Hegel and the Sciences: Philosophy of Nature in the 21st Century

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In memory of Thomas Posch

1974-2019

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The Difference Between Fichte's and Hegel's Systems of Philosophy: A Response to Robert Pippin

ADRIAN JOHNSTON

§1 Welcome to the Zoo: Fichte, Hegel, and Questions of Purity

Robert Pippin's work of recent years, culminating in his 2019 book *Hegel's Realm of Shadows: Logic as Metaphysics in The Science of Logic*, has involved him undertaking two related tasks. First, in *Hegel's Realm of Shadows* and contemporaneous texts of his, he launches a counter-offensive against recent efforts by particular others to situate G.W.F. Hegel in relation to permutations of materialism running from nineteenth-century Marxist dialectical materialism up through today. Second, Pippin wishes to rebut critics of his influential 1989 book *Hegel's Idealism: The Satisfactions of Self-Consciousness*. Specifically, he seeks to defuse the objections of some according to which his earlier study is guilty of an excessive Kantianization of Hegel, namely, an operation of transforming Hegel's absolute idealism, with its robust monist realism, into Immanuel Kant's subjective idealism, with its dualist anti-realism. In what follows, I will argue

that Pippin both: one, fails to remain truly Hegelian in his repudiations of materialism and naturalism; as well as, two, continues to remain committed to an objectionable transcendental idealism of a Kantian (and Fichtean) type.

Pippin foregrounds the first task mentioned above (i.e., combatting dialectical-materialism-inspired renditions of Hegel) early on in the opening pages of the introduction to *Hegel's Realm of Shadows*. From the very outset of this 2019 book, he sets up a fundamental conflict between two allegedly irreconcilable sides. On Pippin's favored side, there is the trio of Kant, J.G. Fichte, and Hegel interpreted as partisans of the philosophical centrality of "pure thinking"[1]—with the deliberate exclusion of F.W.J. Schelling and his neither-subjective-nor-absolute "objective" idealism.[2] Pippin's German idealism champions absolutely sovereign conscious cognition in its auto-reflexivity and with its self-supplied and self-justified norms and reasons.[3] Such self-conscious and self-grounding mental activity is purported to be fundamentally refractory to any sort of materialist, naturalist, and/or objectivist ontological treatment.

Pippin opposes to the Kant-Fichte-Hegel idealism of absolutely autonomous cognition a tradition beginning with certain of Hegel's contemporaries. This tradition aims to refute the very existence and even possibility of the pure thinking central to Pippin's version of German idealism. In the introduction to *Hegel's Realm of Shadows*, referring to the "Hegelian project" as based upon the metaphysical prioritization of the (self-)thinking "I," Pippin writes:

> …there is a widespread view that this Hegelian project (in any possible interpretation of it) is doomed from the start, that there is not

[1] Robert B. Pippin, "Hegelian Themes: Richard Marshall Interviews Robert B. Pippin", *3:AM Magazine*, October 2018, https://316am.site123.me/articles/hegelian-themes?c=end-times-archive

[2] Robert B. Pippin, *Hegel's Realm of Shadows: Logic as Metaphysics in The Science of Logic*, Chicago: The University of Chicago Press, 2019, pp. 4, 108-109.

[3] *Ibid*., pp. 7-8, 40, 67-68, 87-88, 122, 171, 199, 219, 276, 296-297, 299-300, 316, 321.

> and cannot be such a topic as 'pure thinking.' Since the Jena romantics and Hegel's contemporary, Schelling, began this line of attack, it keeps reappearing in the European tradition down to the present, with the popularity of 'new realisms' and speculative materialisms and the influence of cognitive and neuroscience. The criticism is that thinking must always be understood as grounded on, or dependent on, or an epiphenomenon of, materiality or contingency or the unconscious source or instinct of the thinker. But from Hegel's point of view, this criticism is question-begging from the start. In his treatment, the topic of pure thinking has nothing to do with the thinker, the subject, consciousness, the mind. The topic rather raises as a problem the possibility of the intelligibility of (also) whatever is being touted as source or hidden origin, the conditions assumed in any such determinate identification. Any such criticism, in so far as it is a thinking, a judging, a claim to know, is always already a manifestation of a dependence on pure thinking and its conditions, and such 'moments' of pure thinking are to delimit the normative domain of intelligibility… and not any process or series of events that goes on in supposed independence of the empirical world… That question already manifests a misunderstanding of the question of pure thinking itself.[4]

Apropos the historical origins of the line of thought Pippin dismisses here, I will come back to the significance of the legacies of romanticism and, especially, Schellingianism for Hegel's philosophy later. As for what Pippin points to as the contemporary permutations of this lineage, he does not identify exactly who he has in mind; the phrases "new realisms" and "speculative materialisms" are vague and contested nowadays. However, in a

[4] Pippin, *Hegel's Realm of Shadows*, pp. 6-7.

number of pieces overlapping in time and content with *Hegel's Realm of Shadows*, Pippin indeed names names.[5]

But, what about the rebuttal, articulated by Pippin in this quoted passage and elsewhere,[6] of naturalist, materialist, etc. objections to the purity of cognition? What is to be said philosophically in response to Pippin's counter-argument here? Preliminarily, I would draw attention to the lumping together in the preceding quotation of "grounding," "dependency," and "epiphenomenality." Through this gesture of aggregation, Pippin evinces a debatable assumption that any and every materialism or naturalism ultimately would be somehow reductive (an assumption also detectable in Robert Brandom's analytic neo-Hegelianism[7]). In Pippin's view, all materialisms and naturalisms are unwilling and unable to grant room for the autonomous, self-relating subjectivity central to German idealism.

Whether everyone from Schelling to Slavoj Žižek is subsumable under a single general heading, and, if so, whether this heading represents a shared commitment to some sort of basic reductionism, is quite questionable. Additionally, whether the specific versions of dialectical materialism from which Pippin is most concerned to distance Hegel are subject-squelching objectivisms is doubtful.[8] In fact, the dialectical materialist tradition, with its origins in moments such as the first of Karl Marx's 1845 "Theses on Feuerbach," is characterized by its dogged pursuit of anti-

[5] Robert B. Pippin, "Slavoj Žižek's Hegel", *Interanimations: Receiving Modern German Philosophy*, Chicago: The University of Chicago Press, 2015, pp. 96, 100-103, 105, 107.
Robert B. Pippin, "Review of Adrian Johnston, *A New German Idealism: Hegel, Žižek, and Dialectical Materialism*", *Notre Dame Philosophical Reviews*, August 5, 2018, https://ndpr.nd.edu/news/a-new-german-idealism-hegel-zizek-and-dialectical-materialism/.
Pippin, "Hegelian Themes".
[6] Pippin, *Hegel's Realm of Shadows*, pp. 65, 77-78, 176.
[7] Robert B. Brandom, *A Spirit of Trust: A Reading of Hegel's Phenomenology*, Cambridge: Harvard University Press, 2019, pp. 556, 579.
[8] Pippin, "Review of Adrian Johnston, *A New German Idealism: Hegel, Žižek, and Dialectical Materialism*".
Pippin, "Hegelian Themes".

reductive compatibilisms in which something like Pippin's thinking "I" is generated by, but becomes autonomous in relation to, the "non-I" of nature, matter, and the like[9] (with Pippin himself, in 2008's *Hegel's Practical Philosophy: Rational Agency as Ethical Life*, identifying Hegel as a certain type of compatibilist[10]). This pursuit remains at the heart of today's revivals of dialectical materialism, revivals whose appeals to Hegel's philosophy Pippin wishes to silence. Furthermore, the preservation of subjectivity by contemporary partisans of materialist theories of the subject puts them at loggerheads with everyone else associated with "new realisms" and "speculative materialisms." Neo-Spinozistic Deleuzians, object-oriented ontologists, and actor-network theorists, not today's Hegel-influenced dialectic materialists, are the ones who want to get rid of anything like German idealist subjectivity.

That said, the crux of the objection Pippin makes in Hegel's name to problematizations of pure thinking is their ostensibly "question-begging" quality. This objection is straightforward: Insofar as materialisms and naturalisms are theories which, as such, are thinkings of their chosen objects, they too are made possible by (Hegelian) pure thinking, with its categories and concepts ("Any such criticism, in so far as it is a thinking, a judging, a claim to know, is always already a manifestation of a dependence on pure thinking and its conditions"—or, as Pippin puts it later in *Hegel's Realm of Shadows*, "The idea of an object conceived as not an object of thought, as unthinkable, is an idle, self-canceling thought"[11]). No materialism or naturalism, as itself a form of thinking, can get back behind always-already-there thinking itself. The latter thereby demands acknowledgment as the *unhintergehbar Ur*-condition of any and every possible metaphysics/ontology, including materialist or naturalist ones. As Pippin himself is

[9] Karl Marx, "Theses on Feuerbach" [trans. S. Ryazanskaya], *Karl Marx: Selected Writings* [ed. David McLellan], Oxford: Oxford University Press, 1977, pp. 156. Adrian Johnston, *Prolegomena to Any Future Materialism, Volume Two: A Weak Nature Alone*, Evanston: Northwestern University Press, 2019 [forthcoming].
[10] Robert B. Pippin, *Hegel's Practical Philosophy: Rational Agency as Ethical Life*, Cambridge: Cambridge University Press, 2008, pp. 36-64.
[11] Pippin, *Hegel's Realm of Shadows*, pp. 65

well aware and openly admits, his counter-argument against materialism and naturalism is classically Fichtean,[12] with him explicitly attributing such Fichteanism to Hegel's philosophy too.[13] Pippin's staging of Hegel-versus-dialectical-materialism is a re-staging of Fichte's idealism-versus-dogmatism zero-sum game.[14] Pippin repeats the objections Fichte raises in response to Schelling's *Naturphilosophie*.[15]

Pippin's Fichteanization of Hegel will be submitted to critical scrutiny in the next two sections of my text. For now, I want briefly to propose

[12] J.G. Fichte, "Review of *Aenesidemus*", *Fichte: Early Philosophical Writings* [ed. and trans. Daniel Breazeale], Ithaca: Cornell University Press, 1988, pp. 69, 71, 73-74.
J.G. Fichte, *The Science of Knowledge* [ed. and trans. Peter Heath and John Lachs], Cambridge: Cambridge University Press, 1982, pp. 71, 75-76, 109, 116-117.
J.G. Fichte, *Foundations of Transcendental Philosophy: (Wissenschaftslehre) nova methodo (1796/99)* [ed. and trans. Daniel Breazeale], Ithaca: Cornell University Press, 1992, pp. 91-98, 104-106, 330, 339.
J.G. Fichte, *The Vocation of Man* [trans. William Smith], La Salle: The Open Court Publishing Company, 1965, pp. 28, 82.
J.G. Fichte, "Fichte in Berlin to Schelling in Jena [Draft of a Letter]: 8th October [actually circa Dec. 27th] 1800", in J.G. Fichte and F.W.J. Schelling, *The Philosophical Rupture between Fichte and Schelling: Selected Texts and Correspondence (1800-1802)* [ed. and trans. Michael G. Vater and David W. Wood], Albany: State University of New York Press, 2012, pp. 48.
[13] Robert B. Pippin, "Fichte's Alleged Subjective, Psychological, One-Sided Idealism", *The Reception of Kant's Critical Philosophy: Fichte, Schelling, and Hegel* [ed. Sally Sedgwick], Cambridge: Cambridge University Press, 2000, pp. 148, 165-166.
Robert B. Pippin, "Robert Brandom's Hegel", *Interanimations*, p. 45.
Pippin, *Hegel's Realm of Shadows*, pp. 7-10, 118, 191, 233.
[14] J.G. Fichte, "Concerning the Concept of the *Wissenschaftslehre* or, of So-called 'Philosophy'", *Fichte*, pp. 94-95.
J.G. Fichte, "Outline of the Distinctive Character of the *Wissenschaftslehre* with Respect to the Theoretical Faculty", *Fichte*, pp. 268-269.
J.G. Fichte, "A Comparison between Prof. Schmid's System and the *Wissenschaftslehre* [Excerpt]", *Fichte*, pp. 320, 323.
J.G. Fichte, "Annals of Philosophical Tone [Excerpt]," *Fichte*, p. 349.
Fichte, *The Science of Knowledge*, pp. 9-20, 69-70, 117-119, 146-148, 160-162, 247.
[15] J.G. Fichte, "Commentaries on Schelling's *Transcendental Idealism* and *Presentation of My System of Philosophy* (1800-1801)", in Fichte and Schelling, *The Philosophical Rupture between Fichte and Schelling*, pp. 119, 121, 132.

a Hegelian reply to Pippin's Fichteanism (with this reply to be fleshed out in multiple ways throughout the rest of the present piece). To cut to the chase, I believe Hegel would diagnose as "one-sided" (*einseitig*) Pippin's idealist invocation of the closed loop of pure thinking against the ostensible dogmatism of materialism and naturalism—and this because Hegel himself, across the arc of his intellectual itinerary, repeatedly indicts Fichtean idealism as one-sided.[16]

Admittedly, on one side, the one stressed by Pippin, there obviously can be no -ism (idealism, materialism, naturalism…) without an accompanying -ist (idealist, materialist, naturalist…) thinking. Yet, correlatively but conversely, it equally is the case that there can be no (pure) thinking left frictionlessly spinning in an immaterial, unnatural void (to borrow some wording from John McDowell, whose "naturalism of second nature" Pippin deems un-Hegelian[17]—Pippin is right to distinguish between University of Pittsburgh colleagues Brandom and McDowell,[18] but wrong, in my view, to favor on supposedly Hegelian grounds the anti-naturalist Brandom[19]). At least, this is so for anyone who is uncomfortable with the notion of a putatively pure thinking inexplicable by and underivable from anything and everything natural and material.

Hegel indeed would agree with Pippin that crudely dogmatic forms of materialism/naturalism beg the question of the conditions for the

[16] G.W.F. Hegel, *The Difference Between Fichte's and Schelling's System of Philosophy* [trans. H.S. Harris and Walter Cerf], Albany: State University of New York Press, 1977, pp. 82-83, 135, 176.
G.W.F. Hegel, *Philosophy of Mind: Part Three of the Encyclopedia of the Philosophical Sciences* [trans. A.V. Miller], Oxford: Oxford University Press, 1971, §415 [p. 156].
G.W.F. Hegel, *Lectures on the History of Philosophy, Volume Three* [trans. E.S. Haldane and Frances H. Simson], New York: The Humanities Press, 1955, p. 499.
G.W.F. Hegel, *The Berlin Phenomenology* [ed. and trans. M.J. Petry], Dordrecht: D. Reidel, 1981, §415 [pp. 15, 23], §417 [p. 29].
[17] Pippin, *Hegel's Realm of Shadows*, p. 306.
[18] Pippin, "Hegelian Themes".
[19] Pippin, "Slavoj Žižek's Hegel", pp. 102-103.
Johnston, *Prolegomena to Any Future Materialism, Volume Two*.

thinking/knowing of matter/nature. But, this same Hegel simultaneously would maintain, against Pippin, that Kantian and Fichtean insistences on an underived, always-already-there apperceptively cognizing "I" (i.e., the transcendental unity of apperception in whatever guise) are equally question-begging. These insistences beg questions about the pre/non-subjective origins and genetic emergence of (transcendental) subjectivity, of the thinking "I"—with Pippin prohibiting these questions he nonetheless begs.[20] Only through an immaterialist spiritual-mental monism, an outright Cartesian-type ontological dualism, or a critical-transcendental shrouding of the pre/non-subjective as an unknowable noumenal mystery could one claim to need neither to ask nor answer these questions. But, Hegel rejects all three of these options. Another option for avoiding such questions would be to endorse a Colin-McGinn-kind "new mysterianism," an un-Hegelian position with which Pippin periodically and surreptitiously flirts (as I will highlight subsequently).

With Hegel believing himself to have established the untenability of either spiritual-mental monism or ontological dualism, he also sees Kant's and Fichte's transcendental idealisms in turn as, in their one-sidedness, begging questions (about the pre/non-subjective origins and genesis of their transcendental subject) they neither can ask nor answer. Hegel's non-one-sided alternative to these two ways (i.e., subjectivist and objectivist) of begging questions, reflected in the reciprocally co-determining interrelations between the major divisions of his systematic encyclopedic apparatus (i.e., Logic, Philosophy of Nature, and Philosophy of Mind/Spirit [*Geist*]), is to weave both the circle of the (self-)thinking logical "I" as well as the circular movement of *Logik* overall into the even larger circle of his entire System, with its *Realphilosophie* consisting of *Naturphilosophie* and *Geistesphilosophie*. Put differently, and as I have argued elsewhere,[21] the architectonics of Hegel's entire System (of which Logic is but a part, albeit a crucial one) present objections to Pippin's Fichtean absolutization of the

[20] Pippin, "Robert Brandom's Hegel", p. 41.
[21] Adrian Johnston, *A New German Idealism: Hegel, Žižek, and Dialectical Materialism*, New York: Columbia University Press, 2018, pp. 68-72.

"I" of pure logical thinking. What is more, various contents of this System (to be found primarily in the *Realphilosophie*, but also in other textual locations, such as the *Phenomenology of Spirit*) speak directly against the Fichteanization Pippin performs in his recent labors on Hegelian philosophy. I will come back to all of this in section four below.

Apart from the Hegelian criticisms of Pippin's Fichteanism I have just put on the agenda for later, I must draw attention at this juncture to what seem to be inconsistencies internal to how Pippin characterizes the idealism he imputes to a Hegel heavily indebted to Kant and Fichte (but not Schelling). As seen, Pippin pits in a Fichtean fashion an idealist pure thinking against a dogmatic (i.e., materialist, naturalist, objectivist, etc.) impure thinking. Yet, within his own writings, he appears to vacillate as regards his core thesis about the absolute autonomy and self-sufficiency of pure thinking.

In *Hegel's Realm of Shadows*, Pippin repeatedly refers to a 2000 book chapter of his on Fichte ("Fichte's Alleged Subjective, Psychological, One-Sided Idealism"). This chapter itself appeals specifically to Fichte's 1794 "Review of *Aenesidemus*." The latter involves, among other things, Fichte insisting most adamantly on the absoluteness of the self-positing transcendental subject of intellectual intuition (i.e., Pippin's apperceptive "I" of pure thinking).[22] This Fichte, also the author of the 1794 *Wissenschaftslehre*, goes so far as to maintain that, "*I simply am, because I am*" (ich bin schlechthin, weil ich bin).[23] In other words, this "I" is an original factical (self-)givenness. It cannot be gotten back behind. As Fichte puts it in the same paragraph containing this just-quoted formulation, "The I is *what* it is, it is *because* it is, and it is *for* the I. Our knowledge can extend

[22] Fichte, "Review of *Aenesidemus*", p. 65.
[23] J.G. Fichte, "*Recension des Aenesidemus*", *Fichtes Werke, Band I: Zur theoretischen Philosophie I* [ed. Immanuel Hermann Fichte], Berlin: Walter de Gruyter & Co., 1971, p. 16.
Fichte, "Review of *Aenesidemus*", p. 70.

no further than this" (*Das Ich ist,* was *es ist, und* weil *es ist,* für *das Ich. Ueber diesen Satz hinaus kann unsere Erkenntniss nicht gehen*).[24]

Fichte's *unhintergehbar Ich* underpins Pippin's current approach to Hegel. Hegel's philosophy, as ostensibly centered on the Logic alone as its Alpha and Omega, is said to be as committed to pure thinking as Fichte's pre-1804 *Wissenschaftslehre* and associated texts.[25] Pippin, in "Fichte's Alleged Subjective, Psychological, One-Sided Idealism," translates this Fichte into the more recent Sellarsian terminology favored by both himself and Brandom for assimilating German idealism into the intellectual culture of twentieth-century Anglo-American philosophy. Fichte's idealism is linked to a Sellarsian reasons-versus-causes dichotomy with anti-materialist, anti-naturalist consequences. This is done through appeal to the Fichtean denial of the possibility of any external determination of the spontaneous auto-reflexive activity of thinking.[26] A few pages later in the same essay, Pippin equates Fichte's rejection of the Kantian thing-in-itself with Wilfrid Sellars's debunking of "the myth of the given."[27] Through this rejection, Pippin's Fichte is said to establish an idealist "normative monism" of an absolutely autonomous "space of reasons."[28] On another occasion, Pippin appeals to Brandom as reinforcing the wholesale equation of Hegelian *Geist* with normativity,[29] a normativity, moreover, that is put forward as an always-already-there socio-historical presence.[30] Brandom himself indeed absorbs Hegelian spiritual rationality in its entirety into

[24] Fichte, "*Recension des Aenesidemus*", p. 16. Fichte, "Review of *Aenesidemus*", p. 71.
[25] Pippin, *Hegel's Realm of Shadows*, pp. 10-12, 67-68, 87-88, 129, 171, 199, 219, 276, 296-297, 299-300, 316.
[26] Pippin, "Fichte's Alleged Subjective, Psychological, One-Sided Idealism", pp. 155-157.
Robert B. Brandom, "Categories and Noumena: Two Kantian Axes of Sellars's Thought", *From Empiricism to Expressivism: Brandom Reads Sellars*, Cambridge: Harvard University Press, 2015, p. 97.
[27] Pippin, "Fichte's Alleged Subjective, Psychological, One-Sided Idealism", p. 164
[28] *Ibid.*
[29] Pippin, "Robert Brandom's Hegel", p. 29.
[30] *Ibid.,* pp. 45-46

normativity.[31] He also signals his reciprocal reliance on Pippin's version of Hegelianism.[32]

Very much in line with "Fichte's Alleged Subjective, Psychological, One-Sided Idealism," *Hegel's Realm of Shadows* attributes to Hegel (specifically, Hegel's mature Logic) an axiomatic commitment to Fichtean-style pure thinking as a first-philosophical, *unhintergehbar ex nihilo*—"What else could it mean for Hegel to characterize logic, a science of pure thinking, as first philosophy? …The concepts did not come from anywhere, any more than the thinking power comes from anywhere."[33] Pippin's Fichte-inspired emphasis on an underived purity as grounding the entire Hegelian System deserves to be set side-by-side with a remark Pippin makes about Žižek in a review of the latter's 2012 book *Less Than Nothing: Hegel and the Shadow of Dialectical Materialism*—"The idea of 'pure' drives (or 'pure' anything) belongs in the Hegelian zoo,"[34] namely, Hegel's phenomenological menagerie as including "the Beautiful Soul, the Knight of Virtue, and… the Frenzy of Self-Conceit."[35] Why would transcendental idealist pure thinking not belong in the same zoo for the same reason?

Indeed, Hegel explicitly includes the Kantian transcendental unity of apperception and the Fichtean thinking "I" in the zoo of the main body of his 1807 *Phenomenology of Spirit*. In fact, Fichte's "I = I" is displayed in several of the cages exhibited in this first of Hegel's major works. This "I" appears both at the start of the section on "Self-Consciousness"[36] as well as in the subsequent context of the discussion of the figure of the "Beautiful Soul."[37]

[31] Brandom, *A Spirit of Trust*, p. 576.
[32] *Ibid*., p. 769.
[33] Pippin, *Hegel's Realm of Shadows*, p. 40.
[34] Pippin, "Slavoj Žižek's Hegel," p. 113.
[35] *Ibid.,* p. 106.
[36] G.W.F. Hegel, *Phenomenology of Spirit* [trans. A.V. Miller], Oxford: Oxford University Press, 1977, pp. 104-105.
[37] *Ibid*., pp. 395, 398-399.

But, in relation to Pippin's project, the Fichtean thinking subject's additional appearance alongside the Kantian unity of apperception as a moment of "The Certainty and Truth of Reason" (i.e., the beginning of the *Phenomenology*'s section on "Reason") is of the greatest relevance for the present discussion. At this specific moment of the *Phenomenology*, on the threshold of the dialectical transition to the shape of "Observing Reason," Hegel portrays Kant's and Fichte's theories of transcendental subjectivity as self-subvertingly one-sided. This one-sidedness is then superseded and remedied by "Observing Reason" as a *Gestalt* blending together the empirical, experimental natural sciences of modernity and their post-Fichtean uptake via Schellingian *Naturphilosophie*.[38] Revealingly, Brandom, Pippin's close ally, chooses to skip over entirely the *Phenomenology*'s chapter on "Observing Reason" in his eight-hundred-plus-page 2019 tome *A Spirit of Trust: A Reading of Hegel's Phenomenology*.[39]

In the shift from "The Certainty and Truth of Reason" to "Observing Reason" in the "Reason" section of the *Phenomenology*, Hegel's message is clear: The anti-materialist, anti-naturalist subjectivism of Kantian and Fichtean idealisms can, should, and, nay, must be sublated by a dialectically-speculatively superior position philosophically reconciling the transcendental "I" with nature and the natural sciences.[40] This message already is foreshadowed earlier during Hegel's Jena stay in both 1801's *The Difference Between Fichte's and Schelling's System of Philosophy* and 1802's *Faith and Knowledge*.[41] For Hegel starting in the Jena period, Fichte's "I = I" belongs to a reserve of endangered species already being surpassed by the rapid evolution of absolute, beyond subjective, idealism.

[38] Hegel, *Phenomenology of Spirit*, pp. 144-145.
[39] Brandom, *A Spirit of Trust*, p. 1.
[40] Johnston, *A New German Idealism*, pp. 50-60.
Johnston, *Prolegomena to Any Future Materialism, Volume Two*.
[41] Hegel, *The Difference Between Fichte's and Schelling's System of Philosophy*, pp. 82-83, 135.
G.W.F. Hegel, *Faith and Knowledge* [trans. Walter Cerf and H.S. Harris], Albany: State University of New York Press, 1977, pp. 176-177.

In *Hegel's Realm of Shadows*, Pippin warns that, "Fear of 'subjective idealism' has often led to its contrary, a mystified 'objectivism'"[42] (with this warning being reiterated a number of times[43]). The inverse is at least as true: Fear of a mystified "objectivism" has often led to its contrary, a no-less-mystified "subjective idealism." A similar reversal ought to be applied to a related point Pippin makes in "Fichte's Alleged Subjective, Psychological, One-Sided Idealism." Therein, he speaks of "the insufficiency of modern naturalism to account for its own normative status."[44] One could speak with equal justification of the insufficiency of Pippin's normative epistemology to account for its natural status.

