension of attraction and repulsion that constitutes matter. The nature of compound bodies is still more basic at this point than in Spinoza's account, consisting only in the contingent spatial association of a certain quantitative mass of matter, not bound together through anything akin to a single ratio of motion and rest. However, from a Hegelian perspective, the dialectical view of Nature has nonetheless already yielded a much more satisfying account of the necessity of a multiplicity of material bodies, showing this to go hand in hand with the dialectic of attraction and repulsion constitutive of matter. A full discussion of attraction and repulsion and their significance for the constitution of matter would require a comparison of Hegel's view with that of Kant, but this will have to be left to future work.

Continuing with the dialectic of gravity, at this stage bodies are essentially spatial and temporal, but Hegel argues that although they are *in* space

⁵⁴ Ibid. §262, Remark

⁵⁵ Ibid. §263

⁵⁶ Stone, A. (2005). *Petrified Intelligence: Nature in Hegel's Philosophy*. State University of New York Press. p.42

and *in* time they are indifferent to this spatio-temporal form.⁵⁷ Matter cannot of course be conceived except as spatial and temporal, but at this stage any particular body is indifferent to which space it occupies at which time, in the sense that this does not qualitatively affect its nature at all. This indifference to space and time means that bodies are equally indifferent to their relation, motion. Bodies are therefore *inert*, being indifferent and external to both motion and rest.⁵⁸ Matter is the immediate, abstract unity of space and time, but their developed unity, motion, is not immanent in matter.⁵⁹ Hegel points out that this is the conception of bodies familiar to us from traditional mechanics, which takes as axiomatic that bodies are determined to motion or rest only through external causes, motion and rest being only states of bodies.⁶⁰

Hegel calls the motion of the inert body, imparted to it by external impetus, 'thrust.' This motion is contingent, since of course no inert body sets itself necessarily in motion.⁶¹ The contingent, externally communicated motion of thrust passes over into rest in the centre of gravity common to and posited by the bodies. Because the centre is outside matter, this rest can only be a striving to reach it and a pressure of the bodies on each other which seek it in common. When a body is separated from its centre of gravity by a relatively empty space, this striving becomes the motion of falling, "the *essential* motion" which the merely contingent motion of thrust passes over into.⁶²

It is at this point that gravity begins to take on its role "as the mover, as movement pure and simple."⁶³ Gravitational matter is, as stated at the outset, the union of attraction and repulsion. The shared centre of gravity and its position are posited by the gravity of individual bodies due to their intrinsic moment of attraction, and so the motion of falling to this centre and the direction of this motion for any particular body are immanently determined by matter itself. Falling is free and self-generated motion, as opposed to the externally conditioned and contingent motion of thrust, because it is generated immanently by the necessity of the nature of matter itself as gravity.⁶⁴

⁵⁷ Hegel, G.W.F., Miller, A.V. (2004). *Hegel's Philosophy of Nature*. Oxford University Press. §263

⁵⁸ Ibid. §264

⁵⁹ Ibid. §264, Remark

⁶⁰ Ibid.

⁶¹ Ibid. §265

⁶² Ibid. §266

⁶³ Ibid. §266, Zusatz

⁶⁴ Ibid. §267

However, falling must be qualified as only *relatively* free motion. This is because falling is still partly conditioned, in that the separation of any particular body from its centre of gravity is not posited by gravity itself, but is an externally posited, contingent circumstance.⁶⁵ Matter's separation from its centre of gravity is not yet the body's own act, and thus the motion of falling is a middle or transitional point in the dialectic of mechanics, lying between the purely external and contingent motion of inert matter and free motion.⁶⁶

In the motion of falling, gravity is posited one-sidedly as the attraction or identity of matter, but its other essential moment of repulsion must also be included. The diremption of the matter from its centre and into a plurality of differentiated bodies must be understood as gravity's own act, that is, as equally essential to its nature and not an arbitrary circumstance.⁶⁷ This repulsion does not take the form of merely pushing matter apart into a multiplicity of immobile bodies, as this would be to fall into an equally one-sided conception of gravity as repulsion alone. Rather, gravity's moments of attraction and repulsion are now held together, both freely generated by gravity itself, and the tension of their contradiction sustained and manifested in absolutely free motion. Gravity thus shows itself to be necessarily realised in a system of the free motion of multiple bodies.⁶⁸ Hegel goes on to give further detail on this system of free motion in his account of the solar system.⁶⁹ However, for the specific purposes of this study it is not necessary to enter into this complex and conceptually challenging part of the *Philosophy of Nature*, and our exegesis of Hegel's mechanics can end here.

The preceding investigation of Hegel's mechanics makes clear that although he and Spinoza agree that motion is intrinsic to the nature of matter, this claim amounts to different things for each. In the case of Spinoza, though motion is intrinsic to matter, no particular set of finite modes, considered in themselves, can determine themselves to motion. Considered in themselves, finite modes are inert, that is, only determined to motion or rest externally: "a body which moves or is at rest must be determined to motion or rest by another

⁶⁵ Ibid.

⁶⁶ Ibid. §267, Zusatz

⁶⁷ Ibid. §268, Zusatz

⁶⁸ Ibid. §§268-269

⁶⁹ Ibid. §§269-270

body, which has also been determined to motion or rest by another, and that again by another, and so on, to infinity.”⁷⁰

Substance freely determines itself in infinitely many modes under infinitely many attributes, and so freely determines itself to exist as Extension, from which motion and rest follows as an immediate infinite mode. The infinitely many finite modes which follow from Substance as extended are thus intrinsically dynamic, in the sense that motion and rest is fundamental to their existence as modes of Extension. However, though motion is thus intrinsic to their nature, the finite modes of Extension cannot determine themselves to motion.

Hegel argues that matter is intrinsically dynamic in what is, from a Hegelian viewpoint, a stronger sense which includes the Spinozist claim about matter’s intrinsic dynamism but goes further. The self-development of matter in Hegel’s mechanics manifests itself as a system of gravity in which matter freely generates motion as the expression of the tension of its moments of attraction and repulsion. Matter is thus intrinsically dynamic, not just in the Spinozist sense that motion and rest is essential to its conceivability and existence, but in the further sense that matter freely generates motion of its own accord through its necessary formation of gravitational systems. To understand the cause of the motion of a body, we have no need to refer to the Idea or to an infinite chain of causes. Rather, it is intrinsic to the nature of matter as self-external that it exhibit the tension of multiplicity and identity inherent in this structure, and matter does this in the free motion of systems of multiple bodies.

Thus far this study has focused on the question of the development of material Nature and its fundamental determinations from the Absolute. In doing so it has elaborated a Hegelian critique of Spinoza’s position which points to the dialectic worked through in the conclusion to the *Science of Logic* and the opening of the *Philosophy of Nature* as providing an account which avoids the major explanatory deficiencies, from a Hegelian perspective, of Spinoza’s theory of extended Nature with regard to this question. We will now move on to consider a second major Hegelian critique of Spinoza’s view of extended Nature, concerning the broader structure of the natural world.

⁷⁰ Spinoza, B. (2016) *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. EIII3, p.459

The preceding examination of Hegel and Spinoza's accounts of mechanics has shown them to diverge in ways which, in comparison with what we will see below in Hegel's account of physics and organics, are relatively subtle. However, already in mechanics we see the seeds of Hegel's move to go beyond the conceptual bounds of the Spinozist picture. The concept of gravity, and particularly the centre of gravity, represents a key development in the dialectic of Nature, because in jointly positing a centre of gravity outside themselves, Nature's bodies are no longer an infinitude of indifferent, self-subsistent 'ones', but of their own accord begin to sublimate their self-externality. Though the centre of gravity is a relatively abstract unity of bodies, since as discussed above it is necessarily non-material and beyond any particular body, nonetheless this is the first emergence of the unity of the Idea in Nature, a totality existing in and through the diversity of its members. The rest of the self-development of Nature manifests itself as the gradual overcoming of its self-externality as its bodies take on more complex and comprehensive forms of unity, culminating in the Idea's concrete self-realization in the organism. This dialectic forms a system of qualitatively distinct stages which, the Hegelian standpoint will claim, progressively sublimate the mechanical and quantitative framework of Spinoza's thought altogether. Before moving to discuss Hegel's physics, however, it will be useful to give further detail to the discussion of extended modes in chapter four in order to make clear the Spinozist case for a purely mechanical and quantitative explanation of Nature's diversity of forms.

Chapter 10 - Spinoza on Nature's Uniformity

The uniformity of the laws governing Nature is one of Spinoza's clearest theses, stemming directly from his core commitment to substance monism, and repeated across his works in a wide range of contexts. We find perhaps the most emphatic statement of his position in the preface to the third part of the *Ethics*:

"Nature is always the same, and its virtue and power of acting are everywhere one and the same, i.e., the laws and rules of nature, according to which all things happen, and change from one form to another, are always and everywhere the same. So the way of understanding the nature of anything, of whatever kind, must also be the same, viz., through the universal laws and rules of nature."¹

Newlands argues that this passage represents the clearest expression of what he terms Spinoza's 'explanatory naturalism.' This consists in the two key claims Spinoza makes about explanation in this passage. First, Spinoza affirms his commitment to the Principle of Sufficient Reason by claiming that everything can be explained through the laws of Nature. Secondly, though, Spinoza goes further in making a claim about the scope of proper explanations. As Newlands puts it, "Spinoza claims that the explanantia – 'the laws and rules of Nature' – are changeless and universal in the sense that they always apply across all domains of explananda."² Explanatory principles do not admit exceptions, whether in the form of individual cases or certain classes of things, as is evidenced also by Spinoza's criticism in the same preface of those who conceive of human beings as a "dominion within a dominion."³ Although, as Newlands points out, Spinoza leaves room for "differences in complexity and degrees among the explananda"⁴,

¹ Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. EIII Preface, p.492

² Newlands, S. (2018) *Reconceiving Spinoza*. Oxford Scholarship Online. p.5

³ Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. EIII Preface, p.491

⁴ Newlands, S. (2018) *Reconceiving Spinoza*. Oxford Scholarship Online. p.6

nonetheless Newlands argues that, in Spinoza's view, each of the most basic explanatory principles applies constantly and universally.⁵

To give only a selection from the many corroborating examples found in the rest of Spinoza's writing, in the *Treatise on the Emendation of the Intellect* we find the laws of the infinite modes spoken of as "fixed and eternal things ... according to which all singular things come to be, and are ordered," or universals which are "the proximate causes of all things."⁶ Further, in the *Theological-Political Treatise* we find talk of "the fixed and immutable order of nature, or the connection of natural things" which is determined by "the universal laws of nature, according to which all things happen and are determined"⁷, and, more specifically, reference to "the things most universal and common to the whole of nature: motion and rest, and their laws and rules, which nature always observes, and through which it continually acts."⁸

It is true that Spinoza does sometimes use the concept of law in a way which might give us pause in affirming this absolute uniformity. For instance, he refers to 'human nature' and its laws at various points in his writing, and with particular frequency in the *Theological-Political Treatise*. However, in the same text he states quite clearly that "God directs nature as its universal laws require, not as the particular laws of human nature require."⁹ Again, in the context of the "eternal order of nature ... man is only a small part. It is only by the necessity of this order that all individuals are determined to exist and have effects in a definite way."¹⁰

When we consider, further, Spinoza's reference to "the laws of the nature of the blood" in the course of his analogy of the worm in the blood in letter 32 to Oldenburg¹¹, it becomes most plausible to interpret Spinoza's talk of the 'law' of a particular kind of thing as referring to their regular patterns of activity. These patterns are owed to their being conditioned by completely universal laws of Nature, and so Spinoza is referring to the way the universal laws of Nature

⁵ Ibid.

⁶ Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. *Treatise on the Emendation of the Intellect*. Para.101, p.41

⁷ Spinoza, B. (2016). *The collected works of Spinoza: Volume II*. Edited and Translated by Curley, E. Princeton University Press. *Theological-Political Treatise*. Ch.III, p.112

⁸ Ibid. Ch.VII, p.176

⁹ Ibid. Ch.VI, p.160

¹⁰ Ibid. Ch.XVI, p.284

¹¹ Ibid. Ep.32, p.19

operate in the case of this specific kind of thing, rather than a particular set of laws. In sum, Spinoza claims quite clearly that every part of corporeal Nature is bound not only to *some* laws, but to the *same* laws.

