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Does Nature Stay What-it-is?: Dynamics and the Antecendence Criterion

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> No analysis whatsoever… is possible without synthesis, and thus it is easily possible, in fact, to derive the original force of attraction from the mere concept of matter, once the concept has first been synthetically produced. One should not, however, believe it is possible to derive this force from a merely logical concept of matter… according to the principle of non-contradiction alone. For the concept of matter is itself, by origin, synthetic; a purely logical concept of matter is meaningless, and the real concept of matter itself first proceeds from the synthesis of those forces by the imagination.
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> —Friedrich Schelling[1]

The following essay[2] erupts from the middle of a problem: whether the nature of Ground can be exhaustively satisfied by the Principle of Sufficient Reason (hereafter 'PSR'). In one sense, the problem concerns the relation between logical and real grounds, and assuming the two not to be completely reversible in the Hegelian manner ('the real is the rational and the rational is the real'), what exactly this distinction consists in. If, for instance, this distinction maintains that there is a difference between logical and real grounds, then in what sense can the former be regarded as 'grounding' at all? If, by contrast, the distinction is made at the level of the extension of logical and real grounds, then although what Spinoza's *Treatise on the Emendation of the Intellect*[3]

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1. Friedrich Schelling, *Ideas for a Philosophy of Nature*, trans. Errol E. Harris and Peter Heath, Cambridge, Cambridge University Press, 1988, pp. 187-188; and Friedrich Schelling, *Schellings sämmtliche Werke*. XIV vols, vol. II, Stuttgart and Augsburg, J.G. Cotta, 1856-61, p. 235.

2. This is a much revised and augmented version of the paper I read at the Bristol *Speculative Realism* workshop, held at the University of the West of England on 24 April, 2009.

3. 'It is in the nature of a thinking being… to form true and adequate thoughts'. Baruch Spinoza, *Ethics, Treatise on the Emendation of the Intellect and Selected Letters*, trans. Samuel Shirley, Indianapolis, Hackett, 1992, p. 252.

identifies as the 'natural' contact of thinking with being is maintained, logical need not exhaust real grounds, nor the latter the former. In other words, ground could exceed the satisfaction of reason, or reason exceed its grounding in the real.

A second dimension of the problem emerges when material grounds are added to the mix, insofar as the problem is then affected by an additional possible non-equivalence, this time between the real and the material. If the extensions of the real and the material are non-equivalent, then either there is more to the real than the material, or more to the material than the real. The former case holds matter to be non-fundamental in some manner, due either to some dualist imperative, or to some field-theoretical naturalism that holds matter to be a regional state of the physical. To argue in the other direction that there is more to the material than the real makes the real identical in extension to the actual, while making the material into the possible, and the possible into the material, so that the 'boundless sea of diversity' inflects ground with ceaseless mobility.

Amongst the various reasons why this problem is a problem for contemporary philosophy, I will mention three as the immediate contexts for this intervention. Firstly, there is Quentin Meillassoux's thesis that contingency is the only necessity, according to which there is no single reason for what exists and how it exists. Apparently a denial of the PSR, Meillassoux's claim is in fact expressly designed to satisfy it, albeit paradoxically.[4] Yet the character of the question is irrevocably altered if it is asked what grounds any particular satisfaction of the principle; or again, as Meillassoux notes,[5] what necessitates contingency in nature. Now this recursivity or regress might be held to afflict any putative satisfaction of the PSR; but it indicates that although the PSR is logically satisfied, it is not, nor can it be, really or materially satisfied by reason alone.

The second reason concerns the dispute regarding groundedness that has arisen in the contemporary philosophy of nature. This has arisen due to the majority habit amongst contributors to that field of considering the powers they theorize as dispositional properties. The problem is, if powers are grounded as the properties of substances of whatever nature, the ontology becomes dualistic, comprising powers irreducible to substances and substances without powers as inert substrata for them, but with no account of a *vinculum* to bond them. Accordingly, some have argued for the ungroundedness of powers, leaving a one-tier ontology with powers all the way down. This is a spectacular replay of Schelling's theory of *Potenzen* on the one hand, but also of a speculative tradition derived from John Locke's powers metaphysics, on the other, and best exemplified by Whitehead's reworking of the Lockean theory of powers in *Process and Reality*.

The third reason concerns the philosophy of matter. Rather than wasting time complaining about those contemporary philosophers who call their models 'materialist' on the wholly spurious grounds of the experiential ubiquity of the elements so christened, I maintain that this is a problem that organizes the core tasks of the philosophy of nature. The dualism of atoms and force that lay at the core of Newtonian mechanistic materialism, and which is evident in the 'grounded' powers theorists in the philosophy of nature noted above, attests to an unresolved problem as regards the metaphys-

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4. See Quentin Meillassoux, *After Finitude*, trans. Ray Brassier, London, Continuum, 2008. For his exchange with me on the subject of the principle of sufficient reason, see the transcript of the London *Speculative Realism* workshop, in Ray Brassier, et al., 'Speculative Realism', *Collapse*, vol. 3, 2007, pp. 443-444.

5. Brassier, Ray, Iain Hamilton Grant, Graham Harman, and Quentin Meillassoux, 'Speculative Realism', *Collapse*, vol. 3, 2007, 2007, p. 444.

ics of matter, namely, the conception of an inert, underlying substance. This remains unresolved because of the difficulty of conceiving of matter as anything other than the ground on which all things rest; in other words, because of the insistence on thinking matter in terms of the concepts by which Aristotle theorizes substance. Matter, that is, is the ultimate ground supporting each stratum of being. It is on this basis, for example, that it is possible to argue that existents and their supposed properties may be edited from our ontologies on the basis of whether or not they are material or not. The paradoxical dualism inherent in the ontology of the eliminative materialist that I noted at the 2007 Speculative Realism workshop, stems precisely from this conception; ultimately, however, all eliminativisms, whether materialist or idealist, derive from either the concept of substrate or superstratum, depending on which way round dependency is conceived. Only if materialism is regarded as an ontological thesis, rather than a place-holder within the epistemological concerns of the philosophy of science,[6] or as a precursor for an ethico-political project,[7] do the true dimensions of the problem emerge: if materialism is true, nothing is not material. It is this thesis that has led Galen Strawson to advocate a 'real materialism' that, for example, entails panpsychism[8] but also, unfortunately, to deny materiality to abstracta such as numbers and concepts. Yet there is a problem with this claim, not least because this is precisely what Leibniz designed the PSR to do: to enable the 'ascent' from the contingent physical world to the eternal order of reasons, and thus to include each in the other. Should materiality be withdrawn from one region of being then materialism, as defined above, is not true. Hence, for instance, Plotinus' assertion that in the Intelligible World, 'there is matter there too',[9] namely, 'the substance of the Ideas in general'.[10]

Conceived as an ontological problem, the role of matter would be equivalent to that of ground. The philosophical position for which matter grounds beings is a naturalistic materialism. Yet any appeal to self-evidence the equivalence of matter and ground may have enjoyed is shattered by the problems of the primordiality of matter with respect to energy which, although overt in Plato, were only introduced into physics in the mid-nineteenth century, and much amplified in the twentieth. If, for example, 'material states' are regional turbulences in flows and counterflows of energy, then 'matter' can no longer maintain its ontological role as ground—the basis of beings—while 'ground', by contrast, has nothing substance-like about it, but consists instead of powers. An anti-naturalistic materialism may then maintain that 'matter as

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6. Galen Strawson, in *Real Materialism and Other Essays*, Oxford, Oxford University Press, 2008, p.19, is prompted to an 'agnosticism' as regards basing our accounts of the nature of matter on the best available physics by the insuperable contingency of any scientific model thereof, and so rejects this epistemic constraint on the nature of matter.