In line with the immediately preceding inversions, I will operate throughout the rest of this intervention on the basis of a more fundamental inversion of a recurring feature of Pippin's own *modus operandi*. Generally, when a professional academic philosopher confesses to being unclear about or confused by someone else's claims or arguments, this is a thinly-veiled manner of charging the other in question with being muddle-headed and trafficking in nonsense. Pippin uses this tactic repeatedly. In his recent texts, he deploys his weaponized perplexity against materialist-type renditions of Hegel's thought. He voices again and again a sentiment along the lines of: How could anyone believe in, and believe that Hegel believed in, subject emerging from substance and the like?

The most fitting response by a (dialectical) materialist interpreter of Hegelian philosophy to Pippin's feigned bafflement is to fight fire with fire. How could anyone believe in, and believe that Hegel believed in, the inexplicable purity of an *ex nihilo*, *unhintergehbar* thinking "I?" How could anyone credibly deny, and claim that Hegel denies too, that subject emerges from substance and that *Geist* surfaces out of *Natur*? How could anyone construe Hegel's vision of philosophy as restricting this

[42] Pippin, *Hegel's Realm of Shadows*, p. 18.
[43] *Ibid*., pp. 59, 119, 131.
[44] Pippin, "Fichte's Alleged Subjective, Psychological, One-Sided Idealism", p. 165.

Wissenschaft to the confines of exclusively normative epistemological and socio-ethical concerns?

Pippin indeed entertains such views. For him, Hegel's System ultimately is an epistemological-normative (more or rather than an ontological) framework within which *Geist* as such is "*a kind of norm*."[45] He sets normative Spirit's space of reasons entirely apart from anything and everything causal *qua* material or natural.[46] Hegel is said to be an uncompromising anti-naturalist about *Geist*.[47] Pippin goes so far as to write off the ontological concerns of materialist and naturalist perspectives as unphilosophical, as of no properly philosophical interest.[48]

The affirmative flip-side of Pippin's dismissal of materialist or naturalist ontologies as unphilosophical pops up at the very beginning of *Hegel's Realm of Shadows*. A few pages into its introduction, Pippin asserts, "by pure thinking Hegel basically means: philosophy."[49] He adds, "all philosophy, from Plato's *Republic* to Descartes's *Meditations* to Wittgenstein's *Tractatus* to Quine's *Word and Object*, is an enterprise of pure thinking."[50] Hegel's *Science of Logic* is situated squarely in this version of the philosophical tradition.[51] As I will proceed to argue, this asserted synonymy between pure thinking and philosophy would hold for Hegel only if Hegel's System were reducible to its Logic alone.

Pippin puts forward as a matter of a straightforward, uncontroversial definition of philosophy what is, in actuality, a contentious picture of the discipline. The introduction to *Hegel's Realm of Shadows* tries to impose a very tight limitation of philosophy. Under Pippin's restrictions, only what gets caught by the sieves of epistemology and ethics (together as normative

[45] Pippin, *Hegel's Practical Philosophy*, pp. 61-63.
[46] Pippin, *Hegel's Practical Philosophy*, p. 48. Pippin, "Slavoj Žižek's Hegel," pp. 100-101.
[47] Pippin, *Hegel's Realm of Shadows*, p. 306.
[48] Pippin, "Slavoj Žižek's Hegel", p. 101.
[49] Pippin, *Hegel's Realm of Shadows*, p. 7.
[50] *Ibid*.
[51] *Ibid*., pp. 7-10.

intelligibility) is to be treated as of interest and value—hence his Brandomian recasting of Hegel's System as purportedly centered on, in Brandom's parlance, logical games of recognizing each other as giving and asking for reasons[52] (by contrast with Pippin, Brandom acknowledges that his rendition of Hegel is more a creative, selective assimilation of Hegel's ideas into Brandom's own contemporary framework than a faithful history-of-philosophy exegesis of the primary sources in question[53]). This limited scope is certainly a long way from the implicitly interdisciplinary open-mindedness of the ancient Greek love of wisdom in all its forms, for which nothing under the sun was foreign to its curiosity. Likewise, it is very different from Hegel's capacious and voracious intellectual ambitions for a truly encyclopedic philosophical Science-of-sciences. One of the biggest stakes in debating with Pippin about his portrayal of German idealism is struggling over what philosophy itself is and should be.

§2 From Kantianism to Fichteanism (and on to Brandomianism): The Stubborn Shade of Subjective Idealism

As I noted at the outset, *Hegel's Realm of Shadows* involves Pippin responding to criticisms of his 1989 *Hegel's Idealism*. Specifically, he seeks to address accusations according to which his interpretation of Hegel is excessively Kantian *qua* subjectively idealist. As the preceding section already suggests, I see him instead as doubling-down on this subjective idealism through an increased reliance on Fichte in his reading of Hegel's mature Logic. Indeed, *Hegel's Realm of Shadows* reiterates the emphasis in *Hegel's Idealism* on Kant's transcendental unity of apperception for Hegelian *Logik* and rightly links this unity to the Fichtean "I" as pure thinking.[54] Pippin insists that this Kantian-Fichtean unity of apperception is not

[52] Pippin, "Slavoj Žižek's Hegel", pp. 102-103.
Pippin, *Hegel's Realm of Shadows*, pp. 14-15, 20.
[53] Brandom, *A Spirit of Trust*, p. 636.
[54] Pippin, *Hegel's Realm of Shadows*, pp. 35, 45, 73-74, 103-104, 106, 120, 122, 131, 191, 233, 237.

subjectively idealist[55] (relatedly, he holds at arm's length Klaus Hartmann's deflationary, anti-metaphysical Hegel-as-Kantian-category-theorist picture[56]). This insistence of Pippin's will be challenged in what follows.

So, what does Pippin have to say about the charges of exaggerated Kantianism? Pippin's line of defense is that he never sought to Kantianize Hegel back in 1989, but that his presentation of the issues understandably generated this impression amongst certain of his readers. Pippin takes partial responsibility for provoking concerns about the conflation of Hegel's absolute idealism with Kant's subjective idealism. He admits to "tossing around too casually terms like 'conceptual scheme'"[57] and "a number of infelicities in the 1989 formulations,"[58] confessing that, "I am dissatisfied… with the account of the logic of the Concept in Pippin (1989)" as "misleading."[59] Nonetheless, even with these admissions, Pippin protests, "The idea was never that Hegel was a 'Kantian,' but that we cannot appreciate his profound differences with Kant unless we appreciate his enormous debt on this apperception point."[60]

In a prior critique of this earlier Pippin, I joined various others in faulting *Hegel's Idealism* and related texts for indeed making Hegel into an anti-realist subjective idealist.[61] I believe that this prior critique contains ample textual evidence and philosophical argumentation showing that Pippin's subjective idealist Kantianization of Hegel's idealism *circa* 1989 is

[55] Pippin, *Hegel's Realm of Shadows*, pp. 247-248.
[56] Klaus Hartmann, "Hegel: A Non-Metaphysical View", *Hegel: A Collection of Critical Essays* [ed. Alasdair MacIntyre], New York: Anchor Books, 1972, pp. 101-124.
Klaus Hartmann, "*Die ontologische Option*", *Die ontologische Option: Studien zu Hegels Propädeutik, Schellings Hegel-Kritik und Hegels Phänomenologie des Geistes* [ed. Klaus Hartmann], Berlin: Walter de Gruyter, 1976, pp. 1-30.
Pippin, *Hegel's Realm of Shadows*, p. 95.
[57] Pippin, *Hegel's Realm of Shadows*, p. 32.
[58] *Ibid*., p. 58.
[59] *Ibid*., p. 255.
[60] *Ibid.*, p. 104.
[61] Johnston, *A New German Idealism*, pp. 38-73.

more than just a misleading superficial appearance resulting from some casual infelicities. I think his current self-defense misleadingly softens the vehemence of his earlier Kantian-style anti-realism.

That noted, how does the recent Pippin retain his long-held stress on Kantian (and Fichtean) self-sufficient apperception while simultaneously allaying worries that he rides roughshod over Hegel's anti-Kantian realism? In an October 2018 interview summarizing the gist of *Hegel's Realm of Shadows*, he characterizes the Hegel of concern to him in this context as a synthesis of Aristotle and Kant.[62] *Hegel's Realm of Shadows* specifies that the Aristotelianism at stake is Aristotle's hylomorphism specifically.[63] Hegel's version of this hylomorphism is a "logical monism"[64] in which the Logic's categories and concepts cut across the subject-object, mind-world divide. Logical intelligibility structures both, one, what is a thinkable/knowable objectivity through this very structuring as well as, two, the subjectivity thinking/knowing such always-already structured objectivity.[65] For Pippin's Hegel, to be is to be intelligible (and sometimes also intelligent as thinking/knowing subjectivity in addition to thinkable/knowable objectivity).[66] The Logic is about the conditions of intelligibility.[67]

Explaining absolute idealism as a hylomorphic logical monism enables Pippin to bring back into view the Hegelian robust realism his previous work was in danger of eclipsing. Pippin's current work speaks of Hegel's realism in terms of a combination of identity and difference between thinking and being. The categories and concepts of the Logic establish an underlying base of structural sameness for what shows up as the difference between subjective thinking and objective being.[68] Similarly, Hegel, as an Aristotelian hylomorphist (and not a Platonic metaphysical realist), is

[62] Pippin, "Hegelian Themes".
[63] Pippin, *Hegel's Realm of Shadows*, pp. 92-93, 217.
[64] *Ibid*., p. 59.
[65] *Ibid*., pp. 13-15, 36-37.
[66] *Ibid.*, pp. 77-78, 81-82.
[67] *Ibid*., pp. 97-98.
[68] *Ibid*., pp. 47, 50, 303.

committed to the inseparability of the material from the intelligible (as in Aristotle's inseparability of matter and form).[69]

Pippin proceeds to spell out the realist correctives to Kant this Aristotelian metaphysical dimension of Hegel's *Logik* entails. By contrast with the actual separateness of content and form in Kant's conception of logic, the forms of Hegelian Logic are inherently content-directed, separable from their contents only in artificial abstraction.[70] Likewise, Pippin attributes to Hegel a unity of synthesizing apperception that is not only subjective, but also immanent to objective being itself.[71] He similarly upholds that, "The mode of logical connection is inseparable from the mode of connecting. They are co-constituting."[72] In the same vein, Hegel is observed to oppose the anti-realist "for us" qualification ubiquitous throughout Kant's subjectivist transcendental idealism.[73]

As seen, Pippin's recent efforts also rely quite a bit on Fichte. And, as an aside, it would be worth noting that, in "Fichte's Alleged Subjective, Psychological, One-Sided Idealism," he portrays Fichte as at least not a standard anti-realist.[74] But, in the same essay, Pippin eschews the "primacy of the practical" interpretation of Fichte's philosophy.[75] This is strange, given that the seeming alternative, what could be called a "primacy of the theoretical" interpretation, is what leads some to perceive Fichte, with his subjectivism, as a post-Kantian Bishop Berkeley or even a shameless solipsist. Nonetheless, Pippin believes that Fichte's repudiations of Kant's thing-in-itself are enough to close the gap between Fichte himself and Hegel with his realism.[76] Yet, Hegel, including in both the *Science of Logic*

[69] Pippin, *Hegel's Realm of Shadows*, pp. 22, 55.
[70] *Ibid*., pp. 65, 289.
[71] *Ibid*., pp. 74, 276.
[72] *Ibid*., p. 135.
[73] *Ibid*., pp. 77, 257.
[74] Pippin, "Fichte's Alleged Subjective, Psychological, One-Sided Idealism", pp. 163-164.
[75] *Ibid*., pp. 153-154.
[76] *Ibid*., p. 151.

and the *Encyclopedia Logic*, accuses Fichte of failing actually to jettison *das Ding an sich*.[77]

So as further to fend off the specter of psychological or subjective idealism, Pippin stresses that Hegel's idealism posits an identity between subjective thinking and objective being, rather than a dependence of the latter on the former.[78] Psychological or subjective idealism posits a dependence of objective being on subjective thinking. By contrast, Hegelian absolute idealism grants the independent existence of objective being apart from subjective thinking. It nonetheless maintains the inherent availability *qua* intelligibility of this independent being as itself already sufficiently structurally similar (i.e., "identical") to thinking so as to be knowable in principle. Pippin makes the same point, echoing Brandom,[79] through recourse to the Fregean sense-reference (*Sinn-Bedeutung*) distinction, with senses but not references being subject-dependent as per Hegelian idealism.[80]

I agree with much of the immediately preceding. I concur with Pippin that Hegel adheres to a hylomorphic realism. Nonetheless, I am convinced that Pippin fails really to bridge a rift between the two fundamental domains in play here: on the one side, subjectivity, thinking, mind, reasons, senses, and the like; and, on the other side, objectivity, being, world, causes, references, and the like. Under combined Kantian, Fichtean, and Brandomian influences, Pippin seems to ignore one of the most innovative

[77] G.W.F. Hegel, *The Science of Logic* [trans. George di Giovanni], Cambridge: Cambridge University Press, 2010, 21.35 [p. 30], 11.247 [p. 343], 11.331-332 [pp. 428-429].
G.W.F. Hegel, *The Encyclopedia Logic: Part I of the Encyclopedia of the Philosophical Sciences with the Zusätze* [trans. T.F. Geraets, W.A. Suchting, and H.S. Harris], Indianapolis: Hackett, 1991, §60 [p. 108]. Hegel, *The Berlin Phenomenology*, §415 [p. 13].
[78] Pippin, *Hegel's Realm of Shadows*, pp. 6, 45, 253.
[79] Robert B. Brandom, *Tales of the Mighty Dead: Historical Essays in the Metaphysics of Intentionality*, Cambridge: Cambridge University Press, 2002, p. 208. Brandom, *A Spirit of Trust*, pp. 365, 393, 419, 422-423, 425-429, 667, 772.
[80] Pippin, "Robert Brandom's Hegel", p. 34. Pippin, *Hegel's Realm of Shadows*, pp. 66.

features of Hegel's philosophy, namely, its novel fashions of foregrounding temporal and historical dimensions of reality, including the bridges these dimensions establish between various domains.

Pippin's present manner of answering the charge of subjective idealism is to declare that there in fact is a real space of causes in addition to the logical space of reasons. Yet, the legacy of Kant's and Fichte's subjectivist transcendental idealisms continues to linger—this legacy gets reinforced by Pippin's Pittsburgh sources—insofar as ostensibly Hegelian absolute idealism *à la* Pippin is predicated on an unexplained static gap between thinking and being, subjectivity and objectivity. Pippin not only neglects to explain this gap—he pointedly refuses to do so. This refusal, one I will continue to push back against below, is made in the name of an anti-materialism and an anti-naturalism defending the purported purity of pure thinking. Such anti-materialism and anti-naturalism are perfectly Kantian and Fichtean, but definitely not Hegelian.

At one point in *Hegel's Realm of Shadows*, Pippin avows, "in the general picture I want to defend, nature is just as real as agency for Hegel,"[81] noting that, "Hegel accepts a realist philosophy of science."[82] This is all fine and good. However, Hegel's realism, as embodied by his *Real-philosophie* over and above *Logik* alone, requires accounting for the real emergence of Pippin's "agency" from nature.[83] Likewise, although, in *Hegel's Practical Philosophy*, Pippin wants to lay claim to a decidedly non-dualist independence of Spirit from Nature,[84] he is not entitled to do so, having tied his own hands with the reasons-causes dualism he imports from Pittsburgh. And, as he bluntly claims in that 2008 book, "Nature *itself*…

[81] Pippin, *Hegel's Realm of Shadows*, p. 97.
[82] *Ibid*., p. 212.
[83] G.W.F. Hegel, *Jenaer Systementwürfe I: Das System der spekulativen Philosophie* [ed. Klaus Düsing and Heinz Kimmerle], Hamburg: Felix Meiner Verlag, 1986, p. 179.
G.W.F. Hegel, *Philosophy of Nature: Part Two of the Encyclopedia of the Philosophical Sciences* [trans. A.V. Miller], Oxford: Oxford University Press, 1970, pp. 3, §247 [pp. 14-15], §248 [p. 18], §251 [p. 25].
[84] Pippin, *Hegel's Practical Philosophy*, pp. 48, 52-53.

does not 'develop into spirit.'"[85] What about Hegel's depictions of the rise of *Geist* out of *Natur* as a liberation struggle (*Befreiungskampf*)?[86] If Spirit does not emerge out of Nature, then from where does it come?

Missing from Pippin's attempted affirmation of the realist side of Hegel's idealism is an acknowledgment and account of temporal-historical geneses. At the biggest of big-picture levels, Pippin needs to be able to narrate the genesis of the Ideal (as Spirit, subjectivity, thinking, mind, reasons, senses, etc.) out of the Real (as Nature, objectivity, being, world, causes, references, etc.). But, Pippin's static dualism of reasons-versus-causes makes it such that he does not, will not, and cannot deliver such a narrative. Without it, Pippin remains a non-Hegelian subjective idealist at least by omission. In the 1801 *Differenzschrift*, Hegel remarks in the course of addressing K.L. Reinhold's philosophy that, "Materialism… appears to Reinhold only as a sort of mental aberration that is not indigenous to Germany, and he fails to recognize in it the authentic philosophical need to suspend the dichotomy that takes the form of spirit and matter (*echten philosophischen Bedürfnis, die Entzweiung in der Form von Geist und*

[85] Pippin, *Hegel's Practical Philosophy*, p. 49.

[86] G.W.F. Hegel, *Jenaer Systementwürfe II: Logik, Metaphysik, Naturphilosophie* [ed. Rolf-Peter Horstmann], Hamburg: Felix Meiner Verlag, 1982, pp. 188-189.
G.W.F. Hegel, *The Jena System, 1804-5: Logic and Metaphysics* [trans. ed. John W. Burbidge and George di Giovanni], Kingston and Montreal: McGill-Queen's University Press, 1986, p. 185.
G.W.F. Hegel, *Die Naturphilosophie: Enzyklopädie der philosophischen Wissenschaften II*, *Werke in zwanzig Bänden*, *9* [ed. Eva Moldenhauer and Karl Markus Michel], Frankfurt am Main: Suhrkamp, 1978, §270 [p. 104]. Hegel, *Philosophy of Nature*, §270 [p. 81].
G.W.F. Hegel, *Vorlesungen über die Philosophie der Geschichte*, *Werke in zwanzig Bänden, 12* [ed. Eva Moldenhauer and Karl Markus Michel], Frankfurt am Main: Suhrkamp, 1970, p. 106.
G.W.F. Hegel, *The Philosophy of History* [trans. J. Sibree], New York: Dover, 1956, p. 80.
Johnston, *Prolegomena to Any Future Materialism, Volume Two*.

Materie aufzuheben)."[87] Apropos Pippin's strict opposition between reasons and causes, Hegel's observation *vis-à-vis* Reinhold could be paraphrased as: Materialism appears to Pippin only as a sort of mental aberration that is not indigenous to German idealism, and he fails to recognize in it the authentic philosophical need to suspend the dichotomy that takes the form of spiritual reasons and material causes.

The reasons-versus-causes distinction is an outright dualism even according to Brandom's own definition of a dualism as "a distinction drawn in terms that makes essential relations between the distinguished items unintelligible."[88] Pippin tirelessly underscores that Hegel is all about intelligibility.[89] So, by the lights of the Brandom-Pippin duo itself, (anachronistically) attributing to Hegel adherence to a Sellarsian reasons-causes[90] (and, perhaps also, manifest versus scientific images[91]) dichotomy, a dichotomy apropos which even to ask about the relations between its terms is to fall into unintelligibility, must be mistaken. As Hegel warns in his Jena "Aphorisms from the Wastebook," "The questions which philosophy does not answer are answered in that they should not be so posed."[92] Questions posed to Hegel's philosophy about a variety of relationships (for instance, those between *Logik* and *Realphilosophie*, *Natur* and *Geist*, the pre/non-subjective and the subjective, etc.) become unanswerable under

[87] G.W.F. Hegel, *Differenz des Fichteschen und Schellingschen Systems der Philosophie*, *Werke in zwanzig Bänden, 2: Jenaer Schriften, 1801-1807* [ed. Eva Moldenhauer and Karl Markus Michel], Frankfurt am Main: Suhrkamp, 1970, p. 119. Hegel, *The Difference Between Fichte's and Schelling's System of Philosophy*, p. 177.
[88] Brandom, *A Spirit of Trust*, p. 11.
[89] Pippin, *Hegel's Practical Philosophy*, p. 50.
Pippin, *Hegel's Realm of Shadows*, pp. 14-15, 77-78, 81-82, 97-98, 252, 300.
Pippin, "Hegelian Themes".
[90] Wilfrid Sellars, *Empiricism and the Philosophy of Mind*, Cambridge: Harvard University Press, 1997, p. 76.
[91] Wilfrid Sellars, "Philosophy and the Scientific Image of Man", *Science, Perception and Reality*, London: Routledge & Kegan Paul, 1963, pp. 2-4, 6, 17-18, 20, 36-37, 39-40.
[92] G.W.F. Hegel, "Aphorisms from the Wastebook" [trans. Susanne Klein, David L. Roochnik, and George Elliot Tucker], *Miscellaneous Writings of G.W.F. Hegel* [ed. Jon Stewart], Evanston: Northwestern University Press, 2002, p. 248.

the constraints of Pippin's and Brandom's Sellarsianism. Hence, Hegel would object to asking such questions based on the reasons-causes opposition.[93]

At one point in *Hegel's Realm of Shadows*, Pippin makes an assertion about Hegelian intelligibility that seems as though it might provide him with a response to the preceding. He states:

> To consider beings in their intelligibility (what Hegel called 'the science of things in thought') is not to consider them in terms of some species-specific subjective capacity, any more than considering truth-functional relations between sentences in a logic is a consideration of how we happen to go on with sentences.[94]

Pippin likewise cautions against "an overly psychological or subjectivistic conception of thinking"[95] and warns that, "'subjectivity' is not 'psychology.' Its most general reference is 'anyone, any being, thinking anything at all.'"[96] Successfully decoupling pure thinking, in its purity, from the species *homo sapiens* would appear to sever the tie between *Geist* and *Natur*. This would permit Pippin to persist untroubled in his Kantian-Fichtean-Brandomian dualism of the two separate spaces of reasons (pertaining to Spirit as rational being) and causes (pertaining to Nature as material being, including the animal side of humans as rational animals).

If this sounds like it is leading to a Kantian-type clear-cut distinction between human beings and rational beings, with human beings as, in part, an actual species of the potentially larger genus of rational beings, that is because it is. Only rational beings engage in the thinking that renders into actual thoughts potentially thinkable (i.e., intelligible) beings, including the pure thinking that renders intelligibility itself fully thought-through.[97] In the introduction to *Hegel's Realm of Shadows*, Pippin announces, "The

[93] Johnston, *Prolegomena to Any Future Materialism, Volume Two*.
[94] Pippin, *Hegel's Realm of Shadows*, p. 76.
[95] *Ibid*., p. 123.
[96] *Ibid.*, p. 219.
[97] *Ibid*., p. 57.

watchwords for this study are simple: when Hegel says subjectivity, he means subjectivity. Only human beings are true subjects, but that categorization is not limited to finite, psychological subjectivity."[98] So, in a very Kantian fashion, Pippin internally divides subjects into two halves, a rational one (involving a pure thinking "in humans more than humans themselves," as Jacques Lacan might put it) and a human one (involving species-specific psychology, etc.).

Pippin downplays and sidelines a particular group of Hegel's contemporaries as influences on his philosophy: Schelling and the romantics. As a matter of historical fact, both Schelling and Hegel were profoundly impressed by Friedrich Schiller's 1795 *Letters on the Aesthetic Education of Man*.[99] Hegel's sustained critical rejection of Kant's deontological ethics of pure practical reason is in no small part inspired by Schiller's problematization and nuancing of the Kantian division of persons into conflicting noumenal and phenomenal dimensions (pitting a pure rational will against the pathological inclinations of an impure human animal).[100] It would seem that this Schillerian-Hegelian challenging of the noumenal-phenomenal dualism as it features in Kant's practical philosophy also would raise reservations regarding the closely related splitting of subjectivity at the level of Kant's theoretical philosophy. This thereby would bring up obstacles to Pippin attributing to Hegel a Kantian-variety human-versus-rational beings distinction.

That noted, Pippin ignores a set of questions crucial from a genuinely Hegelian perspective. What are the conditions of possibility for the human acceding to the rational? What are the anthropogenetic meta-

[98] Pippin, *Hegel's Realm of Shadows*, p. 18.
[99] G.W.F. Hegel, "Hegel to Schelling: Bern, April 16, 1795", *Hegel: The Letters* [trans. Clark Butler and Christiane Seiler], Bloomington: Indiana University Press, 1984, p. 36.
Hegel, *The Encyclopedia Logic*, §55 [p. 102].
G.W.F. Hegel, *Hegel's Aesthetics: Lectures on Fine Art, Volume I* [trans. T.M. Knox], Oxford: Oxford University Press, pp. 62-63.
[100] Friedrich Schiller, *On the Aesthetic Education of Man* [trans. Reginald Snell], Mineola: Dover, 2004, pp. 24, 31-32, 65, 68, 73-74, 96-99, 109, 112, 115, 122-124.

transcendentals for the transcendental subjectivity, the pure thinking "I," misrepresented by Fichte and Pippin as an *unhintergehbar ex nihilo*? Posing and responding to such queries would not be simply and automatically to reduce the pure to the impure. Rather, just as there are, for Hegel, presuppositions (historical, phenomenological ones) leading to and making possible the presuppositionless beginning of Logic—Pippin grants that the *Phenomenology of Spirit* indeed is the ladder to *Logik*[101]—so too are there (natural, organic, anthropological, psychological, etc.) impurities out of which the purity of the logical thinking "I" gets distilled. If presuppositionlessness can be made possible by presuppositions, then why could purity not be made possible by impurity through genetic processes of purification?