We saw in chapter four that Spinoza argues that every corporeal body can be understood through a particular ratio of motion and rest among the bodies of which it is composed. Although we've yet to look at Hegel's competing theory in any detail, it will be helpful to orient ourselves at this point through setting up a broad comparison to be gradually given more detail. Whereas Spinoza holds that all bodies, from singular atoms to rocks and animals, are bound by the same laws of motion and rest and vary only in *quantitative* complexity, Hegel will attempt to demonstrate the development of *qualitatively* distinct stages of Nature, such as the mechanical, chemical and organic, functioning through irreducibly different principles.

Before proceeding to Hegel's account of Nature's qualitative distinctions, in the interest of presenting a robust reading of Spinoza's position it will be useful to consider whether, in addition to his already outlined general position on corporeal bodies, we can find resources within Spinoza's work to form any more specific arguments against the introduction of qualitative distinctions of the kind Hegel wishes to draw. Although in his correspondence Spinoza is well-known to have taken interest in topics which we would place in the domain of chemistry, due to the state of natural science at the time of his writing he did not possess the conception of a distinction between the domains of physics and chemistry comparable to that which we or Hegel might draw upon. Further, his remarks on these topics are speculative and could not fairly be deployed alongside his more developed thought without major qualification. However, in the *Ethics* Spinoza does give some consideration to the nature of living and non-living bodies. As we will see in the next chapter, the category of the organic has great importance in Hegel's account of the stages of Nature, and so establishing Spinoza's position on organic life will provide a useful point of contact between these systems.

10.1 - Spinoza on the Organic and the *Conatus*

In part two of the *Ethics*, in transitioning from the physical interlude back to his consideration of the human mind, Spinoza lays down a series of postulates relating this general theory to the human body in particular, of which three are of particular interest to us:

I: "The human body is composed of a great many individuals of different natures, each of which is highly composite."¹²

IV: "The human body, to be preserved, requires a great many other bodies, by which it is, as it were, continually regenerated."¹³

VI: "The human body can move and dispose external bodies in a great many ways."¹⁴

Quite in line with what we would expect, given the universality Spinoza claims for his general theory of finite bodies, the human body is simply subsumed into this framework as a compound body fundamentally no different from any other. Later on, in the demonstration of EIVp39, Spinoza reiterates the point made in postulate IV above, that the human body requires a great many other bodies to preserve itself, and, referring us back to his general definition of a compound body, tells us that the form of the human body consists in the communication of a certain fixed proportion of motion and rest among its parts. The preservation of the human body thus consists simply in the maintenance of this same proportion of motion and rest, and conversely, if the human body's parts acquire a different proportion of motion and rest to one another, this will change the form of the human body, or in other words, destroy it.¹⁵ Indeed, Spinoza emphasises in the scholium immediately following these remarks that he ties the life and death of the human body to its possession of the particular ratio of motion and rest that constitutes its nature, and not to any other quality of the body. Spinoza is very clear that it is not necessary for the body to be reduced to a corpse, completely

¹² Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. EIIpostI, p.462

¹³ Ibid. EIIpostIV, p.462

¹⁴ Ibid. EIIpostV1, p.462

¹⁵ Ibid. EIVp39d, pp.568-569

without motion or activity, for it to be 'dead' in his understanding. Despite continuing to exhibit activity, such as circulation, "the human body can nevertheless be changed into another nature entirely different from its own" and thereby 'die'.¹⁶

Assuming that we may interpret these remarks on the human body as indicative of Spinoza's view of organic bodies in general, which he gives us no obvious reason to doubt, we can see that Spinoza views living things as compound bodies following the same principles as compound bodies in general. Further, the 'life' and 'death' of such bodies is understood as their retaining or losing the ratio of motion and rest that constitutes their nature, thus making the conditions of the destruction or preservation of living things fundamentally no different than for anything else. It might be suggested that Spinoza could nonetheless recognize quantitative differences of degree in the complexity of organic and inorganic bodies, organic bodies being relatively more complex. However, if we recall his conception of an infinite scale of compound bodies of growing complexity, ending in the totality of corporeal Nature as a single body, it is doubtful Spinoza would recognize even this form of distinction between the organic and inorganic. Organic bodies can perhaps be said to be among the relatively more complex bodies found in Nature, but they themselves are but parts of the far grander structure of the system of corporeal Nature as a whole, in comparison with which any organism is a mere atom.

Though Spinoza gives no explicit statement on the distinction, or lack thereof, between living and non-living Nature, we have seen that there are good reasons to attribute to him the position that organisms are complex but unexceptional examples of compound bodies, requiring no special explanation deviating from the principles for understanding finite bodies generally. In response to this position we might justly object that Spinoza, insofar as he has a theory of the organic which we should take seriously, cannot dispense with living matter so swiftly. What is distinctive about the nature of organisms comes not just from their particular corporeal arrangement, but from their self-preserving activity, something not found in the inorganic. A bird is not just structured differently from a rock but acts to preserve itself in ways

¹⁶ Ibid. EIVp39s, p.569

inconceivable for a rock. However, through his concept of the *Conatus*, Spinoza can address this objection while maintaining the organic to be without qualitative distinction from the rest of corporeal Nature, explaining the striving to self-preservation as a completely universal and necessary feature of all things in no way particular to the organic.

Spinoza begins establishing the *Conatus* in proposition four of the third part of the *Ethics*, which states that “no thing can be destroyed except through an external cause,”¹⁷ since “the definition of any thing affirms, and does not deny, the thing’s essence, or it posits the thing’s essence, and does not take it away.”¹⁸ Thus, insofar as we attend only to the thing itself, excluding external causes, we shall find no reason that takes away or destroys it. To deny this would require asserting that the very essence of a thing can contain a cause which takes away its existence, in which case the thing cannot exist, since its existence will be taken away just as soon as it is posited. Hence, in the case of any thing that does or can possibly exist, its essence cannot contain anything which takes away its existence.¹⁹

Following on from this, Spinoza proposes that “things are of a contrary nature, i.e., cannot be in the same subject, insofar as one can destroy the other.”²⁰ This follows straightforwardly from the previous proposition, since if two contrary things, so conceived, could be in the same subject, then that subject would contain, considered in itself, a cause for its own destruction.²¹ Indeed, Viljanen suggests that “a subject with contradictory properties would, in fact, amount to the repugnant situation in which there would be something irrational and incomprehensible in the way reality itself is built.”²² Macherey emphasises that Spinoza is claiming here that contraries exclude each other insofar as they cannot *coexist* in constituting the same being or ‘subject’.²³ Applying this to extended Nature, to be in the same subject means to coexist in a unified pattern of motion and rest.²⁴ Similarly, Carriero reads Spinoza’s use of ‘essence’ in

¹⁷ Ibid. EIIIp4, p.498

¹⁸ Ibid. EIIIp4d, p.498

¹⁹ Ibid.

²⁰ Ibid. EIIIp5, p.498

²¹ Ibid. EIIIp5d, p.498

²² Viljanen, V. (2011) *Spinoza's Geometry of Power*. Cambridge University Press. p.96

²³ Macherey, P. (2011). *Hegel or Spinoza*. University of Minnesota Press. p.170

²⁴ Ibid. pp.174-175

relation to the *Conatus* as concerning the causal structure of the thing in question.²⁵

The central pillar of Spinoza's theory of the *Conatus* comes in proposition six: "each thing, as far as it can by its own power, strives to persevere in its being."²⁶ This is because all singular things are but modes, "things that express, in a certain and determinate way, God's power, by which God is and acts."²⁷ Since no thing, considered in itself, contains anything that takes its existence away, and indeed all things are opposed to that which takes away their existence, all things, as far as their power enables them, necessarily strive to persevere in existence. Helpfully for understanding what Spinoza has in mind here, he goes on in the following proposition to make clear that this striving necessary to all things "is nothing but the actual essence of the thing."²⁸ That is, the striving of each thing to preserve itself in existence should not be understood as some particular activity or disposition alongside and in addition to the other features of a thing. Rather, this striving is the very being, the very affirmation of a thing's power of existing and acting that makes it the thing that it is. This striving is the expression of the share in the power of God that any thing has as a mode of Nature's existence.

This way of interpreting the *Conatus* is supported by Spinoza's identification of this striving with "that very power by which the thing exists" in the demonstration of proposition eight.²⁹ Further, in *Metaphysical Thoughts*, Spinoza argues that those who "distinguish between the thing itself and the striving that is in each thing to preserve its being" are sorely deluded, for "though the thing and its striving to preserve its being are distinguished by reason, or rather verbally (which deceives these people very greatly), they are not in any way really distinct."³⁰ In his interpretation of the *Conatus*, Carriero draws on this passage in placing strong emphasis on the binding together of the striving to persevere in existence with the very being of a thing. Carriero argues that it is simply part of what it is to be a real thing that it acts so as to promote its being, in

²⁵ Carriero, J. (2017). 'Conatus'. In Melamed, Y. (Ed.), *Spinoza's Ethics: A Critical Guide*. Cambridge University Press. p.143, footnote 3

²⁶ Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. EIIIp6, p.498

²⁷ Ibid. EIIIp6d, p.499

²⁸ Ibid. EIIIp7, p.499

²⁹ Ibid. EIIIp8d, p.499

³⁰ Ibid. Appendix Containing Metaphysical Thoughts. p.314

that this drive is “a concomitant, if you will, of its unity and integrity.”³¹ Indeed, Carriero suggests that this tendency “in a certain sense, *is* the individual,” since there is no subject prior to or separate from this tendency, but the drive of things toward self-preservation is “an artifact of their stability as real individuals.”³²

The interpretation of Spinoza’s conception of this striving as being completely universal to all things is corroborated by statements outside the *Ethics*, such as his remark in the *Political Treatise* that “each thing, as far as it can, strives to preserve its being.”³³ Spinoza also states in the *Theological-Political Treatise* that “the supreme law of nature is that each thing strives to persevere in its state, as far as it can by its own power, and does this, not on account of anything else, but only of itself,” and emphasises the universality of this law by stating that he does not “recognize here any difference between men and other individuals in nature.”³⁴ Indeed, Rutherford argues that the universality of the *Conatus*, the ‘supreme law of nature’, to *all* beings is important for Spinoza’s argument for his conception of natural right in the *Theological-Political Treatise*.³⁵

Spinoza’s specification here that each thing’s *Conatus* strives only on account of itself and not other things chimes with the point made by Macherey that the *Conatus* of modes, as fundamentally expressions of Substance’s power, are not opposing forces in a negative struggle with one another, but absolutely positive and purely causal affirmations of their existence.³⁶

As well as excluding opposition or negativity, Macherey stresses that the *Conatus* is free of teleology, excluding all reference to ends or temporality in general, and leading modes “nowhere except to what they are.”³⁷ Indeed, Spinoza argues in the *Ethics* that this striving “involves no finite time, but an indefinite time.”³⁸ This follows quite simply from the fact that, if the striving of any thing to preserve its existence involved a limited time, then it would follow

³¹ Carriero, J. (2017). ‘Conatus’. In Melamed, Y. (Ed.), *Spinoza's Ethics: A Critical Guide*. Cambridge University Press. p.150

³² Ibid. pp.150-151

³³ Spinoza, B. (2016). *The collected works of Spinoza: Volume II*. Edited and Translated by Curley, E. Princeton University Press. Political Treatise. Ch.II, p.509

³⁴ Ibid. Theological-Political Treatise. Ch.XVI, pp.282-283

³⁵ Rutherford, D. (2010) ‘Spinoza’s conception of law: metaphysics and ethics’. In *Spinoza's Theological-Political Treatise: A Critical Guide*. (Eds. Melamed, Y. and Rosenthal, M.) Cambridge University Press. p.149

³⁶ Macherey, P. (2011). *Hegel or Spinoza*. University of Minnesota Press. p.200

³⁷ Ibid.

³⁸ Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. EIIIp8, p.499

from the essence of the thing itself that it would have to cease to exist after a certain duration. But, as we established above, no thing can contain in itself a cause for its own destruction, and so all things will necessarily continue to exist indefinitely unless destroyed by an external cause.³⁹ This yields the further position that Spinoza regards death as an external contingency for life, not as necessary for life considered in itself. This is a claim that will be contested by Hegel's account of organic life in the next chapter.