7. Alain Badiou's *Logics of Worlds*, trans. Alberto Toscano, London, Continuum, 2009 provides exactly this analysis of the virtues of materialism, specifically conceived as a 'materialist dialectic' to make good the shortcomings of the 'democratic materialism' of bodies and languages as the most ubiquitous elements of experience. Noting that the elements of speech and animality are derived from Aristotle's analysis of the essence of the human being from the *Nichomachean Ethics* as present to its democratic variety, it is no surprise that the aim of the 'materialist dialectic' is to develop these 'material' elements of our being in order to answer the question 'What is it to live?'. As such, this sophisticated species of neo-Fichteanism amounts in fact to an ethics.

8. Strawson repeatedly notes a plausible non-distinguishability of his account of materialism from certain (although perhaps not German) idealisms (*Real Materialism and Other Essays*, pp. 23, 41). For his account of the panpsychist implications of 'real materialism', see pp. 53-74 of the same work.

9. Plotinus, *The Enneads*, trans. Stephen MacKenna, vol. 2, New York, Larson Publications, 1992, p. 4.

10. Plotinus, *The Enneads*, vol. VI, p. 6.

such' is characterized not by the ground-function, but rather by precisely its regionality, its finitude, with the consequence that there is no dualism inherent in superadding immaterials of whatever nature to an ontology that nevertheless accommodates matter. Materialism thereafter becomes the philosophy of finitude, or of macroreality,[11] and has nothing to do, therefore, with subatomic or relativity physics—or with physics at all—on the one hand, nor with the metaphysics of ground, on the other. Neither physical nor grounding, then, in what sense does such a materialism rely on 'matter' at all, rather than, for instance, on experience? Postponing for the present the problem of substance-or-power aspect-duality which, as Bruno noted in the late fifteenth century, characterizes the metaphysics of matter, it is rather the concept of ground that is too rapidly given up here. That ground may not be substantial does not mean that it cedes priority with respect to the grounded, which is henceforth the totality of the actual. To reject this latter view is to assert what we might call the antecedence criterion that attaches to ground.

Of course, antecendence can be maintained without reference to physicalism or naturalism, and 'ground' therefore considered as a formal rather than a material problem. This is the approach taken recently by Gunnar Hindrichs,[12] and which we will examine in what follows. Hindrichs provides a functionalist model of the operation of grounding, which amounts to asserting the equivalence of ground, act and form. Yet there is no reason why act is form only, rather than matter, unless matter is conceived as inherently inert, i.e. as non-act or nonactual in the manner common to Aristotle, St Augustine and Fichte, on the one hand, but also to the entire tradition stemming from the Newtonian duality of matter and force known as mechanistic materialism, and those contemporary philosophers who assert that if powers play any role in the metaphysics of nature, it can only be as the properties of some unnamed substance.

Prior to the substance model, there is also the dynamist conception of matter, as introduced into physics by Hans Christian Oersted in 1820,[13] but into philosophy by Plato. A dynamical conception of matter as ground therefore entails an extended reexamination of the potentiality-actuality couple in Aristotelian metaphysics, and in consequence, an extension of the somewhat limited scope of the modern concept of modality.

While, through Badiou and others, 'materialisms' enjoy a considerable and widespread contemporary press, unexamined at their core remains the nature of matter. Many materialisms are in consequence dependent, as we shall see, on a meontology, that is, on an eliminativism that transforms 'crude matter' into 'the essence of nonessence'. With regard to such 'materialisms', we agree with Heidegger's diagnosis that

11. d'Espagnat, Bernard, *Physics and Philosophy*, Princeton, Princeton University Press, 2006, pp. 274 ff.

12. See Gunnar Hindrichs, *Das Absolute und das Subjekt: Untersuchungen zur Verhältnis von Metaphysik und Nachmetaphysik*, Frankfurt, Vittorio Klostermann, 2008.

13. Oersted's experimental demonstration of electromagnetism was published in 1820 as 'Experimenta circa effectum conflictus electrici in acum magneticam'. Seventeen years earlier, however, in *Materialen zu einer Chemie des Neunzehnten Jahrhunderts* (Regensburg 1803), Oersted was already speculating about the unity of the forces of nature: 'The constituent principles of heat which play their role in the alkalis and acids, in electricity, and in light are also the principles of magnetism, and thus we have the unity of all forces which, working on each other, govern the whole cosmic system, and the former physical sciences thus combine into one united physics […]. Our physics would thus be no longer a collection of fragments on motion, on heat, on air, on light on electricity, on magnetism, and who knows what else, but we would include the whole universe in one system'. See Robert Stauffer, 'Speculation and experiment in the background of Oersted's discovery of electromagnetism', *Isis*, no. 48, 1957, pp. 33-50.

'materialism itself is simply not something material. It is itself a shape of mind',[14] which brings such materialisms into far closer proximity with even German Idealisms than Strawson[15] fears.

For such philosophies, materialism is that position which denies the possibility of any being-in-itself of matter. To the extent that what motivates such 'materialism' is the rejection of any preintentional or non-actuous existent, it is equivalent to a subjective idealism of a Berkeleyan stamp. What differentiates materialism from Berkeleyan immaterialism, therefore, is not matter as such, but matter only insofar as it is formed by activity. Matter not so formed is, 'almost nothing', as Augustine has it,[16] so act-materialism entails a meontology and a practical eliminativism with respect to matter as such, which procedure I have elsewhere called the ethical process. Accordingly, the antithetical relation of materialism to matter opens up the ontological problem of the relative primacy of matter (as 'mere' possibility) and activity in the determination of actuality, the struggle given form by Fichte's eliminativist calculus of activity's triumph over being. Because such an idealist gambit continues to underwrite materialist philosophies, it will be important for us to consider it in this paper from the naturalist perspective initially opened up by Fichte's own contemporaries in the natural sciences.

Yet there is a further, metaphysical objection to any ontological inquiry that takes 'matter' as its focus. This view suggests that 'matter', as contingent rather than necessary, can only belong to metaphysics, but has no place in ontology, now recast as the science of what necessarily is. An overt Cartesianism[17] opens up at this juncture, since the reason of being—the ground—need not, and therefore cannot, be supplied by matter.