Amongst those whose influence upon Hegel Pippin wishes to minimize or deny altogether, there is, in addition to Schelling and Schiller, Schelling's and Hegel's mutual friend and Tübingen classmate Friedrich Hölderlin. *Hegel's Realm of Shadows* contains a passing reference to Hölderlin's 1795 "On Judgment and Being."[102] Pippin then appeals approvingly to Dieter Henrich's work on the Hegel-Hölderlin relationship.[103] As regards 1795's "*Über Urtheil und Seyn*," Henrich contrasts Hölderlin's vanished unity of primordial Being before its disruption by the original division (*Ur-Teil*) into subjectivity and objectivity with Hegel's self-negating Being and his Absolute as an achieved result rather than a lost origin.[104] I suspect Pippin's appeal to Henrich is meant to help maintain distance between Hegel and a Hölderlin highly critical of the Fichtean philosophy of the 1794 *Wissenschaftslehre* (i.e., the Fichte so pivotal for Pippin).

[101] Pippin, "Slavoj Žižek's Hegel," p. 102. Pippin, *Hegel's Realm of Shadows*, pp. 75-76.
[102] Pippin, *Hegel's Realm of Shadows*, p. 144.
[103] *Ibid*.
[104] Dieter Henrich, "*Hegel und Hölderlin*," *Hegel im Kontext: Mit einem Nachwort zur Neuauflage*, Frankfurt am Main: Suhrkamp, 2010, pp. 28-29, 37-38.
Dieter Henrich, *Between Kant and Hegel: Lectures on German Idealism* [ed. David S. Pacini], Cambridge: Harvard University Press, 2003, p. 289.

Pippin does not mention the anti-Fichtean essence of Hölderlin's "On Judgment and Being." However, Henrich directly addresses this matter. In sympathy with Hölderlin *contra* Fichte, he remarks:

> …what is the relationship between a discourse that discloses the internal structures of consciousness and an investigation of ontological presuppositions that we have to make in order to complete that discourse on consciousness? …the discourse on consciousness cannot remain the ultimate discourse, let alone the only one, although it might remain primary… We are therefore compelled to ask what the discourse might be by which we can solve this problem of the relationship between the epistemic and ontological discourses. It cannot be a discourse that relies exclusively on the internal self-explication of the mind.[105]

Henrich goes on to observe that this Hölderlinian ontological critique of the *Wissenschaftslehre* represents the birth of an absolute idealism (i.e., what Hegel proceeds to epitomize) beyond Fichte's subjective idealism.[106] Pippin's Fichtean reconstruction of Hegel's Logic looks as though it amounts to, in Henrich's above-quoted words, a "discourse on consciousness" that "relies exclusively on the internal self-explication of the mind." The same Henrich under consideration here also claims that, "Hölderlin rightly asserts that the self-referential mind is not self-explaining, and that we have to presuppose a ground from which it originates"[107]—and this against Fichte's very idealistic (i.e., subjectivist) idealism.[108] How is Pippin's redeployment of the Fichtean "self-explaining" "I = I" not vulnerable to the same Hölderlinian contestation (as summarized by Henrich)?

Another manner in which Pippin attempts to burnish his own Hegelian realist (rather than subjective idealist *qua* anti-realist) credentials involves contrasting Kant and Hegel on the topic of life. As is common

[105] Henrich, *Between Kant and Hegel*, p. 286.
[106] *Ibid*., p. 292.
[107] *Ibid*., p. 295.
[108] *Ibid*.

knowledge, Hegel (along with Schelling) ontologizes Kant's merely regulative, "as if" conception of the organic as per the "Critique of the Teleological Power of Judgment" in 1790's *Critique of the Power of Judgment*. Pippin spotlights Hegel's frustration with the Kantian "*als ob*" qualifying the subject of life in particular.[109] By contrast with Kant's critical-epistemological agnosticism, Hegel is a realist about organic structures and dynamics.[110]

Interestingly, "life" already appears as a logic category in the mature Logic's "Doctrine of the Concept" even before the transition to the topic of Nature as per *Naturphilosophie*. Pippin sees the specifically logical role of the category of life as buttressing the very idea of pure thinking, with both life and pure thinking being instances of auto-reflexive self-determination.[111] Moreover, he handles the appearance of life in the *Logik* carefully. Pippin portrays life being a logical category for Hegel as representing a Hegelian argument against any absolutization of mechanics, any attempt to deny the possible real existence of structures and dynamics different from mechanical ones (such as organic ones).[112]

But, tempering this, Pippin takes pains correspondingly to stipulate that Hegel is no vitalistic hylozoist.[113] Inorganic mechanics has its logical (and real) place along with, and independently of, organic life.[114] Likewise, "Hegel is not out to deduce a priori the necessary existence of living beings."[115] Pippin wisely decouples Hegel's conception of life, along with his conceptions of various other things, from any teleology according to which its very existence is somehow an ontological necessity.[116] This is

[109] Pippin, "Hegelian Themes". Pippin, *Hegel's Realm of Shadows*, pp. 286-287, 292-295.
[110] Pippin, *Hegel's Realm of Shadows*, p. 274.
[111] *Ibid.*, p. 316.
[112] *Ibid*., pp. 62, 275-276, 289.
[113] *Ibid.*, p. 284.
[114] *Ibid*., p. 288.
[115] *Ibid*., p. 274.
[116] *Ibid*., pp. 268-269.

fortunate for anyone enjoying Darwinian hindsight as regards Hegel's Logic.

Of course, for Darwinian evolutionary theory, as well as for some of its predecessors, actual life emerges in the course of natural history. A transition takes places from a world without life to a world with it. As I have argued elsewhere,[117] Hegel, despite certain remarks of his, can be interpreted as accepting some version of the historical-temporal emergence of the living out of the non-living. If Hegelianism is, at least on a basic level, minimally compatible with Darwinism, then this makes the absence of any account of real anthropogenesis arising out of nature in Pippin's framework a shortcoming marring his rendition of Hegelian realism.

What is more, the connection between a realist ontologization of life as per Kant's third *Critique* and the realism specific to absolute idealism brings the figure of Schelling back into the picture here. This connection is crucial to Schelling as well as to Hegel. As seen, Pippin consistently marginalizes Schelling's philosophy, treating Schelling as the odd man out of classical German idealism. I soon will demonstrate that Pippin's references to Schelling, especially in the context of his fight against materialist annexations of Hegel's thought, are revealing points well worth debating.

Finally, before proceeding to the next section, it must be mentioned that this philosophical-historical constellation involving Schelling's and Hegel's relations to Kant's "Critique of the Teleological Power of Judgment" also includes the figure of Baruch Spinoza thanks to the *Pantheismusstreit* provoked by F.H. Jacobi starting in 1785. I will not retell this story here, having done so on prior occasions.[118] However, the matter of

[117] Adrian Johnston, "Transcendentalism in Hegel's Wake: A Reply to Timothy M. Hackett and Benjamin Berger", *Pli: The Warwick Journal of Philosophy*, special issue: "Schelling: Powers of the Idea" [ed. Benjamin Berger], no. 26, Fall 2014, pp. 226-228.
Johnston, *Prolegomena to Any Future Materialism, Volume Two*.

[118] Adrian Johnston, *Adventures in Transcendental Materialism: Dialogues with Contemporary Thinkers*, Edinburgh: Edinburgh University Press, 2014, pp. 23-49.
Johnston, *A New German Idealism*, pp. 11-37.

Spinozism, so utterly central to the emergence and unfolding of post-Kantian German idealism, brings up the roles of materialism and naturalism in this idealist tradition. Moreover, the Schellingian and Hegelian critiques of Spinozism are directly relevant to Pippin's version of Hegel's realism.

Insofar as the version of realist Hegelianism Pippin advocates in his recent texts involves firm commitment to the reasons-causes dichotomy, his portrait of Hegel's logical monism resembles Spinoza's dual-aspect monism. Brandom, throughout *A Spirit of Trust*, invokes what he christens Hegel's "bimodal hylomorphic conceptual realism."[119] I already have clarified the "hylomorphic conceptual" part of this label in explaining Pippin's account of Hegel's Aristotelian hylomorphism (an account similar to that offered by Brandom). And, Brandom's adjective "bimodal" refers to the two modes of "alethic modal" (i.e., real-objective) and "deontic normative" (i.e., ideal-subjective) relations, with these two modes being analogous to the space of causes and the space of reasons respectively. Pippin explicitly endorses this Brandomian bimodality in *Hegel's Realm of Shadows*.[120] But, Brandom's (anti-naturalist, socio-pragmatic) bimodal hylomorphic conceptual realism suffers in the same way from the same absence of an authentically Hegelian inclusion of (anthropo)genetic dimensions that I identify above as compromising Pippin's supposedly Hegelian logic-as-metaphysics realism.

Without these (anthropo)genetic dimensions, Brandom's and Pippin's attempts at reconstructing Hegel leave the latter's metaphysics looking too much like Spinoza's. Of course, with Spinoza, one has a dual-aspect monism in which "substance" as monistic being inexplicably just so happens to show up, for human beings, in the two guises of the "attributes" of "thinking" and "extension." With Brandom and Pippin, one has a bimodal (i.e., dual-aspect) logical monism in which the spiritual substance of pure intelligibility shows up in the two guises of the modes (akin to

[119] Brandom, *A Spirit of Trust*, pp. 84, 106, 108, 229-231, 373-374, 464, 573, 638, 666, 668-669, 715.
[120] Pippin, *Hegel's Realm of Shadows*, pp. 164, 176.

Spinoza's attributes) of reasons (i.e., ideality, subjectivity, thinking, mind, senses, etc.) and causes (i.e., reality, objectivity, being, world, references, etc.). The parallel is palpable.

On a separate occasion, I explore the significant breadth and depth of Hegel's sustained, repeated critiques of Spinoza and lifelong ambivalence towards Spinozism.[121] Here, it ought to be foregrounded that, as per Schelling and Hegel, Spinoza's major fault is his failure to ask and answer questions about why and/or how substance refracts itself into the split between its attributes of thinking and extension. For a Hegelian (and not just a Schellingian), the same objection applies to Brandom and Pippin.

In fact, the objection at this juncture is twofold. First, Pittsburgh-Chicago neo-Hegelianism does not explain the genesis of the very divide between the space of reasons and the space of causes. Second, this Analytic Hegelianism also does not explain the genesis of one of its two dimensions, the space of reasons, out of the other dimension, the space of causes. Anyone who both, one, affirms the historicity of nature generally and evolutionary theory specifically as well as, two, rejects spiritual-mental monism, Cartesian-type ontological dualism, and subjective idealism—Pippin signals his endorsement of this ensemble of affirmations and rejections—is obligated to explain in particular the genesis of the space of reasons out of the space of causes. Yet, Pippin, given other of his commitments, appears unable to meet this obligation mandatory if his version of Hegelian realism is to be fully intelligible.

§3 An Idealist Trinity or a Speculative Gang of Four?: The Schelling Symptom

Hegel's Realm of Shadows, with its focus on *Logik*, puts forward a specific portrayal of the Hegelian Absolute. Pippin speaks of "absolute self-conscious intelligibility, the intelligibility of intelligibility itself, the

[121] Johnston, *Adventures in Transcendental Materialism*, pp. 23-49.

Absolute"[122] and "the rendering intelligible of intelligibility itself."[123] This entails that the reflective and reflexive thinking "I" sits enthroned at the ultimate pinnacle of Hegel's System—"self-conscious subjectivity is at the very peak."[124] Such assertions enable Pippin to allege that Hegel, despite his severe (Schellingian) criticisms of Fichte in such places as the *Differenzschrift*, is systematically Fichtean in spirit.[125] Yet, Hegel's repudiations of Fichte's anti-realist, anti-naturalist subjectivism as one-sided are not confined to moments in his pre-*Phenomenology* youth. They show up consistently throughout his mature corpus.

As Pippin observes of Hegel, "The Absolute itself is said to be a result."[126] This is true. But, any Hegelian result, especially the Result of results that is the Absolute itself, is the product of sublation *als Aufhebung*. As such, the Absolute *qua* result contains preserved within itself everything that came before. Even if one grants Pippin's elevation of the self-conscious subjectivity of the Logic's "Doctrine of the Concept" to the very apex of a pyramid-like edifice, the bases atop which this "I" is perched, strata including pre-subjective "substance" and/or "nature," must be recognized as possibility conditions and sublated presuppositions of the supposedly self-positing subject.

However, Pippin puts up fierce Fichtean resistance against granting such recognition. His minimization of the significance of Spinoza's and Schelling's intermingling influences upon Hegel is the primary manifestation of this resistance. He sometimes expresses incredulity at interpretations of Hegel's philosophy according to which it owes anything to the Spinozistic vision of the very being of the Absolute itself becoming self-reflective in and through human beings.[127] Yet, even Fichte himself,

[122] Pippin, *Hegel's Realm of Shadows*, p. 252.
[123] *Ibid*., p. 300.
[124] *Ibid*., p. 98.
[125] Pippin, "Fichte's Alleged Subjective, Psychological, One-Sided Idealism", pp. 165-166.
[126] Pippin, *Hegel's Realm of Shadows*, p. 135.
[127] *Ibid*., pp. 53, 58, 109, 133-134.

starting in the 1804 version of his *Wissenschaftslehre*, came to see the unavoidability of situating his transcendental reflexive "I" within a genetic ontology of substance-becoming-subject, of the non/pre-subjective giving rise to subjectivity proper.[128]

Basically, Pippin's anti-Spinozism in *Hegel's Realm of Shadows* reflects the restriction of his concerns to Hegel's Logic. Insofar as Hegelian *Logik* is a thinking about thinking, it does not narrate the spontaneous self-movement of Being *an sich* as a substance moving from itself onwards up to the apperceptive "I" as a subject. At the very start of Logic, Being is a concept for thinking, not a substance in itself.[129] However, if one takes into account both the very end of Logic (with its transition to *Naturphilosophie*) as well as all of the Philosophy of the Real, denying the existence of Spinozistic features in Hegel's System becomes implausible. What holds for *Logik* does not automatically hold for *Realphilosophie* and encyclopedic *Wissenschaft überhaupt*.

In seeming tension with Pippin's anti-Spinozism, *Hegel's Realm of Shadows* also contains a concession to a sort of quasi-Spinozistic picture. Pippin states:

> We can say that reality comes to self-consciousness about itself in us, or that the light that illuminates beings in their distinct being-at-work is the same light that illuminates their knowability in us, as long as we do not mean a light emanating from individual minds.[130]

Spinoza, Schelling, and Hegel would concur with the caveat that closes this quotation. Also apropos Spinoza's metaphysics, Pippin, implicitly in resonance with the famous barb about "the night in which all cows are black" in the *Phenomenology*'s preface,[131] underscores that Hegel's Logic

[128] J.G. Fichte, *The Science of Knowing: J.G. Fichte's 1804 Lectures on the Wissenschaftslehre* [trans. Walter E. Wright], Albany: State University of New York Press, 2005, pp. 37-38, 41, 122.
[129] Pippin, *Hegel's Realm of Shadows*, p. 188.
[130] *Ibid*., pp. 93-94.
[131] Hegel, *Phenomenology of Spirit*, p. 9.

dissolves the indeterminacy of the being of Spinozistic substance into specific forms of precise categorial determinacy.[132]

Pippin is especially hostile towards Schelling. As witnessed, he associates Schelling's philosophy with the beginning of a materialist-naturalist campaign to sully the purity of pure thinking.[133] Schellingian objective idealism is disqualified as genuinely idealist as per a German idealism defined by the triad of Kant, Fichte, and Hegel.[134] At best, Schelling's "idealism" is a disposable mediator between subjectivist transcendental idealism and Hegelian absolute idealism.[135]

Moreover, Pippin flatly denies that Hegel takes over the core of the early Schelling's *Identitätsphilosophie*.[136] Already in *Hegel's Idealism*, Pippin tries to circumscribe the role of Schelling in the formation of Hegel's philosophy. Therein, only Schelling's 1800 *System of Transcendental Idealism*, a still partially Fichtean work, is said to exert an influence on Hegel—and this exclusively on the immature Hegel.[137] In "Fichte's Alleged Subjective, Psychological, One-Sided Idealism," Pippin refers to "the Schellingean bog," with which he associates "Hölderlin, Novalis, and the early Hegel"[138] (but not the mature Hegel from 1807 onward).

Also in "Fichte's Alleged Subjective, Psychological, One-Sided Idealism," Pippin characterizes Schelling's post-Fichtean pursuit of a version of substance-also-as-subject as a quest for "a kind of Holy Grail for modern philosophy."[139] In a passage that appears both in his review of Žižek's *Less Than Nothing* as well as in *Hegel's Realm of Shadows*, he deems a strong-

[132] Pippin, *Hegel's Realm of Shadows*, pp. 212-213, 241.
[133] *Ibid*., pp. 6-7.
[134] *Ibid*., p. 4.
[135] *Ibid.*, pp. 12-14, 36-37.
[136] *Ibid*., pp. 108-109.
[137] Robert B. Pippin, *Hegel's Idealism: The Satisfactions of Self-Consciousness*, Cambridge: Cambridge University Press, 1989, p. 64. Johnston, *A New German Idealism*, p. 66.
[138] Pippin, "Fichte's Alleged Subjective, Psychological, One-Sided Idealism", p. 160.
[139] *Ibid*., p. 159.

emergentist substance-also-as-subject metaphysics to be "a tall order."[140] And, this tall order is said to be a specifically Schellingian concern, with Pippin maintaining that its presence in Hegel's thinking is confined to the *Phenomenology of Spirit* alone (i.e., after 1807, Hegel ceases to share this concern with his former friend).[141]

As I noted a while ago, Hegel indeed posits the superiority of Schelling's objective idealist standpoint over the subjective idealist perspectives of Kant and Fichte in the *Phenomenology* itself. This is signaled by the fact that transcendental idealism, with the unity of its apperceptive "I," is succeeded therein by Baconian natural science and its speculative digestion by Schellingian *Naturphilosophie* (in the transition from "The Certainty and Truth of Reason" to "Observing Reason" in the "Reason" section succeeding the section on "Self-Consciousness"). And, *pace* Pippin, such pro-Schelling evaluations by Hegel are not confined to the Jena period.

Indeed, these evaluations recur as late as the *Lectures on the History of Philosophy* of Hegel's final Berlin period. Schelling features there as the last figure covered, coming after Kant and Fichte. This alone is significant. Moreover, this later Hegel remains markedly ambivalent, rather than unequivocally hostile, towards his old Tübingen peer and earlier collaborator.

Admittedly, Hegel hurls a number of harsh criticisms at Schelling in these Berlin lectures. Nonetheless, he portrays Schelling as having "raised himself above the Fichtean principle and the Kantian content with which he began."[142] This portrayal by itself indicates, again *contra* Pippin, that Hegel never abandoned his 1801 assessment, in the *Differenzschrift*, of Schelling's philosophy *vis-à-vis* Kant's and Fichte's philosophies in favor of the former. The Berlin Hegel soon adds:

[140] Pippin, "Slavoj Žižek's Hegel", pp. 95-96. Pippin, *Hegel's Realm of Shadows*, p. 143.
[141] Pippin, *Hegel's Realm of Shadows*, p. 98.
[142] Hegel, *Lectures on the History of Philosophy, Volume Three*, p. 513.

> With Schelling the speculative form has… again come to the front, and philosophy has again obtained a special character of its own; the principle of Philosophy, rational thought in itself, has obtained the form of thought. In the philosophy of Schelling the content, the truth, has once more become the matter of chief importance, whereas in the Kantian philosophy the point of interest was more especially stated to be the necessity for investigating subjective knowledge. This is the standpoint of Schelling's philosophy in its general aspects.[143]

At this same moment, Hegel repeats his anti-Kantian swipe, from the *Encyclopedia Logic*, about the critical epistemology of subjectivist transcendental idealism being comparable to "the wise resolve of Scholasticus to learn to *swim before he ventured into the water*."[144] Kant, in his excessive epistemological caution, wants something as "absurd"[145] as Scholasticus, namely, to know about knowledge prior to any actual knowing (i.e., an impossible knowing-before-knowing). As in Jena while closely cooperating with Schelling, so too still in Berlin long after parting ways with Schelling: Hegel favors Schellingian speculative objective idealism, with its "*Wahrheit*," over Kantian and Fichtean critical subjective idealisms, with their self-limitation to "*das Wissen, das Erkennen, das subjektive Erkennen*."[146] In this same vein, the Berlin Hegel even continues to have approving words for Schellingian *Naturphilosophie*.[147] All of this obviously presents complications for Pippin's exegetical perspective.

The wedge Pippin tries to drive between, on one side, the Kant-Fichte-Hegel troika and, on another side, Spinoza, Schelling, and (dialectical) materialism already is rehearsed a few years prior to *Hegel's Realm*

[143] Hegel, *Lectures on the History of Philosophy, Volume Three*, p. 521.
[144] G.W.F. Hegel, *Vorlesungen über die Geschichte der Philosophie III*, *Werke in zwanzig Bänden, 20* [ed. Eva Moldenhauer and Karl Markus Michel], Frankfurt am Main: Suhrkamp, 1971, p. 430. Hegel, *The Encyclopedia Logic*, §10 [p. 34].
[145] Hegel, *The Encyclopedia Logic*, §10 [p. 34].
[146] Hegel, *Vorlesungen über die Geschichte der Philosophie III*, p. 430.
[147] Hegel, *Lectures on the History of Philosophy, Volume Three*, pp. 535-536, 541-545.

of Shadows in Pippin's review of *Less Than Nothing*. This review, in addition to raising objections to Žižekian metaphysics, also voices complaints about Žižek's politics. These complaints reveal the presence of a political subtext accompanying the debates about the epistemological and ontological dimensions of Hegelian theoretical philosophy. For the time being, I will continue to focus on the metaphysical issues under dispute, postponing an engagement with Pippin's political comments until the fifth and final section of this intervention ("Hegelianism's Historical Futures: A Political Coda").

Pippin opens his review of *Less Than Nothing* with a deployment of his weaponized incomprehension against the Spinozistic-Schellingian motif of substance as self-sundering.[148] This would be Being-in-itself (*qua* Nature) as auto-disruptive in ways that help bring into existence subjectivity. After labeling this motif embraced by Žižek "a tall order," Pippin maneuvers to exclude it from the philosophical sanctum of true German idealism. Substance-also-as-subject is dismissed as a Schellingian objective idealist and/or Freudian psychoanalytic problem, not a Hegelian one.[149] For Pippin, Žižek is too Schellingian and Lacanian while not being Hegelian enough.[150] However, Hegel, near the very end of the *Encyclopedia* (and well after the *Phenomenology*), reaffirms the importance to his System of "substance as subject and as mind" (*Substanz als* Subjekt *und als* Geist) in connection with the ontological and genetic metaphysical Spinozism summarily waved away by Pippin.[151] Likewise, while lecturing on the Logic's "Doctrine of the Concept" one last time in 1831, Hegel again invokes as crucial the problematic of *Substanz-als-Subjekt*.[152] Against Pippin, this

[148] Pippin, "Slavoj Žižek's Hegel", p. 93.
[149] *Ibid*., pp. 95-96.
[150] *Ibid*., pp. 105, 107.
[151] G.W.F. Hegel, *Enzyklopädie der philosophischen Wissenschaften, Dritter Teil: Die Philosophie des Geistes mit den mündlichen Zusätzen*, *Werke in zwanzig Bänden, 10* [ed. Eva Moldenhauer and Karl Markus Michel], Frankfurt am Main: Suhrkamp, 1970, §573 [pp. 387-389]. Hegel, *Philosophy of Mind*, §573 [pp. 309-310].
[152] G.W.F. Hegel, *Vorlesungen über die Logik: Berlin, 1831* [ed. Udo Rameil], Hamburg: Felix Meiner Verlag, 2001, §212-213 [p. 208], §235 [p. 222].

Spinoza-inflected philosophical program is trackable as a red thread running throughout Hegel's intellectual itinerary, from at least as early as the Jena *Phenomenology of Spirit* straight through until his death.[153] And, although I disagree with how Brandom construes the *Phenomenology*'s substance-also-as-subject, he at least registers its enduring importance for Hegel.[154]

In a Kantian-Fichtean move by now familiar, Pippin plays off the alleged priority of a socio-normative unity of apperception against any materialist or naturalist self-sundering substance (as per Žižek *et al*).[155] Accordingly, Žižek's metaphysics, with its asubjective excesses, remainders, and the like, is judged to be a regression to an objectivist myth of givenness put out of business by the German idealist revelation of omnipresent subjective mediation (via the apperceiving "I" and everything it brings with it).[156] In particular, Hegel's System, reduced to its Logic, is purported by Pippin (as also in *Hegel's Realm of Shadows* subsequently) to be all about subject-centered intelligibility and not at all about any "material evolution" from the natural to the logical.[157]

Throughout Pippin's review of *Less Than Nothing*, he mocks Žižek's "gappy ontology" of ruptures, voids, and the like.[158] For Pippin, such Žižekian formulations "mystify everything needlessly."[159] He

G.W.F. Hegel, *Lectures on Logic: Berlin, 1831* [trans. Clark Butler], Bloomington: Indiana University Press, 2008, §212-213 [p. 212], §235 [p. 227].

[153] Johnston, *Adventures in Transcendental Materialism*, pp. 23-49.
Johnston, *A New German Idealism*, pp. 11-37.
Johnston, *Prolegomena to Any Future Materialism, Volume Two*.

[154] Brandom, *A Spirit of Trust*, p. 713.

[155] Pippin, "Slavoj Žižek's Hegel", pp. 97, 105, 107.

[156] Pippin, "Slavoj Žižek's Hegel", pp. 105, 113-114; Pippin, *Hegel's Realm of Shadows*, pp. 141-142.

[157] Pippin, "Slavoj Žižek's Hegel", pp. 101-102.

[158] *Ibid*., pp. 96-97, 100, 108.

[159] *Ibid*., p. 103.

proclaims his puzzlement in the face of these formulations.[160] Portions of Žižek's discourse are accused of being "mystified and unintelligible."[161]

Pippin's mockery, puzzlement, and accusations readily can and should be turned against him. His metaphysics is unbelievably gappy, being centered on the Mother of all gaps, namely, the unbridgeable dualistic divide between the space of reasons and the space of causes. This Gap of gaps is puzzlement incarnate. It mystifies and renders unintelligible the fundamental relations between being and thinking, *Natur und Geist*, body and mind, subjectivity and objectivity, and so on. It even backs Pippin into the philosophical obscurantism of justly so-called "new mysterianism."