Bringing this discussion back to the question of the status of organic things in Spinoza's philosophy and the role of qualitative and quantitative determinacy, we have established that Spinoza does not hold there to be any qualitative feature special to living things which explains their characteristic activity. Quite the contrary, absolutely all things necessarily possess a qualitatively identical *Conatus* toward self-preservation. Garrett suggests that by breaking down the metaphysical distinction between living and non-living things in this way, Spinoza shows himself to be a mechanist through and through, in biology just as much as physics, conceiving "human beings, along with animals and plants, as existing at different points on a scale with inorganic things, rather than as parts of a 'dominion within a dominion'⁴⁰ possessed of a metaphysically special kind of causal force."⁴¹

However, even if we grant that all things strive to persevere in existence in this sense, we might still ask whether this can really be satisfactory as an explanation of the activity we see in organisms. That is, Spinoza's account of self-preservation as a general necessary condition for anything's existence might be seen as merely formal or superficial. Even given the universality of some principle of self-preservation, can a bird's striving for self-preservation plausibly be understood as no different to that of a rock? In response to this concern, Spinoza can reply that although the organism does not differ insofar as it strives to preserve itself, it does differ very much in the manner of its striving, both in terms of the ways in which it expresses its *Conatus* and the power it has to express it. The far greater complexity of a bird affords it many more ways in which it can interact with other bodies, and along with this a far greater power to

³⁹ Ibid. EIIIp8d, p.499

⁴⁰ Ibid. EIII Preface, p.491

⁴¹ Garrett, D. (2012). 'A Reply on Spinoza's Behalf'. In *Spinoza and German Idealism*. Eds. Förster, E. and Melamed, Y. Cambridge University Press. p.251

enforce its *Conatus* against destruction by external causes. However, once again, this differentiation remains quantitative and establishes no distinction in kind between 'living' and 'non-living' things.

Connecting what we have said so far with Spinoza's theory of confused ideas and false universals lends further strength to the assessment that, in his view, any hard distinction between living and non-living bodies is illusory, as well as giving us an account of why we are commonly drawn to make this false distinction. In the second part of the *Ethics*, Spinoza gives a brief account of the causes of what he calls transcendental and universal concepts. Transcendental terms, such as 'being', 'thing', and 'something', arise from the mind's ability to form only a limited number of distinct images at once, beyond which these images become confused with one other. The mind will at that point imagine these images confusedly, without distinction, and conceive them as being grouped together under one term, such as 'Being' or 'Thing'. Universal terms, such as 'man', 'horse' and 'dog' have a similar origin. So many images are formed at once that they surpass the power of the imagination, and at that point the mind can no longer retain the slight differences between individual images, or their number, and only distinctly imagines what they all agree in, "insofar as they affect the body."⁴² That is, the perceived common property of the images will be what has, overall, affected the body most forcefully, since all the images have affected it in this way. Universal terms, as a result, are not formed in the same way by all, since they are constituted in each individual by what has affected the body most frequently and the mind recollects most easily. Universal terms thus reflect the disposition of the body much more than they do the real natures of things, revealing, Spinoza suggests, the folly and false controversies of those "who have wished to explain natural things by mere images of things."⁴³

Spinoza does not explicitly identify the concept of the organic as a confused idea of this kind, but from what we have seen so far, it would be very natural for him to do so, suggesting, as he has been interpreted here, that upon examination, 'organic' and 'inorganic' are not terms that can be said to correspond to a real distinction in the nature of things. Further, it is not difficult

⁴² Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. EIIp40s1, p.477

⁴³ *Ibid.*

to see how we might offer a plausible explanation of why we should form such false concepts, in line with the account Spinoza offers in the case of other general terms. We are much more disposed to think of those finite bodies with which we are in regular contact, as opposed to the overall macro-structure of Nature in which they are situated. Among these bodies we find some, including our own, which are capable of interacting with other bodies and being affected by them in a great many more ways than other bodies, as well as having a far greater structural complexity. Indeed, the disparity in complexity and activity appears so great that we take these bodies to be of a distinct kind, namely 'living', though this concept's lack of basis in a real distinction in the things themselves means that its criteria will necessarily remain either vague or arbitrary.

In this chapter we have built on the discussion of the modal system in chapter four to bring out the 'uniformity' of Spinoza's mechanical conception of extended Nature more explicitly. This is manifest, firstly, in extended Nature's being structured by a single set of fundamental principles, the laws of motion, and secondly, in extended Nature's variety of modal expressions being constituted by *quantitative* differences in the complexity of patterns of motion and rest alone, not *qualitatively* different forms of Nature. Spinoza's theory of the *Conatus* has also been brought into the picture to help to make sense of the resulting breakdown of the distinction between 'living' and 'non-living' things, universalising the drive to self-preservation and placing the 'organic' and 'inorganic' on a quantitative scale of complexity and power. In the next chapter, we will take up Hegel's account of the dialectic of Nature from where we left it at the conclusion of mechanics, now focusing our attention on Hegel's strongly contrasting account of Nature as immanently driven through a series of qualitatively differentiated stages, and making explicit the critique of Spinoza's mechanical view of Nature implicit within this.

Chapter 11 - Metamorphosis in Hegel's Nature

Earlier we took up the following passage as a particularly clear statement of Spinoza's position on Nature's uniformity:

"Nature is always the same, and its virtue and power of acting are everywhere one and the same, i.e., the laws and rules of nature, according to which all things happen, and change from one form to another, are always and everywhere the same. So the way of understanding the nature of anything, of whatever kind, must also be the same, viz., through the universal laws and rules of nature."¹

Returning to this quotation, we can now draw special attention to the notion of things changing from one form to another which is brought up here. The insistence that every change of form is governed by one and the same set of laws, in combination with his general model of explanation of finite corporeal Nature through an analysis of kinetic relationships, indicates that Spinoza understands every difference of form to be a matter of relative quantitative complexity. This situates Spinoza in stark opposition to the metamorphosis of Nature through qualitatively distinct spheres which Hegel argues for.

Hegel describes Nature as a "system of stages,"² each arising from its predecessor and providing the basis for its successor, but rejects both 'evolution' and 'emanation', taken in separation, as models for this progression. By 'evolution', Hegel refers to a process beginning with the most immediate and simple categories of Nature, such as the abstract space we examined earlier, and following their development of gradually greater complexity, ending in the full actuality of the Idea as Nature. By 'emanation', on the other hand, Hegel refers to a process beginning from this full actuality, which then emanates gradually less fully realized, more basic forms of existence from itself.

¹ Spinoza, B. (2016). *The collected works of Spinoza: Volume I*. Edited and Translated by Curley, E. Princeton University Press. EIII Preface, p.492

² Hegel, G.W.F., Miller, A.V. (2004). *Hegel's Philosophy of Nature*. Oxford University Press. §249

In Hegel's conception, the structures of evolution and emanation, seeming to flow in opposite directions, exist together in a process he calls 'metamorphosis.' As in emanation, there is a single Idea, present from the beginning and existent in every stage and particular thing of Nature, which are all the diverse manifestations of it. But, as in evolution, the process begins with the most basic forms of Nature, following matter's raising itself from its externality into a progressively more adequate manifestation of the Idea. Hegel draws an analogy with the metamorphosis of an insect from pupa, to caterpillar, and then butterfly, all of which are understood as the progressing forms of one and the same individual. The different stages develop from the most basic to the most complex, but the end result is also already contained in the beginning, the whole progression being the unfolding of a single principle. This analogy is particularly appropriate because of Hegel's emphasising that while it is important to hold in view the identity of the various forms of Nature as manifestations of the Idea, it is equally important to preserve their genuine differentiation. Hegel remarks in particular that when we conceive change only quantitatively, it is this differentiation which is pushed into the background. When we seek to understand the series of things, forms or stages found in Nature, we look for a law of the series, a single basic principle which, in the process of reiterating itself, engenders new differences. However, we must be cautious not to conceive the progression of this series as only a successive addition of elements, each similarly determined and holding the same relation to the others. It will be a key claim of Hegel's that the Idea does not generate its determinations in a quantitatively graded series, but advances by leaps as it produces qualitatively differentiated forms. The butterfly does not represent only a quantitative progression over the pupa, but is a qualitatively different being.³

However, unlike the individual transformation of the insect, the metamorphosis of the Idea as Nature does not take place in time. This will be a very important point to keep in mind as we proceed. Just as above, in his explication of space, time, motion and matter, Hegel was not claiming, for example, that at some chronological point there existed an abstract absolute space without time, he must not be interpreted below to be claiming that at some

³ Ibid. §§249, Zusatz; 252, Zusatz

chronological point there existed magnetism without electricity, or, more broadly, a universe governed solely by mechanics without any chemical or organic bodies. It may turn out that empirical investigation reveals there to have been a chronological process of the separation of fundamental forces, or that life did not exist in the universe until a certain time. However, these empirical findings are not relevant to the subject matter of Hegel's analysis and may be accepted by him without issue. Hegel's claim concerns, instead, the rational necessity of Nature's forms and stages, which yields them all eternally and 'at once.'⁴

Another significant point of divergence from the insect analogy comes in the fact that the dialectical progression of Nature does not nullify or leave behind previous stages as it steps forward. Hegel will attempt to show that each successive stage embodies the previous stages, in the sense of taking up those structures into a higher, more comprehensive unity, but at the same time, in line with the broader structural externality characteristic of Nature, each stage persists in existence 'side-by-side' with the others. The mechanical and physical spheres of Nature show themselves to lead necessarily to the organic, but this does not mean that every natural thing is organic. Rather, organic beings exist in relation with inorganic Nature, self-determining but also necessarily in sympathy with the environment from which they draw their sustenance.⁵ This is a point which will become clearer as we progress, but is worth having in view from the start.

Whereas we have so far largely considered concepts which Hegel and Spinoza share (though they may differ as to the specifics of their content and interrelation), as Hegel proceeds to elaborate on physical, chemical and organic nature, the array of categories through which Nature is to be conceived grows far beyond that employed by Spinoza. Hegel's being able to draw on almost two centuries' additional advance in the natural sciences no doubt has much significance here. However, it would be unconvincing to argue for the superiority of Hegel's philosophy of Nature simply on the basis of its including a concept, such as electricity, which Spinoza lacks, or on the basis of its greater range and specificity of concepts more broadly. It would remain open to

⁴ Ibid. §249

⁵ Ibid. §§252, Zusatz; 270, Zusatz

responds, from a Spinozist standpoint, that this wealth of determinations simply corresponds to an explication of the ever-increasing complexity of relations of motion and rest among the finite modes of Extension, and thus provides no evidence of qualitative metamorphosis. A broader set of concepts provides no critique of Spinoza whatsoever if all can be reduced legitimately to motion and rest. The purpose, therefore, of carrying out a condensed examination of the course of Hegel's dialectical account of Nature, is rather to bring out the qualitative shifts in Nature's existence which necessitate Hegel's employment of this array of concepts and force us, in his view, beyond the quantitative analysis offered by Spinoza.

11.1 - Physics

As we saw in chapter nine, Hegel argues that the dialectic of mechanics is the process of Nature's self-externality working through the contradictions generated by its equally essential moments of difference and identity, present in it specifically as its indifferent continuity and sundered externality. At the conclusion of mechanics, the being of matter as gravity, when fully actualised as a system of free motion, holds matter's identity and difference together. Gravity is not merely the identity of matter in a centre, with the externality of matter outside it, but manifests both of matter's moments equally, repelling matter into a multiplicity of bodies and manifesting the dialectic of matter's attraction and repulsion as free motion.

Up to this point, bodies have only existed as bundles of points in motion, and gravity has determined only the spatial inter-relationships of these points. Matter's form, its self-identity, is tied up wholly with its centre of gravity, a point of unity which, though posited and determined by matter's externality, nonetheless lies 'outside' any material point. Gravitational matter's unity is thus "only a unity of the place it seeks, not a concrete One, a self."⁶ However, Hegel argues that, in manifesting itself as a system of free motion, matter sublates this separation of its moments of identity and difference into the abstract self-identity

⁶ Ibid. §271, Zusatz

of an ideal centre and its equally abstract externality as mere points. Matter's identity in the centre of gravity is now nothing without its differentiation into a plurality of bodies, in the sense that if gravity does not produce and maintain both moments then its self-externality will collapse into abstract homogeneity and in that case will cease to be the being of self-external matter at all. This has the consequence that matter's particularity in a plurality of bodies must be determinate in its own right. Determinacy does not belong only to a singular ideal self, the system of gravity as one 'body', but rather to "each determinate existence," giving us "*qualified matter* – the sphere of *Physics*."⁷

Material bodies are no longer anonymous points owing their determinacy wholly to an external, ideal centre, but have qualitative determinacy of their own. Hegel specifies that unlike the quantitative, external determination which has pervaded matter's merely mechanical existence, these are properly qualitative determinations of matter itself, the removal of which would destroy its being, and without which matter is nothing.⁸ What this individuality of matter consists in will have to be shown in the course of its dialectic; at this point it can be stated only that, though matter certainly still exists in relation to gravity and is subject to mechanical interaction with other bodies, the 'inner' identity and individuality of the material body now begins to determine its own spatiality in contest with the dominion of gravity. The consummation of the concept of gravity has thus resulted in the beginning of matter's liberation from it, a process which will dominate much of the rest of Hegel's *Philosophy of Nature*.