The problem of what matter is involves two main paths of metaphysical inquiry. Firstly, the problem of substance and force, exemplified philosophically by Bruno's 'ambiguous' account of matter conceived as substance or as force; and physically by Michael Faraday's definition, 'the substance is… its powers'. The second path arises directly from this physical dimension, and concerns the problem of ground. The logical dimension of the problem concerns ground as 'reason-supplying' for being, or the satisfaction of the PSR. Yet the PSR, as Leibniz formulates it, embraces both physics and metaphysics. Asking after the ground of being in this sense entails asking both that the Principle be logically satisfied and that ground itself be explicated both in terms of the reason for being and its physical basis. Thus the problem of ground turns towards ontology, from which it turns back to matter. The inquiry into ground is therefore the metaphysical problem of matter, understood ontologically and physically; or, in other words, in terms of a philosophy of nature.

Yet naturalism, or some version of it, are not the only possible routes for the ontological explication of matter or of ground. (1) Field-theoretic physics and metaphysics supplant both the material and the naturalistic conception of ground. We shall

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14. Martin Heidegger, *The Principle of Reason*, Bloomington, Indiana University Press, 1991, p. 199. Lilly's translation gives 'mind-set' for Heidegger's *Gestalt des Geistes* (p.122), thus obscuring its echo of Hegel's *Phenomenology of Spirit*.

15. Strawson, *Real Materialism and Other Essays*, p. 41.

16. Augustine, *Confessions*, trans. Henry Chadwick, Oxford, Oxford University Press, 1998, XII.8.

17. And Aristotelianism, from which the ascription of relative not-being to matter stems. cf. *Metaphysics* IV,4, 1007b27-9 (Aristotle, *Metaphysics*, trans. Hugh Tredennick, Cambridge, Harvard University Press, 1961-62) where, speaking of Anaxagoras' 'panchrematism', he writes, 'they are speaking of the indeterminate; and while they think they are speaking of what exists, they are really speaking of what does not; for the Indeterminate is that which exists potentially but not actually'.

see this in Fichte's attempt, following Kant's self-confessed failure, pursuing a force-theoretical physics, to ground the basic forces of a dynamic nature, to ground them not in being at all, but in a 'meontology' of acting. (2) anti-naturalistic conceptions of ground have found their way again into recent speculative philosophy, in Meillassoux (despite appearances), and in Gunnar Hindrichs, whose *Das Absolute und das Subjekt* involves a highly developed account of a denatured, logical conception of ground that in many ways follows from Kant's reconception of ground as 'ground of possibility', yet leaves the nature of possibility—of potency or power—unexamined. As we shall see, Hindrichs' account attempts to make good on this Kantian deficit by replacing *dunamis* in logical space alone, an approach he shares with much contemporary modal metaphysics.

Common to both these approaches is the wresting of dynamics from nature, and the consequent ontological demotion of physis to a metaphysical option. In many ways, this is prepared for by Aristotle's accounting of physis as only one mode of being ('nature is only a genus of being'[18]). Dynamics becomes an activity henceforth considered antithetical to a dead nature, or inhering only in logical space. Both, then, involve the progressive abstraction of the PSR from its naturalistic beginnings: it is by means of this 'great principle', writes Leibniz, that 'we rise from physics to metaphysics'.[19] Now since beginnings are precisely what ground is supposed to furnish, such accounts of ground are in fact ungroundings of it. The dilemma for a naturephilosophical ontology arises precisely here: for ungrounding is exactly what a field-theoretic meta-physics entails, so any protest against the ungroundedness of anti-naturalistic accounts of ground would stand *ipso facto* against naturalistic field-theoretic accounts in turn. The alternative, therefore, with its intuitively comforting advantages, is to return the problem of matter to a substance-metaphysical basis. It is the near inconceivability of matter without substantial being that prompts Bruno's ambivalent (and Aristotelian, all his ascerbic protestations to the contrary) oscillation between matter and force.

The Platonic alternative of conceiving being as power (*Sophist* 247e4), ungrounds the primacy of substance with respect to powers, whether at the level of possessing subjects, as in contemporary philosophies of nature, or at the level of mechanical materialism in general. What this does to the substance-basis of the problem of matter is what remains uninvestigated. As a prologue to a fuller investigation of the problem as a whole, therefore, I propose in what follows to investigate the relations between dynamics, matter and nature, on the one hand, and between the dynamics of reason and the operation of grounding, on the other. I treat of Fichte in the first part, since on the face of things, while self-presenting as the antithete to naturalism, Fichte's own adoption of dynamics has fascinating consequences as regards the naturalisms stemming from it. In the second part, I examine the recent attempt, by Gunnar Hindrichs, to reopen the problem of ground from the perspective of a dynamics inhering in reason alone, and inflecting only therefore logical space. Both, as we shall see, regionalize dynamics with respect to being as a means to eliminate dimensions of the problem of ground. The essay will conclude with an attempt to outline the antecedence that powers introduce across every dimension of the problem of ground.

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18. Aristotle, *Metaphysics*, 1005a35.

19. G.W. Leibniz, *Principles of Nature and Grace, Based on Reason*, in *Philosophical Essays*, trans. R. Ariew and D. Garber, Indianapolis, Hackett, 1989, §7.

DYNAMICS AND THE INACTUALITY OF MATTER IN FICHTE

> It is certainly not true that the pure I is a product of the not-I…. The assertion that the pure I is a product of the not-I expresses a transcendental materialism which is completely contrary to reason. —Fichte[20]

It is not easy to see why reason would be contradicted—why the law of non-contradiction would be violated—by the physical production and determination of apperception. Yet in keeping with the grounding of the *Wissenschaftslehre* in dynamics, Fichte's point is not merely that an I *is not* generated in this way, it is that *it cannot be so generated.* Nor is the point simply that an I cannot arise from what is not-I; it is rather that were it to be so considered, the result would be the contradiction, $I=(\neg I)$.

Yet the contradiction has not only a formal but also, as it were, a 'material' element. Fichte's contemporary Andreas Hülsen explains in the context of an essay on the *Bildungstrieb*, the 'formative force':

> It is necessary in itself that as certainly as we are generally active, we must in general also have an end for our activity. For a freely acting being, however, this end cannot lie outside self-determination […]. But if… we consider the phenomena of active life, then we must allow that contingency has a power over us, so indeed that our freedom cannot sustain the determination of this end […]. We confront this contradiction in the explanation of free activity in accordance with the facts of experience…. [21]

Here the material element consists in *experience*. In explaining this, Hülsen adds further information to our account of Fichte's rejection of transcendental materialism. The contradiction $I.\neg I$ expresses the encounter of the necessity of activity on the part of the I and the 'power of contingency' on the part of nature, which counters it. 'Experience' then consists in the encounter between the contingent and the necessary; that this necessity *can* be countered by contingency, however, further informs us that its nature is hypothetical: that is, for end *x*, action *p* is necessary. And the 'ground' therefore of this explanation can be afforded only by 'free activity' or '*selfactivity*'.[22]

Hülsen provides the formal contradiction of transcendental materialism and the I with material conditions. Yet Fichte's statement of the contradiction further develops the theme of 'material conditions'. The argument runs:

> $I \neq I$; therefore, the I is not *generated* from a not-I.