Pippin's mysterian mischaracterization of Hegel comes out most clearly in the second chapter ("Naturalness and mindedness: Hegel's compatibilism") of *Hegel's Practical Philosophy*. On the one hand, Pippin correctly observes therein that, "All aspects of human mentality and practices (spirit) *always*, Hegel insists throughout, 'presuppose' nature."[162] He soon proceeds to propose:

> The suggestion Hegel appears to be making is simply that at a certain level of complexity and organization, natural organisms come to be occupied with themselves and eventually to understand themselves in ways no longer appropriately explicable within the boundaries of nature or in any way the result of empirical observation.[163]

Pippin is here vague and non-committal, speaking merely of "a certain level of complexity and organization." Yet, despite the haziness of this "certain level," it seems as though he is endorsing the basic model of *Geist*, as mindedness and like-mindedness, emerging on the basis of *Natur*, as animal organisms (Brandom likewise sketches a fuzzy emergentist picture along these same lines[164]). Hegel himself displays an unwillingness to

[160] Pippin, "Slavoj Žižek's Hegel", p. 105.
[161] *Ibid*., p. 106.
[162] Pippin, *Hegel's Practical Philosophy*, p. 46.
[163] *Ibid.*, p. 46.
[164] Brandom, *A Spirit of Trust*, p. 529.

leave Spirit's liberation struggle (*Befrieungskampf*) from Nature in a fog of obscurity. Hegel's *Realphilosophie* delineates the real genesis of the spiritual out of the natural as a really knowable genesis with sharp, discernible moments and components.

In the same chapter of *Hegel's Practical Philosophy*, Pippin promptly muddies these waters. I already quoted his insistence that, "Nature *itself*… does not 'develop into spirit.'"[165] How is one to square this denial with the endorsement of some sort of emergentism of *Geist* from *Natur* in the preceding block quotation? Additionally, how is one to square it with statements by Hegel such as, "the objective world itself at once contains (*in sich enthält*) the very subject that differentiates itself (*die sich unterscheidet*) from the world as object,"[166] a statement also from his 1831 Berlin lectures on the logical "Doctrine of the Concept?"

Moreover, Pippin, again in this chapter of his 2008 book, claims that Hegel in no way advocates "some form of weak or anomalous monism, or other sort of dual aspect, supervenience, emergent property thesis, etc."[167] He then immediately remarks, "Hegel's account of spirit is none of these and it is hard to see what that leaves us with."[168] I would contend that it is Pippin's rendition of Hegel, not the Hegelian corpus itself, that leaves readers in this state of confusion. Incidentally, with Pippin's just-quoted mention of "dual aspect," it is worth remembering that Pippin, along with Brandom, ends up imputing to Hegel, however inadvertently, a metaphysics objectionably similar to Spinoza's dual-aspect monism as already critiqued by Hegel himself.

At this point, Pippin can be seen to oscillate between two positions. I am inclined to designate these as weak mysterianism and strong mysterianism. Sometimes, he indicates that Spirit is known to emerge from Nature,

[165] Pippin, *Hegel's Practical Philosophy*, p. 49.
[166] Hegel, *Vorlesungen über die Logik*, §235 [p. 222]. Hegel, *Lectures on Logic*, §235 [p. 227].
[167] Pippin, *Hegel's Practical Philosophy*, p. 59.
[168] *Ibid*.

albeit with the precise details of this emergence stubbornly remaining shrouded in mystery. This would be Pippin's weak mysterianism. At other times, he simply denies that *Geist* arises from *Natur*, leaving the question of Spirit's genetic origins unasked and unanswered. This would be Pippin's strong mysterianism. If either form of mysterianism somehow still qualifies as compatibilism, they both nonetheless remain incompatible with Hegel.

In *Less Than Nothing*, Žižek responds to this same material from the second chapter of *Hegel's Practical Philosophy*. Although Pippin reviewed Žižek's book, he still has not responded to some of Žižek's critiques of him in *Less Than Nothing*. And, I am convinced Pippin cannot adequately respond unless and until the quite unlikely occurrence of him breaking with the position he has defended from 1989 onwards. That said, Žižek, at one point in his 2012 tome, observes:

> If… in ontological terms, spirit naturally evolves as a capacity of natural beings, why not simply endorse materialist evolutionism? That is to say, if—to quote Pippin—'at a certain level of complexity and organization, natural organisms come to be occupied with themselves and eventually to understand themselves,' does this not mean that, precisely, in a certain sense nature itself *does* 'develop into spirit?' What one should render problematic is precisely Pippin's fragile balance between ontological materialism and epistemological transcendental idealism: he rejects the direct idealist ontologization of the transcendental account of intelligibility, but he also rejects the epistemological consequences of the ontological evolutionary materialism. (In other words, he does not accept that the self-reflection of knowledge should construct a kind of bridge to materialist ontology, accounting for how the normative attitude of 'accounting for' itself could have emerged out of nature.)[169]

[169] Slavoj Žižek, *Less Than Nothing: Hegel and the Shadow of Dialectical Materialism*, London: Verso, 2012, p. 238.

What Žižek identifies as "Pippin's fragile balance between ontological materialism and epistemological transcendental idealism" is reflected in Pippin's symptomatic stigmatization of Schelling in relation to the tradition of German idealism. Both Schelling and Hegel—Hegel remained throughout his intellectual itinerary marked by Schelling's philosophies of Identity and Nature—continually sought, in Žižek's words, to "construct a kind of bridge to materialist ontology, accounting for how the normative attitude of 'accounting for' itself could have emerged out of nature."[170] I would suggest that both Pippin and Brandom need such a bridge. Yet, this Chicago-Pittsburgh pair have invested in stances that prevent them from building a structure that would span the gap they themselves sustain between the normative and the natural.

Brandom, in *A Spirit of Trust*, and Pippin, in 2011's *Hegel on Self-Consciousness: Desire and Death in the Phenomenology of Spirit*, both have recourse to the desiring human creature, the *Gestalt* of *Begierde*, as featured during the opening of the *Phenomenology*'s section on "*Selbstbewußtsein*" in attempts to bridge the rift they themselves open up and hold open between the natural and the normative.[171] Pippin's way of here trying to have his dualistic reasons-causes cake and eat it too echoes his above-criticized 2008 mysterianism(s).[172] Brandom supplies a more technically detailed, yet not substantially different-in-kind, tale of the transubstantiation of natural animal being into normative rational being through nothing more and nothing less than language-mediated games of recognition, with their regulatory systems of deontic "score-keeping."

There are problems with Brandom's and Pippin's turns to the *Begierde-Gestalt* of the *Phenomenology* even within strictly Hegelian parameters. To begin with, under the constraints of the opposition between

[170] Johnston, *Prolegomena to Any Future Materialism, Volume Two*.
[171] Robert B. Pippin, *Hegel on Self-Consciousness: Desire and Death in the Phenomenology of Spirit*, Princeton: Princeton University Press, 2011, pp. 34-36, 75-76.
Brandom, *A Spirit of Trust*, pp. 24, 246, 262, 326-328, 336-338, 531, 679.
[172] Pippin, *Hegel on Self-Consciousness*, pp. 75-76.

natural causes and normative reasons, neither Brandom nor Pippin are entitled to any kind of transition from *Natur* to *Geist*, despite needing this in light of Hegel's own outlook. Unfortunately for the Pittsburgh-Chicago joint venture, the apparent move from organism (as passive, receptive, and sentient) to agent (as active, spontaneous, and sapient) would have to amount to the still-unexplained non-transition of a miraculous leap into a mysteriously always-already-there socio-linguistic matrix (i.e., an *unhintergehbar* space of reasons).

Furthermore, seen with the benefit of hindsight afforded by Hegel's both logical and real-philosophical System, the desire dealt with at the start of "Self-Consciousness" in the *Phenomenology* is only a very small part of a much longer story about the coming into being of the human as spiritual. Hegelian *Realphilosophie* in particular subtly but undeniably embeds the entire *Phenomenology* (as itself wholly internal to *Geistesphilosophie*) in a larger explanatory arc within which both *Begierde* and *Selbstbewußtsein* are themselves rather late outcomes. Behind them lurk material possibility conditions both natural and anthropological for the subjects of Phenomenology and Logic. Neither Brandom nor Pippin seem willing or able to entertain the very idea of such material and natural (meta-)transcendentals. Pippin exacerbates these difficulties for himself by tying Hegelian desire to Fichtean "striving" (*Streben*).[173]

Brandom, already in the 2000 book *Articulating Reasons: An Introduction to Inferentialism*, broaches some of the matters under dispute in the present discussion. Brandom's take on the Nature-Spirit rapport in this work arguably exhibits an oscillation akin to the one Žižek identifies in the quotation above occurring in Pippin's 2008 book *Hegel's Practical Philosophy*. On the one hand, Brandom concedes that *Geist*, in a bottom-up genesis, immanently arises from *Natur*, with the spiritual thereafter achieving a self-relating autonomy *vis-à-vis* its natural grounds.[174] On the other

[173] Pippin, *Hegel on Self-Consciousness*, p. 55.
[174] Robert B. Brandom, *Articulating Reasons: An Introduction to Inferentialism*, Cambridge: Harvard University Press, 2000, pp. 26-27.

hand, in this same book, he soon proceeds to imprison the disciplines that would study this real emergence of Spirit out of Nature, such as the natural sciences, within the confines of Spirit alone.[175] Pippin performs the same gesture.[176] Thereby, what otherwise would be a Hegelian emergentist realism is dissolved into a social-constructivist anti-realism.

These same oscillations, ones ultimately veering towards socio-subjectivist anti-realism and anti-naturalism, recur in 2019's *A Spirit of Trust*. Therein, Brandom depicts Hegel as meeting "the challenge to integrate reasons and causes" through seeking to overcome the dialectical deadlock of the third of Kant's "antinomies of pure reason."[177] Brandom notes Hegel's opposition to the sorts of dualisms upon which Kant's *Verstand*-centric perspective relies.[178]

Nevertheless, Brandom's Hegel, instead of actually carrying out a true *Aufhebung* of the reasons-causes dualism, remains committed to a non-dialectical and implicitly Spinozist bimodal hylomorphic conceptual realism in which natural causes and normative reasons are utterly separate, dichotomous modes (or aspects/attributes) untranslatable into each other.[179] Furthermore, Brandom presents bimodal hylomorphic conceptual realism as also entailing both an objective idealism of thinkable/knowable objects and a conceptual idealism of thinking/knowing subjects—albeit with there being an "asymmetry" between objective and conceptual idealisms slanted towards the priority of subjectivity as per conceptual idealism.[180] Brandom's identification of Hegel as a conceptual idealist brings the towering giant of post-Kantian idealism back into unsettling proximity to an anti-realist, anti-materialist subjective idealism one-sidedly favoring the spiritual reasons of epistemological subjectivity over the natural causes of ontological objectivity. Indeed, right after correctly noting Hegel's

[175] Brandom, *Articulating Reasons*, p. 33.
[176] Pippin, *Hegel's Realm of Shadows*, p. 314.
[177] Brandom, *A Spirit of Trust*, p. 558.
[178] *Ibid*., pp. 660, 706.
[179] *Ibid*., pp. 572-573.
[180] *Ibid.*, pp. 638, 672-673, 717.

hostility to Kantian-style dualisms between reasons and causes, norms and natures, etc., Brandom immediately proceeds to suggest that Hegel's metaphysics is, so to speak, normative reasons all the way down, with even the apparent objectivity of natural causes being posited in and by subjectivity.[181] This is anything but a properly Hegelian surmounting or sublation of the reasons-causes dualism.

As with the Fichte relied upon by Pippin, so too with this Brandomian Hegel: The distinction between Spirit and Nature is a distinction internal to Spirit itself. Alternately, this could be reworded in Brandom's own vocabulary as the claim that the distinction between the normative space of reasons and the natural space of causes is a distinction internal to the normative space of reasons itself (just as, for Fichte, the distinction between the *Ich* and the *Nicht-Ich* is a distinction internal to the *Ich* itself). Hegel, in the *Differenzschrift*, argues for the need to supplement Kant's and Fichte's anti-realist "subjective subject-object" of critical-transcendental idealism with Schelling's realist "objective subject-object" of the *Identitätsphilosophie* and *Naturphilosophie* emblematic of objective idealism[182] (with Schelling and Hegel meaning something different by "objective idealism" than Brandom when the latter employs this phrase). Hegel's Schelling-inspired 1801 argument applies just as much to this Brandom, whose one-sidedly spiritual-ideal Spirit-Nature (as static-synchronic) requires counter-balancing by a natural-real Spirit-Nature (as genetic-diachronic).

§4 The Substance of Shadows: The Place of *Logik* in Hegel's System

The very title of Pippin's 2019 book on Hegelian *Logik* raises a number of thorny interpretive and philosophical issues. The exact meaning of Hegel's

[181] Brandom, *A Spirit of Trust*, p. 660.
[182] Hegel, *The Difference Between Fichte's and Schelling's System of Philosophy*, pp. 82-83, 157, 159-162, 165-169, 172-174.

characterization of his "system of logic" as "the realm of shadows"[183] is a tricky exegetical problem.[184] What makes this especially difficult and important is that how one reads the phrase "realm of shadows" ultimately hinges on how one reconstructs the architecture of Hegel's System as a whole.

Pippin indeed confronts the puzzles presented by Hegel's metaphor of a realm of shadows. He poses a series of questions this metaphor brings up:

> If the realm of 'thinking thinking thinking' is a realm of shadows, what is casting the shadows? What is the light? Why the apparent reference to what Plato's prisoners see on the walls of the cave? If *Denkbestimmungen* are shadows, they can only be shadows of themselves, or thought's self-reflection. In that case what does it mean that these reflections are 'shadows?' Such questions multiply as soon as one proffers an interpretation.[185]

Pippin rightly judges that what the categories and concepts of *Logik* are shadows of are the natural and spiritual contents of *Realphilosophie*.[186] He states:

> …the ultimately intelligible, the self-determining concept of the Concept, the absolutely thinkable, thinkability itself (what we conclude the *Logic* with), is reflective illumination that allows us to see *the world*-in-its-shadows, to see its structure of intelligibility in a way it never exists, isolated as such. (So understood they never cease to be shadows, given Hegel's radical hylomorphism… but they are fully determinate shadows, sharply defined, not fuzzy anymore.) The

[183] Hegel, *The Science of Logic*, 21.42 [p. 37].
[184] Pippin, *Hegel's Realm of Shadows*, pp. 28-29.
[185] *Ibid.*, p. 315.
[186] *Ibid*., pp. 300, 302.

> *Realphilosophie* would return us to the embodied form of these making-intelligibility-possible forms, *Natur* and *Geist*.[187]

Insofar as Hegel's realist absolute idealism is also a "radical hylomorphism," he would be committed to heeding the Aristotelian dictum according to which there is neither formless matter nor matterless form. Therefore, the thinking of logical forms in their purity is a shadowy abstraction from these forms as always-already immanent to and incarnate within a more-than-logical Real. Logic's categories and concepts are not transcendent metaphysical realities externally superimposed upon mundane earthly stuff.[188]

Pippin makes a number of concessions as regards the larger architecture of Hegel's System above and beyond the Logic alone. Admitting the existence of *Realphilosophie*,[189] he even grants that the Philosophies of Nature and Spirit are part of Hegelian metaphysics too in addition to *Logik*-as-metaphysics.[190] The *Science of Logic*, with its concluding transition, indeed is inseparably tied to the Philosophy of the Real.[191]

With the logical thinking "I" as the purest form of *Geist*, grasping the transition from *Logik* to *Realphilosophie* (including a *Geistesphilosophie* as well as a *Naturphilosophie*) involves, among other things, comprehending the relationship between Spirit and Nature. Pippin acknowledges that the Spirit-Nature rapport must be thought.[192] He even refers to "a transition to and then from a Philosophy of Nature."[193] In relation to this, I will proceed in the current section to charge that Pippin both: one, misconstrues the import of the transition from *Logik* to *Realphilosophie*; as well as, two, is bound to core commitments that prevent him from being able to think the other side of this transition he mentions, namely, the movement from

[187] Pippin, *Hegel's Realm of Shadows*, p. 29.
[188] *Ibid.*, pp. 319-320.
[189] *Ibid*., p. 15.
[190] *Ibid*., p. 41.
[191] *Ibid*., p. 312.
[192] *Ibid*., p. 22.
[193] *Ibid*., p. 314.

Naturphilosophie to both *Geistesphilosophie* and *Logik* (i.e., "from a Philosophy of Nature").

Pippin gives Logic pride of place in Hegel's System. He identifies the *Science of Logic* in particular as "Hegel's most important book."[194] Because of Pippin's overriding epistemological emphasis on the priority of intelligibility above all else, *Realphilosophie* is accordingly made secondary and subservient to *Logik*.[195]

I would maintain that Pippin's uneven weighting of the components of Hegel's encyclopedic System is yet another symptom of a lingering subjectivist *qua* transcendental idealist bias coloring his perspective on Hegel. This bias blinds him to an anti-Kantian and post-critical dimension of Hegelian Logic in its entirety. This dimension appears most clearly at the very beginning and the very end of the mature versions of Hegel's *Logik*. Revisiting the place of the Logic in the larger Hegelian System further problematizes Pippin's Fichtean portrait of logical pure thinking.

Hegel, in his 1831 preface to the second edition of the *Science of Logic*, remarks that, "the need to occupy oneself with pure thoughts presupposes a long road that the human spirit must have traversed."[196] One could say that the ideal logical purity so esteemed by Pippin's reconstruction of Hegelianism is here said by Hegel himself, at the very end of his life, to presuppose as its conditions of possibility the real socio-historical impurities delineated in both the *Phenomenology of Spirit* as well as the third and final volume of the *Encyclopedia of the Philosophical Sciences* (a volume which itself contains select recapitulations of the *Phenomenology*'s content). Hegel's remark from the 1831 preface to the second edition of the *Science of Logic* thus alludes to the circular structure of the System overall (i.e., "the whole Idea" [*die ganze Idee*] as "a circle of circles"[197]).

[194] Pippin, *Hegel's Realm of Shadows*, pp. vii, 26.
[195] Pippin, *Hegel's Practical Philosophy*, pp. 49.
[196] Hegel, *The Science of Logic*, 21.12 [p. 14].
[197] G.W.F. Hegel, *Enzyklopädie der philosophischen Wissenschaften, Erster Teil: Die Wissenschaft der Logik mit den mündlichen Zusätzen*, *Werke in zwanzig Bänden, 8*

This means that the historically informed final stretch of the *Encyclopedia* bends back so as to condition and lead into the Logic as starting with the presuppositionless thinking of indeterminate Being—albeit as a presuppositionlessness dialectically generated out of specific natural, anthropological, phenomenological, psychological, and socio-historical presuppositions.

Apropos the start of Hegel's mature Logic, a certain amount of interpretive divergence amongst Hegel scholars has been provoked by what appears to be a difference between the *Science of Logic* and the *Encyclopedia Logic*. The *Science of Logic* is put forward by Hegel as being led up to by the ladder of the prior *Phenomenology of Spirit*.[198] By seeming contrast, the *Encyclopedia Logic* indicates that a subjectively willful decision to set aside all presuppositions and focus on mere, sheer thinking itself as such is sufficient for getting underway with *Logik* as the first part of systematic *Wissenschaft*.[199]

To complicate things, the *Science of Logic* at one moment, like the subsequent *Encyclopedia Logic*, admittedly allows for the possibility of an apparently "arbitrary" (*Willkür*) initiation of *Logik* with the "resolve" (*Entschluß*) to suspend all presuppositions.[200] However, this single moment has to be weighed against how the *Science of Logic* elsewhere tethers *Logik* several times in several ways to both Phenomenology and *Realphilosophie* in a circularly organized systematic whole. Furthermore, this isolated instance in the *Science of Logic* qualifies the *ex nihilo* arbitrariness of simple resolve as merely apparent; getting underway with a willful decision "can also be viewed as arbitrary" (*man auch für eine Willkür ansehen*

[ed. Eva Moldenhauer and Karl Markus Michel], Frankfurt am Main: Suhrkamp, 1970, §15 [p. 60].
Hegel, *The Encyclopedia Logic*, §15 [p. 39].
[198] Hegel, *The Science of Logic*, 21.32-21.33 [pp. 28-29], 21.37-21.38 [pp. 32-33].
[199] Hegel, *The Encyclopedia Logic*, §17 [p. 41], §78 [p. 124].
[200] G.W.F. Hegel, *Wissenschaft der Logik, I*, *Werke in zwanzig Bänden, 5* [ed. Eva Moldenhauer and Karl Markus Michel], Frankfurt am Main: Suhrkamp, 1969, p. 68.
Hegel, *The Science of Logic*, 21.56 [p. 48].

kann),[201] namely, this is a non-mandatory partial perspective. Finally, Hegel's theory of will indicates that any instance of an *Entschluß*, however immediately self-sufficient (or "arbitrary" [*Willkür*]) it might look to be, actually is mediated by its complex interrelationships with forces and factors other than its own willfulness.[202]

I strongly suspect that Hegel's recommendation, primarily in the *Encyclopedia Logic*, of beginning *Logik* with a subjective decision to bracket every presupposition does not really compete with and replace how the *Science of Logic* tends to situate Logic in relation to both the *Phenomenology of Spirit* before it and the encyclopedic *Realphilosophie* after it. One has to remember that the *Encyclopedia* was written to serve as a textbook for Hegel's teaching purposes. As such, its beginning with Logic is made easier by Hegel not presuming that his students have climbed the lengthy and demanding ladder of the *Phenomenology*.

Hegel's survey of alternate "preliminary conceptions" (including pre-Kantian rationalist metaphysics, empiricism, Kantian critique, and Jacobian immediacy) early in the *Encyclopedia Logic* substitutes for aspects of the *Phenomenology*. Moreover, Hegel assumes he can appeal to his modern students' subjective willingness to set aside all presuppositions precisely because they (and their wills) are modern. That is to say, the Hegel of the *Encyclopedia* is quietly aware that his demand to his early-nineteenth-century contemporaries to leap into the standpoint of presuppositionlessness can be heard and risen to precisely because these contemporaries are themselves products of a modernity informed by the critical sensibilities of Cartesian, Kantian, and scientific anti-dogmatic rationality. The *Phenomenology of Spirit*, *Science of Logic*, and *Realphilosophie* all posit the presupposition of (modern) presuppositionlessness appealed to with apparent abruptness at the start of the *Encyclopedia Logic*.

[201] Hegel, *Wissenschaft der Logik, I*, p. 68. Hegel, *The Science of Logic*, 21.56 [p. 48].
[202] Hegel, *Philosophy of Mind*, §443-445 [pp. 185-189].
G.W.F. Hegel, *Elements of the Philosophy of Right* [ed. Allen W. Wood; trans. H.B. Nisbet], Cambridge: Cambridge University Press, 1991, §4 [pp. 35-36].

In *Hegel's Realm of Shadows*, Pippin comes across as somewhat torn between the difference in beginning presented by the *Science of Logic* versus the *Encyclopedia Logic*. A couple of times, he endorses the latter's manner of starting with a willful decision to suspend one's presuppositions.[203] Yet, Pippin also expresses reservations about "absolute" presuppositionlessness.[204] He even insists that, "the notion of an absolutely autonomous starting point is un-Hegelian and impossible."[205] In general, Pippin's work on Hegelian Logic leaves it less than transparently evident exactly how he understands the relations between the logical and both the phenomenological and the real-philosophical. I will come back to these difficulties below.

Tellingly, in both the *Science of Logic* and *Encyclopedia Logic*, Hegel's prefatory and introductory framings of both Logic itself as well as his entire System are accompanied by multiple repudiations of the subjectivism of Kantian and Fichtean transcendental idealisms.[206] However, as is to be expected from Hegel, these repudiations come in the form of immanent, not external, critiques. In other words, Hegelian metaphysics, as both *Logik* and *Realphilosophie*, is post-critical instead of pre-critical, passing through (and beyond), rather than bypassing, transcendental idealism.[207]

Of course, Hegel obviously accepts Kant's critical assault on metaphysical dogmatism. What is more, his crafting of the Logic's movement of categories reflects his appreciation of Fichte's Reinhold-inspired overcoming of lingering dogmatism in the Kantian "Transcendental Analytic" through the recasting of Kant's theoretical apparatus along rigorously deductive argumentative lines.[208] But, *contra* Pippin, Hegel's Logic intends to demonstrate, among many other things, that pure thinking de-purifies

[203] Pippin, *Hegel's Realm of Shadows*, pp. 157, 185.
[204] *Ibid*., pp. 184-185.
[205] *Ibid*., p. 172.
[206] Hegel, *The Science of Logic*, 21.14 [pp. 15-16], 21.29-21.31 [pp. 25-27].
Hegel, *The Encyclopedia Logic*, §10 [p. 34], §41 [pp. 81-82], §42 [p. 86], §45 [pp. 88-89], §48 [pp. 91-93], §60 [pp. 105-106].
[207] Hegel, *The Science of Logic*, 21.46-21.48 [pp. 40-42].
[208] Hegel, *The Encyclopedia Logic*, §42 [p. 84], §60 [pp. 107-108].

itself, driving itself outside itself into an extra-ideational Real. The initial incarnation of this Real is spatio-temporal nature, which is what the category of Being at the beginning of Logic turns out to be when seen with the benefit of the hindsight built into Hegel's circularly structured System. One of the significant upshots of the Logic's concluding transition to *Natur* as per *Naturphilosophie*, a transition flowing out of the inner kinetics of purportedly pure thinking itself, is the anti-subjectivist (i.e., anti-Kantian and anti-Fichtean) thesis according to which the cognizing "I" does not establish any unsurpassable limit between itself and an unknowable noumenal Real.