11.2 - Density and Cohesion

Hegel argues that the most basic and immediate way in which a particular body can be understood to have a determinacy of its own is through its spatiality, and specifically its having 'specific gravity', or density. Having a particular density, a specific relation of its mass to its volume, though giving only a quantitative specification, means that matter is no longer a uniform filling of space. Rather, the body thereby has a determinacy of its own which it does not possess only in

⁷ Ibid. §271

⁸ Ibid. §271 and Zusatz

virtue of its relation to a centre of gravity and can be understood independently of it.⁹

In the sphere of mechanics, bodies are differentiated only by position, velocity and mass. The last of these is measured simply by the amount of space a body fills, a greater number of parts corresponding to a larger space occupied. Thus, bodies as mechanical are all just the same, merely clumps of mass governed by gravity. However, the new determination of density gives a specificity to the body's external spatiality that sets it apart from other bodies, by giving equal volumes different weights, or equal weights different volumes. This immanent relation of weight to volume constitutes an independent, self-subsistent determination of the body, in the sense that the relation of the body's weight to its volume is a self-relation which does not depend on any other body. The body's density gives it a selfhood of its own, and of a kind previously inaccessible to matter, having been wholly determined by its abstract centre of gravity and the action of other bodies.

Density represents the first major step in fleshing out the transition from quantitative to qualitative determination signalled at the outset of the physical sphere. The determination of matter can no longer be given simply in terms of a quantification of the positions, velocities and number of homogenous units. Indeed, the 'body' is no longer a pseudo-arbitrary grouping of indifferent points by their relative position. This is because we now have the individuality of the body as a real, material unity, manifest concretely in its particular density, a self-determined relation of its parts. Though density can be expressed quantitatively, the quantitative begins to give way here to the qualitative in a determination specific to the body and pervading its every part, giving it an inner self-relation absent from the body as mechanical.¹⁰

Density is described by Hegel as a 'simple' determination of matter, referring to the fact that though this pervades each of the body's parts, it is present as a single relation of weight to volume which is indifferent to the mass of the body. As Hegel reminds us, though, matter is essentially self-external and sundered into a plurality of parts. As a result, density, as the determination of a

⁹ Ibid. §§292-293

¹⁰ Ibid. §293, Zusatz

physical body, must necessarily also determine a specific mode of the spatial interrelation of its parts, which Hegel terms 'cohesion.'¹¹

While density can be understood to present another 'centrality' opposed to the centre of gravity, in the sense that it is a singular determination which pervades the body's parts but is also indifferent to the mass of the body and its particular arrangement, cohesion advances on this to determine the body's plurality in a specific way. The coherence of a number of parts is not just their possession of the same specific gravity or a certain relation of position, but a real relationship and contact with each other.¹²

In its cohesion the body posits a mode of spatial relation among its parts distinct from that determined by gravity and mechanical interaction with other bodies. Gravity's determination of matter's spatiality through attraction and repulsion is indifferent to its unity in particular bodies, rather acting on matter as a set of indifferent units. Further, in the sphere of mechanics, 'bodies', really at that stage just groupings of indifferent units contingently sharing proximity over time, responded to their contact with one another in relations of pressure and thrust purely as quantitative masses. However, as cohesive, physical bodies maintain themselves in unity in particular ways and to specific degrees characteristic of their specific qualitative nature as individual bodies. A body's cohesion is a particular self-relation among its parts not reducible to their simply having spatial proximity determined externally by gravitational attraction or their having been contingently thrust together by mechanical impact. This physical contact and coherency of a body's parts is manifest, at this early stage, only in its resistance to the mechanical effect of other masses upon it.¹³

Though cohesion represents a unity of the individual body in opposition to the universal unity of gravity, cohesion is nonetheless still a conditioned individuality, manifest only through the action of other bodies as a mode of resistance. Hegel describes the cohesive body as having only an 'inner' Shape, in contrast with the free individuality of Shape which will come later.¹⁴ The most natural way of interpreting this notion of 'inner' shape is that Hegel is pointing out that although the cohesive body resists the negation of its spatiality by the

¹¹ Ibid. §294

¹² Ibid. §294, Zusatz

¹³ Ibid. §295 and Zusatz

¹⁴ Ibid. §296, Zusatz

mechanical imposition of other bodies, cohesion does not determine the totality of the arrangement of the body's spatiality throughout its dimensions and surfaces. It is still a conditioned individuality manifest in resistance and not yet a formative principle actively determining the body's spatiality of its own accord.

11.3 - Elasticity, Sound and Heat

When one cohesive mass impacts another, the affected body suffers a negation of its material being as occupying a particular space. The struck body then offers resistance, reciprocally negating this imposition of another body into its space and repelling it. Thus, the cohesive body simultaneously gives way and maintains its character in response to the violence of another body. Since the body is a whole of mutually external parts, when the whole is impacted by and gives way to an external pressure, its parts impact and give way to each other. However, the parts, being self-subsistent, reinstate themselves in the face of this negation of their place. The body is no longer an impermeable homogenous mass but yields to external pressure through an inward oscillation of yielding to the negation of its place and negating this negation in reinstating itself. Indeed, the repelling body does not reinstate itself simply as a mass. Rather, the cohesive body reinstates itself precisely *as cohesive*, that is, it reasserts or re-establishes the particular internal spatial self-relation that constitutes its nature. Hegel calls this simultaneous yielding and self-preservation of the body's form in the face of outer violence 'elasticity.'¹⁵

Elasticity is described by Hegel as "cohesion displaying itself in motion,"¹⁶ and it does this in a double negation: the negation of the mutual externality of the material parts and the negation of this as re-establishing their asunderness as a cohesive plurality, each negation evoking the other. The being of the elastic body is thus a single identity alternating between two mutually sublating determinations, giving the inner oscillation of the body, or 'sound.'¹⁷ The physical body's identity, having thus far been submerged in matter's

¹⁵ Ibid. §§297; 298, Zusatz

¹⁶ Ibid. §297, Zusatz

¹⁷ Ibid. §§299-300

externality in the categories of density and cohesion, now “achieves *independent existence* and mechanically soul-like manifestation” in the negation of this asunderness.¹⁸ Hegel calls sound “subjectivity in process of liberation,”¹⁹ in the sense that the body is beginning to explicitly develop a ‘self’ which is determined neither by a centre of gravity outside it, nor by the particular arrangement of its parts at one moment. Rather, in the sound produced by the body’s oscillation, a single identity is made manifest which pervades the body’s parts and positions and sustains its nature through the negation and reinstatement of its density and cohesion.

This oscillation must be distinguished from external change of place, or alteration of a body’s spatial relation to other bodies, which is movement in the ordinary sense. Oscillation does, of course, involve this ordinary sense of movement, but the body’s vibration reveals, unlike ordinary movement, that its being is not bound up with a particular spatial position or arrangement.²⁰ The dialectic of physics has thus brought us to the point where the physical body sublates its determination as a multiplicity of mutually external and subsistent parts, showing its specific nature instead to lie in a singular, inner identity, now manifesting itself in the oscillation of sound.²¹ This identity can be called an ‘ideal,’ negative unity, in the sense that it is not synonymous with any particular spatial determination of the body, but manifests itself as the continual negation of this self-external spatiality in its oscillation.

However, sound sublates the asunderness of the cohesive body’s parts only in an abstract, partial way.²² Sound is the alternation of materiality between asunderness and its negation, and so restores the sundered spatial arrangement of cohesion just as it negates it, this being the nature of its oscillating double negation. Sound thus cannot give the full sublation of matter’s externality, because it always necessarily reaffirms this just as much as it negates it.

Though sound cannot achieve the full sublation of matter’s externality itself, it does nonetheless indicate the necessity of this sublation, since matter’s being is no longer identified with its spatial externality, and this falls to the

¹⁸ Ibid. §300

¹⁹ Ibid. §301

²⁰ Ibid.

²¹ Ibid. §302

²² Ibid. §§292, 302

further category of 'heat.' Hegel describes heat as "the negation of materiality set free", a negation which no longer reflexively evokes the very asunderness it negates, as in sound, but consumes it, reducing it to continuous 'fluidity.'²³ Heat, however, as the *determinate* negation of matter's cohesion, remains conditioned by this determination, that is, bound up in its reference to the very externality it negates. Although matter's ideality negates its externality, this negation by heat as destruction of matter's asunderness cannot rid itself wholly of externality. To simply wipe away self-externality would be to take away spatiality and, indeed, all the structures of Nature (the Idea in its self-externality) developed thus far, including matter itself. Matter's ideality, though no longer only an implicit moment submerged in externality, has not yet attained to a free self-relation, but remains bound in relation to its externality.²⁴ Matter's ideality and externality are, however, now in a qualitatively different form of relation to that seen thus far, which Hegel names 'Shape'.

Physics begins with a conception of Nature still comfortably accounted for by Spinoza's quantitative mechanical model. However, the progression through to Shape sees a transition from the purely quantitative determination of matter in mechanics through the position and velocity of homogenous points to the emergence of an 'inner' qualitative being of the body not reducible to the quantitative determinations of its external spatiality and motion. To highlight some of the key moments in this development, we have seen that as density matter takes the first step in this progression, gaining a singular individuality through this determination which pervades the externality of its parts and gives it an inner self-relation. Further on, as sound, the body expresses a 'self' which sublates the mutual externality of its parts and their particular arrangement at any moment, sustaining itself through the variations of density and cohesion. Though matter's ideality cannot sublimate its externality altogether, even as the fluidity of heat, this growing assertion of matter's inner identity over against its externality sets the stage for Shape. This next stage of Nature will see the body's inner ideality begin to act as an immanent formative principle, determining its external spatiality for itself throughout its dimensions and surfaces, rather than the body's identity manifesting itself only through resistance to external

²³ Ibid. §306

²⁴ Ibid. §§305-306

mechanical force. The individual body will thus increasingly assert its qualitative being and internal power of determination over against its external mechanical determination by gravity and transitive chains of causality.

11.4 - Shape

In the structure of Shape, matter's externality no longer stands as self-subsistent and independent in the face of its negative ideality. Matter's ideality now takes up the position of a new inner 'centrality' which, unlike gravity, does not have the multiplicity of material parts outside it, but immanently determines this plurality. This manifests itself as an active principle of organization, requiring no outer stimulus, which sublates matter's external, spatial determinations into its own structure, freely developing these for itself as a total formative principle.²⁵

Shape is, of course, the forming and determining of nothing else but matter, which so far has only spatial determinations. Therefore, Shape at first can only be a determining of spatial relations. Recalling our earlier discussion of space as found at the beginning of the dialectic of Nature, we can see that the most basic form of spatial determination is the point. Thus, Shape must minimally be a determination of points. However, as merely a determining of points, Shape falls into the same tension which drove the first dialectic of space on to more developed spatial determinations. Namely, on the one hand, Shape takes on a punctiform principle, owing to the differentiation of each point from every other, but on the other hand, due to the homogeneity of these points, Shape succumbs to a lack of any determinate internal or external differentiation, expanding without limit both intensively and extensively.²⁶

Shape, being the determination of matter's externality for itself, cannot remain in indeterminacy, and so must introduce differentiation into its spatiality. The most minimal conception of determinacy within a punctiform space is the line, a determinate relation of points in which they are its opposed extremes. As moments of a line, points lack subsistent existence and derive their determinacy from their opposed relation, in which the line as such stands as an indifferent

²⁵ Ibid. §§307-310

²⁶ Ibid. §311 and Zusatz

middle term. Hegel calls this first form of Shape 'magnetism,' by which he refers to Shape's determining the body's spatiality linearly in two dimensions. Shape manifests itself here as a central form which posits the body's determinations as its differences, or 'poles,' standing in opposition but unified in that each is determined only by its opposition to the other. The different determinations of matter as Shape thus have no self-subsistence or identity apart from their unity in Shape.²⁷ Though space is still relied on to provide determinate differentiation, the externality of space no longer dominates. Hegel remarks that here we can see the Idea's conceptual structure beginning to emerge more explicitly in the sphere of Nature, conceived as a oneness which sustains itself in its diremption as the pervasive universal and substance of its differences.²⁸

Shape goes on to determine spatiality in all dimensions as 'crystal', freely shaping the body in every direction. As crystal, Shape forms and limits the body both inwardly and outwardly, showing itself not only in an internal coherence of the body's parts, but bounding its surface from other bodies too, delineating the body's determinate limit without this having to be revealed in the action of other bodies upon it.²⁹ The crystalline body stands as a totality unifying its differentiated determinations as its properties or predicates, these having no existence independent from their substrate. The body is not split apart from within into its determinations but endures as a single totality of these internal distinctions.