Fichte calls this error 'transcendental materialism' because the conditions under which it claims to supply the *generative* conditions of the I are material, physical, so that we may conclude: $(\neg I)$ = matter, goal-vitiating contingency. We may further conclude that it is not only the case that I $\neq$ matter, but *also that this applies all the way down*: the ground of the I is the I; that of matter, matter. Thus Fichte's claim of contradiction is not founded only on the formal difference $I/\neg I$, but also on the material difference between purposive activity and contingent vitiation *and* on the difference in the conditions of generation: transcendental materialism is an error—a contradiction—because in it, the causes of *being* are exchanged for the causes of *activity*.

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20. J.G. Fichte, *Some Lectures Concerning the Scholar's Vocation* (1794) in J.G. Fichte, *Fichtes sämmtliche Werke*, ed. I.H. Fichte, XI vols., Berlin, de Gruyter, 1971, VI, pp. 294-295, and J.G. Fichte, *Fichte. Early Philosophical Writings*, trans. Daniel Breazeale, Ithaca, Cornell University Press, 1988, p. 147.

21. August Ludwig Hülsen, 'Über den Bildungstrieb', in *Philosophisches Journal einer Gesellschaft Teutscher Gelehrten* vol.7 (1798). Cited from Martin Oesch, *Aus den Frühzeit des deutschen Idealismus. Texte zur Wissenschaftslehre Fichtes 1794-1804* (Würzburg, Königshausen und Neumann, 1987), pp. 99-101

22. Hülsen, 'Über den Bildungstrieb', cited in Oesch, *Aus den Frühzeit des deutschen Idealismus*, pp. 102-103.

Ultimately, it is the difference of being from activity (a distinction Hülsen denies it is possible to make) that drives Fichte's programme:

> the concept of being [*Seyns*] is by no means regarded as a primary and original [*erster und unsprünglicher*] concept, but merely as derivative, as a concept derived... through counter-position [*Gegensatz*] to activity, and hence as a merely negative concept.[23]

This is the ontological problem that grounds the contradiction of I and ¬I: whatever *is*, does not *act*; what *acts, is not*. The *Foundations of Natural Right* provides the next step in this division:

> on its own, nature... cannot really bring about change in itself. All change is contrary to the concept of nature[24]

Meanwhile, the final step is already overt in the 1794 *Wissenschaftslehre*: 'everything re-produces itself';[25] 'every thing is what it is'.[26] Fichte moves from material to formal, and then from formal to generative grounds, ceding generative power only to activity, not to being: production *is not*, but *acts*.

Of the many points of interest here, we single out four: firstly, Fichte provides an account of sufficient reason or ground that has hypothetical (dependent or con-ditional) necessity competing with contingency to determine the *nature* or *character* of actuality; secondly, that this ground is considered not only as a 'space of reasons' but also as a causal ground; thirdly, that it posits an epigenetic-inductive genetic proceedure involving the self-reproduction of the same (I from I, not-I from not-I) generating what may be called the *order of eternals*: if everything is what it is = re-produces itself, no thing has never come to be (contrary to the hypothesis of tran-scendental materialism), nor can it even cease to be—a 'thing' has such limited *po-tentia* that it *cannot even not be*, while its actuality consists in its always being what it is. Fourthly, there is here, contrary to appearances, a direct engagement with the problems of materialism; specifically, transcendental materialism is demonstrated necessarily false to clear the way for a formally generated, rationally grounded ma-terialist concept of causation whose necessity is hypothetical only. Transcenden-tal materialism is so-called because according to it, all of nature, including mind, is generated by and as a matter that self-transcends in becoming *other than it is*, and thus contradicting the order of eternals by which Fichte defines a nature to which change is contrary.

This was already explicit in *Concerning the Concept of the Wissenschaftslehre* (1794):

> The *Wissenschaftslehre* furnishes us with nature [1ᵉ: 'with a not-I'] as something necessary—with nature as something which, both in its being and its specific determinations, has to be viewed as independent of us. It also furnishes... the laws according to which nature should and must be observed. But the power of judgment still retains its complete free-dom to apply these laws or not...'[27]

We discover here that nature is 'necessary in its being and in its specific determina-tions', or rather, that the *Wissenschaftslehre* or 'theory of science' *furnishes* us with such

23. Fichte, *Fichtes sämmtliche Werke*, I, p. 499, and J.G. Fichte, *The Science of Knowledge*, trans. Peter Heath and John Lachs, Cambridge, UK: Cambridge University Press, 1982.

24. Fichte, *Fichtes sämmtliche Werke*, Vol. III, p. 115, and J.G. Fichte, *Foundations of Natural Right*, trans. Fred-erick Neuhouser, Cambridge, UK: Cambridge University Press, 2000, p. 105.

25. Fichte, *Fichtes sämmtliche Werke*, Vol. I, pp. 170-171, and Fichte, *The Science of Knowledge*, pp. 158-159.

26. Fichte, *Fichtes sämmtliche Werke*, Vol. I, p. 154, and Fichte, *The Science of Knowledge*, p. 154.

27. Fichte, *Fichtes sämmtliche Werke*, Vol. I, pp. 64-65, and Fichte. *Early Philosophical Writings*, p. 121.

a nature, which *must be viewed as* 'independent of us'. This sounds like a contradiction: the necessary being of nature and its specific determinations, is 'our' product that we must consider *not* to be 'our' product. but it is not a contradiction. Rather, the theory of science *supplies the formal ground* for the determination of the material: the determination of the power of judgment by a rule furnished by the a necessity that *must be considered* as proper to nature.

The clarity of Fichte's completion of Kant is evident by contrast with the following passage concerning nature from the *Jäsche Logic*:

> Everything in nature, in the lifeless as well as in the living world, happens in accordance with rules, even if we will never know these rules […]. All of nature in general is simply nothing but a continuum of appearances in accordance with rules, and there is simply no rulelessness.[28]

Fichte asks us not simply to consider how nature (or the not-I) is (ie, in its necessity), but rather how it 'should and must be observed' (in its multiple determinability), in which act of observation it becomes subject to final determination by the *free* power of judgment.[29] Necessity is, according to the *Theory of Science*, subject to determination because the power of judgment lies not in being but in acting (the material contradiction), in the positing that sets off myriad possible determinations of unlimited space: The theory of science furnishes us with space as something necessary and with the point as absolute limit. But it grants to the imagination complete freedom to place this point wherever it likes.[30]

The task of Fichte's *Science* is not simply to declare the priority of ethics over ontology, but rather to provide a method or a proceedure by means of which this is to be achieved. Hülsen's *material* contradiction becomes the formal ground for its solution: Considered as a reciprocal determination of the not-I by the I, acting strives to reduce being to zero, to the free point which is the permanently recoverable origin of free activity. Fichte's formalism designs and implements an operation that, in the free activity of the reduction of being, reacts on itself, recursively increasing the quantity of free activity in a determinable field consisting of quanta of being and activity. Hülsen summarizes:

> our activity stands in a necessary and immediate relation to nature. It is real contact. We are active in nature through our own free determination, and nature acts on us in turn, determining through our representations of its forces and ends our effectiveness in it…. The ends of nature must therefore correspond to our own, and its forces have their ground in one and the same principle as do ours.[31]

The theory of science, then, supplies formal *and* material grounds on the basis of which transcendental materialism is necessarily false, and supplants that transcendental materialism that would, paradoxically, determine the being of activity, with an ideal materialism, that will determine being *by* activity.