Pippin exhibits an awareness that a fully satisfactory and complete reckoning with Hegel's mature *Logik* requires engaging with his Philosophy of the Real too. However, to date, the only portion of Hegelian *Realphilosophie* to which he has devoted sustained attention is Hegel's practical philosophy, specifically, his socio-political thought as per, first and foremost, 1821's *Elements of the Philosophy of Right*. A lot remains uncovered: the entire Philosophy of Nature as well as much of the rest of the Philosophy of Spirit. Pippin leaves this bulk of the *Encyclopedia* aside as "another story,"[209] presumably for another time. Likewise, in *Hegel's Realm of Shadows*, he says:

> …were there space in this study to discuss in detail the relation between Hegel's *Logic* and his *Realphilosophie*, both the other two parts of the *Encyclopedia* and his lecture courses, one could show that part of what Hegel means by treating the *Logic* as 'the realm of shadows' is that the full demonstration of the truth of this Ur-relation lies in what it actually illuminates…[210]

Pleading space limitations, Pippin again signs a promissory note postponing the settlement of accounts between his rendition of Hegelian *Logik* and the rest of Hegel's System constituted by *Realphilosophie*. The little he foreshadows of what this settlement would look like indicates that the

[209] Pippin, "Fichte's Alleged Subjective, Psychological, One-Sided Idealism", p. 169.
[210] Pippin, *Hegel's Realm of Shadows*, p. 249.

entire Philosophy of the Real would be boiled down, in Pippin's hands, to yet more emphases on intelligibility above all else. But, this indeed would be only a "part of what Hegel means" in how he intertwines Logic and *Realphilosophie*. Whereas Pippin here hints that he would continue to present the logical Ideal as making possible the (knowability of the) extra-logical Real, the real Hegel would insist on counter-balancing this with a supplementary presentation of the extra-logical Real as making possible the (existence of the) logical Ideal.

Such counter-balancing is front and center in the preliminary section on "With what must the beginning of science be made?" of the *Science of Logic*. When discussing the very idea of initiating a *Wissenschaft der Logik*, Hegel once again brings up the image of circularity.[211] Being structured like a circle, the Logic's movement forward on its curving path also brings about a circumnavigation back to its starting point—"*progression* is a retreat to the *ground* (*ein* Rückgang *in der* Grund), to the *origin* and the *truth* on which that with which the beginning was made, and from which it is in fact produced, depends."[212] Audibly alluding to the Logic's concluding transition into *Naturphilosophie*,[213] Hegel promptly proceeds to stipulate that, "at the *end* of the development (*am* Ende *der Entwicklung*)" of *Logik* thinking *Geist* "freely externalizes itself (*sich mit Freiheit entäußernd*)" as/into the extra-logical Real.[214] He then adds that, "the whole of science is in itself a circle (*das Ganze derselben ein Kreislauf in sich selbst ist*) in which the first becomes also the last, and the last also the first."[215] In terms of the circle of the Logic, the preceding indicates that its first, as the thinking of Being, becomes, at the conclusion of the *Wissenschaft der Logik*, the last, namely, the being of Nature. Nature thus proves to be the "ground" (*Grund*) of Logic reached via the very "progression" of

[211] Hegel, *The Science of Logic*, 21.57-21.58 [p. 49].
[212] Hegel, *Wissenschaft der Logik, I*, p. 70. Hegel, *The Science of Logic*, 21.57 [p. 49].
[213] G.W.F. Hegel, *Wissenschaft der Logik, II*, *Werke in zwanzig Bänden, 6* [ed. Eva Moldenhauer and Karl Markus Michel], Frankfurt am Main: Suhrkamp, 1969, p. 573. Hegel, *The Science of Logic*, 12.253 [pp. 752-753].
[214] Hegel, *Wissenschaft der Logik, I*, p. 70. Hegel, *The Science of Logic*, 21.57 [p. 49].
[215] *Ibid*.

the Logic itself—with this progression also being a "retreat" (*Rückgang*) due to the circular trajectory of Hegelian dialectical-speculative movement. Pippin's lopsided privileging of pure thinking looks to be at odds with the well-rounded structure of Hegel's System.

Apropos delaying a sustained confrontation with the Hegelian Real, and to use the language and metaphors of the marketplace noticeably prominent in Pippin's and, even more so, Brandom's discourses: Pippin keeps deferring payment of his explanatory debts incurred *vis-à-vis* Hegel's *Realphilosophie*. However, going back to at least 1989, this bill is long overdue. To quote a paraphrase of Schiller's *Xenien* by Hegel himself, "You can get away with paying with IOU's for a long time, but you still finally have to open your purse."[216] Yet, I do not think Pippin ever can pay off these explanatory debts to the Hegelian Philosophies of Nature and Spirit without his own position losing its internal self-consistency.

Pippin's inability to pay his explanatory debts to Hegelian *Realphilosophie* while remaining faithful to his apperception-centric, Kant-and-Fichte-inspired reconstruction of Hegelian *Logik* readily can be illustrated in connection with the reasons-versus-causes dichotomy. With *Geist* as per *Logik* occupying the space of reasons and *Natur* as per *Realphilosophie* occupying the space of causes, Pippin sometimes, when being most consistent with himself, strictly partitions the logical-ideal space of reasons from the real-material space of causes. Of course, this is an un-Hegelian imposition upon the Hegelian System, rupturing this System's internal unity.

Indeed, Pippin stresses the separateness of *Logik* from *Realphilosophie*[217] (despite above-cited concessions to the contrary elsewhere). In this same vein, he states that, "Philosophy of Nature… is not a concern of logic proper."[218] This is the same author who, a few years earlier, dismisses the whole of Hegel's *Naturphilosophie* as of little significance, even within

[216] G.W.F. Hegel, "Hegel to Daub: Berlin, May 9, 1821", *Hegel: The Letters*, p. 460.
[217] Pippin, *Hegel's Realm of Shadows*, p. 74.
[218] *Ibid*., p. 83.

Hegel's own System itself.[219] Similarly, Pippin reads the location of the categories of space and time at the start of the Philosophy of Nature as underscoring the neither-spatial-nor-temporal sovereign status of the Logic's pure thinking.[220] Even within the category of *Geist*, he goes so far as to assert, in implicit tension with Hegel's organic arrangement of his System, a hard-and-fast difference-in-kind between, on the one hand, logical *Geist* and, on the other hand, *Geist* as per both the *Phenomenology of Spirit* and the "Philosophy of Subjective Spirit" of *Geistesphilosophie*.[221]

However, if the Logic forms a circle as Hegel maintains, then its concluding transition into spatio-temporal nature indicates that, from its very beginning, Logic itself never was pure *qua* separate from space, time, and the rest of both *Natur* and the entire Real of the Philosophy of the Real.[222] At the end of *Hegel's Realm of Shadows*, Pippin insists that the transition from *Logik* to *Realphilosophie* in no way compromises or qualifies the autonomous self-sufficiency of pure thinking.[223] On the contrary, I think that, at a minimum, it represents the immanent dialectical self-de-purification of supposedly pure thinking, of the latter as ideal finally positing its impure (i.e., real) presuppositions.

Obviously, there is Hegel's lifelong critique of Kant's theoretical philosophy as the critical epistemology of transcendental idealism. In line with this, there is a major anti-Kantian (and anti-Fichtean) upshot to the Logic concluding with the transition to the extra-ideal Real (first as Nature in its objective reality as opposed to "strict ideality,"[224] with Hegel's

[219] Robert B. Pippin, "Leaving Nature Behind, or Two Cheers for 'Subjectivism': On John McDowell", *The Persistence of Subjectivity: On the Kantian Aftermath*, Cambridge: Cambridge University Press, 2005, p. 189.
[220] Pippin, *Hegel's Realm of Shadows*, p. 276.
[221] *Ibid*., p. 304.
[222] Johnston, *A New German Idealism*, pp. 67-70.
Johnston, *Prolegomena to Any Future Materialism, Volume Two*.
[223] Pippin, *Hegel's Realm of Shadows*, p. 321.
[224] Immanuel Kant, *Critique of Pure Reason* [trans. Paul Guyer and Allen W. Wood], Cambridge: Cambridge University Press, 1998, A27-28/B43-44 [p. 160], A35-36/B52-53 [pp. 164-165], B69-71 [pp. 190-191].

reversal of Kant's prioritization of time over space at the start of *Naturphilosophie* further emphasizing the anti-Kantianism here). The entire course of the Logic shows that the apperceptive activity of the Kantian/Fichtean-style apperceptive "I" eventually becomes immanently self-critical, driving itself outside of itself into a realist ontology not without its naturalism. In other words, this "I" pushes itself beyond its own ultimately impossible-to-maintain epistemological (self-)limitations.

Incidentally, Pippin accuses me of failing to address this transition in my 2018 book *A New German Idealism: Hegel, Žižek, and Dialectical Materialism*.[225] I deal with it both in a 2012 article[226] referenced several times in *A New German Idealism* as well as in the 2019 second volume (*A Weak Nature Alone*) of my *Prolegomena to Any Future Materialism* trilogy. I divided my Hegelian labors such that, in *A New German Idealism*, I deliberately left it to these other two texts to address the Logic-Nature transition issue. That said, Pippin, in *Hegel's Realm of Shadows*, has little to say about this transition himself. What little he does say is problematic.

Pippin's equation of Hegelian *Logik* and *Realphilosophie* with the spaces of reasons and causes respectively, in conjunction with his Fichteanization of the subject of Hegel's Logic, compels him to deny that rational subjectivity (i.e., the pure thinking "I") can be accounted for in connection with causal forces and factors. These forces and factors constitute everything that Hegel deals with under the heading of *Naturphilosophie* and much that he deals with under the heading of *Geistesphilosophie*. Still, for Pippin, the space of reasons cannot be explained at all in relation to the space of causes.

But, Pippin's denial that the logical (i.e., the space of reasons of the *Ich*) arises from the real (i.e., the space of causes of the *Nicht-Ich*)

[225] Pippin, "Review of Adrian Johnston, *A New German Idealism: Hegel, Žižek, and Dialectical Materialism*".
[226] Adrian Johnston, "The Voiding of Weak Nature: The Transcendental Materialist Kernels of Hegel's *Naturphilosophie*", *Graduate Faculty Philosophy Journal*, vol. 33, no. 1, Spring 2012, pp. 103-157.

immediately creates serious discomfort. Such moments in Hegel's corpus as his "Anthropology" and "Psychology" in the *Philosophy of Mind* draw upon and even anticipate advances in biology and what have come to be the various psy- disciplines. Since his death in 1831, these and myriad related fields have advanced by leaps and bounds. Their accumulated advances, which a living Hegel would be eager to reckon with philosophically (as he did with the sciences of his time), have gone a long way towards fleshing out the subject of anthropogenesis. In relation to this, Pippin erroneously asserts that Hegel's endorsement of Kant's critique of the soul *qua* metaphysical object as per Descartes-inspired rational psychology—this critique is articulated in the "Paralogisms of Pure Reason" of the *Critique of Pure Reason*—means that Hegel is not in the least bit interested in the soul and related notions.[227] The central place of *die Seele* (including *die natürliche Seele*) at the start of the third volume of the *Encyclopedia* dealing with *Geistesphilosophie* (first as subjective spirit at the level of a philosophical anthropology growing out of the animal organics of *Naturphilosophie*) clashes with Pippin's assertion.

With the plethora of insights into the rise of *homo sapiens* in view, and in Darwin's wake, hearing talk of a spiritual space of reasons that in no way whatsoever can be thought of as developing out of a natural space of causes is prone to trigger intellectual unease at a minimum. How can such a radical, self-grounding autonomy of the space of reasons not look like a Baron Munchausen fantastically pulling itself up out of the swamp of nature's space of causes by its own hair (indeed, Brandom unabashedly describes how the purportedly self-constituting rational subject "pulled himself up by his own bootstraps from the swamp of merely biological being into a nobler status,"[228] reiterating this description several times[229])? How could the contention of the absolute independence of a non-emergent space of reasons utterly disconnected from real space and time avoid being

[227] Pippin, *Hegel's Practical Philosophy*, pp. 42-43, 57-58, 60.
[228] Brandom, *A Spirit of Trust*, pp. 336.
[229] *Ibid*., pp. 527, 708-709.

haunted by the not-at-all-Hegelian specters of spiritual-mental monism and ontological dualism?

Pippin himself evinces signs that he too is not immune to the just-expressed unease. As witnessed, he sometimes strictly separates both *Logik* from *Realphilosophie* as well as philosophy from science. Obviously, I have been objecting to both of these partitionings on Hegelian grounds. However, in a handful of instances, Pippin appears to soften his insistence on the supreme sovereignty of a philosophical pure thinking unsullied by anything empirical, experimental, and the like. He is under dual Hegelian and scientific pressure to do so, at least occasionally.

Pippin, in his review of Žižek's *Less Than Nothing*, tacks on a qualification to his already-cited dismissal of science-shaped inquiries into anthropogenesis as "not philosophical problems."[230] In a footnote to this dismissal, he concedes, "Not that such discoveries could not be relevant to philosophy. They certainly are for Hegel."[231] Pippin then references paragraphs 12, 246, and 381 in Hegel's *Encyclopedia*. In *Hegel's Realm of Shadows*, Pippin, in another footnote, remarks that, "Speculative philosophy is the completion of scientific knowledge, not its competitor."[232] Paragraphs 9 and 12 of the *Encyclopedia* are mentioned in connection with this remark. These footnote-level concessions move in the right direction. But, Pippin's core commitments prevent him from moving all the way in the right direction.

Pippin does not explain what would be involved with his own version of philosophically registering (or speculatively "completing") the relevance and import of any or all scientific discoveries. He also does not explain how, to begin with, he even could render his reconstruction of Hegel's Logic, given its various load-bearing tenets, compatible with the empirical, experimental sciences and their speculative philosophical uptake. Considering Pippin's embrace of such things as Fichte's *unhintergehbar*

[230] Pippin, "Slavoj Žižek's Hegel", p. 101.
[231] *Ibid*.
[232] Pippin, *Hegel's Realm of Shadows*, p. 34.

"I" and the *Verstand*-style reasons-causes dichotomy as well as anti-naturalist repudiations of any notions of real material geneses, how can he acknowledge and do justice to even "Sunday magazine summaries"[233] of such ABCs of modern science as Darwin's discovery of evolution?

After fortifying the pure inner sanctum of a transcendental idealist "I" serenely self-sufficient and self-grounding, Pippin is faced with daunting difficulties in terms of accounting for this logical "I"'s immanent anchoring in and relatedness to pre- and non-subjective realities (an accounting demanded by both Schelling and Hegel as decidedly post-Kantian and post-Fichtean thinkers). Pippin at least admits, albeit parenthetically, regarding the *Science of Logic* that, "How, and in what sense, extraconceptual objects enter the picture is, in effect, the basic problem in understanding the book."[234] If this is "the basic problem in understanding the book," then *Hegel's Realm of Shadows*, devoted (as per its sub-title) to the *Science of Logic*, falls short of accomplishing its task. Relatedly, Pippin's book also fails to pose and investigate the complementary inverse question of equal centrality to Hegel's System: How, and in what sense, do logical categories and concepts (as associated with the *Ich*, the space of reasons, *Geist*, etc.) enter the picture out of extraconceptual objects (as associated with the *Nicht-Ich*, the space of causes, *Natur*, etc.)?

From Pippin's career-making 1989 *Hegel's Idealism* to the current late phase of his work, he has exhibited a number of faces. He has been, sometimes simultaneously and sometimes successively, Kantian, Fichtean, and Brandomian. But, the one thing Pippin has never been is wholly Hegelian.

[233] Pippin, "Review of Adrian Johnston, *A New German Idealism: Hegel, Žižek, and Dialectical Materialism*".
[234] Pippin, *Hegel's Realm of Shadows*, p. 31.

§5 Hegelianism's Historical Futures: A Political Coda

Pippin's present campaign against dialectical materialism and its permutations, however intentionally or not, echoes a set of interrelated conflicts going back to the time of Hegel's death. These fault lines first arise as the split between, on one side, right and center Hegelians and, on the other side, left Hegelians. Of course, Marx's and Friedrich Engels's historical and dialectical materialisms grow out of the left Hegelian circles of the 1830s and early 1840s. Marx and Engels lay claim to aspects of Hegel's philosophy in their theorizations of both social and natural history. Many of these claims tacitly are contested by Pippin's rendition of Hegelianism.

Furthermore, the Marxist tradition, starting with its nineteenth-century founders, recurrently maintains that the principle contradiction structuring the history of Western philosophy is nothing other than the conflict between idealism and materialism.[235] In line with this traditional thesis, Louis Althusser famously proposes that philosophy itself be construed as involving "class struggle in theory."[236] Such historical materialist views of the philosophical space of reasons seem especially pertinent apropos certain controversies bearing upon aspects of Hegel's thought. As is well known, the debates between right and left Hegelians in the 1830s over Hegel's relationship to religion generally and Protestantism specifically were

[235] Johnston *Prolegomena to Any Future Materialism, Volume Two*.
[236] Louis Althusser, *Reply to John Lewis*, *Essays in Self-Criticism* [trans. Grahame Locke], London: New Left Books, 1976, pp. 37-38, 58, 72.
Louis Althusser, *Elements of Self-Criticism*, *Essays in Self-Criticism*, pp. 142-144, 150.
Louis Althusser, "The Transformation of Philosophy", [trans. Thomas E. Lewis], *Philosophy and the Spontaneous Philosophy of the Scientists and Other Essays* [ed. Gregory Elliott], London: Verso, 1990, p. 261.
Louis Althusser, *Initiation à la philosophie pour les non-philosophes* [ed. G.M. Goshgarian], Paris: Presses Universitaires de France, 2014, pp. 50-51, 322-323, 326-327, 359, 383.
Louis Althusser, "Philosophy and Marxism: Interviews with Fernanda Navarro, 1984-87", *Philosophy of the Encounter: Later Writings, 1978-1987* [ed. François Matheron and Oliver Corpet; trans. G.M. Goshgarian], London: Verso, 2006, pp. 270-271.

sublimations of antagonisms concerning Hegel's politics in relation to then-current political circumstances, namely, the reactionary and repressive Prussian circumstances making necessary this sublimation. Likewise, in a parallel to the 1830s, today's debates about Hegel's metaphysics might be about politics too.

I even see a connection between the theoretical and practical dimensions of Pippin's philosophy. To be more exact, his subjective idealism, with its focus on the individual thinking "I," is a metaphysical position that arguably leads him, as I will highlight momentarily, to misidentify individual mental states (especially psychopathological ones) as responsible for current political situations. Pippin's individualistic psychopathologizing at the level of politics is a reflection of his Kantian-Fichtean privileging of first-person cognition above all else at the level of metaphysics. This brings things straight back to the long-entrenched antagonism between materialism and idealism. Pippin is right to perceive Marxist materialism as a foe of his position. But, he is wrong to read Hegel as a foe of this materialism.[237]

Pippin's battles with proponents of contemporary redeployments of historical and dialectical materialism display an undercurrent of political motivation on his part. In his review of *Less Than Nothing*, he "shudders" at the very idea of Žižek's Leninist-type political "act."[238] In *Hegel's Realm of Shadows*, he uses reference to "radical decisionism" so as to bring Alain Badiou (a communist comrade of the Žižek of the act) "ominously" into the discrediting company of the Nazi theorist Carl Schmitt.[239] This move evokes the commonplace liberal employment of the vague pseudo-concept of "totalitarianism" so as to lump together communism and fascism as supposedly the two converging extreme ends of a curving political spectrum. Furthermore, Pippin is offended by rhetoric rooted in the combative

[237] Johnston, *Prolegomena to Any Future Materialism, Volume Two*.
[238] Pippin, "Slavoj Žižek's Hegel", p. 106.
[239] Pippin, *Hegel's Realm of Shadows*, p. 26.

partisan thinking of the Marxist legacy.[240] He tries to present Hegelianism and revolutionary radicalism as mutually exclusive. His is a centrist Hegel defending bourgeois modernity as, if nothing else, the least bad game in town.

Rebecca Comay and Frank Ruda, in the introduction to their 2018 book on Hegel's Logic, *The Dash—The Other Side of Absolute Knowing*, address the political implications of Pittsburgh-Chicago neo-Hegelianism. Targeting all portraits of Hegel fixating upon specific socio-ethical construals of "recognition" (*Anerkennung*) in Hegel's philosophy, Comay and Ruda observe:

> Yet, the one thing that cannot be challenged, in this pragmatist account, is the space of reasons itself—the irreducible fulcrum of history that enables historical modulation and discursive progress. This space can only be tinkered with or *interpreted* differently; it cannot be fundamentally *changed*, let alone refused: the form of rationality remains essentially unchallenged and is even reproduced in efforts to resist it. Having eliminated the vestigial positivity of Kant's transcendental, Hegel seems to have introduced an even more intractable givenness—the inescapable language game that supplies the paradigm and basis of all our intersubjective negotiations and that thus functions as a new transcendental.[241]

They soon continue with reference to a "regression" to a new transcendental givenness:

> A symptom of this regression is that the only form of change imaginable is a gradual amelioration brought about by a constant adjustment of our discursively negotiated commitments. Unthinkable within such a framework is that some might be excluded from or

[240] Pippin, "Review of Adrian Johnston, *A New German Idealism: Hegel, Žižek, and Dialectical Materialism*".
[241] Rebecca Comay and Frank Ruda, *The Dash—The Other Side of Absolute Knowing*, Cambridge: MIT Press, 2018, p. 13.

> choose to opt out of the space of reasons: the space is bounded with all exits and entrances sealed. This precludes the possibility of radical dissensus and therefore of drastic change: the terms of rational agency are already determined such that alternative forms of practical rationality are ruled out from the outset as infeasible, ridiculous, violent, dangerous, undemocratic, unreasonable, irrational, inhuman, even prehuman or nonhuman.[242]

All of this applies not only to Pippin and Brandom, but also to Jürgen Habermas and representatives of the so-called "third generation" of the Frankfurt School. For Pippin, the political views of such figures as Badiou and Žižek clearly qualify as "infeasible, ridiculous, violent, dangerous, undemocratic, unreasonable, irrational, inhuman, even prehuman or nonhuman." In Pippin's case, his conception of rationality entails an inversion of a well-known Maoist slogan: It is wrong to revolt.

Pippin himself provides ample additional evidence to this effect, over and above what I already have cited. By glaring omission, he nowhere, unlike Žižek and Ruda among others, attempts to get to grips with the single problem Hegel explicitly identifies without providing some sort of accompanying resolution or even hint thereof: the social, economic, and political problem posed to liberal-democratic capitalism by the rabble (*der Pöbel*).[243] Already prior to Marx, Hegel foresees this uniquely vexing difficulty of mass immiseration threatening (or promising) to turn out to amount to capitalism's suicidal subversion of itself. In fact, Hegel's ability

[242] Comay and Ruda, *The Dash*, p. 13.

[243] G.W.F. Hegel, "Fragments of Historical Studies", *Miscellaneous Writings of G.W.F. Hegel*, p. 99.
G.W.F. Hegel, *System of Ethical Life (1802/3)* [trans.T.M. Knox and H.S. Harris], *System of Ethical Life (1802/3) and First Philosophy of Spirit (Part III of the System of Speculative Philosophy 1803/4)* [ed. and trans. H.S. Harris and T.M. Knox], Albany: State University of New York Press, 1979, pp. 170-171.
Hegel, *Elements of the Philosophy of Right*, §244-246 [pp. 266-268], §248 [p. 269].
G.W.F. Hegel, "On the English Reform Bill", *Political Writings* [ed. Laurence Dickey and H.B. Nisbet; trans. H.B. Nisbet], Cambridge: Cambridge University Press, 1999, pp. 255-256.

to serve as the Owl of Minerva for the socio-political orders of capitalist modernity is due, at least in part, to the sun setting on these orders thanks to their own self-destabilizations via a rapidly-widening wealth gap and its potentially explosive consequences.[244]

Getting underway with the counter-revolutionary victories of neo-liberalism in the 1970s and 1980s, contemporary capitalism has managed to match, if not outdo, the inequalities of Dickensian England or the Gilded Age and *Belle Époque*. If Hegel were alive now, he likely would be as or more expectant of imminent upheaval looking at today's *Pöbel* as when he saw the rabble of his own early-nineteenth century. Although Pippin justly repudiates as pseudo-Hegelian talk of "the end of history"[245] as well as accurately reads Hegel's image of the Owl of Minerva as signaling that bourgeois modernity already has entered into the twilight of its life,[246] he avoids connecting these insights to topics such as rabble-generating wealth inequality and drawing the appropriate political conclusions. *Je sais bien, mais quand même…*

By equally glaring commission, Pippin, arguing against Žižek's politics (including its revisiting of the topic of the rabble in Hegel's corpus[247]), tries to enlist Hegel against any sort of radical leftism. Pippin's review of *Less Than Nothing* contains the following defense of a moderate reformism that remains internal to bourgeois capitalist society:

> The fact that there appears to be ever weakening political will in, for example, the United States for any attention to… a common good (even public schools are now slowly but surely emerging as a target for the ever more powerful far right) is very likely a pathology that needs explaining. Perhaps we need the help of Lacanians to do this… but that great dream of social democrats everywhere—'Sweden in

[244] Johnston, *A New German Idealism*, pp. 78-79, 117-120, 124-128.
[245] Pippin, "Slavoj Žižek's Hegel", pp. 108-109. Pippin, *Hegel's Realm of Shadows*, p. 307.
[246] Pippin, *Hegel's Realm of Shadows*, pp. 312-313.
[247] Pippin, "Slavoj Žižek's Hegel", p. 110.

> the Sixties!'—does not seem to me something that inevitably produces its own irrational and irreconcilable Unreason, or Other. More lawyers for the poor in Texas, affordable day care, universal health care, several fewer aircraft carriers, more worker control over working conditions, regulated and perhaps nationalized banks—all are reasonable extensions of that bourgeois ideal itself, however sick and often even deranged modern bourgeois society has become. (*Citizens United* was not a logically inescapable result of capitalist logic. It was the result of the ravings of several lunatic judges. We are the only advanced capitalist democracy on earth that allows legalized bribery.)[248]

A few pages later, Pippin concludes his review of *Less Than Nothing* with this paragraph:

> This forces the question of whether there is much left in contemporary society that provides any sort of material basis for Hegel's aspirations about these potentially transformative and educative potentials of modern civil society. No one can be anything but profoundly pessimistic about this possibility, but the search for such possible 'traces of reason' seems to me a more genuinely Hegelian and still possible prospect than anything that could result from abyssal Acts.'[249]

Where to start in response to these passages? Preliminarily, Pippin's claim that, "We are the only advanced capitalist democracy on earth that allows legalized bribery," even if true back in 2012 on the basis of his narrowly literal construal of "legalized bribery," insidiously occludes the myriad pathways by which flows of capital exert countless direct and indirect influences upon societies and states across the world. Sadly, there is nothing anomalous in America or elsewhere about the Citizens United case.