In thus housing these particular determinations, the body as such, as a totality, can now bear determination. Further, this holding together of particular determinations as properties of a single totality allows the differentiation and process of this totality vis-à-vis other whole individual bodies.³⁰ This represents a significant step in that while particular differences provide a relatively abstract, merely internal differentiation within a single body, the differentiation between bodies as totalities forges the path on to physical differentiation and processes among bodies far more complex than mechanical impact or elastic resistance.

In Shape we find the first emergence of an inner formative principle of precisely the kind which was ruled out in Macherey's interpretation of Spinoza's

²⁷ Ibid. §§308, 311-315

²⁸ Ibid. §312, Zusatz

²⁹ Ibid. §315

³⁰ Ibid. §316, Zusatz

theory of extended bodies discussed in chapter four. There we saw that Macherey argues that we should understand bodies in Spinozism as circumstantial assemblages of parts brought together by the pressure of external causes and unified only insofar as they form a stable pattern of motion and rest, each part maintaining its subsistence as a body in its own right throughout. In other words, we must understand the union and formation of bodies along strictly mechanistic lines, without any notion of an internal formative principle which determines the body's structure. Against this self-subsistent indifference of the constitutive elements of Spinozist bodies towards their union, the determinations of the shaped body, for Hegel, are dependent on the central formative principle of the body's 'Shape' for their being. Indeed, the body is now in a position to take on qualitative determinacy as a whole, taking the form of a single being that possesses a multiplicity of determinations rather than a collection of determinations contingently conjoined. Schliesser suggests that the homogeneity of matter follows from Spinoza's Substance monism³¹, and this would certainly fit with the quantitative interpretation of differentiation within his philosophy of extended Nature argued for in this study. Hegel's account of electricity and the chemical process will challenge this position through an elaboration of the qualitative differentiation of, and process between, bodies.

11.5 - Electricity and the Chemical Process

At first the total bodies preserve their independent identity in the face of their relation as totalities, yielding the structure Hegel calls 'electricity.' Hegel describes this relation as 'superficial' in comparison with the 'real' and deeper relation these bodies will subsequently find in the chemical process.³² The electrical relation takes the form of a tension in which bodies maintain their independence and identity as totalities while positing their difference from one another. This opposition does not involve an interaction or process of the

³¹ Schliesser, E. (2017). 'Spinoza and the Philosophy of Science: Mathematics, Motion, and Being'. In *The Oxford Handbook of Spinoza*. Ed. Della Rocca, M. Oxford University Press. p.179

³² Hegel, G.W.F., Miller, A.V. (2004). *Hegel's Philosophy of Nature*. Oxford University Press. §322, Zusatz

particular determinations of the bodies, but rather is only a relation of the bodies as totalities, which are related only as different.³³

In the electrical relation there are not resources to give this tension a direct resolution, the bodies remaining independent and unaltered by one another. However, the way that the total bodies in this relation are conceived proves inadequate, because it one-sidedly configures them as purely independent and self-subsistent wholes. This renders these total bodies abstract 'presuppositions,' in the sense that although they possess an *internal* principle of formation, which produces their various determinations, nonetheless they do not show *themselves* as formed, that is, as not just arbitrarily posited in existence but the result of a concrete, material process. The various forms of body examined previously in the course of mechanics and physics have not shown themselves as formed in this sense either. However, it is here that this inadequacy becomes explicit and demands resolution. This is because, unlike these previous conceptions of the body, the electrical body poses explicitly as a self-subsistent whole, freely determining its properties for itself from its internal principle of formation. Shape has shown itself to be the ideal principle forming each of the physical body's determinations for itself, but the existence of these shaped bodies as such must also be accounted for by Shape, that is, by the self-determination of physical matter. This physical formation of bodies is the chemical process.³⁴

The chemical process takes the form of an overarching macro-process, of which the bodies previously considered as independent totalities are but moments. This overall process is driven forward cyclically by the alternation of its two sides. On the one hand, the chemical process posits the identity of chemical bodies as all but moments of this singular process. Each body owes its being to its position within the macro-process and so does not stand in self-subsistent independence. On the other hand, although chemical bodies are not self-subsistent, neither are they subsumed as the determinations of a single body, as the poles of magnetism or surfaces of the crystalline body were. This would be to collapse the chemical process back to the process of formation of an individual shaped body. Rather, the chemical process is the genesis of whole, differentiated bodies, and so just as this process reveals the identity of bodies as its dependent

³³ Ibid. §§323, Zusatz; 324

³⁴ Ibid. §§324-325

moments, it also asserts their differentiation or 'dissociation.' The relation of chemical bodies is thus the *identity of non-identical* wholes, and the chemical relation is a *process* precisely because of this contradictory structure.³⁵ As Burbidge describes it, in the chemical process "differentiated objects combine into something undifferentiated; an identity is differentiated into its moments." While these moments are independent, differentiated bodies, "they are yet identified within a total individuality as directly related to each other," and the contradiction of their identity and difference drives the process in which these two terms cycle "from identity to difference and from difference to identity."³⁶

Crucially, this is a process not just of the relative motion of bodies, placing them together or driving them apart. Chemical bodies do not interact merely through friction or external impact, as in mechanical interaction. Rather, the whole corporeality of the body enters into and is subject to the chemical process, which exposes every property of the body to alteration. Every determination, and indeed the very existence and being of the body, is shown to be relative and transient. The development over the course of physics by which physical bodies have gained more determinacy and specificity has thus also made their finitude and dependence more explicit.³⁷ As Stone points out, in the chemical process bodies no longer have determinations 'superimposed' onto them by a principle of Shape arranging them spatially. Rather, qualitative determinations are now 'infused' "into the very way in which the units of matter exist, so that these units no longer retain any purely quantitative aspect."³⁸

The specific chemical nature of a body is determined by the particular processes through which it occupies various positions in the overall circle of processes, or in other words, its series of possible reactions. In one process, a body will take on the position of a condition, and then in another process a product, and the examination of a body's set of possible processes is the only basis for a classification of chemical bodies.³⁹ The description of what a body is can now only be given through an enumeration of its full cycle of alterations and

³⁵ Ibid. §§309, 326

³⁶ Burbidge, J. (1996). *Real Process: How Logic and Chemistry Combine in Hegel's Philosophy of Nature*. University of Toronto Press. p.114

³⁷ Hegel, G.W.F., Miller, A.V. (2004). *Hegel's Philosophy of Nature*. Oxford University Press. §§326, Zusatz; 328, Zusatz; 336, Zusatz

³⁸ Stone, A. (2005). *Petrified Intelligence: Nature in Hegel's Philosophy*. State University of New York Press. p.48

³⁹ Hegel, G.W.F., Miller, A.V. (2004). *Hegel's Philosophy of Nature*. Oxford University Press. §329

interactions. There is no single state in which a body's true individuality can be given, as its nature is displayed equally in each of its full set of states.⁴⁰

Hegel specifies that "the totality of the reactions exists only as a sum, not as an infinite return-into-self."⁴¹ That is, there is no essential being of, for example, iron, which alternately takes on the determinations of solidity, liquidity, hardness, softness, orange or grey coloration, and so on. There is no absolute nature of iron that variously takes on these accidents and preserves itself unchanged throughout in an 'infinite return-into-self', as Hegel puts it. Rather, iron is merely the sum of these states, and so its being is utterly relative to the chemical processes it undergoes. The 'it' here is not a stable identity, but a being which expresses itself only in its various chemical reactions with other bodies. What posed as an independent, self-subsistent Shape in the form of the electrical body shows itself now to be intrinsically relative and unable to stand enduring before the process which it owes its genesis to.

Looking to the broader progression of Nature, the chemical process, much more clearly than any previous stage, shows Nature's raising itself to the structure of the Idea, that is, a oneness which sustains itself in its diremption as the pervasive universal and substance of its differences. While the inner necessity of the Idea has lain at the heart of Nature all along, the sundered self-externality of this domain, perpetuated from the most abstract category of space and on into the merely external interactions of material bodies in mechanics, has deprived the Idea of a concrete manifestation, i.e. an existence which reflects its conceptual structure. The chemical process has now begun to give the Idea this existence because it strips immediacy away from material bodies. These are no longer indifferent bodies interacting only externally through collision, but all bodies now acquire their nature only through their relations, the chemical process altering not only their relative motions and positions but their essential determinations. Bodies, and the processes which define, generate and destroy them, are shown to be moments of a single total chemical process, and not self-subsistent, mutually external or independent.

This restless process of enduring self-contradiction is the first appearance in Nature of the infinite subjectivity that will later receive actuality in organic life.

⁴⁰ Ibid. §336, Zusatz

⁴¹ Ibid.

Indeed, Hegel describes the chemical process as an 'analogue' of life which would already be organic if the cycle of reactions could perpetuate itself spontaneously. As we shall see further on below, no member or part of a living body can endure or exist in independence, but only in the unity of the organism as a whole. Looking back over the course of the development of Nature, we can see that in the mechanical sphere each body retained its independent identity in the face of changing spatio-temporal relations with other bodies. However, in the chemical process and then even more so the vital process, the being of each body shows itself to be tied up with the unity it is a member of.⁴²

The nature of matter in the chemical process stands in strong contrast to its mechanical existence and Spinoza's insistence on the enduring subsistence of bodies even when they are parts of larger unities. Bodies are no longer only externally related in mechanical interactions of collision and comparatively superficial unities of physical contact and arrangement. Rather, from the Hegelian standpoint elaborated here, the chemical process both gives each body its very nature, that is, gives each body the essential determinations that make it the *qualitative kind* of body it is, and subjects each body to a radical relativity, the body's every determination, along with its very existence, being but a moment of this overarching process.

On the one hand, Hegel readily acknowledges the closeness of chemistry and life, telling us that "the chemical process is, in fact, in general terms, Life," since the immediate individual chemical bodies are both produced and destroyed in the course of the chemical process.⁴³ However, the chemical process can manifest the Idea's structure only to a limited degree, due to its being unable to extricate itself from finitude. Though we can see the continually self-kindling activity of life in the chemical process viewed as a total cycle of states, individual chemical bodies nonetheless show themselves to have a finitude which means they stop short of life. They do not compose a self-reproducing organism but only a series of processes, and so to the extent that the Idea shows itself more clearly in chemistry than in previous shapes of Nature, it nonetheless is "everywhere infected with division."⁴⁴

⁴² Ibid. §326, Zusatz

⁴³ Ibid. §335

⁴⁴ Ibid.