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28. Immanuel Kant, *Kants gesammelte Schriften*, Königlich Preussische Akademie der Wissenschaften, vols. XXIX, vol. IX, Berlin, Walter de Gruyter, 1902, p. 11.

29. Schelling was appalled: '[W]hat is, in the end, the essence of his entire understanding of nature? It is that nature must be employed, used, and that it exists no further than it is thus employed; the principle in accordance with which he views nature is economic-teleological: 'It must be thus', he says (that is, we must appropriate nature), so that human life gains freedom through its own freedom. Now for this it is necessary that one subjugate natural forces to human ends'. Schelling, *Schellings sämmtliche Werke*, vol. VI, p. 370.

30. Fichte, *Fichtes sämmtliche Werke*, vol. I, p. 64, and Fichte, *Early Philosophical Writings*, p. 121.

31. Hülsen, 'Über den Bildungstrieb', pp. 110-111.

It is precisely in this ideal materialism that Fichte's formalism acquires in turn a material ground, one moreover that unites the ideal and the physical:

1. Being, thought as Aristotelian substance, is supplanted by dynamics;[32] inert matter becomes 'the matter of reciprocity [*die Materie des Wechsels*]'[33] because 'the truth is that we cannot separate being from activity'.[34] This brought Fichte the support of medical researchers such as Andreas Röschlaub, Schelling's co-editor on the *Annals of Scientific Medicine* (1806-7), and erstwhile Brunonian;

2. Bodies in empty space become an abstraction, ultimately ethically determined, to be replaced by a field ontology. Both consequences together satisfy Faraday's formula towards field theories in physics: 'the substance is composed of its powers'. [35]

It is in this regard that Fichte's theory of science raises the question concerning the adequacy of a merely formal account of the problem of ground, and its separation from the material context of the problems of generation (causality), real contradiction (contrary pressures), hypothetical and natural necessity (the possibility or actuality of unconditioned necessity) and physicalism (the nature of substance).

While Fichte does indeed engage the problem of ground across these areas, the theory of science ultimately filters them through the lens of judgment, so that, with some modifications, 'the theory of judgment (apophantics) and the theory of being (ontology) coincide'.[36]

THE COINCIDENCE OF JUDGMENT AND BEING: OPERATIONAL LOGICAL SPACE

Hindrichs' excellent work, *Das Absolute und das Subjekt*, provides an innovative account of ground and grounding. As in Fichte, Hindrichs finds a formalism to accommodate the problem of genesis and ontology, and a concept of ground independent therefore of the elements of this formalism, although the latter is not expressly exclusive of a nature outside it. Unlike Fichte, Hindrichs is entirely unconcerned with any problem of materialism, so that the dynamics it involves has not even the faintest analogical relation to nature. As Hegel said of Kant, in Hindrichs, 'concepts remain contingent with respect to nature just as nature does with respect to the concepts'.[37] That his account of the *logical space* of the operation of grounding succeeds Fichte's will make clear the deficiencies of a formalism with respect to the problem of ground.

Hindrichs' starting point for the thinking of ground is a reassessment of Kant's refutation of the ontological argument as a positive account of the nature of the absolute. 'The concept of the absolute receives its true determination in Kant's critique of the ontological proof', and it is only now, he writes, that

32. 'The *Science of Knowledge* replaces Aristotelian metaphysics. The latter was the science of being as being. The science of knowledge is to be 'the pragmatic history of the human mind' [*WI*, p. 222; 1982, pp. 198-199]. This new conception of 'history', which is to be an 'experimental perceiving' [*WI*, p. 222; 1982, p. 199], is directed towards the grounding experiment with a new—unknown until then—dynamism'. Nelly Tsouyopoulos, 'Die neue Auffassung der klinischen Medizin als Wissenschaft unter dem Einfluß der Philosophie im frühen 19. Jahrhundert', *Berichte zur Wissenschaftsgeschichte* 1 (1978), p. 91.

33. Fichte, *Fichtes sämmtliche Werke*, vol. I, pp. 170-171 and Fichte, *The Science of Knowledge*, p. 159.

34. Hülsen, 'Über den Bildungstrieb', pp. 118.

35. Michael Faraday, *Experimental researches in Electricity*, vols. 3, vol. 1, London, Taylor, 1839, p. 362.

36. Hindrichs, *Das Absolute und das Subjekt*, pp. 174-175.

37. G.W.F. Hegel, *The Difference Between Fichte's and Schelling's System of Philosophy*, trans. Walter Cerf and H.S. Harris, New York, SUNY Press, 1977, p. 164.

> the ontological argument can be understood, now that it has been crushed. But the onto-
> logical argument was that argument that was to have led to the absolute. [… I]t therefore
> follows that only now can we understand the concept of the absolute. In Kant's critique it
> reached the end of its legitimate application and at the same time its ground.[38]

Whether for Hindrichs or the Classical German Idealists, the task for all post-Kantian
philosophers is no longer to supply an answer to the question: 'why are there beings rather
than nothing?', that is, to satisfy the PSR; it is rather to argue from the conditioned to the
totality of all conditions. Kant shatters ground into grounds, making the absolute into their
totality (*omnitudo realitatis*), a totality that it is not possible for finite thinking to think unless
it is able to recover its own conditions and thus present itself *as* absolute or unconditioned.