[248] Pippin, "Slavoj Žižek's Hegel", p. 111.
[249] *Ibid*., p. 115.

What is worse, the capitalists of globalization do not have to slip wads of local currency surreptitiously into officials' pockets in order to get their way, so as to liquidate the "common good" through capital's inexorable drive to privatize any and all commons. It is not just that the "far right" only recently is beginning to "target" America's "public schools." Many such schools, especially those serving discriminated-against groups, always have been under assault (when not non-existent) by the American political mainstream (and not just by today's rising neo-fascists). Furthermore, capital always involves targeting anything and everything public anywhere whatsoever. So long as there is capitalism, there will be an unrelenting push towards privatization. This thrust is inherent to the very logic of capital, rather than being ascribable to the extraordinary greed of some unusually avaricious Gordon Gekko types.[250] A failure to understand this is a failure to understand capitalism. This is normal, not pathological, capitalism. Or, if this is pathological capitalism, then capitalism itself is inherently pathological.

Pippin's suggestion of a possible psychoanalytic diagnosis of the social, economic, and political illnesses he mentions is, in a seemingly ironic role-reversal between the non-analytic Pippin and the analytic Žižek, precisely what a Lacanian such as Žižek would resist and refuse. Lacanianism as well as Marxism forbids, on rigorously argued theoretical grounds, tracing socio-structural phenomena back to individual psychopathologies. This is a reductive gesture proper not to Lacan and psychoanalysis, but to History Channel shows. Pinning the blame for disastrous collective occurrences on, for example, "the ravings of several lunatic judges" (i.e., a few bad apples) is no different-in-kind from explaining away Nazism and Stalinism as merely a matter of Adolph Hitler's and J.V. Stalin's psychological maladies and quirks. It is tempting to ask: What diagnostic label or labels would be appropriate for a psychopathology that dictates vainly trying

[250] Adrian Johnston, "From Closed Need to Infinite Greed: Marx's Drive Theory", *Continental Thought and Theory: A Journal of Intellectual Freedom*, special issue: "Reading Marx's *Capital* 150 Years On" [ed. Mike Grimshaw and Cindy Zeiher], vol. 1, no. 4, October 2017, pp. 270-346.

to breathe life back into desiccated political forms from which the animating actual *Zeitgeist* already has fled: malignant nostalgia, socio-institutional anosognosia, reformist scotomization, pre-crisis stress disorder, anti-revolutionary metathesiophobia…?

Psychological pathologizing of politics shirks one's responsibility to ask and answer questions about how and why specific figures and events (even when these involve severely unhinged persons) are able to have mass-scale socio-political effects. This is a critical point that Hegel too, with his subtle threading of the needle between the two polar extremes of "great man" and "anonymous forces" varieties of historical narratives, would have insisted on *contra* the Pippin presently under discussion. Relatedly, Hegel, Marx, and Žižek all would reject as a false dilemma the alternative Pippin puts forward here between either the iron necessity of "logically inescapable" trans-individual structures (such as capital) or the luck-of-the-draw contingency of idiosyncratic individual agents (such as a small clique of jurists).[251]

Since Pippin published his review essay on Žižek in 2012, the Supreme Court of the United States has acquired two more "lunatic judges." Plus, the Federalist Society has hundreds more such nearly identical lunatics ready to be recommended for SCOTUS and other court nominations to the numerous lunatics in both the executive and legislative branches of the U.S. government. But, not to worry: Surely the supply of lunatics will dry up sooner or later. And then, back to Sweden in the Sixties! Or, at least, back to dreaming about it.

Other signs of the times indicate that, in a mere seven years, Pippin's above-quoted assessments of today's circumstances have aged rather badly. Regrettably, the reasons for this are hardly confined to the U.S. In addition to the Trump crime family, their entourage of shameless grifters, their Republican Party co-conspirators, and many others, a plethora of developments around the world, some long preceding the rise of Trumpism

[251] Johnston, *A New German Idealism*, pp. 74-128.

and already in plain sight in 2012, feature a dizzying proliferation of supposed lunatics and bad apples (to name a few either controlling or influencing government alphabetically by country): Australia's Tony Abbott, Peter Dutton, and the extremists of the Liberal Party; Austria's Freedom Party; Brazil's Jair Bolsanaro; China's Xi Jinping and its Lee-Kuan-Yew-inspired state capitalism; Finland's Finns Party; France's National Rally led by the Le Pens; Germany's AFD, PEGIDA, and the right-wing of the CDU/CSU partnership; Greece's Golden Dawn; Hungary's Viktor Orbán, Fidesz, and Jobbik; India's Narendra Modi, BJP, RSS, and Hindutva ideology; Israel's Benjamin Netanyahu and his ruling coalition; Italy's Matteo Salvini, the Northern League, and Silvio Berlusconi's Trumpism-*avant-la-lettre* precedent; Japan's Shinzō Abe and the nationalist, Yasukuni-visiting factions of the LDP; the Netherlands's Geert Wilders and the PVV; the Philippine's Rodrigo Duterte; Poland's Jarosław Kaczyński and PiS; Russia's Vladimir Putin and his mafia state; Spain's Vox; Turkey's Recep Tayyip Erdoğan with his AK Party; and, the United Kingdom's Boris Johnson, Jacob Rees-Mogg, Nigel Farage, *et al*.

Even the Swedes have the Swedish Democrats, an organization with Nazi roots that is now the third largest party in the Riksdag. So much for that sweet Swedish dream! What happened? What went so terribly wrong? Whatever the explanation, one answer definitely can be ruled out: a gaggle of unsavory characters accidentally getting some power. Additionally, the more these "sick" and "deranged" actors multiply, the less plausible any few-bad-apples story sounds. A passing glance at the globe shows that authoritarian and kleptocratic capitalism, illiberal democracy, ethno-nationalism, and the like are triumphantly on the geo-political march. This is not a trickle of isolated incidents. It is the tsunami of a structural trend.

Neither Hegel looking at industrialism's rabble in the nineteenth century nor anyone looking at globalization's dispossessed today through properly Hegelian (if not also Marxian) eyes sees freak exceptions to bourgeois capitalism's business as usual. Pippin's "Sweden in the Sixties" is a metonymic stand-in for aberrant versions of a capitalism temporarily stabilizing itself in response both to the shocks of two World Wars with a

Great Depression sandwiched in-between as well as to the rising threat of Really Existing Socialism. In short, slightly less rapacious mid-twentieth-century capitalism was the exception, not the rule.

Apart from the few decades from roughly the New Deal in America and the defeat of Nazism in Europe through the 1970s, the history of capitalism since its inception has been marked by relentlessly increasing class polarization. Unsurprisingly from the vantage point of capitalism's *longue durée*, the past forty or so years, exploiting and encouraging the easing-through-historical-amnesia of the exigencies of the first half of the twentieth century, has restored pre-World-War-I socio-economic and geo-political conditions. Yet again, the rich rabble have grown obscenely richer, and the ranks of the poor rabble swell remorselessly. This is not the handiwork of a clutch of bad actors. This is a centuries-long historical trend reasserting itself with a vengeance after a brief interlude forced upon capitalism by a rapid-fire succession of its own self-wrought catastrophes.

I will close now with some questions for Pippin. At what point does searching for "traces of reason" in the *status quo* tip over, in fact if not intention, from being reasonable reformism into becoming irrational avoidance of the only remaining reasonable option, namely, the admittedly unsettling radical rejection of the devil one knows? When is calling both corrupt powers-that-be and their revolutionary enemies "lunatic," "sick," "deranged," and so on itself not sober-minded sanity but, instead, yet another pathology? What about these sorts of dialectical reversals today under Hegel's shadow?

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"The Idea that *is*": On the Transition from Logic to Nature in Hegel's System

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In the *Science of Logic*, Hegel seeks to present the fundamental determinations of being through an immanent, logical explication of its rational structure. It is only through this logical movement that we come to learn, at the end of the *Logic*, that being does not, in fact, "have" a rational structure, but that it is nothing less than self-determining reason itself, what Hegel calls "the absolute Idea". However, Hegel's system does not end here, with the concluding chapter of the *Logic*. For logic only comprises the first part of Hegel's tripartite system. The latter two parts are the philosophies of nature and spirit, which together constitute the "real" counterpart to the "ideal" logic. This distinction between the "ideal" and the "real" parts of Hegel's system is perhaps one reason why some critics have taken Hegel's *Logic* to be about something "detached" from actual being, a system of "mere thought" and not a system of being itself. But never in German idealist philosophy does the term "ideal" signify a lack of *actuality* (Wirklichkeit). Something else, therefore, must be at work in the distinction between ideal logic, on the one hand, and *Realphilosophie*, on the other.

The difference between the ideal and real is better understood as a difference of "degree," and more specifically, degree of ontological

determinacy. Logic, for its part, unpacks the more *abstract* features of being, while the philosophies of nature and spirit unpack the more *concrete* features of being. In other words, the *Logic* presents the necessary determinations of being in abstraction from the reality in which those determinations are found. Logic is therefore ontology, but not an ontology of the most concrete forms of being; it is an ontology of the "bare essentials."[1] What makes Hegel's system unique, however, is not that it contains an account of the "bare essentials" of being, but that the system begins with this abstract logic and only accumulates concreteness through an immanent, dialectical development of those "bare essentials." This is why the ontological determinations found in the logic are not, from a methodological perspective, abstracted away from concrete reality; on the contrary, reality—in all its concreteness—is shown to be the logical consequence of pure reason!

The systematic transition from logic to the philosophy of nature is meant to capture the logical necessity which brings us from the abstract ontology of the *Logic* to the concrete ontology of the *Realphilosophie*. It is without a doubt one of the most difficult and frustrating transitions in Hegel's system for both critics and proponents of his thought. With respect to his critics in particular—notably Schelling, Feuerbach, and Marx—it is this transition which signals that Hegel's philosophy of nature is doomed from the start. For if the transition from logic to nature fails, then it appears as though that which follows the transition—the philosophy of nature proper—cannot get off the ground.

In what follows, I aim to provide an answer to Feuerbach's sceptical question, "wherein lies the necessity or the ground for this transition [from logic to nature]?"[2] Following my interpretation of this transition, I

[1] "The system of logic is the realm of shadows, the world of simple essentialities [*einfachen Wesenheiten*] freed from all sensuous concreteness" (*Werke in 20 Bänden* [Frankfurt am Main: Suhrkamp Verlag, 1970], Volume 5, p. 55 (further references to Hegel's *Werke* given as *W* 5, p. 55); *Science of Logic*, translated by A.V. Miller (Amherst: Humanity Books, 1969), p. 58.

[2] Ludwig Feuerbach, *Fragments Concerning the Characteristics of My Philosophical Development* in *The Fiery Brook: Selected Writings*, translated by Zawar Hanfi (London and New York: Verso, 2012), p. 269.

elaborate upon a few of its implications for Hegel's philosophy of nature, and I suggest—*pace* Hegel's critics—that this transition does not destine his philosophy of nature for failure. I go on, however, to conclude with some considerations regarding the limits of a philosophy of nature based upon Hegel's distinctive conception of nature—limits to which the late Schelling was especially alive.

I. From Reason to Nature

The transition from logic to nature seeks to account for what nature *is* and *why* nature must exist as the distinct form of existence that it is. This is how Hegel describes nature in §247 of the Introduction to the *Encyclopaedia* Philosophy of Nature:

> Nature has presented itself as the Idea in the form of *otherness*. Since therefore the Idea is the negative of itself, or is *external to itself*, Nature is not merely external in relation to this Idea […] the truth is rather that *externality* constitutes the specific character in which Nature, as Nature, exists.[3]

In the notoriously challenging transition from logic to nature, reason (i.e., the Idea) "lets go" of or "releases" (*entläßt*) its abstractness and thereby lets itself go *into* concreteness. One consequence of this "letting go" or "releasing" is that it demonstrates that there must exist a world which is irrational, rife with contingency, a form of being that is defined by its *otherness* with respect to reason, a form of being Hegel identifies as nature. But, for reasons that will be explored below, the significance of this transition is misunderstood if it is interpreted as a transition from reason to an utterly irrational nature. As the passage above suggests, nature is in no straightforward sense the *other* of reason. Nature, rather, is reason *itself* in its "self-external being" (*Außersichsein*).

[3] *W* 9, § 247, p. 24; *Philosophy of Nature, Part II of the Encyclopaedia of the Philosophical Sciences,* Second Edition, translated by A.V. Miller (Oxford: Oxford University Press, 2004), pp. 13-14.

The first thing that must be kept in mind in beginning to unpack the transition from logic to nature is that we are not dealing with a historical occurrence, as if reason "became" nature *in time*. We must rule this out for the simple reason that the transitions in Hegel's system describe *logical* transitions; at no point does the dialectic—prior to "objective spirit" in the third and final part of the system—correspond to any sort of historical process. Furthermore, according to Hegel, a spatiotemporal world cannot have an origin in time, which might be implied by a historical interpretation of the Idea's free release into nature.[4]

The transition from the Idea to nature is not, therefore, an actual, historical event. There is good reason, however, for one to *represent* the passage from logic to nature in this manner. While such representational thinking is not philosophical, set in the right context it can nonetheless help to paint a picture of what is in truth a strictly onto-logical feature of being, namely, the atemporal accumulation of concreteness. The sphere of human thinking that does this kind of image-thinking best, according to Hegel, is religion, and Hegel himself relies heavily upon theological language in order to flesh out the conceptual transition from logic to nature. The following passage, for example, is meant to explain why the absolute Idea must develop into both nature and spirit:

If God is all self-sufficient and lacks nothing, why does He disclose Himself in a sheer Other of Himself? The divine Idea is just this: to disclose itself, to posit this Other outside itself and to take it back again into itself, in order to be subjectivity and Spirit […] God, therefore, in determining Himself, remains equal to Himself; each of these moments is itself the whole Idea and must be posited as the divine totality.[5]

Throughout the *Encyclopaedia*, Hegel describes the relationship between logic, nature, and spirit in terms of this divine, processual totality. The Christian God is truly divine only insofar as He is triune, and Hegel understands the Trinity as a process of God's self-externalisation (*Entäußerung*) and return-to-self. In both of these moments, *revelation* is

[4] *W* 9, Addition to § 247, pp. 26-27; *Philosophy of Nature*, pp. 15-16.
[5] *W* 9, Addition to § 247, p. 24; *Philosophy of Nature*, p. 14.

inseparable from God's being. Indeed, Hegel goes so far as to say that "revelation, manifestation is itself [the Christian religion's] character and content."[6]

Insofar as the Holy Trinity corresponds to the three parts of Hegel's system, his interpretation of the relationship between God and creation sheds light on his conception of the relationship between logic and nature. God is, according to Hegel, utterly self-sufficient, and yet he must *necessarily* create a world; indeed, God cannot *be* the truly divine being he is unless he "empties himself out" into existence and subsequently returns to himself in the life of the Christian community (the Holy Spirit). That God is only truly divine to the extent that he *differs* from himself in the act of creation is the central "paradox" of the Trinity, for Hegel. But this idea is only paradoxical if one presupposes that an *absolutely* free and self-sufficient being should remain shut up within itself, "absolute" in distinction from anything "other." Such a presupposition leads both religious and philosophical consciousness astray. For if God remained within himself and never revealed himself (*as* a world and *in* the world), then God would lack truly infinite being. Indeed, the true infinite for Hegel is not an infinite above and beyond the finite, but the ontological *process* whereby finitude comes to be united with its other and thereby achieves unbounded (and yet fully differentiated) presence-to-self.[7]

Thus, according to Hegel, the absolute cannot be truly absolute unless it lets itself go into otherness. This is the philosophical truth behind the image of God's *Entäußerung*: reason necessarily makes itself manifest as a world. "The divine Idea *is just this*: to disclose itself."[8] Note, however, that this initial moment of revelation or disclosure is one in which God reveals himself as *other* than himself. "God is *only* manifest as one who particularizes himself and becomes objective, *initially in the mode of*

[6] *Lectures on the Philosophy of Religion: Volume III*, translated by R.F. Brown, P.C. Hodgson, and J.M. Stewart, with the assistance of H.S. Harris (Berkeley/Los Angeles: University of California Press, 1985), p. 63.
[7] *W* 5, pp. 163-164; *Science of Logic*, pp. 148-149.
[8] *W* 9, Addition to § 247, p. 24; *Philosophy of Nature*, p. 14.

finitude."[9] Prior to becoming fully divine in the life of the Holy Spirit, God creates a world and, moreover, does not remain outside this creation but becomes creaturely himself, most perfectly in Christ.[10] That God *initially* reveals himself in the mode of finitude is significant, for this corresponds, in the conceptual realm, to the externalisation of the Idea as *nature*, i.e. as an *irrational* manifestation of reason.

Now, for Hegel, the theological narratives of genesis and incarnation are representational and, as such, do not correspond to actual, historical events. Rather, such images tell a story that intimates what is going on within the rational *structure* of being. Thus, the manifestation of the Idea does not "take place," but is rather an eternal occurrence or, more precisely, an atemporal *feature* of being: the Idea must be *manifest*, *finite*, and *carnal* in order for it to be the truly absolute being that it is. The Idea does not, therefore, *become* natural in any historical sense, but the Idea is logically required to *be* nature. Thus, just as God *necessarily* reveals himself through an act of creation, so too must the absolute Idea *necessarily* present itself in the form of *otherness*. This does not simply mean that there must be a natural world, but that the Idea *itself* must manifest itself *as* nature. As Hegel says, nature is "the *Idea* as *being*," "the Idea that *is*."[11]

The pantheistic necessity at work in the transition from logic to nature should not, however, be taken to signify any lack of freedom on the part of the Idea. For just as God's *Entäußerung* is a *free* act, "the Idea *freely* releases itself in its absolute self-assurance and inner poise" into "the externality of space and time."[12] Indeed, the necessity at the heart of the

[9] *Lectures on the Philosophy of Religion: Volume III*, p. 63.
[10] 'The appearance of God in nature [occurs as]: (α) nature, (β) the Son of Man' (*Lectures on the Philosophy of Religion: Volume III*, p. 77).
[11] *W* 8, Addition to § 244, p. 393; *The Encyclopaedia Logic, Part I of the Encyclopaedia of the Philosophical Sciences*, translated by T.F. Geraets, W.A. Suchting and H.S. Harris (Indianapolis: Hackett Publishing Company, 1991), p. 307. My emphasis. The full passage reads: "We have now returned to the Concept of the Idea with which we began [at the beginning of the Logic]. At the same time this return to the beginning is an advance. What we began with was being, abstract being, while now we have the *Idea* as *being* [die *Idee* als *Sein*]; and this Idea that is, is *Nature* [*diese seiende Idee aber ist die* Natur]."
[12] *W* 6, p. 573; *Science of Logic*, p. 843. Emphasis modified.

Idea's manifestation is owed entirely to the freedom and "resolve" (*Entschluß*) of the absolute Idea to "release" or "discharge" itself.

Few readers of Hegel have been enthusiastic about his conception of the Idea's resolve to "freely release itself" into nature. For his part, the late Schelling found these passages in Hegel's *Logic* to be ambiguous at best. In the Munich lectures of the 1830s, he asks how we should understand the transition from logic to nature in Hegel's system:

> "The Idea", says Hegel… the Idea in the infinite freedom, in the "truth of itself, *resolves* to release itself as nature, or in the form of being-other, from itself". This expression "release"—the Idea releases nature—is one of the strangest, most ambiguous and thus also timid expressions behind which this philosophy retreats at difficult points. Jacob Böhme says: divine freedom vomits itself into nature. Hegel says: divine freedom releases nature. What is one to think in this notion of releasing?[13]

And in his later Berlin lectures Schelling continues his assault:

> [Hegel] helps himself to such expressions—for example, the idea *resolves* itself; nature is a *fall* from the idea—that either say nothing, or… should be *explanatory* and thus include something real, an actual process, a happening.[14]

According to Schelling, there are two ways of understanding notions such as the "free release of the Idea": either they describe nothing at all and are, therefore, philosophically insignificant; or they explain the real, historical event of genesis, such that the idea *actually* releases itself into the

[13] F.W.J. Schelling, *Sämmtliche Werke* (Stuttgart and Augsberg: Cotta, 1856-1861), Volume I/10, p. 153 (further references to Schelling's *Sämmtliche Werke* given as *SW* I/10: 153); *On the History of Modern Philosophy*, translated by Andrew Bowie (Cambridge: Cambridge University Press, 1994), pp. 154-155. At this stage in Schelling's intellectual development, he has distanced himself from Boehme's theosophy, although he continues to have far more appreciation for Boehme's ideas than he does for Hegel. On Schelling's view, Boehme's failures are largely due to his lack of philosophical rigour, whereas Hegel exemplifies all the rigour required of philosophy and yet still "says nothing" with his metaphorical language.

[14] *SW* II/3: 89; *The Grounding of Positive Philosophy: The Berlin Lectures*, trans. by Bruce Matthews (Albany: State University of New York Press, 2007), p. 151.

exteriority of space and time—or what is the same thing, a transcendent God literally empties himself out into the world in an historical act of creation. Thus, on Schelling's view, the category of the "free release" should describe an actual, historical creation if it is to explain anything at all. And since the "free release" of the Idea is absolutely *not* an historical event for Hegel, Schelling tells us that this "astounding category of the release" can be nothing other than a "figurative expression."[15]

I will return to Schelling's critique of Hegel in the conclusion of this paper. At this stage, his remarks simply help to bring into focus the hermeneutic challenge posed by the "free release." While it is perfectly acceptable, from a Hegelian perspective, to represent the transition to nature figuratively—e.g., in the language of religion—*philosophy proper* must elucidate this transition in a strictly logical fashion. Thus, if the "free release" of the Idea into nature is, indeed, a *philosophical* description, then, for Hegel, it describes a *logical transition*, and *not* a historical event. But how might the "free release" of the Idea be interpreted logically? What might this phrase describe if it is neither a figurative expression nor a historical narration? In order to answer these questions, it is necessary to first consider the general nature of logical transitions in the *Science of Logic*.

II. The Logic of the "Free Release"

Hegel's *Logic* is divided into three major sections: the Doctrines of Being, Essence, and the Concept. Each of these parts of logic is characterised by a certain *type* of logical movement. In the Doctrine of Being, a selfsame category passes over into another selfsame category, each of which has the character of immediate presence-to-self, and it is this sheer immediacy of being that forces the slippage from one category to the other. In the Doctrine of Essence, logical determinations are immanently entangled with others, and thus one determination only ever is what it is in its relation to its other. In the Doctrine of the Concept, the dialectic is characterised by

[15] *SW* II/3: 121-122; *Grounding of Positive Philosophy*, p. 175.

autonomous self-development, such that the immediacy of being that was lost in the Doctrine of Essence is regained, but now *through* the reflexive moment of difference and relationality that characterised the logic of essence. This means that conceptual movement is the kind of movement wherein a logical term develops itself as *different* from itself and in doing so remains itself. All of this is extremely schematic and is only meant to be an overview of the major transition-types in Hegel's *Logic*. Such an overview allows us to read the final paragraph of the *Logic*, where Hegel tells us that in the "free release" of the Idea "*no transition* [Übergang] *takes place*."[16]

As stated above, Hegel does not conceive the "release" of the Idea into nature as a *historical* transition—just as the transitions *within* the *Logic* do not amount to historical transitions. Some commentators argue that, because Hegel claims that "no transition takes place" here, the "free release" of the Idea is not, properly speaking, a logical development.[17] But it is not necessarily the case that, although "no transition takes place" in the "free release," Hegel is no longer pursuing his dialectical logic. On the contrary, the "non-transition" from logic to nature may very well still be a *logical* development.

Walter Terence Stace interprets Hegel's remark about there being no transition as indicative of the logical *novelty* of the transition from logic to nature. Although he dismisses the language of "free release" as merely figurative and therefore not explanatory, he suggests that "possibly Hegel means that the transition from the Idea to nature is a fourth kind of logical deduction."[18] On this view, the transition to nature is a further *type* of

[16] *W* 6, p. 573; *Science of Logic*, p. 843. Emphasis modified.
[17] See, for example, Donald Phillip Verene, 'Hegel's Nature', *Hegel and the Philosophy of Nature*, ed. by Stephen Houlgate (Albany: SUNY Press, 1998), p. 220.
[18] Walter Terence Stace, *The Philosophy of Hegel: A Systematic Exposition* (New York: Dover, 2013), p. 306. As Stace writes, the "free release" of the idea into nature is "clearly poetic [metaphor] and no more" (p. 305). Martin Drees also argues that "the logical structure of the Idea's progress to nature is independent of the meta-theoretical and meta-logical description employed by Hegel in sketching the form of the advance" (Martin Drees, "The Logic of Hegel's Philosophy of Nature", *Hegel and Newtonianism*, edited by Michael Petry [Dordrecht: Springer, 1993], p. 95).

transition, one that is structurally distinct from the three fundamental transition-types in the *Logic*, and yet it is also distinct from what Stace takes to be Hegel's inappropriate use of figurative language such as the Idea's "resolve" to "release itself" into nature. In this way, whatever logical movement is *represented* by the figurative expression of the Idea's "release," it is absolutely irreducible to anything that came before in the *Logic*.