In the chemical process the combination and dissociation of bodies is an activity external to them, in the sense that this cannot be initiated spontaneously by the bodies themselves but only through external impetus. Having been combined, the process of combination is over and another external possibility of dissociation is now open, though similarly the neutral product of combination cannot of itself initiate its dissociation into differentiated bodies. The total process thus has the character of being fragmented into distinct processes, each incomplete and finite in that it is the transition from one one-sided product (whether this is a unified combination or a dissociated variety of bodies) to another, and unable of its own resources to immanently initiate the next process. Each particular process simply ends in its product, leading Hegel to characterize the chemical process as a whole as a discontinuous “series of broken processes,”⁴⁵ or a “circle of *particular processes*” which ‘fall apart’ from one another, each immediate and distinct from the others.⁴⁶

Though each moment in the process does presuppose another as its antecedent, it is merely made extinct in its product or result. Rather than each particular process manifesting itself as but a moment of a single total process through which this totality immanently continues itself, these processes take on the appearance of isolated and distinct events, none of which can from its own resources continue itself on into the next.⁴⁷ The products of dissociation fall apart into mutual indifference, and conversely the neutral body produced by a combinatory reaction represents the extinguishing of the activity that birthed it, unable to spontaneously rekindle this process.⁴⁸ As Burbidge puts it, “a chemical process takes place only when an alien agent assembles them (bodies) in an appropriate way.”⁴⁹

Hegel makes quite explicit that should the chemical process spontaneously renew its activity we would already have life, characterized as “the circular return of the process,”⁵⁰ or “a chemical process made perpetual.”⁵¹

⁴⁵ Ibid. §329, Zusatz

⁴⁶ Ibid. §335, Zusatz

⁴⁷ Ibid. §329

⁴⁸ Ibid. §335, Zusatz

⁴⁹ Burbidge, J. (1996). *Real Process: How Logic and Chemistry Combine in Hegel's Philosophy of Nature*. University of Toronto Press. p.179

⁵⁰ Hegel, G.W.F., Miller, A.V. (2004). *Hegel's Philosophy of Nature*. Oxford University Press. §331, Zusatz

⁵¹ Ibid. §335, Zusatz

But no matter how close chemistry may come to manifesting a living process, this shortcoming keeps it firmly distinct from life. Although each chemical process exists only in the context of its position in the total process, at no point can this unity be brought past being an *implicit* background condition and into concrete existence as a singular, *explicitly* unified process. The chemical process remains locked in finitude because its differences are implicitly identical but not yet in reality. As Hegel puts it, "life is present in principle in the chemical process; but inner necessity is not yet existent unity."⁵²

In the chemical process we have on the one hand identity (combination) and then difference (dissociation), but the implicit reality of the chemical process as a unity of these, an identical totality of differences returning into itself, cannot be given existence, as each body and process falls apart from the others. The bodies in the chemical process do go some way to sublating their finite one-sidedness, in the sense that in the course of the particular processes they undergo they do not stay in simple opposition or combination with one another, and do not hold fast to a single chemical nature, but take on a variety of relationships and determinations. However, this sublation can only ever be relative, since the chemical process can only ever consist in bodies exchanging their one-sided determinations for other equally one-sided determinations. Metals may become oxidised, acids may be neutralised, but this is only ever a change from one particularity to another, never concretely bringing the unity of the process, which is beyond the one-sidedness of any particular body or process, into existence. The chemical process gives us a plethora of fragmented pieces but can never present to us their existent unity.⁵³ Rather than the moments of the total chemical process being immanently driven forward through their own internal necessity, they fall apart into externality, unable to make explicit the infinitude of the process implicit in them.

The transition from the chemical process into life, put simply, occurs through the latter's making fully explicit the unity left implicit in the former. The progress of Shape through magnetism, electricity and chemistry has been, in a general sense, a dialectic of the relationship of matter and its organising form. In chemistry this dialectic reaches the point where form, showing itself as an

⁵² Ibid. §§329, Zusatz; 335, Zusatz

⁵³ Ibid. §329, Zusatz

overarching macro-process, maintains its unity while driving itself to internal differentiation, articulating itself materially in a process of multiple bodies. This development, however, has brought every particular property of the body, as well as the body itself, into relativity, generated and destroyed in the cycle of the chemical process. Conceived at the level of its transient particular moments, this process is locked in a procession of finitude. However, conceived at the level of the macro-process articulated through these moments, this negation of matter's external, independent self-subsistence leaves enduring only its negative ideality, now no longer only an implicit inner foundation, but an explicit existence for which material externality is a fully alterable medium.

Elucidating this point of transition, Ferrini points out that, as we have seen, the chemical process both produces individual bodies and negates their immediacy, challenging any attempt to determine their 'proper' or stable nature by subjecting their every property to relativity.⁵⁴ However, in this process in which the chemical body's properties prove to be relative, Ferrini suggests that chemical matter in fact also reveals the stability of an 'ideal form' of the chemical substance as a point of unity. That is, the possibility of stably identifying any chemical body throughout the course of its reactions and the mutability of its every property presupposes something persisting in relation to which these changes can be determined.⁵⁵ The chemical body necessarily ceases to be defined by any one of its procession of changing properties, but is identified with this ideal form of which its properties are momentary appearances. Ferrini argues that the transition to the organic is made when this implicit ideal form of the body becomes explicit as a self-determining active unity.⁵⁶

11.6 - Organics

In the transition to the organic, the ideality first reached in the absolute Idea emerges as no longer only the immanent foundation of Nature veiled behind its self-externality. In life the Idea ceases to be submerged in its material externality,

⁵⁴ Ferrini, C. (2011). 'The Transition to Organics: Hegel's Idea of Life'. In *A Companion to Hegel*. (Eds. Houlgate, S. and Baur, M.) Blackwell. p.209

⁵⁵ Ibid. p.213

⁵⁶ Ibid. p.215

but forms a union with it in which it preserves itself in its ideality, no longer collapsing back into finitude.⁵⁷ Hegel understands the organism to be “the Idea as reality,”⁵⁸ and it realises itself as such through three major processes, the first of which is the organism’s internal process of formation.

What has thus far in the dialectic of Nature been the dominant determination of matter, its self-externality as a multiplicity of bodies, can now be understood as but one moment of a process whereby an infinite form, the organism, determines itself to particularity, manifest in its multiple parts, or organs, but equally negates the independence of these particular bodies, ‘returning’ to itself as a self-related negative unity.⁵⁹ By an infinite form in negative unity, we mean a concrete universal which develops particularity from itself, allowing the particular a genuine individuality and differentiation, while also maintaining its harmony and unity with the universal. In its continual internal process of formation and self-reproduction, the organic body articulates itself in a real internal differentiation, perpetually ‘releasing’ itself into the particularity of its members. However, life continually sublates this momentary self-subsistence, subsuming its moments back into unity.⁶⁰

Relating this structure back to chemistry, though the organism internally differentiates itself into a multiplicity of parts or organs, these retain the transience they were shown to have in the chemical process, and are ‘subdued’ by the living body as its ideal moments and ‘means’. Unlike in the chemical process, however, the moments of the organism do not fall back into disconnected finitude and no longer have self-subsistence in the face of the whole, which freely both divides itself into them and negates them in asserting its unity once more.⁶¹ It is thus easy to see why Hegel characterizes life as “the triumphant individuality”⁶² since we see here that individuality brings externality to heel as the means of its own affirmation, granting it the appearance of external self-subsistence only insofar as this serves as a moment in the dialectic of the self-production of the organism’s undivided unity. Indeed, Hegel goes so

⁵⁷ Hegel, G.W.F., Miller, A.V. (2004). *Hegel’s Philosophy of Nature*. Oxford University Press. §337, Zusatz

⁵⁸ Ibid. §353, Zusatz

⁵⁹ Ibid. §337

⁶⁰ Ibid. §337, Zusatz

⁶¹ Ibid. §§336, Zusatz; 252, Zusatz

⁶² Ibid. §337, Zusatz

far as to describe the activity of life as “Absolute Idealism”, since “it becomes an other which, however, is always sublated.”⁶³

However, it is important not to understand this sublation of manifold determinations in a one-sided way. To sublimate something is not to simply negate it, but to take it up into a higher unity. Thus, life’s activity of sublating its particularity should not be understood as indicating that the differentiation of the organic body’s parts, or even the particularity of Nature as such, is in some way wiped-away or revealed to be illusory. Indeed, quite to the contrary, Hegel remarks that “everything organic is an immanent differentiation which preserves the manifoldness in the unity.”⁶⁴ It does this in a way, though, which manifests a different relationship of form and matter to any seen thus far in Nature.

At earlier stages, particularly the early manifestations of Shape, such as ‘crystal’, form was manifest in a regularity of the body as a whole, constituted by the ensemble of its parts taken together. It was a central organising principle articulating itself through its uniform organisation of the body’s subsistent parts. In contrast, Hegel characterizes the organism as a “perfectly fluid pervasion of all its parts”, which “have a substantial, whole life of their own.”⁶⁵ That is, rather than each part only being understood through the whole, in the sense of being determined by a central formative principle distinct from any part, in the organic sphere each part of the body *is* the whole. The organism is neither a centrality distinct from its parts nor identified with any particular one or set of them, but equally and freely determines itself *as* each of its moments.⁶⁶ As Althusser describes this structure, what is made actual in the organism “is a living totality in which each part subsists only in virtue of the whole, and the whole, in its turn, only in virtue of the parts.”⁶⁷ Whereas the presence of Shape as an organising principle, a centrality beyond any of the points it is the centre of, still had a lingering echo of the gravitational relation, the living body overcomes the logic of gravity altogether.

Holding together these moments of self-differentiation and sublation in the process of formation, it becomes clearer in what sense Hegel regards organic

⁶³ Ibid.

⁶⁴ Ibid. §344, Zusatz

⁶⁵ Ibid. §342, Zusatz

⁶⁶ Ibid. §310, Zusatz

⁶⁷ Althusser, L. (2014) *The Spectre of Hegel: Early Writings*. Verso. p.71

life as bringing the Idea explicitly into natural existence. In life we find an inwardly restless unity completely unthreatened by its internal differentiation, since it is itself the very process of developing this opposition, determining or 'releasing' itself to self-externality and resolving itself into the whole once more. The organism is neither a simplistic, homogenous universality nor a fractured heap of particulars, but rather the process of these moments in tension and the negative unity which abides throughout. The universal, which was implicit in the chemical process and is now actual in the organism, is not a simple 'all', but a concrete, active negativity; a One which inwardly diversifies itself into a genuine multiplicity, but equally pervades and unifies every determination as its own.⁶⁸ In thus bringing the negative universality of the chemical process into fuller actuality, from a Hegelian perspective the organic goes yet further in sublating the Spinozist conception of the body's structure. That is, the parts of the organic body can no longer be understood as self-subsistent bodies in their own right only circumstantially associated, but are both produced by the self-differentiation of the body and also sublated back into its negative unity, these being the two moments of the body's non-mechanical process of self-formation.

Burbidge emphasises that the living organism distinguishes itself, not into discrete parts, but members, each of which is both a means for realizing the unity of the organism and constitutive of the end to be realized.⁶⁹ The thought of life thus involves both identifying and distinguishing in a single dynamic, a process that "would break itself up into particular moments that are complements, even opposites, of each other, and would at the same time reconstitute itself by reincorporating this particularity into its own unity."⁷⁰

In sharp contrast to Spinoza's understanding of organic bodies as having no special philosophical significance over against the inorganic, Hegel views life as functioning according to qualitatively different principles. As we shall see below, this is not a matter of the organic making a sudden break with the rest of Nature, capriciously flying free from the laws of motion and chemical relationships that hold elsewhere. Quite the contrary, the living body exists in

⁶⁸ Hegel, G.W.F., Miller, A.V. (2004). *Hegel's Philosophy of Nature*. Oxford University Press. §336, Zusatz

⁶⁹ Burbidge, J. (1996). *Real Process: How Logic and Chemistry Combine in Hegel's Philosophy of Nature*. University of Toronto Press. p.176

⁷⁰ Ibid. p.185

constant contact and struggle with its inorganic environment. Rather, as Hegel expresses it in the introduction to the *Philosophy of Mind*, in the organic “there emerges a higher necessity than ... in lifeless things.”⁷¹ That is, a self-determination no longer wholly slave to external causality, and a self-subsistent unity distinct from the centre of gravity or the formative principle of Shape.

In life we at last meet with the counter to the externality which, though gradually lessening in its dominance, has stubbornly remained throughout the course of Nature’s development. However, the necessity of the organic as an outcome of the dialectic of Nature does not extinguish the existence of non-organic Nature. The externality which is the universal determination of the sphere of Nature means that not only are preceding categories carried forward as they are sublated into higher unities, as was the case in the sphere of Logic as well, but additionally they persist in material existence ‘side-by-side’ with the categories that develop from them. Consequently, the organic body is involved in a second process, that with external Nature.