As a post-Kantian, Hindrichs' own solution is to seek the ground of the absolute in
a logical space incorporating a functional account of reference, and it is this move, its
mechanism and its significance, that demonstrates the extent of Hindrichs' neo-Fich-
teanism. For what is it, exactly, that is or can be grounded *exclusively* in logical space?
Rather, then, than seeking 'the ground' or 'the reason' as such, Hindrichs' investigates
the space of reasons for the operation of grounding:

> Every thing that the principle of reason [*Satz vom Grund*] governs, it governs in such a way
> that this thing is either a ground or a grounded. But a ground and a grounded are in turn
> a ground of some thing, and a grounded by some thing.[39]

Hindrichs' account of this operation effectively makes grounding into a function of
reasons, so that grounding is achieved when a state of affairs satisfies or saturates the
ground given by that operation. What thus satisfies the grounding function is the refer-
ence of one well-ordered element in a system to another such element. 'Order' is here
conceived in the following manner:

> Every singular that is possible stands in a possible order of singulars. This possible order
> itself stands in an order of possible orders. All these orders are determined by the princi-
> ple of reason. Something ordered is in consequence grounded.[40]

To be grounded, meanwhile, is to ground another singular and to be grounded by
another—that is, to stand in an order. Grounding and ground, each ordered singu-
lar, form a network of relations. 'Relatedness' means 'on the one hand its relatedness
as grounded to its ground, and on the other hand, its relatedness as ground to what
it grounds';[41] any singular that is *not* related is not saturated; that is, it is *defunctionalized*
to the extent it does not relate.[42] This analysis of ground therefore produces the shat-
tering of ground as the preparation for the absolute. That there is a reason for beings
turns out not to be grounded in singulars, but rather in the analysis of being: singulars
do not possess being except in their relatedness to others—*esse in alio*. A being is noth-
ing other therefore than a 'vertex' in the grounding network, or 'an occasional conduit
for the process of ground and consequent'.[43]

The proximity *at this point* of Hindrichs' scheme to Graham Harman's meta-
physics is as striking as their differences—for while Hindrichs follows Fichte's dis-

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38. Hindrichs, *Das Absolute und das Subjekt*, p. 123.
39. Hindrichs, *Das Absolute und das Subjekt*, p. 199.
40. Hindrichs, *Das Absolute und das Subjekt*, pp. 206-207.
41. Hindrichs, *Das Absolute und das Subjekt*, p. 210.
42. Interestingly, Hindrichs here provides a solution to the necessity (albeit hypothetical) of connected-
ness that troubles Humeans.
43. Hindrichs, *Das Absolute und das Subjekt*, p. 210.

solution of being, replacing it not with activity, but with function, for Harman it is *things* that have their being in another. The question may best perhaps be answered by him, therefore, as to whether this logical order satisfies things, while of course things, as referents of propositions, satisfy those propositions simply by obtaining-or-not. The question this raises is, simply put, whether Hindrichs' ontology extends beyond judgments at all, or whether it consists solely and exclusively in judgments and their satisfactions.

Having pursued the analysis to the point where singulars have disappeared into other-relating relations, Hindrichs proceeds to the—necessary, he says—synthesis. This synthesis is not, as for the crass formalisation of by which Hegelianism has been caricatured, the union of opposites (the absolute and the subject—although it *is in fact*), but rather reverts to the order of the possibles referred to earlier, and pursues this by means of the order of 'conduits', or of grounds and groundeds. If singulars are ordered by relations, then that order,

> as the grounding continuum of singulars—presents itself in turn as a synthesis of singulars into a closed unity. Thus the analysis of the orderly leads to the synthesis that refers to the order of beings.[44]

The hinge articulating the operations of analysis and synthesis is *reflexion*, which Hindrichs describes as 'not the simple application of thought to itself', but rather that application 'after thought has gone out of itself to things; it is the being-with-itself of thought and, in this, being in another'.[45] Reflexion is not what Hegel condemned, but rather the process he followed; what is reflected is not a supposed content of thought, but rather its structure is reflected in all its operations.

While following Kant's simultaneous hypothetical totalisation of conditions and their actual exponentiation, Hindrichs' account of the way to the absolute turns away from conditions of possibility or of hypothetical necessity, and towards the totality of possible orders that form 'logical space'.[46] The order so presented by the grounding continuum of singulars has no being unless it is related to another order—this time an order of orders: 'the order of the continuum of grounds therefore constitutes itself the ground of a second order order'.[47] Pursued to its synthetic ends, Hindrichs thus satisfies the Kantian programme, precisely where he argues that Hegel and the postkantians failed, grounding an absolute:

> The principle of reason operates in the order of orders: in logical space.[48]

At this point, we have a functional account of the absolute that rules everything out except insofar as it satisfies those functions, i.e., the principle of sufficient reason. It is important to note, however, that it is not beings *per se* that satisfy propositions concerning singulars, but rather relations between singulars as conduits for grounding in a continuum of orders. Thus, while Hindrichs' speculative audacity aims, like all metaphysics, at 'the conceptual structure of a total continuum',[49] no qualitative difference is made to the 'order of being' by the inclusion, amongst the order of orders, of possible orders, even of *all possible* orders.

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44. Hindrichs, *Das Absolute und das Subjekt*, pp. 213-214.
45. Hindrichs, *Das Absolute und das Subjekt*, p. 149.
46. Hindrichs, *Das Absolute und das Subjekt*, p. 203.
47. Hindrichs, *Das Absolute und das Subjekt*, p. 214.
48. Hindrichs, *Das Absolute und das Subjekt*, p. 203.
49. Hindrichs, *Das Absolute und das Subjekt*, p. 224.

Accordingly, the mooted identity of judgment and being is true if and only if the *act* or *operation* of judgment has its content (being) in itself; in other words, either the ground of being is any judgment whatever, or 'being' is only that content immanent to the operation of judgment. Is the contention that the description of relations in logical terms allows being to be deduced from it? Is this not simply the ontological proof in turn, albeit limited to the genesis of additional elements to form a logical (meta)order? Ironically, this 'working Hegel' turns out to reproduce, in the Absolute ground, the unrelatedness of reason to nature that was for Hegel the hallmark of Kant's philosophy of nature. The absolute, as the totality of conditions, contains only one set of conditioneds: thoughts having as their content the identity of judgment and being.

<center>*   *   *</center>

A thought that is unconditioned—now *that* is a contradiction. By what is it conditioned? This takes us back to the investigation of the dimensions of the problem of ground with which we began.

For all the operativity in Hindrichs' orders, logical space remains timeless and ungenerated. The order of orders invites an obvious Platonic parallel: just as the operators, the conduits and relations, satisfactions and movements of thought form the permanent furniture of the intelligible, of the 'space of reasons', for Hindrichs, so for Plato the Ideas are the higher attractors of the lower, marking out the possible motions of the thinkable. Yet Plato's attractor-Ideas also orient all the motions of material becomings, of the processes in nature. While the Ideas are the Intelligibles against which natural production invariably falls short (so runs the story), they are invariably embroiled in the turbulences of becoming, since without this latter, Plato would not have advanced one step beyond the Parmenidean One.