Stace is right to draw attention to the logical novelty that Hegel thinks is at work in the transition to nature, but I believe he both overstates this novelty and too readily dismisses the language of the "free release" as figurative. On my reading, the logical transition to nature is not an *entirely* new kind of logical transition, nor does an understanding of this transition need to set aside the language of freedom. The key to this transition is to be found, I believe, in Hegel's claim that, in the transition to nature, "no transition takes place." Here, Hegel is not saying that no transition whatsoever is at work; rather, he is making the more restricted claim about the *type* of transition that this is *not*. The Idea neither becomes its absolute *other* (as it might in the Doctrine of Being) nor does it *ground* nature in such a way as to allow it, i.e. the Idea, to become a ground (as it might in the Doctrine of Essence). Instead, the Idea freely releases itself into exteriority, because the Idea moves in a *self-developmental* manner, the type of movement exemplified in the Doctrine of the Concept. Hegel's point, then, is that the Idea's movement *into* nature should be understood as reason's movement *within itself*, as a fully autonomous development of the concept. Here is the relevant passage in full:

> The Idea, namely, in positing itself as absolute *unity* of the pure concept and its reality and thus contracting itself into the immediacy of *being*, is the *totality* in this form — *nature*. But this determination is not something that *has become*, it is not a *transition*, as when above, the subjective concept in its totality *becomes objectivity*, and the *subjective end becomes life*. On the contrary, the pure Idea in which the determinateness or reality of the concept is itself raised into concept, is an absolute *liberation* for which there is no longer

> any immediate determination that is not equally *posited* and itself concept; in this freedom, therefore, no transition takes place; the simple being to which the Idea determines itself remains perfectly transparent to it and is the concept that, in its determination, abides with itself. The transition is therefore to be understood here rather in this manner, that the Idea *freely releases* itself in its absolute self-assurance and inner poise.[19]

As Stace notes, this non-transitional "release" is still meant to be a transition of some kind ("*Das Übergehen ist also hier vielmehr so zu fassen…*"). But Hegel is not identifying an entirely new form of logical transition; instead, he is differentiating the logical movement of the Idea from the more *abstract* forms of logical movement that are found in the earlier parts of the *Logic*: the transitions characteristic of the Doctrines of Being and Essence. This is why Hegel insists that "there is no longer any *immediate* determination [i.e., being] which is not equally *posited* [i.e., by something *essential*] and is itself *concept*."[20] For the movement characteristic of the concept is the *unity* of the immediacy of being and the mediation of essence. This interpretation also makes it clear why Hegel consistently describes the Idea's manifestation as nature in terms of freedom or "absolute liberation" (*absolute Befreiung*). For the conceptual structure which *freely moves itself*—and, indeed, *lets go* of its selfsameness—is that described in the third and final part of the *Logic*. Thus, in the *Encyclopaedia* Logic, Hegel can describe the movement of the "free release" as conceptual movement *in contradistinction* to the movement of mere being and the movement of essence:

> The absolute *freedom* of the Idea, however, is that it does not merely *pass over* into *life*, nor that it lets life *shine* within itself as finite cognition, but that, in the absolute truth of itself, it *resolves to release out of itself* into freedom the moment of its particularity.[21]

[19] *W* 6, p. 573; *Science of Logic*, p. 843. Translation modified.
[20] *Ibid*. Emphasis modified.
[21] *W* 8, § 244, p. 393; *Encyclopaedia Logic*, p. 307.

We should ignore Hegel's replacement of "nature" here with "life." The significant point is that the Idea's movement into nature is nothing other than the movement of the concept, wherein the immediacy of being and its mediated positing by essence are united in fully self-developmental, *autonomous* movement.

And yet, it would be strange if the free release of the Idea were simply more of the same conceptual development that Hegel has already described throughout the Doctrine of the Concept. By the end of the *Logic*, Hegel has already worked through an astoundingly complicated dialectic of the concept's self-development, from the concept proper, to judgment, syllogism, and so on. How can I claim, then, that the Idea's free release is simply the movement of the concept and nothing further? If the transition from logic to nature is nothing but conceptual self-determination, why would this development close the *Logic* and lead to a philosophy of *nature* as a distinct branch of philosophical science? Why, in other words, would the self-determination of the concept now suddenly require a *Realphilosophie*?

To complicate matters further, in the very passage from the greater *Logic* now under consideration, Hegel distinguishes the "free release" of the Idea from the logical movement found earlier *in the Doctrine of the Concept*: "This determination [of the release] is not something that has become, it is not a transition, as when above, the subjective concept in its totality becomes objectivity, or the subjective end becomes life."[22] Since these transitions to objectivity and to life take place in the third part of the *Logic*, it is curious that I would now identify the transition from logic to nature as nothing more than a concept-style transition.

But it is in fact with this very claim of Hegel's that, I believe, everything comes together. Indeed, it is here that we can begin to see why Hegel takes the transition from the Idea to nature to be driven by strict, logical necessity. In order to see this, we must consider how the following two claims of Hegel's might coincide: 1) the "free release" is a *self-*

[22] *W* 6, p. 573; *Science of Logic*, p. 843. Translation and emphasis modified.

developmental movement, a manifestation of the Idea *as self-determining*; and 2) this "free release" is *unlike* the transitions of *becoming* at work *in the Doctrine of the Concept*. What I want to suggest is that, up until the Idea determines itself as *nature*, i.e. as manifest *reality*, it is not in fact the Idea or, for that matter, genuinely "conceptual." To be sure, the transitions in the Doctrine of the Concept have come a long way in shedding their abstract immediacy and reflexive structures; within this part of the *Logic*, a novel form of logical movement has indeed emerged, namely, self-development. But as we can see from the closing passage of the *Logic*, the development of the concept *prior to* the transition to nature remains plagued by residual abstractness. This is why Hegel can describe the transition from "subjective purpose" to "life" as a *becoming*, a transition from something *to something other*. There remains a minimal gap between the various stages of the concept's development in the subjective logic. With the self-determination of the Idea *as nature*, however, this "gap" is finally *closed*. The "gap," in other words, between the Idea and its "other" is *wholly overcome*; there is no difference *between* the Idea and nature. Nature just is the Idea *in its self-development*, its *differentiation from itself*.[23] Why, then, is the "free release" of the Idea logically necessary? Because only with its *free* release into nature does the Idea determine itself as *other* and yet wholly remain what it is in "absolute self-assurance and inner poise"[24]—precisely what conceptual self-determination is supposed to *be*. Indeed, the inner "poise" or "rest" achieved by the Idea in its "self-release" is nothing other than the ontological structure of *remaining* oneself in one's *own* otherness. Thus, the *true* Idea, the Idea that is no longer held back by its abstractness, is the Idea as *manifest*. This is why nature's externality is the mode "in which the Concept first *is*".[25]

[23] My interpretation of this passage owes a great deal to conversations with Richard Lambert.
[24] *W* 6: 573; *Science of Logic*, p. 843.
[25] *W* 9, Addition to § 251, p. 37; *Philosophy of Nature*, p. 25. My emphasis, translation modified.

III. Implications for the Philosophy of Nature

If this is indeed how the transition from logic to nature works, then it has significant implications for Hegel's conception of nature and his understanding of the *philosophy* of nature. First, it means that nature is fundamentally strange. For nature is, on the one hand, the Idea itself: "In nature, it is not something-other than the Idea that is known."[26] Yet on the other hand, nature is the Idea insofar as the Idea is *other* than itself—hence the *external* character of nature as opposed to the inwardness of the Idea: nature is "the Idea… in the form of externalisation [*Entäußerung*]."[27] It follows from this that nature is the self-determining Idea which is not *explicitly* rational and self-determining but, on the contrary, only implicitly so; nature is reason that is largely irrational and determined, to a great extent, by contingency. This is why, in the transition from logic to nature, the extraordinary complexity of the abstract Idea "collapses" into itself as an ontologically *impoverished* reality. Yet, significantly, in being *other* than itself, the Idea finally becomes what it has been implicitly all along in the *Logic*: an absolute which is absolute *even in its own ontological poverty* (i.e., nature).

Of course, the dialectic does not terminate in such ontological poverty and self-externality. By setting aside the contingencies of nature and unpacking its remnant, albeit implicit, rationality, Hegel will seek to demonstrate how the logical structure of nature immanently generates more and more rational forms, such as gravitational motion, light, and—at the most rational stages of nature—life. Indeed, through the gradual "inwardisation" of self-external being, the dialectic of nature will even give way to a form of reason that is no longer *other* than itself, namely, *spirit*. Hegel is thus no reductive naturalist; the Idea cannot be *reduced* to nature, for it ultimately proves to be far more than nature. Yet, as the transition from logic to nature demonstrates, the ontologically primary manifestation of the Idea *is* strictly natural; the spiritual, the mental, the human only ever prove to have reality on the basis of a dialectic of the Idea's self-externality,

[26] *W* 8, Remark to § 18, p. 64; *Encyclopaedia Logic*, p. 42. Translation modified.
[27] *Ibid*.

i.e. a dialectic that begins with spatially-extended matter. The "release" of the Idea does not, therefore, only teach us what nature essentially is for Hegel (i.e., self-external being or reason); it also teaches us that nature exists in some more basic or fundamental way than spirit exists. Spirit is not *less real* than nature; but the reality of spirit is in some sense *dependent upon* the reality of nature. Nature is the most basic expression of reason.

This leads to the third lesson that can be learned from the logical transition to nature: because nature *is reason* (albeit in its self-externality), the *philosophy* of nature will be *rational*, i.e. it will continue to unpack the *logical forms* of *what is*. Indeed, since the transition from logic to nature is itself a *strictly logical* transition—and, what is more, the first fully "conceptual" transition in Hegel's technical sense of the term—the philosophy of nature will proceed by way of strictly rational or logical derivations of the various forms of nature. One leaves behind the abstract logic of the *Science of Logic*, then, in order to understand the logic of the Idea as a concrete *reality*. As Martin Drees puts it, "Abstract thought, thinking simply in abstract determinations, is incapable of analyzing the Idea's *existent being*. Consequently, within the medium of the *Logic*, the *absolute Idea* is still in a mode of under-determination."[28] And yet, it is precisely through the self-development of the Idea that the abstract logic proves to require a concrete logic, i.e. a logic that attends to reason as it manifests itself in, or rather, *as* a real world.

There is thus some truth to the young Marx's claim that "the entire Logic is proof that abstract thought is nothing for itself, that the Absolute Idea is nothing for itself, and only *nature* is something."[29] Yet Marx was wrong (as were Schelling and Feuerbach before him), to claim that reason releases itself into nature by virtue of its prior *experience* in the material world.[30] Reason determines itself as nature *because it is truly rational*, i.e.

[28] Drees, "The Logic of Hegel's Philosophy of Nature", p. 93.
[29] Karl Marx, *Economic and Philosophic Manuscripts* in *Selected Writings*, translated by Loyd D. Easton and Kurt H. Guddat (Indianapolis/Cambridge: Hackett Publishing Company, 1994), p. 94.
[30] *Ibid*. See also Schelling, *SW* I/10: 131; *On the History of Modern Philosophy*, pp.

because it only proves to be genuinely self-determining and rational by *freely abandoning* its pure rationality, by becoming alien to itself.

Interestingly, this means that the philosopher of nature is required to engage with the natural sciences in order to first unearth the *concrete* logic of reason. For unlike the abstract logic of reason, which remains bound up within the interiority of (non-subjective and impersonal) thought, the concrete logic of reason will need to take into account empirical discoveries of nature's rational structure. And yet, once this concrete logic of reason is grasped in thought—i.e., once the logic of nature has been illuminated on the basis of empirical findings—it need not make any reference to experience.[31] Indeed, although the *philosopher* of nature may need to draw upon the empirical sciences in order to first become aware of the basic structures of the natural world, the logic of nature *itself*, the dialectic that moves from one structure to another, is in no way dependent upon those empirical sciences. On the contrary, the empirical sciences make the discoveries that they do thanks to the logic of *nature*, i.e. the logical reality that *is* space-time-matter-motion-… The philosophy of nature, then, remains a thoroughly logical enterprise, presenting the immanent dialectic of nature's self-determining rationality—a rationality which becomes more explicitly rational with each step in the logical process.

The transition from logic to nature therefore sheds light upon (i) Hegel's conception of nature as self-external *reason*; (ii) his conception of nature as the most *basic* expression of reason; and (iii) his conception of the philosophy of nature as a thoroughly logical enterprise. In emphasising the strictly logical character of the philosophy of nature, we also hit upon a potential limit of Hegel's metaphysics. Briefly reflecting upon this limit will lead to the fourth and final lesson to be drawn here from the logic of the "free release."

138-139 and Feuerbach, *Fragments Concerning the Characteristics of My Philosophical Development*, p. 270.

[31] *W* 9, Addition to § 246, p. 20; *Philosophy of Nature*, p. 10. See also *W* 8, Remark to § 12, p. 58; *Encyclopaedia Logic*, p. 37.

IV. Philosophy of Nature ≠ Speculative Cosmogony

Above, we briefly considered Schelling's claim that the "release" of the Idea fails to explain anything of real significance. I hope to have provided some reasons to think that this is an unfair assessment; the transition from logic to nature *can* be understood as describing a *real feature of what is*, namely, the fact that reason itself exists—first and foremost—as *external* to itself, i.e. as *nature*. This, at any rate, is what Hegel seems to be arguing in the transition from logic to nature. Schelling's concern is not, however, fully addressed by this argument. To see this, we need only consider the fact that, even if one finds the end of the *Logic* convincing as an explanation of nature's necessary existence, one might still desire to know what philosophical science has to say about *how nature comes to be*. Indeed, one might think that philosophy ought to address not only that there necessarily *is* a nature (an ontological fact that, if Hegel is right, is addressed by the logic of the "free release"), but how it *happens* that such a nature comes to be.

This, I take it, is at the core of the late Schelling's critique of Hegel, and it is important to note that it is unanswered by the above interpretation of the transition from logic to nature in Hegel's system. Although the "free release" does say something of ontological significance (and of significance for the philosophy of nature), the fact remains that this release has nothing to do with an event or occurrence which might initiate the historical unfolding of the cosmos. On the contrary, the release is a *strictly* logical development, one which never "takes place." Thus, although Hegel has a serious answer to the question, "Why are there beings rather than nothing?", this answer is decidedly ahistorical.[32] The coming-into-

[32] To be more precise, Hegel has already answered the question about why there are beings rather than nothing; this is found at the very beginning of the *Logic*, with the immediate slippage between "being" and "nothing," a movement that proves to be "becoming" and, subsequently, determinate existence (*Dasein*). Alison Stone is therefore right to claim that Schelling and Feuerbach misunderstand the transition from logic to nature, as though it were meant to answer the question about why there are beings *at all* (Alison Stone, *Petrified Intelligence: Nature in Hegel's Philosophy* [Albany: SUNY Press, 2005] p. 102). And yet, insofar as the question is oriented

existence of nature—the actual event by which a spatiotemporal cosmos comes to be—is simply not of philosophical significance for a philosophy of nature that seeks to describe the atemporal, logical features that structure the natural world.[33]

The late Schelling took this to be evidence that idealist philosophy of nature would not suffice, and that a metaphysical empiricism—attentive to the historical activity of a transcendent Lord of being—would be required in order to properly understand creation.[34] By contrast, the transition from logic to nature in Hegel's system can be read against the late Schelling as a vigorous defence of rationalism and divine immanence. For Hegel, nature *cannot* be the historical creation of a more powerful, more rational, more free, or more real existence; it cannot be the creation of anything supernatural. For the most *basic* form of reality *that there is* must necessarily be reason *in its self-externality*, i.e. reason in its powerlessness, irrationality, and unfreedom: nature. It is no wonder, then, that Hegel's philosophy of nature does not dwell upon questions regarding the *origin* of the universe. Not only do questions of origination lead the philosopher astray, beyond the purview of the logic of nature,[35] but nature is not the kind of reality that *could* have originated from something else.

Nor does it seem that nature could have created itself, for Hegel. Since nature is reason in its self-externality, it is without the self-determining power to bring itself *into* being, to actualise itself and to carry itself into history. On the contrary, only reason that has become fully united with itself is up to such a task, and thus it is only with the self-liberation of *spirit* that one can speak—from a Hegelian perspective—of anything like

toward the existence of the material world, Hegel's answer is indeed: because the Idea freely releases itself into its external being.

[33] For a more detailed consideration of the limits of Hegel's philosophy of nature with respect to the history of nature, see Benjamin Berger, "Schelling, Hegel, and the History of Nature", forthcoming in the *Review of Metaphysics*.

[34] See S.J. McGrath, "Is the Late Schelling Still Doing Nature-Philosophy?" *Angelaki: The Journal of the Theoretical Humanities* 21.4 (2016), 121-41.

[35] See, for example, the Addition to §270 of the *Encyclopaedia* (*W* 9, p. 102; *Philosophy of Nature*, p. 79).

autopoiesis. The transition from logic to nature thus rules out the possibility of conceiving nature as either self-creative or the creation of another being.

Perhaps this is a strength of Hegel's philosophy of nature. Perhaps this particular limit of his nature-philosophical project makes the project more palatable to those who have yet to be convinced of its importance. At the very least, in leaving behind questions regarding the origin of the universe, Hegel's metaphysics of nature appears to be closer in spirit to the Kantian commitment to intellectual humility.

But for those who question whether nature and its structure have always been what they are—and for those drawn to speculative idealism for its ambitious metaphysical aims—the transition from logic to nature teaches this final lesson: the philosophy of nature cannot become speculative cosmogony, so long as nature is understood as self-external reason.

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Time and Reason: How Unveiling the Mystery of Time Certifies Rational Autonomy

RICHARD DIEN WINFIELD

Time is inescapable, whether we turn within or without. Nothing in the material universe can evade the hold of temporality, nor can anything in the inner sanctum of our mental life fall beyond its reach. Whatever endures in nature or mind must do so through time, just as whatever comes and goes must find its place in temporality. Whether real or imagined, no factor we consider can avoid possessing a temporal determination of its own or a temporal site in our consideration.

Just as ubiquitous are all the phases and modes that time is always recognized to have. Past, present, and future continually present themselves in everything outer and inner, just as do simultaneity, duration, and succession. Every experience incessantly confronts us with every phase and all the basic modes of time. It matters not whether we observe our environment, our bodies, or psychological phenomena - nowhere and never are the full coterie of temporal determinations absent.

Nonetheless, as ubiquitous and familiar as they are, every one of time's phases and modes seems to lack any confirmable reality and to defy any rational account. The being of past, present, and future disappears as soon as it is considered. What is past is no longer, what is future is not yet, and the being of the present instantaneously slips into the nonexistence of

the past, while an equally ephemeral moment enters from the future only to follow the immediate demise of its predecessor. No interval can be found between past and present and future, for each has nothing to hold off the supplanting of the future by the present and the present by the past.

The same lack of being seems to plague the modes of time, which might otherwise appear to surmount the ephemeral phasing of past, present, and future. Simultaneity offers the relation of distinguishable factors at the same time, be they spatially or mentally distinct. Yet if the present has no more being than nothingness due to its immediate slippage into the past, how can any simultaneous factors have any reality of their own, let alone a real relation? If their coeval being is at an instant of no temporal breadth, how can their presence be distinguished from their absence? Since the moment they are, they vanish, their simultaneity has no more reality than that of any now, everyone of which instantly gives way to another no more separable from its own disappearance.

The succession of time might seem to range over the rise and fall of all instants, yet how can their series retain any reality if the moments in which it consists themselves have no determinate extent? Every present is indistinguishable from every other, immediately coming from the future and just as immediately falling into the past. If simultaneity and the succession of time cannot contain anything that ever has an enduring being, how can duration itself retain reality? Whatever is from one moment to the next seems condemned by time to never have a presence that does not immediately disappear.

In every phase and every mode the same paradox arises: the being of time and the being of everything in time cannot be kept apart from its own nonbeing. This seems to leave all aspects of time beyond any rational account, since they all equally are and are not,[1] contradicting the

[1] Sextus Empiricus exposes all of these difficulties in Chapter XIX, "Concerning Time" of Book III, 136-150, of his *Outlines of Pyrrhonism*. See Sextus Empiricus, *Outlines of Pyrrhonism*, trans. by R. G. Bury, (Cambridge, MA: Harvard University Press, 1933), pp. 419-427.

supposedly irrefutable first principle of reason that, to quote Aristotle's original formulation, "the same attribute cannot at the same time belong and not belong to the same subject in the same respect."[2] Compounding the problem is that if the phases and modes of time both are and are not, how can any attribute belong to a subject at some time in some respect without equally not belonging to it? Time seems to leave reason's allegedly most certain principle teetering on the edge of collapse.

These difficulties have led many thinkers to locate the reality and comprehensibility of the phases and modes of time in something else. On the one hand, those who retain faith in the external reality of time explain temporality in terms of motion. On the other hand, those who seek the reality of time in the inwardness of mind explain temporality in psychological process.

The Attempt to Root Time in Motion

The external motion invoked to explain time need not be limited to locomotion, where bodies change their position in space over time. More generally, the motion enlisted can involve any physical process that occurs with some commensurate succession, such as the oscillations of electromagnetic radiation, the decay of atomic particles, the dissipation of order in entropy, or biological cycles. If there is to be one absolute time, then the privileged change by which time is determined must count as the "standard motion" by which all others are measured. The heavenly orbit of the stars around earth could serve this role to the ancient Greeks, since everyone could view that same allegedly constant "standard motion" and find there a common reality for time. For Einstein, the alleged constancy of the speed of light precludes any such common "standard motion" insofar as observers in different inertial systems encounter dilations of time as their

[2] Aristotle, *Metaphysics*, Book IV, Chapter 3, 1005b19-20 in Aristotle, *The Complete Works Volume Two,* ed. by Jonathan Barnes, (Princeton: Princeton University Press, 1984), p. 1588.

relative motion approaches the speed of light. Nonetheless, time still is determined for each such observer by the privileged motion of something serving as a clock, whether the clock in question exhibits the analogue continuity of locomotion or the digital succession of quantum leaps.[3]

For physicists from Ptolemy to Einstein, some motion has had to be invoked to explain time, for otherwise no reality or account of time seemed possible. Nonetheless, all their ploys have the obvious pitfall of explaining time by something whose own account includes time. Motion, after all, is a change of some physical process over time. No standard motion or any constant speed of light can constitute the reality of time for time is itself a prerequisite component of their very being. Whether any motion is standard or constant presupposes that its change be uniform, which can only be established by comparing it to some independently given realization of time. Motion may be used to measure time, but only insofar as time is an independent factor with an antecedent being of its own.

Moreover, any motion involving material substance presupposes some enduring matter that fills space. Extension cannot be identified with matter without falling into Descartes' befuddlement of eliminating empty space, rendering differences in density inexplicable, and turning all motion into groundless vortexes.[4] The material occupation of space must instead be a dynamic capacity to exert moving forces of repulsion and attraction, enabling a body to fill space to the exclusion of other entities. Both repulsion and attraction must be combined, for repulsion alone will instantaneously disperse all matter to infinity, whereas attraction by itself will instantaneously reduce all matter to a point. By exerting moving force, however, matter cannot ground time, for matter cannot involve attraction

[3] Eva Brann describes Einstein as replacing the cosmic clock of Plato's *Timaeus*, where the cosmos in its motion *is* the clock, with the local artificial clocks of observers in different inertial coordinate systems. See Eva Brann, *What, Then, Is Time?* (Lanham, MD: Rowman & Littlefield, 1999), p. 7.

[4] See Sections 1-25 of Part Two of Descartes' *Principles of Philosophy*, in Rene Descartes, *The Philosophical Writings of Descartes*, *Volume I*, trans. by John Cottingham, (Robert Stoothoff, & Dugald Murdoch Cambridge UK: Cambridge University Press, 1985), pp. 223-233.

and repulsion without including time as its determinant, leaving real motion once more predicated upon, rather than constituting time.

The Attempt to Root Time in Mind

In face of the perplexity of time's own phases and modes, the obvious circularity of using motion and matter to account for time leaves no apparent option other than removing time from the external universe and placing it in the non-spatial inwardness of mind. Augustine paves the way by locating the being of past, present, and future in the psychological processes of memory, intuition, and expectation.[5] Newton similarly anchors the absolute reality of time in the sensorium of the divine creator of nature, on the basis of which motion can occur.[6] Kant, who transfers the governance of nature from God to self-consciousness, grounds time as a form of pure intuition by which all our sensible intuitions are ordered.[7] In all these manoeuvers, the phases and modes of time are rooted in mental processes, be they Divine or mortal.

Although mind may temporally order its mental contents, this does not itself locate the being of time exclusively in those mental processes. If mind produced temporality without qualification, its constituting process could not itself be temporal, for mind's operation would generate time and thereby be the source rather than an object of time determination. Further, if mind's time-generating process were rooted in individual finite consciousness, any unified intersubjective reality becomes problematic. Only if all other minds were themselves constituted by individual consciousness could their time orderings be jointly governed. Then,

[5] Saint Augustine, *Confessions*, (Harmondsworth: Penguin Books, 1979), Book XI, sections 27-28, pp. 275-278.
[6] See Isaac Newton, *Opticks,* (Amherst, NY: Prometheus Books, 2003), Book Three, Part I, p. 403.
[7] Immanuel Kant, *Critique of Pure Reason*, trans. by Paul Guyer & Allen W. Wood, (Cambridge, UK: Cambridge University Press, 1998), A30-32/B46-48, pp. 162-163, 178-179.

however, those other minds would really only be constituted objects, rather than constituting subjects, leaving the finitude of the sole time-constituting consciousness in question.

Undermining any attempt to make mind constitutive of time is how the mental process by which time becomes an object of apprehension involves a successive ordering that itself proceeds in time. When Augustine invokes the operations of memory, intuition, and expectation, these mental functions proceed in temporal sequences, without which their very distinction collapses. Memory must follow intuition, just as expectation must follow certain memories and intuitions, be simultaneous with others, and precede still more that will arise later.[8] Newton's divine sensorium can hardly constitute time without providing an enduring support. Similarly, Kant's pure intuition of time can hardly generate time's phases and modes without an ensuing mental activity that takes its own time.

Compounding the untenability of any mental constitution of time is the problem of upholding a purely immaterial conception of mind. Without being embodied *in* space and time, how can any mind individuate itself and be the exclusive subject of all its mental contents and modifications? A mere thought of an "I" that accompanies all its representations is no different than any other "I," leaving the individual ownership of mental contents in question. Kant himself can hardly exclude the spatial-temporal embodiment of self-consciousness from creeping into his account of the constitution of temporal awareness. In his famous "Refutation of Idealism" in the *Critique of Pure Reason* he argues that there can be no awareness of the temporal flow of representations unless consciousness can be aware of some enduring spatial objectivity to provide for their temporal continuity.[9] Yet, to confront any determinate spatial objectivity, consciousness must do so from a spatially situated vantage point. That self-consciousness has its own embodied place equally underlies Kant's accounts of the modes of time in the "Analogies of Experience." Kant there maintains that

[8] Saint Augustine, *Confessions*, Book XI, sections 27-28, pp. 275-278.
[9] See Kant, *Critique of Pure Reason*, B274-279, pp. 326-329.

consciousness cannot be aware of any objective temporal sequence unless it can observe necessary motion. As his example of a boat flowing downstream indicates, no motion can be observed without the observer having a determinate location.[10] Similarly, when Kant shows how consciousness of simultaneity rests upon the order indifference with which objects are observed, this depends upon the observer not only being at a determinate location, but altering its spatial orientation in time, so as to observe what is present whether first turning left to right or right to left.[11] Consciousness of objective duration equally presupposes the spatial-temporal embodiment of consciousness, for awareness of any conservation of matter through time depends upon observing how mass and force are exhibited in the motions of objects, which once more presupposes a spatial-temporal location of the observer.[12]

From Space to Time

That mind as well as material motion presuppose rather than constitute both space and time does not leave time an utterly groundless being. As every account of physical and mental activity suggests, time goes hand in hand with space. This does not render space and time equally primordial immaterial natural abstractions. Neither space nor time can rest upon any material factor, since matter itself presupposes them both. Space, however, has rudimentary being without time, whereas time cannot be without space.