This process with external Nature can be understood as an expansion of the internal process. In a number of places Hegel draws attention to the destructive and oppositional aspect of this first process just discussed, pointing out that in dividing itself into a multiplicity of particular parts, the organism “converts itself into its non-organic nature,” that is, sunders itself into the fractured externality characteristic of non-organic matter.⁷² Though the organism sublates this self-generated externality in turn, reinstating its undivided unity, what is significant here regarding the organism’s process with external Nature is that already in the cycle of the organism’s internal process of formation there is the central dynamic of an opposition between the organism’s universality and the externality of its body as an object which it must sublata.⁷³ Whereas in the organism’s first, self-related process it contains its other within itself as a moment which it both produces and sublates, in its second process the organism encounters an other which has not resulted from its own internal activity, but confronts it in external, non-organic Nature.⁷⁴ Its inorganic environment stands

⁷¹ Hegel, G.W.F., Miller, A.V., Wallace, W. (2007). *Philosophy of Mind*. Oxford University Press. §381, Zusatz

⁷² Hegel, G.W.F., Miller, A.V. (2004). *Hegel’s Philosophy of Nature*. Oxford University Press. §346a, Zusatz

⁷³ Ibid. §359

⁷⁴ Ibid. §352, Zusatz

over against the organism as not only self-subsistent and independent of it, but a presupposed external condition and material upon which it finds itself dependent.⁷⁵

In the face of this dependence on and determination by external Nature, the organism does not, however, revert to the logic of the chemical body, which found itself intrinsically vulnerable to alteration by external causes, its every determination subject to change, and therefore its nature cast into the relativity of being but one stage or part of an overall process. The reason life does not suffer the same fate is that, as we saw above in the organism's internal process, the organism already has its other within itself, both enduring and resolving the contradiction which the inorganic cannot withstand. The organism's being is not tied up with its particular determinations, vulnerable to both internal and external alteration, but with a negative universality, the alteration of the particularities of which is part of its own continual process of self-production.⁷⁶ Instead of being destroyed in the encounter with its negative, the organism preserves itself against inorganic Nature, sublating this externality by assimilating it into itself.⁷⁷

In the chemical process the independence of the two sides confronting each other was sublated, each reduced to relativity. But the living being "proves itself to be what overgrasps its other, which cannot resist its power", and so in its process with its inorganic other "the living being only comes together with itself."⁷⁸ Indeed, Hegel comments that it is characteristic of life that "it always inhibits the reality of the other and transforms it into its own self."⁷⁹ Interpreters such as Pinkard have given the organism's relationship with inorganic Nature a less violently negative shading, casting the organism's environment as an exteriority to its inward unity which it requires in order to set limits against which its own existence can be demarcated and determined.⁸⁰ However, in inorganic Nature the organism does not find only a counterpart against which it

⁷⁵ Ibid. §§357, 359

⁷⁶ Ibid. §§336, Zusatz; 337, Zusatz

⁷⁷ Ibid. §357, Zusatz

⁷⁸ Hegel, G.W.F., Geraets, T.F., Suchting, W.A., & Harris, H.S. (1991). *The Encyclopaedia Logic: Part I of the Encyclopaedia of philosophical sciences with the Zusätze*. Indianapolis: Hackett. §219, Zusatz

⁷⁹ Hegel, G.W.F., Miller, A.V. (2004). *Hegel's Philosophy of Nature*. Oxford University Press. §337, Zusatz

⁸⁰ Pinkard, T. *Hegel's Naturalism: Mind, Nature, and the Final Ends of Life*. 2012. Oxford University Press. p.24

may measure itself, but is confronted by a necessary dependence from which it cannot extricate itself. This presents a 'defect' in the self-subsistence of the organism which it must continually negate⁸¹ through "the annihilation of the Other."⁸²

Earlier we saw that Spinoza affirms that things strive for self-preservation but denies that this is a feature particular to the organic. Rather, this striving, or *Conatus*, is necessary and universal to all things. Organic bodies may be more capable of exerting their *Conatus* over against most inanimate bodies, but Spinoza suggests this is a distinction of degree, owing to the relative complexity of living things, and not indicative of a qualitative distinction between the organic and inorganic.

In contrast, Hegel makes explicit in his introduction to the *Philosophy of Mind* that "this self-preservation is the privilege of the living thing."⁸³ Spinoza might object at this point that surely there is an element of self-preservation in the elasticity discussed near the outset of physics, in the sense that this is a certain cohesion of material parts that resists destruction by external force, reinstating its identity over against the momentary negation of its spatiality. However, from the Hegelian perspective, in the organism an explicit *self* emerges that is qualitatively different from the forms of identity found at earlier stages of Nature. The organism does not manifest its identity only in reaction against the action of its other (as in elasticity), nor only in its relative relation to its other (as in the chemical process), but itself produces and contains its other within itself and, through this process, actively and continually forms itself.

Indeed, Hegel suggests the organism's containing and enduring contradiction within itself constitutes the first emergence in Nature of the subjectivity which will come into its own more fully in the sphere of Mind or Spirit. The development of this subjectivity, infinite because it is not limited by its other but contains it sublated within itself, represents a radical qualitative advancement in the development of Nature over against its merely finite inorganic formations. In the form of sensation, the organism's "finding of self in

⁸¹ Hegel, G.W.F., Miller, A.V. (2004). *Hegel's Philosophy of Nature*. Oxford University Press. §359, Zusatz

⁸² Hegel, G.W.F., Miller, A.V., Wallace, W. (2007). *Philosophy of Mind*. Oxford University Press. §381, Zusatz

⁸³ Ibid.

self,"⁸⁴ its omnipresence in its every member, allows a bodily self-feeling which wholly sublates spatial asunderness. This is not omnipresence as an infinitely multiple spatial presence in every point of the body, which would of course remain subject to spatial asunderness. "The self is ideal, is not poured out and immersed in materiality,"⁸⁵ but rather a singular, undivided self-feeling owed to the omnipresence of the unity of the animal in all its members.⁸⁶

Hahn has also noted the connection between Spinoza's *Conatus* and Hegel's conception of organic self-preservation, suggesting that Hegel's theory of the organism's activity and the dialectical progression of Nature in general represent a 'translation' of the blind striving of the *Conatus* into a rational drive to self-preservation and self-determination.⁸⁷ In reading Hegel's conception of self-preservation as a specification or further development of the *Conatus*, however, Hahn overlooks the key differences in these positions. Whereas for Spinoza the body's self-preservation is its power to affirmatively maintain the particular ratio of motion and rest that constitutes its nature, Hegel emphasises negativity as the principal condition and driver of self-preservation. Although Spinoza holds the body's power to be finite, and thus it may be overcome and the body destroyed by external causes, nonetheless the body's self-preservation involves no internal or external opposition or negation. The body's self-preservation is not a preservation intrinsically and explicitly *against* some external power, let alone against an internal particularity that must be continually sublated, but is simply an expression of its positive power of existence, a power universal and intrinsic to all things.

In contrast, Hegel argues that organisms preserve themselves not just by being and striving to be what they are – and not just, as in elasticity, by resisting the pressure of external bodies – but by binding together into a negative unity the different, and in some ways conflicting, aspects of their own identity. The organism's process of formation is one of continual internal negation, both negating its unity through its self-differentiation into organs and negating the

⁸⁴ Hegel, G.W.F., Miller, A.V. (2004). *Hegel's Philosophy of Nature*. Oxford University Press. §337, Zusatz

⁸⁵ Ibid. §351, Zusatz

⁸⁶ Ibid. §339, Zusatz; Hegel, G.W.F., Miller, A.V., Wallace, W. (2007). *Philosophy of Mind*. Oxford University Press. §381, Zusatz

⁸⁷ Hahn, S. (2007). *Contradiction in Motion: Hegel's Organic Concept of Life and Value*. Cornell University Press. pp.22-23

subsistence of these parts in their sublation back into this organic unity. The organism's internal negativity thus preserves its being against the cessation of the process which constitutes its life, sustaining its activity in a way the chemical process could not. This sustaining of the organism through its internal negativity also allows its preservation against destruction by external Nature. As was discussed above, whereas the independence of bodies in the chemical process was sublated through their encounter and reaction with each other, leaving only the overarching process itself as implicitly enduring, the organic body is itself explicitly this negative unity in process, producing and sublating its particular determinations. The encounter with its other in external Nature does not destroy the organism, for the organism is itself a continual process of producing and sublating its other within its own self. Rather, the organism's internal negativity allows its self-preservation through the sublation of this external other.

Thus, the negative internal dynamic of contradiction which is never permitted to arise in Spinoza's system, because a body must always either maintain its ratio of motion and rest or lose it upon contact with another body, preserving itself or being destroyed in binary fashion, is precisely what makes self-preservation possible for Hegel. From a Hegelian perspective, Spinoza's subsumption of the organic within his positive and mechanistic view of Nature prevents him from giving an adequate account of the qualitative specificity of the organic, both in terms of its general distinction from inorganic Nature and more specifically with regard to its explicitly negative internal structure and relationship with its inorganic environment.

So far we have understood the organism as the concrete universal of its organs, both actively producing itself as these multiple parts and sublating them back into unity. In the third process of the organic, Hegel turns to consider that the organism as a whole, thus understood, has in fact only been conceived abstractly. The organism has been but a posited immediacy in the sense that, as a singular material existence, it does not yet show itself as the product of a concrete process.⁸⁸ In response to this, it might be tempting to suggest that external, inorganic Nature can be put forward as producing the organism and thereby fill in this gap. However, this would be to revert to the structure of chemistry

⁸⁸ Hegel, G.W.F., Miller, A.V. (2004). *Hegel's Philosophy of Nature*. Oxford University Press. §346a, Zusatz

already sublated by the organic. The universal in Nature can no longer be understood to manifest itself in a fractured series of external, contingent processes, but as an existent unity. The singular organism cannot therefore be coherently conceived as the contingent product of inorganic Nature, but must itself be sublated within a further organic universality, which Hegel terms its 'genus,' of which the organism is but a particular manifestation and product.⁸⁹ The organism, conceived apart from its universality in the genus, is but an abstraction, for just the same reason as the organ conceived apart from its organism.

Much like in the case of the individual organism's process of formation, the genus-process involves a self-mediation in which the genus undergoes diremption into individuals and then sublates this difference, establishing its concrete unity.⁹⁰ The genus-process has three forms, the first two of which fail to give the genus existence as a concrete universality and fall back into the singularity of individual organisms and species. Firstly, in the sex-relation individual organisms reproduce themselves as another individual of the same genus, and the genus sublates this singularity through the continual negation of the organisms as they propagate and replace themselves.⁹¹ However, this process can only get as far as a "spurious infinite progress"⁹² in which the genus brings forth further singular organisms. The genus never achieves its existent unity in this series, but only implicitly, or in principle. To borrow one of Hegel's examples, the development of a plant results in a seed like that from which the plant itself began. However, the seed produced is, of course, not identical with the one that ultimately produced it, and so although the universality of the genus is implicit in this "self-contradiction-into-one of the beginning with the end," nonetheless this process does not reach the point of manifesting an explicit, existent universal, but only a series of individuals.⁹³

Secondly, the genus particularizes itself by dividing itself into species, which act as mutually opposed individuals, preserving themselves through the negation of each other just as the individual organism preserves itself in the

⁸⁹ Ibid. §366

⁹⁰ Ibid. §371

⁹¹ Ibid. §§367, Zusatz; 348, Zusatz

⁹² Ibid. §369

⁹³ Hegel, G.W.F., Miller, A.V., Wallace, W. (2007). *Philosophy of Mind*. Oxford University Press. §379, Zusatz

negation of inorganic Nature.⁹⁴ However, just as in the propagation of individual organisms, the universal remains only implicit in this proliferation of species, each of which remains inextricably determinate, finite and particular, as well as subject to the contingent influence of external Nature, both organic and inorganic.⁹⁵

As borne out in the first two forms of the genus-process, the externality which is the fundamental determination of the natural sphere means the organism remains inextricably opposed to universality and thus cannot give existence to a reality corresponding to the genus.⁹⁶ In the third form of the genus-process, the genus realizes itself through the death of the organism. Though the organism may contingently perish from a myriad of causes, the intrinsic necessity of its demise, its "*original disease and the inborn germ of death,*" comes from the disparity between its one-sided finitude and the universality of the genus in which its actuality lies.⁹⁷

The realization of the genus requires the death of the individual organism because the organism belongs to the genus (and indeed the unity of the genus is the organism's reality in the same sense that the unity of the organism is the reality of its organs) but the organism, being an *individual*, is intrinsically unable to instantiate its genus *as universal*. The genus exists as the negation of the individual because it cannot realize its existence as a universal while spread across an infinity of external individuals. The genus must go from being an implicit unity to an explicit, existent universal⁹⁸, but the universality of the genus, in becoming explicit, at the same time makes the singularity of the individual organism explicitly finite and incompatible with the unity of the genus.⁹⁹

Hegel characterizes the life of the individual organism as consisting in its "being self-related in its self-distinguishing." However, in the realization of the genus, which requires the identity of the organism with it, the individual organism "is thereby degraded to being no longer immediately for itself, but only through negation of its immediacy."¹⁰⁰ That is, the singular, self-related

⁹⁴ Hegel, G.W.F., Miller, A.V. (2004). *Hegel's Philosophy of Nature*. Oxford University Press. §§367, Zusatz; 370

⁹⁵ Ibid. §370, Remark and Zusatz

⁹⁶ Ibid. §§374; 376, Zusatz

⁹⁷ Ibid. §375

⁹⁸ Ibid. §367

⁹⁹ Ibid. §375

¹⁰⁰ Ibid. §349, Zusatz

individuality of the organism which constitutes its life is incompatible with the realization of its identity with the universal, in which the organism is explicitly the manifestation of this universal.