Hindrichs attempts to counter something of this order of objections when he considers a criticism he attributes to Jacobi: that the order of reasons has been confused with the order of causation:

> Conceptions that think the world from the principle of reason confuse timeless ground and temporal causation. Although they speak about the world and therefore about temporal causal relations, they leap immediately into the atemporal relations of grounding that is logic, which is of course to be distinguished from what is.[50]

Hindrichs' counterobjections are twofold; firstly, epistemological: without the timeless relations of logical relations of grounding, *we simply could not comprehend* temporal causal relations. The second counter is that, the objection misunderstands the nature of the conceptual series which is, *ex hypothesi*, a timeless series of 'grounds and consequents'. Again, this reinforces Hegel's judgment that 'time [...] has no philosophical significance whatever'.[51] But the Jacobian objection has more to it than that: it is neither an epistemological nor a conceptual objection but rather, as is the constant theme of his *Spinoza* book, a *material* objection. If we apply, that is, the timeless order of grounding relations to the world, we generate the following problem:

> Since no part of the manifest cosmos is everything that it can be [since it could be otherwise than it is], how could the existing whole, composed of many such parts, express the completeness of nature which is everything that it can be, and cannot be what it is not?[52]

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50. Hindrichs, *Das Absolute und das Subjekt*, p. 215. Compare Friedrich Heinrich Jacobi, *Über die Lehre des Spinoza*, Hamburg, Felix Meiner Verlag, 2000, p. 282.

51. Hegel, *Philosophy of Nature*, Oxford, Oxford University Press, 1997, § 339. See also § 249: 'Chronological difference has no interest whatsoever for thought'.

52. Jacobi, *Über die Lehre des Spinoza*, pp. 207-8.

Even if the order of orders includes by definition all possible orders, there is a difference between the kinds of order that obtain and those that do not. Given the obtaining order (the 'manifest cosmos'), there are clearly possibilities for its change, and conditions of its change, that are such that could never exhaust the totality of possibilities. Jacobi here in effect conceives temporal causal relations as grounded in a specifically determinate nature and as selecting from its possibilities. It is not, in other words, the simple timelessness of grounding-relations, but rather their absolute insusceptibility to the possibilities of physical nature that are themselves temporal (earlier conditioning later) and causal (operations on determinate selections of possibilia that are in principle inexhaustible). The existing whole of the manifest cosmos not only could be otherwise, but has the inexhaustible possibility of being other than it is—or even of not being at all.

Although Jacobi's is an objection to the principle of (sufficient) reason itself, the confusion it accuses rationalist accounts of—and against which Hindrichs defends the order of orders—is in fact core to an understanding of the problem of ground, which can neither be thought without nature and causal powers, nor without rational structures. In consequence, we shall pick up the problem of material possibility in the concept of ground in the light of the dynamic-formalist and functional-formalist accounts of that concept we have so far examined.

BEING ALL THAT IT IS: THE DIMENSIONS OF THE PROBLEM OF GROUND

Wavering between 'being all that it is' and the inexhaustible possibility of being other than it is, nature, whether manifest or not, seems to repudiate the PSR, whether satisfiable or not, as an artifice of reason. On what grounds, however, can the assumption be made that reason is thus separable from remaining nature, rather than that being amongst its potentia? Assuming that it is so begs the question of the PSR, rather than satisfying or refuting it, which is why Jacobi's problem has bite: if the PSR is to be satisfied, it cannot not include the order of necessary reasons and the order of contingent nature. That this cannot be done is, as we have seen, precisely the claim made by Fichte, made concrete in the 'First Introduction' to the *Wissenschaftslehre*:

> Intellect and thing are thus exactly counter-posited [*entgegengesetzt*]: they inhabit two worlds between which there is no bridge.[53]

The satisfaction of the space of reasons, however, is only one dimension of the PSR, and one that cannot be met independently of establishing the ground of a nature that cannot be assumed to have exhausted its potentials in its current state.

It is precisely this relation that Leibniz considers the 'great principle' to furnish. Section 7 of *Principles of Nature and Grace* (1714) asserts that its employment provides the means whereby we 'rise' from physics to metaphysics, and thus connecting nature and reason, contingency and necessity. Accordingly, the PSR states that

> *nothing takes place without sufficient reason*; that is to say, that nothing happens with its being possible for one who should know things sufficiently, to give a reason which is sufficient to determine why things are so and not otherwise.[54]

At this stage, the problem of ground is formulated in event-terms, not in entity terms. This is instructive, insofar as it asserts that (a) things *take place* or happen, rather than straightforwardly 'are'; and (b) that the giving of reasons follows *after* these takings-

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53. Fichte, *Fichtes sämmtliche Werke*, vol. I, p. 436, & Fichte, *The Science of Knowledge*, 1982, p. 17, trans. modified.

54. G.W. Leibniz, *Philosophical Essays*, trans. Roger Ariew and Daniel Garber, Indianapolis, Hackett, 1989, pp. 209-10.

place, or are themselves takings-place. The event-register brings reason-giving into proximity to the causal relations articulated in nature, suggesting that they are not different in kind. Hence the equivalence between the orders of reason and nature, as asserted, for example, in the *Primary Truths* (1686): '*nothing is without reason*, or *there is no effect without a cause*' (1989: 31). Behind the assertion, however, lies a claim concerning the dimensions of the PSR, or the Leibnizian account of grounding as dependent on an *equivalence* in the temporal sequencing entailed *both* in causal relations and in reason-giving. The same sequencing is even an element in the account of predication Leibniz gives in *Primary Truths*:

> a predicate, or consequent, is always present in a subject, or antecedent; and in this fact constists the universal nature of truth, or the connection between the terms of the assertion, as Aristotle has also observed. […] Moreover, this is true for every affirmative truth, universal or particular, necessary or contingent.[55]

We might consider the consequent's presence in the antecedent to deny the antecedence of the antecedent and the consequence of the consequent. Yet the 'always present'—the register of 'being' in which, in contrast to the later *Principles of Nature and Grace*, the PSR is couched—only cancels the antecedent-consequent relation in the course of time, that is, in the producing of that truth, and in the contingent conditions about and from which that truth is produced. It is to this that the substitutability of 'subject' and 'antecedent' draws attention. The universal nature of truths, that is, entails that the 'always present' of the antecedent-consequent is true of all truths; thus it is not the *contingency* of the contingent that is here being qualified, but rather its *universal* nature. Thus the PSR is misunderstood to the extent that the 'wondrous secret', as Leibniz notes, of the differentiation between the time of antecedence and consequence and the time of the satisfaction of reason

> goes unnoticed, this secret that reveals the nature of contingency, or the essential distinction between necessary and contingent truths.[56]

This is why Leibniz is the German Plato: because all truths are of the same nature, the order of eternity is *what* satisfies reason; but reason's satisfaction *takes place* in the connection of antecedence and consequents, so that reason as a whole consists in the 'reversibility' of the connection. Contingent truths can therefore 'suffice', and indeed, do so necessarily insofar as they are truths. But, *qua* contingent, it is impossible that there will not always be more such truths. *It is because this is true of all truths that the time of antecedence and consequence is real*, and that there is an *equivalence* between the giving of reasons and the actions of causes.

Accordingly the PSR rejoins physics from metaphysics. For it is this equivalence that holds sway in the use of PSR in the mechanical physics that long outlasted Leibniz. The principle's use in that context is efficiently summarized by Isabelle Stengers: 'the full cause is *equivalent* to the entire effect'.[57] In the physical context, equivalence means that the efficacy—the *power*—of the cause is given as and by the *extent* of the effect. For example, this is the 'best of all possible worlds', argues Leibniz, because the actual (and *therefore* the best) world is the extent of the effect, so that its cause must have sufficient 'fullness' or perfection to actualize it.

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55. Leibniz, *Philosophical Essays*, p. 31.
56. Leibniz, *Philosophical Essays*, p. 31.
57. Isabelle Stengers, *Power and Invention*, trans. Paul Bains, Minneapolis, University of Minnesota Press, 1997, p.25.

It is here that we see the force of Jacobi's objection to Leibniz on the question of powers and actuality: it is impossible that nature, if composed of powers rather than particular bodies, could exhaust or have exhausted these powers *in any particular state*. Yet this too is countered in the *Principles of Nature and Grace*. With regard to the problem of contingent states and their grounding by the PSR, section 8 of the *Principles* states that 'the sufficient reason for the existence of the universe cannot be found in the series of contingent things, that is, in the series of bodies and their representations in souls'.[58] This is because, applied to particulars, the PSR would seek 'the explanation of everything by something else', which clearly must result in an infinite regress.[59] Leibniz illustrates precisely this point in relation to material particulars:

> since matter is in itself indifferent to motion and to rest and to one or another particular motion, we cannot find in it the reason of motion and still less the reason of one particular motion. And although the motion which is at present in matter comes from the preceding motion, and that again from another preceding motion, we are no farther forward, however far we go; for the same question always remains.[60]

Leibniz finally gives God as the 'ultimate ground' of things, and so on the face of things reintroduces the problem of ungrounded contingency that the 'great principle' is designed to resolve. It is this solution against which Jacobi's criticism is in fact directed, since Leibniz's God, as 'a necessary being, bearing in itself the reason of its own existence', must, if considered the 'substance which is the cause of this sequence', be equivalent, by the PSR, to the actual Cosmos that is its effect and which, in turn, must therefore be 'all it can be'.

If this conclusion, however, is contrasted with the question that precedes it, as cited above, as to whether matter is capable of supplying the ground of motion, a different conclusion follows. *That* it cannot entails that no halt can be brought to the sequencing of motion, since motion *by its nature* must always rely on a preceding motion for its velocity and trajectory, and that motion on its antecedent in turn. However, that matter *might* be considered a candidate ground constitutes a problem for two reasons. Firstly, it constitutes a critique of the passivist concept of matter that informs the dualism of matter and force in mechanical materialism, insofar as the idea that matter could thus ground motion depends on conceiving matter as inert in the first place. The second reason, however, maintains that material grounds cannot satisfy the PSR since, if the above concept of matter is rejected in the interests of the 'living force' argument with regard to material nature, and of which Leibniz was a proponent, then motion cannot be self-grounding, since it relies on antecendent and coincident motions. Although therefore neither matter nor motion satisfy the PSR, it *maintains the necessity of the contingency of material grounds*, rather than denying that any grounding whatever takes place in the order of nature. Moreover, we note that the problem of irreversible antecedence becomes, for Leibniz, the mark of material grounds. God, in other words, cannot be separated from the ungrounded series of material grounds of which he is the substantial cause and reason.

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58. Leibniz, *Philosophical Essays*, p. 210.

59. Exactly as Bernard Bosanquet notes, in *Logic, or the Morphology of Knowledge*, 2nd edition, Oxford, Oxford University Press, 1911, p. 215: 'The Law of Sufficient Reason represents the demand of intelligence for the explanation of everything by something else. And it is plain that in the case of anything but the absolute whole this demand must go on to infinity. […] It rests on the relations of parts in abstraction from the whole, or in other words, without the element of totality'.

60. Leibniz, *Philosophical Essays*, p. 210.

What emerges from this brief survey of Leibniz's formulation of the 'great principle' is the following: Grounds are neither reducibly logical, i.e., applying only to the space of reasons; nor reducibly material, i.e. applying only to physical particulars; the reason of being necessarily comprises the sequencing of reasons and causes.

UNGROUND AND ANTECEDENCE

We are now in a position to see how it is that Fichte's and Hindrichs' accounts of grounding *regionalize* dynamics with respect to being as a means to eliminate dimensions of the problem of ground. Fichte resolves the materialism problem in the interests of activity, but, in keeping with the refutation of transcendental materialism as the thesis that nature produces the I, eliminates powers from nature and makes activity into the source and product of reason alone. Accordingly, although perfectly susceptible to accomodation by physicalists and ethico-materialists, grounding is achieved not by virtue of the resolution of the problem of matter, but by its elimination.

Similarly, Hindrichs' grounding operation, while it satisfies the logical dimension of grounding, posits being as following from it. Grounding therefore consists in the antecedence of logic with respect to a nature whose contingency is merely the exteriority of the latter with respect to the former, as it was for Hegel. Dynamics therefore belongs, as for Fichte, not to nature or to being, but solely to reason, so that Hindrichs' Absolute becomes a version of the ontological proof if not of the existence of a divine being, then of being at all, insofar as being is equivalent to judgment.

What both struggle to eliminate is the antecedence that make material grounds nonrecoverable by reason. Yet antecedence is required in order that there be thought at all, unless thought is to be considered something different in kind to material being. If this is not the case, the causes of thinking are the same as those of that object antecedent to thinking which thinking thinks. Consider a mountain: the thinking of this mountain entails (a) that there is already a mountain to be thought, whatever its nature; and (b) that the causes of the existence of the mountain must also be involved in the thinking of the mountain. When thinking attempts to recover the causes of its thinking of the mountain, it reaches two nonfinite series that vitiate this project: firstly, the thinking about the mountain is always antecedent to any thinking about the thinking of the mountain, so that the object-thinking is always the product of an actual thinking with which the causal sequence keeps pace in fact, but cannot be recovered in thought in principle. Secondly, in retrospecting the causes of mountain formation, let alone the formation of thought thereupon, or of geology, the track taken by those causes invariably fails to reduce specifically to the object from which the thinking started: the causes of mountain formation are also, that is, involved in speciation, meteorological metastasis, and so on. Accordingly, being is antecedent to thinking precisely because if it were not, not only would there be nothing to think, but neither could there be any thinking.

Thus the attempted recovery of antecedence ungrounds physical particulars for the thinking about them; but physical particulars are themselves ungrounded, specifically because each particular physical determination rests in turn upon antecedent physical determinations. Viewed thus in reverse, all is ungrounded because there is no ultimate ground of things, no substance in which all these causes inhere, or of which all these powers are accidents or properties. But precisely because nature is never all it can be, nor simply and reducibly what it is, that what is ungrounded in reverse runs

forward as the operations of powers, of *potentia* or productivity. Here we have a dynamics that precisely cannot be regionalized with respect to being, and that therefore fully satisfies the PSR: it is a necessary truth about nature reasoning about itself that antecedence is non-recoverable. This is why, then, even the concept of matter is synthetic; what the PSR demonstrates is that this synthesis necessarily embraces the entire cosmos.