The objects of finite, inorganic nature may contingently be destroyed, but a stone, though turned to dust, does not *die*. The organism dies and its death is wholly immanent to it because, unlike the stone which is destroyed by its contradiction, the organism exists through its process with its contradiction. Hegel stresses that the genus does not destroy the individual externally as a foreign power over it, but rather the individual organism is subject to the internal disharmony of its individuality and its belonging to the genus as its universal which is at the same time, in its realization, the organism's dissolution as individual.¹⁰¹

The necessity of the organism's death exhibits the inverse side of the logic of natural finitude we discussed above in relation to self-preservation. Whereas for Spinoza things preserve themselves through their positive power of existence and can only be destroyed by external causes, for Hegel the finite is internally and intrinsically vulnerable in its very nature, and in the case of the organism death is not a mere accidental cessation of being, but the destined realization of its logic. Though viewing the living organism as "the supreme mode of the Notion's existence in Nature,"¹⁰² Hegel at the same time contends that the living creature is condemned to death by the immanent necessity of its own nature.

This is a conclusion unthinkable within Spinoza's system, since it is central to the concept of the *Conatus* that no thing may contain its own negation. As Carriero points out, the *Conatus* doctrine clearly commits Spinoza to understanding the death of organic bodies as something that happens to them and not part of their own active process.¹⁰³ However, the example of life highlights the general pattern exhibited throughout our examination of Hegel's *Philosophy of Nature*, from space to the organism, that the internal negativity which is absurd to Spinoza is to Hegel the immanent driving force of all things. From the Hegelian standpoint, this negative dialectic has both accounted for the

¹⁰¹ Ibid. §371, Zusatz

¹⁰² Hegel, G.W.F., Miller, A.V. (2004). *Hegel's Philosophy of Nature*. Oxford University Press. §376, Zusatz

¹⁰³ Carriero, J. (2017). 'Conatus'. In Melamed, Y. (Ed.), *Spinoza's Ethics: A Critical Guide*. Cambridge University Press. p.154

content available to Spinoza's thought and gone beyond its conceptual scope. In the case of life, negativity both provides the organism with the self-preservation Spinoza conceives through the *Conatus* but also drives the organism to a self-necessitated death which is not only intrinsic to life, but in fact the movement of its self-realization.

Though Hegel pays little to no attention to it in his surviving commentaries, the *Conatus* crystallizes a core divergence between his thought and Spinoza's. As Macherey expresses particularly well, for Hegel, "not only can contraries exist easily in the same subject, but it is this same unity of contraries that constitutes the nature of the subject, as such, insofar as it is the living and autonomous process of its own development."¹⁰⁴ From a Hegelian perspective, Spinoza's expulsion of internal negativity from both individual things and Nature as such renders him unable to think through their immanent dialectic, restricting Spinoza's view of Nature to the absolutely positive causality of Substance.¹⁰⁵

Looking back to chapters seven to nine, it was argued there that Hegel can demonstrate the necessity of Nature's existence and the determinations of mechanics through the development of the Idea's immanent negativity. From a Hegelian standpoint, this puts strong pressure on the deficiencies of Spinoza's ability to account for the necessity of Substance's existence as Extension, motion and rest, and finite bodies.

In this chapter we have shown that the further progression of this immanent negativity leads to an account of material Nature which both includes the determinations of Spinoza's philosophy of extended Nature, but also goes on to demonstrate that the logic of matter drives it beyond the mechanistic standpoint Spinoza occupies. It was argued in chapters four and ten that Spinoza takes a 'uniform' view of extended Nature, arguing for a strictly mechanical model which explains the diversity of its formations purely through quantitative variation in the complexity of the patterns of motion and rest which constitute all bodies. Taking life as one example, insofar as Spinoza recognizes this as a distinct philosophical category, the organic can only be distinguished from the inorganic

¹⁰⁴ Macherey, P. (2011). *Hegel or Spinoza*. University of Minnesota Press. p.170

¹⁰⁵ Ibid.

by quantitative differences in the ratio of motion and rest found in organic bodies and has no qualitatively distinct structures or processes.

In contrast, it has been argued that Hegel shows that the Idea as Nature continually develops qualitative differentiation through its immanent negativity, repeatedly sublating its growing richness of content into more developed unities. Further, this dialectic does not merely develop new determinations as if adding them to a growing list. Rather, each permutation both demands a reconfiguration of its antecedent categories and, particularly in the sphere of Nature, itself exists in relationship with these. From a Hegelian standpoint, the affirmation of the role of negativity and the tension of internal contradiction in Nature enables us to recognise not only the qualitative distinction of the organic from the inorganic, but also more specifically the organism's particular internal structure, its relation to inorganic Nature, and the necessity of its death.

Summed up very briefly, the preceding discussion of the key dialectical movements in the *Philosophy of Nature* implicitly contains the critique that Spinoza's mechanistic conception of extended Nature is insufficient to account for the qualitatively differentiated stages and forms brought about by Nature's necessary self-development. The mechanical structures discussed by Spinoza are, from the Hegelian standpoint, undoubtedly real and indispensable to any coherent account of material Nature. Further, at no stage does the development of Nature Hegel argues for leave behind motion and rest. However, though motion and rest is necessary to it, Hegel's Nature is not reducible to motion and rest, and Nature's mechanical existence constitutes but the first of its stages of self-development. Indeed, the very logic of mechanics leads it to its necessary sublation within the more developed structures that follow. This, at least, is the Hegelian view as it has been understood here. A Spinozist response must be left to future work.

Chapter 12 – Conclusion

As was argued in the introduction, if someone wishes to side with the philosophy of the Idea over Substance, this cannot be based solely on Hegel's direct remarks in the *Lectures on the History of Philosophy* and elsewhere, which can provide only a broad indication of the central themes of a full Hegelian critique of Spinozism. Rather, from a Hegelian perspective, the demonstration that the Absolute is Idea can only consist in the Idea's concretely *showing* itself to be the Absolute, and therefore *showing* itself to be the One that is Logic, Nature and Spirit. The resources for the full Hegelian critique of Spinoza's philosophy, which Hegel himself only sketched in his direct remarks, thus lie in the developed Hegelian system including Nature and Spirit. Such a critique would also have to engage with the full range of Spinoza's thought and recognise where Hegel fails to do justice to the latter. Through its limited exploration of Hegel and Spinoza's philosophies of Nature, this study has sought to take the first step in this expansion of the current scholarship.

This study has not attempted a comprehensive comparison of Hegel and Spinoza's philosophies of Nature, nor a defence of the detail of Hegel's explicit remarks on Spinoza. Rather, this study has simply sought to show that the exploration of Hegel and Spinoza's philosophies of Nature – that is, of *extended* Nature in Spinoza's sense – yields a more compelling critique of Spinoza's thought than either Hegel himself or commentators have recognised. More specifically, this study has aimed to show that Hegel's philosophy of Nature, through its demonstration that the Idea immanently develops the richness of content of the natural world from itself in a way not possible for Substance, provides resources for a fruitful and compelling critique – at least from a Hegelian point of view – of Spinoza's account of extended Nature. In this way, it has been possible to acknowledge the shortcomings of Hegel's reading of Spinoza, as pointed out by Macherey and Melamed among others, while still arguing forcefully for the absolute idealist position.

The originality of this study's approach does not consist, therefore, in its identification of the already well-known importance of the issues of determinacy

and negativity to Hegel's critique of Spinoza. Rather, what is original is its focus on material Nature. This is an aspect of the Hegel-Spinoza relationship thus far neglected by scholarship, but which has been argued in this study to present a promising new avenue for the Hegelian response to Spinoza and more recent Spinozist commentators.

This study has argued that, in the context of the philosophy of Nature, the Hegelian critique of Spinoza takes at least two major interrelated forms. The first of these centres on the issue of deriving the existence of material Nature as such and its fundamental determinations from the Absolute. As was argued in chapters three to five, despite the work led by Macherey and Melamed to clarify Spinoza's position, Hegelian questions regarding the development of determinacy within Substance's absolute unity remain pressing. Specifically, it is difficult for Spinozism to provide a satisfying explanation, firstly, as to why Substance should necessarily exist in the attribute of Extension, or in other words, why material Nature should necessarily exist, as well as, secondly, why infinite Substance must necessarily express itself as an infinity of finite modes, and thirdly, why Extension must necessarily exist as motion and rest.

This study then endeavoured to show that Hegel is not limited to merely pointing out these deficiencies in Spinoza's philosophy but can overcome them within his own system. An interpretation of the conclusion of Hegel's *Science of Logic* was constructed in chapter seven which demonstrates that the immanent negativity of the Idea drives it to exist necessarily as Nature, which is derived by Hegel as the *self-externality* of the Idea. In chapter eight it was shown that this free release of the Idea into self-externality as Nature brings about a structural reconfiguration in the Idea in a manner which has no analogue in Spinoza's conception of Substance as Extension. The sundered relationship of universality and particularity found in Nature distinguishes this phase of the Idea's self-development from its existence as Logic, with important consequences for the structure of the natural world. Building on this, in chapter nine it was shown that, by following through the negativity of the Idea, Hegel's dialectical account of mechanics can provide a continuous and immanent development from the abstract self-externality which commences the sphere of Nature, namely space, through to time, matter, motion, and the concrete union of these in gravitational systems of free motion.

The second major divide explored in this study concerns the broader picture of material Nature which these philosophers construct. In chapters four and ten an interpretation of Spinoza was argued for which reads him as taking a strictly mechanical view of extended modes, according to which every formation of material Nature is explained through quantitative variation in the complexity of patterns of motion and rest. Though conceptually simple, this account of extended Nature has an explanatory power which leaves no question that Hegel was mistaken simply to dismiss this aspect of Spinoza's thought.

However, in chapter eleven it was demonstrated that, although Hegel neglects Spinoza's account of material Nature in his direct commentaries, his *Philosophy of Nature* provides a strong critique of any purely mechanical conception of the natural world, arguing that, for Hegel, Nature necessarily develops through *qualitatively* different stages. The existence of Nature as a system of motion and rest constitutes but the first of the major phases of its development, and the very logic of this mechanical conception of the natural world drives it to sublate itself within the more developed and qualitatively distinct structures of physical, chemical and organic Nature. The dialectical negativity of Nature's necessary self-development thus leads it beyond the conceptual scope of Spinoza's mechanistic picture dominated by quantitative determinacy. This, at least, is how the matter looks to Hegelian eyes.

Some limitations to what it has been possible to show in this study should be borne in mind in drawing conclusions from the preceding investigation and considering the avenues for future research opened up. Firstly, as was indicated in the introduction, this study as a whole has had a Hegelian perspective and focus, giving considerably more space to the consideration of Hegel's philosophy of Nature and the way this puts pressure on Spinoza's view of the natural world. Though care has been taken to present a reasonable interpretation of Spinoza's position, and one which resists Hegel's misreading of certain aspects of his thought, it is not suggested here that this study presents the last word on *any* of the issues discussed. Indeed, a natural avenue for expansion on the approach taken by this study would be a consideration of what Spinozist rejoinder might be possible to the more developed Hegelian critique constructed in this work. This might, for example, investigate whether there are resources within Spinoza's thought, overlooked in the preceding discussion, with which to provide a more

satisfying account of the necessity of Substance's existence as Extension, finite modes, and motion.

In order to keep the aims of this study manageable within the space available it was also chosen to limit the discussion of Spinoza's thought to the attribute of Extension. Although, as was argued in chapter four, this focus on Extension does not introduce incoherency into Spinoza's system, nonetheless this choice does give a Hegelian shading to the notion of Nature explored in this study. The investigation of Spinoza's conception of Thought as an attribute parallel to Extension, both of which are equally an expression of Nature in the broader Spinozist sense, and the comparison of this with Hegel's account of material Nature's self-transformation into the selfhood and subjectivity of Spirit, represents a logical direction for the project begun by this study.

As well as the broad issue of the relation of mind and Nature as such, the relation of fully self-conscious minds to Nature implicates questions of ecology and Nature's moral status or lack of it, issues of growing interest in Spinoza scholarship¹ which might productively be brought into dialogue with Hegel's account of Nature's relation to Spirit.

These questions (and more) all need to be investigated in detail if we are to come to a comprehensive understanding of the relation between Hegel and Spinoza. This, however, is work for the future.

¹ De Jonge, E. (2016). *Spinoza and deep ecology: challenging traditional approaches to environmentalism*. Routledge.; De Lucia Dahlbeck, M. (2018). *Spinoza, Ecology and International Law: Radical Naturalism in the Face of the Anthropocene*. Routledge.

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