Space comprises the most elementary factor of nature because of this asymmetrical relation to time. Nothing in nature can be prior to space because every further natural entity, time included, involves spatial determination. By itself, space is that self-external totality whose every part has others outside itself.[13] This ubiquitous self-externality renders space

[10] *Ibid*., A192/B237, p. 307.
[11] *Ibid*., A211/B257-258, pp. 316-317.
[12] Kant, *Critique of Pure Reason*, A204-206/B250-251, p. 313.
[13] Hegel accordingly regards the self-externality of space to constitute the most minimal

completely continuous and uniform in its self-dispersion. Every part of space stands in the same relation to every other. All are in the same position of having other parts of space beyond themselves. Containing no further differentiation that can surmount the immediate difference and identity of every part of space, space by itself is absolute in its unbounded, unrelieved, continuous diffusion. Only with the further concretion of nature into a material universe of matter in motion, can and do relative spaces emerge.

What makes time the first feature of nature to supervene upon space is the very self-externality of extension. Space is other to itself within itself. Space cannot help but contain its own negation in the point. The point, however, inescapably has itself outside itself, just like every part of space. The point has another where it begins and ends, and this point gives way to another, forming a line. The line, like the point, cannot fail to have itself outside itself, with another line alongside it no different from itself. That line, however, has another alongside it as well, such that just as the point gives way to an infinity of points comprising a line, so the line gives way to an infinity of lines comprising a plane. The self-externality of the point and the line applies just as much to the plane, for the plane has another where it ends, which just as much has beyond itself a plane no different from itself. In these extending continuities of points, lines, and now planes, space disperses into its infinite volume of three dimensions, each of which is indistinguishable from its counterparts.

Whereas the self-externality of point, line, and plane all fall within space, the self-externality of the infinite volume of space has nowhere else to go. In order for the infinity of extension to retain its constitutive

non-logical determination. He regards it to result from nothing other than the completed self-development of logic, which begins with indeterminacy and concludes with the Absolute Idea, which unites concept and objectivity in a process whose conceptualization of itself is its own complete constitution. Once this occurs, the concluded logical development takes on the form of being, wherein it can be said to be external to its own concluded determination. Hegel regards this as the systematic, non-arbitrary move from logical determinacy to non-logical determinacy, where space provides the point of departure included in all subsequent developments of the total reality of nature and spirit.

character of being self-external, the totality of space must be other to itself and the only way this can occur is for that totality to be at one time and then at another. Time is this succession consisting in nothing but the process by which the totality of space retains its self-externality, being present and then being immediately displaced by itself. Each moment of time is a determination of spatial totality external to every other determination of spatial totality. Since space has no further spatial distinction by which its totalities can be distinguished, the moments of time are just as different as identical. Each now is the totality of space, with nothing separating it from the next presence of the totality of space. Due to this indistinguishability of each self-externality of spatial totality, time presents a becoming, where the being of space is just as much its nonbeing, just as its nonbeing is just as much its being. The ceasing to be of the spatial totality is the immediate passage of the present into the past, whereas the coming to be of the spatial totality is the immediate passage of the future into the present.[14]

The Concrete Material Determination of Space-Time

In the absence of any more concrete natural factors, such as matter in motion or electromagnetic energy and electrically charged matter, space and time have nothing by which points in space and moments of time can be distinguished. Nothing is at hand by which any absolute space or time can be differentiated from any relative space and time. Just as every point, line, and plane has others outside no different from itself, so every moment in time is no different than any other in its relation to past, present, and future. Nonetheless, without space and time having this abstract being, neither matter or motion or electromagnetic physical processes can be or

[14] Hegel develops all of the preceding arguments concerning the primacy and character of space and how time emerges from space in §254-259 of his *Philosophy of Nature.* See G. W. F. Hegel, *Part Two of the Encyclopaedia of the Philosophical Sciences (1830)*, trans. by A. V. Miller, (Oxford: Oxford University Press, 1970) , pp. 28-40.

be conceived.

The primacy of space over time and of space and time over motion, matter, and physical electromagnetic process cannot consist in any determinate temporal sequence, as if there were a beginning stage in time in which matter in motion was absent. Space and time may be without motion and matter, but that immaterial being has no determinate temporal location, since every empty now, as well as every empty past, present, and future, is just as indistinguishable as every empty here and there. Only with moving bodies does nature possess sufficiently concrete factors with which to exhibit any determinate measures of space and time, let alone any determinate spatial-temporal frameworks that could be relative to one another.

Space and time may be equally continuous in the externalities of their respective parts, with moments in time falling beyond one another in as uninterrupted a becoming as the dispersion of points in space. Nonetheless, their joint presence in the flow of time comprises the space-time differentiation of places. These are each a distinct here *and* now, distinguished from others by both its spatial and temporal determination. Since, however, every here and every now has nothing to distinguish it from any other, each here and now is in continuity with its counterparts. This engenders the formal determination of motion in so far as every here can just as well be at another moment in time, allowing the self-externality of space to present itself as a passage of time, whereas every now can equally be at a different here, allowing the self-externality of time to present itself as a passage through space. The becoming of time thereby proceeds as motion, with past, present, and future unfolding as a spatial-temporal arrow of time.

This motion is completely formal for it involves nothing material that could count as an abiding individual subject of motion. The passage of one here to another over time and of one now to another now through space is completely indistinguishable from any other motion since here and now's are all in the same relation to empty space and to the past, present,

and future. The only way any motion can be distinguished from any other is if its trajectory has an occupant that excludes other occupants from its here's and now's.[15]

The constitution of matter is an insoluble mystery so long as one commits the obvious question-begging of seeking to generate matter from out of material factors. Instead, matter must be constituted from immaterial natural factors and the only such factors available are space, time, the place of space-time, and the formal motion through empty space-time.

The dynamic constitution of matter from the moving forces of repulsion and attraction accomplishes just such a non-material derivation of matter. What minimally distinguishes matter from empty space is that it excludes other matter from a determinate extended place over a determinate period of time. Unless matter extends beyond a point to occupy some bounded extension, it can have no spatial reality. On the other hand, this determinate spatial reality must subsist beyond a mere moment, for a now is just as much present as vanishing. Nothing can determinably *be* material unless it occupies a determinate extension, be it stationary or mobile, over a determinate period of time. Otherwise, a matter's presence is indistinguishable from its absence. What makes such occupation more

[15] Hegel develops all the preceding aspects of place and formal motion in §260-261 of his *Philosophy of Nature*. In §260 he explains that "Space is within itself the contradiction of indifferent asunderness and differenceless continuity, the pure negativity of itself, and the *transition, first of all into time*. Similarly, time is the immediate collapse into indifference, into undifferentiated asunderness of space, because its opposed moments which are held together in unity, immediately sublate themselves. In this way, 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*" (Hegel 1970, p. 40). In §261 he writes: "Place, as this posited identity of space and time is equally, at first, the posited contradiction which space and time are each in themselves. Place is spatial, and therefore indifferent, *singularity*; and it is this only as a *spatial Now*, as time, so that place is immediately indifferent towards itself as *this* place, is external to itself, the negation of itself, and is *another place*. This vanishing and self-regeneration of space in time and of time in space, a process in which time posits itself spatially as *place*, but in which place, too, as indifferent spatiality, is immediately posited as *temporal*: this is *Motion*" (Hegel 1970, p. 41).

than an empty receptacle is that it be comprised of the complementary attractive and repelling moving forces that enable an exclusive natural entity to fill some location over time and maintain that occupation over the trajectory of a determinate motion. To constitute matter, attraction and repulsion cannot be thought of, as Kant tends to do in his *Metaphysical Foundations of Nature*, in the terms of mechanics, where what are attracted and repelled are already constituted bodies.[16] To avoid this question-begging, the matter-constituting attraction and repulsion must be thought of as a force field that fills a determinate space over time, with the correlation of its own moving forces keeping each from separately collapsing into a point or dispersing to infinity. Only on the basis of that dynamic filling of space can there be distinct bodies to interact through gravitational attraction and the inertial motions of mechanics.[17]

The origination of matter obviously cannot be due to any material cause, nor can the number and position of bodies be derived from the continuous dispersions of space and time. Where matter is located and how many bodies there may be is inherently contingent and only upon the basis of that natural contingency do the workings of gravitational force have an opportunity to further order what is left undetermined by the elementary being of matter. These contingencies bring with them the emergence of relative inertial frameworks, but without yet providing the material resources for relativity theory. This occurs only once matter involves not just dynamic occupancy of space but the physical differentiations of polar electrical charges. On this basis, electromagnetic and nuclear processes can

[16] Kant commits this blunder in Explication 2 of his *Metaphysical Foundations of Natural Science*, writing, "*Attractive force* is that moving force by which a matter can be the cause of the approach of others to it (or, what is the same, by which it resists the removal of others from it). *Repulsive force* is that by which a matter can be the cause of others removing themselves from it (or what is the same, by which it resists the approach of others to it)." See Immanuel Kant, *Metaphysical Foundations of Natural Science*, ed. by Michael Friedman, (Cambridge: Cambridge University Press, 2004), p. 35 [498]. Kant's misconception is explicitly criticized by Hegel in the Remark to §262 of the *Philosophy of Nature*, (Hegel 1970, p. 45).

[17] Hegel sketches out an argument of this sort in the Remark to §261 in his *Philosophy of Nature* (Hegel 1970, pp. 41-42).

bring further physical dynamics into play, which determine not only the number, size, mass, and movements of bodies, but also their atomic and molecular structures. Then light can become a factor in the concrete determination of space and time.

The Psychological and Historical Determinations of Time

The psychological determination of time operates with all of these physical processes at hand, complemented by the generation of organic from inorganic process and the emergence of animal from plant life. Just as it is folly to conceive mind as immaterial, it is folly to restrict the psychological reality of time to rational animals. The very nature of animal metabolism involves an apprehension of temporality. Unlike the continuous photosynthesis and osmotic absorptions of plants, the satisfaction of animal need transpires over an interval of space and time, where the objects of sustenance must be located from afar and the animal must motivate itself to move to them and break them down into a form that can be metabolized. All this requires an intervening effort of self-motion, where perception at a distance, desire-driven urge, and motility all operate together in function of spatial-temporal awareness and orientation.[18]

What rational intelligence adds to time awareness is the second nature of historical process, where time's arrow supplements its physical and biological clocks with cultural becoming. Insofar as all conventions have a contingent and particular scope, the periodization of history can never be genuinely universal. Even on our lonely planet, it is only when a culture has made itself global that history can become a unified process with a unified calendar. This can occur when institutions have arisen that have no parochial roots, but are instead conventions of self-determination,

[18] Hans Jonas gives a detailed account of these distinguishing aspects of animal metabolism in the essay, "To Move and to Feel: On the Animal Soul" in Hans Jonas, *The Phenomenon of Life: Toward a Philosophical Biology*, (Evanston, IL: Northwestern University Press, 1966), pp. 99-107.

that, as such, are universal in character, rather than conditioned by any particular foundations. These institutions achieve the global reach to which their universal freedoms are fit through colonialism, imperialism, revolution, and post-colonial emancipation.[19] Thereby all the isolated formations of civilization become absorbed into a single all-encompassing development, building a world-historical time. We earthlings may then share our historical temporality, but that framework is itself but a fleeting interval among innumerable other equally transient planetary histories occurring somewhere far, far away amidst the cycles of solar births and deaths.

To comprehend any of this requires freeing our reason from the all too rampant dogma that thought is empty and analytic, bound by the principle of non-contradiction, and thereby incapable of generating any new content of its own. Time challenges us to repudiate such irrationality, which degrades reason into a formal tool for confirming the consistency of given terms. Time never ceases upending such analytic identity, for every moment of temporal becoming both is and is not. Once we grasp this, we know that philosophy is not a vain enterprise, for our thinking can be pregnant with content. If we can think time, we can conceive universals that particularize themselves, remaining self-identical in their differentiation. Every type of universal exhibits this identity of identity and difference, for the encompassing unity of any universal requires a particularization to be at one with itself. No abstract universal can be a common mark without inhering in particulars, any more than a class can retain any extension without particular members to incorporate. In every case, these particulars must be distinguished from one another as individuals in order to retain the plurality on which their difference from the universal depends. The universal is thus inherently tied to both particularity and individuality. This is what allows thought to be autonomous, for self-determination combines universality, particularity,

[19] For a more detailed account of the nature of this globalization, see Richard Dien Winfield, *Modernity, Religion, and the War on Terror*, (Aldershot, UK: Ashgate, 2007), pp. 69-92.

and individuality. To be determined without losing itself in otherness, the self must exhibit universality, pervading all its determinations, which must thus both particularize and individuate it. Precisely because the logic of universality is at one with the logic of self-determination, the conceptual determination of reason can wield a freedom by which thought is synthetic and analytic at once. Unlike the formal thinking of deductive calculation, which depends upon external content to manipulate according to given algorithms, pure reason is synthetic by generating new determinations and analytic by remaining within the unity of the concrete universality of autonomous thought. This may be a conceptual self-development, completely atemporal given the absence of spatial externality. Nonetheless, we have its natural analogue in the self-differentiation of time, which we cannot evade. The call of autonomous reason is ever ticking away.

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Hegel And the Observable: Phenomenology, Empirical Science, and the Problem of Scientific Theory[1,2]

JAMES SARES

Introduction

The concern of this essay is twofold: first, to consider Hegel's phenomenological analysis of empirical science, including his criticism of scientific theories explaining the causes behind phenomena with unobservable entities;[3] and second, to apply these concerns to the case of

[1] I thank Robert Crease, Jennifer Carter, Paul Rubery, and two anonymous reviewers for their comments on previous drafts of this essay.

[2] I use the following standard abbreviations for Hegel's works:
SL: G.W.F. Hegel, *The Science of Logic*, trans. by George Di Giovanni (New York: Cambridge University Press, 2010). Cited by page number in the English translation.
EPN: G.W.F. Hegel, *Hegel's Philosophy of Nature*, trans. by M.J. Petry (London: Allen & Unwin, 1970). Cited by section (§) number. 'A' refers to Addition and 'R' to Remark.
PS: G.W.F. Hegel, *The Phenomenology of Spirit*, trans. by A.V. Miller (New York, Oxford, 1977). Cited by paragraph (¶) number.

[3] I use the term 'entity' (or, for stylistic variation, 'entity or structure') to refer most broadly to anything posited as physically real in nature. For further discussion on Hegel's critique of unobservable entities, see also: Thomas Posch, "Hegel's Criticism of Newton's Physics. A Reconsideration." Paper presented at the "Hegel and British Thought" Conference, Oxford University, 2004; and Brigitte Falkenburg, "How to

quantum mechanics more specifically. The dialogue between Hegel and contemporary physics is productive, I claim, not only because it demonstrates the continued relevance of the Hegelian analysis of empirical science but also because it highlights how Hegel's philosophy may require clarification regarding the nature of observation and empirical justification. I understand the 'unobservable' as what is not or cannot be perceived sensuously *as itself* but rather merely hypothesized or theoretically inferred from its postulated effects.[4] Yet, different views on or criteria for perception, observation, and empirical justification may engender debate about Hegel's potential engagements with contemporary empirical science. In turn, this dialogue opens opportunities for examining Hegel's commitment both to phenomenological evidence and to the actually existing, objective determinations of nature. As such, this essay opens avenues for exploring the relationship between these philosophical commitments, especially as they are confounded by the question of observability, in view of contemporary debates in the philosophy of science and empirical science.

I begin my analysis with an examination of the epistemological limitations of empirical science, understood here to include such fields as physics, chemistry, and biology. On the one hand, empirical science provides the philosophy of nature with the "forces, laws, and genera" that it rearticulates as an "organic whole."[5] Hegel emphasizes that the philosophy of nature must be flexible to include the discoveries and concepts of the empirical sciences of the day, characterizing it as taking

Save the Phenomena: Meaning and Reference in Hegel's Philosophy of Nature," in *Hegel and the Philosophy of Nature*, ed. by Stephen Houlgate (Albany: SUNY Press, 1998), pp. 97-136 (p. 130).

[4] This analysis applies only at the level of theoretical *natural/physical* entities or structures, not to the domain of human spirit and its rational products (e.g. states, human laws, etc.).

[5] EPN §246. Note that Hegel's use of the term "force" does not imply his acceptance of *unobservable* or *theoretical* forces, including Newton's centripetal and centrifugal forces. The term "force" also may be understood more broadly to refer to natural powers, compulsions, or potencies in nature.

"material prepared out of experience."[6] The empirical scientist[7] has the power to grasp that which is "universal in nature" and thus arrives at one type of valid conceptual apprehension of reality.[8] Indeed, in describing observed phenomena in terms of concepts and mathematical formalism, empirical science allows for an intelligible account of the appearing of what might, in today's terminology, be labeled "natural kinds,"[9] understood as "the truth, objectivity, and actual being of the things themselves" rather than something merely "subjective and belonging to us."[10] With the term "natural kind," I refer to the distinct qualitative levels of natural being (the mechanical, the chemical, the biological, and so on), the structures and determinations that necessarily apply to these levels, and the objective and observable classes of entities (including also laws, forces, genera, processes, and relations) that may fall under or among them. On the other hand, empirical science is speculative in a 'bad' sense when it mistakes mathematical formalism for physical reality, posits theoretical entities or unobservables behind phenomena in order to explain them, or ignores the role of explanation and interpretation in connecting mathematical formalism or other empirical concepts to observed phenomena. In view of these phenomenological concerns, Hegel denies that these speculations allow one to ascend to judgments on objective truth.

The final section engages quantum mechanics more specifically. Given that empirical science gives empirical material for the philosophy of nature to "translate" into a systematic totality that demonstrates the

[6] EPN §246A.
[7] I refer to the "empirical scientist" and "empirical science" as involving the observation and investigation of natural being, including the discovery of phenomenological laws and structures of natural being, and the classification of natural kinds. These discoveries and classifications can then be disseminated to those who do not the training or specialty to investigate nature in this rigorous way—or those who have not reflected critically or systematically on that which they observe of nature in daily life.
[8] EPN §246.
[9] Falkenburg also uses the term "natural kind" in her discussion of this matter. See: Brigitte Falkenburg, "How to Save the Phenomena," p. 109.
[10] EPN §246A.

conceptual determinations behind the development of different qualitative levels of natural being,[11] a contemporary Hegelian philosophy of nature must be able to respond to the theoretical development of quantum mechanics. I argue that Hegel's phenomenological analysis of empirical science can be applied to realist interpretations of quantum mechanics, particularly for their positing of unobservable causes behind measured observations. However, the scale of quantum phenomena requires clarification of the nature of observability in Hegel's analysis of empirical science more generally. With an analysis grounded in the first two sections, I argue that different criteria for observability and epistemic justification in empirical science may influence how one understands the significance of quantum mechanics—including whether it has any significance at all—for a contemporary Hegelian philosophy of nature.

Hegel's Phenomenological Analysis of Empirical Science

In this section, I trace the tension in Hegel's account of empirical science between phenomenological analysis and the discerning of natural kinds. I argue that, for Hegel, empirical science can be justified in positing natural kinds only when it limits itself to what is observable and avoids the collapse of qualitative differences between distinct levels of nature. I consider the role of subjective explanation in connecting the concepts it posits as essential determinations of natural being with the objects of sense perception to which they apply. I consider how the need for this "middle term" of explanation may present problems for discerning natural kinds non-arbitrarily yet how Hegel's two standards for their justification

[11] EPN §246A. For Hegel, empirical sciences achieve (in its proper bounds) the articulation of natural kinds and determinations that are "put into orderings and classes" and "exhibit an organized form" (EPN §246). These kinds of and their relations are then presented according to the systematic conceptual development of the philosophy of nature (and which Hegel argues they exhibit); however, I cannot examine the precise nature of this development in depth here. See also: Brigitte Falkenburg, "How to Save the Phenomena," p. 100.

resolves this concern.

The most important sections of the *Phenomenology* for considering empirical science are the chapters titled "Force and Understanding" and "Observing Reason," which articulate the structures of empirical scientific knowledge and the standards for the validity of that knowledge. The Force and Understanding chapter involves a number of intricate conceptual developments that cannot be engaged here. Briefly, however, the chapter begins by defining force as the unity of being-in-itself and being-for-other. Because any one force must be for another, the object of investigation turns to a system of forces whose members are both solicited and soliciting. Although reality seems to dissolve under the fleetingness of individual forces, the understanding rearticulates them in terms of physical laws or equations that recapture being in the flux of becoming, or what Hegel calls "the stable image of unstable appearance."[12] A first "static kingdom" of laws rearticulates the fleeting forces in such a way as to render them into the intelligible, static laws or expressions. An "inverted world" is then posited to *explain* or *interpret* how these static laws relate to each other and to the sensuous world. This "world" is understood to be the inaccessible *beyond* abstractly opposed to (despite being the truth of) the world of appearance.[13] Ultimately, the indifference of appearance and its beyond cannot be supported because it cannot explain the movement from unity of law to multiplicity of phenomena. As such, a second "inverted world" is posited that takes the supersensible/intelligible realm to "overarch" the other world and to "have it within itself."[14] Appearance comes to be a difference that this 'inner' or 'essential' world has *within itself*, a difference that turns out to be an affirmation of self-identity.

One element for formulating Hegel's phenomenological analysis of empirical science comes after this stage of analysis. As it turns out, Hegel writes, the structure of unity-in-difference is nothing other than the

[12] PS ¶149.
[13] *Ibid.* ¶143-144.
[14] *Ibid.* ¶160.

explanatory activity of thought itself. The very positing of the supersensible realms is the product of an attempt of the thinking subject to *explain* how the laws of empirical science relate to the multiplicity of appearances it seeks to rearticulate. Here scientific law refers to the relationship between concepts, which is often expressed by measurable quantities that model this relationship approximately. Hegel gives the example of gravity, the concept of which essentially unifies distance and velocity.[15] This explanation operates so as to posit distance and velocity as distinct yet related to each other, thus "superseding the differences present in the law."[16] Yet, it also posits this unity to be "equally and immediately a sundering, for it supersedes the differences and posits the oneness of Force."[17] In other words, explanatory activity alternates in its 'movement' between the diversity of appearances and the unity of law, such that this alternation is a reflection of its *own* activity rather than a process that the law posits *for itself*. A scientific law explains nothing on its own, outside of the intellectual activity relating it to experience.[18] As such, Hegel writes, "the reason why 'explaining' affords so much self-satisfaction is just because in it consciousness is, so to speak, communing directly with itself, enjoying only itself."[19] Because the law must be *supplemented* by explanation, the 'movement' from unity to multiplicity (and back) is done not by the formalism itself but rather by the subject itself.

When Hegel writes that explanation is the communion of consciousness "only" with itself, he is not claiming that the formulation of scientific laws and concepts has no connection with objectivity. Instead, he points to the need to investigate how the essential determinations of objects appear as valid in and through the sensuous contents of conscious

[15] Note that this reference to gravity need not be read to refer specifically to the Newtonian law of universal gravitation. In EPN §261-262, the very concept of gravity (regardless of theoretical paradigm) is shown to develop out of the concepts of motion and matter.
[16] PS ¶163.
[17] *Ibid.* ¶163.
[18] I thank Mary Rawlinson for emphasizing this point in personal correspondence.
[19] PS ¶163.

experience. The *opposition* between an inner world of laws/essences and the sensuous objects of experience is overcome through the activity of explanation in Force and Understanding; for the "instinct"[20] of reason, this explanation is successful because sense perceptions conform to and exhibit this conceptuality as their *own* essentiality.[21] Objects and their essential determinations are unknowable except as they appear *for consciousness*—that is, as the unifying structures or determinations *of* the sensuous contents of conscious experience.

In the discussion of scientific law in Observing Reason, Hegel describes the active process by which the investigator of nature seeks to discover this conceptual infrastructure. The subject knows this essentiality explicitly by investigating how the contents of conscious, perceptual experience appear according to these objective determinations. As such, Hegel is concerned with exploring the conditions under which empirical science is justified, as a practice, in making its claims to these essential determinations. Specifically, Hegel writes that the scientific laws (and other natural kinds) prove themselves valid under two conditions: first, that they are "manifested in the world of appearance" and second, that they are also a "Notion" in themselves.[22] The first point underscores observability via sense perception. The second point refers to how these conceptual determinations become explicitly known through the activities of observation and conceptual articulation. Indeed, although these conceptual determinations reflect the essential structures or natural kinds present "in"[23] the sensuous world, the intellectual activity of abstraction must discover it out of perceptual experience. Thus, Hegel underscores that the purpose of abstraction is to overcome immersion in "empirical material."[24]

[20] PS ¶246.
[21] *Ibid.* ¶242.
[22] *Ibid.* ¶250.
[23] As discussed below, under a constructionist interpretation, these concepts provide a valid or adequate "conceptual framework" for explaining how the 'in itself' of nature appears in experience. See: Tom Rockmore, *German Idealism as Constructivism*, (Chicago: Chicago University Press, 2016), p. 108.
[24] PS ¶251.

For instance, gravity explains the falling of a rock as one of its essential determinations as material, though the individual rock falling does not exhaust the concept of gravity. Similarly, Hegel discusses the process by which the concepts of negative and positive electricity are separated from resin and glass such that neither is "any longer attached to a particular kind of thing."[25] With these examples, Hegel emphasizes that the validity of natural kinds lies in that they are not restricted to individual occurrences or observations but rather are judged as essential determinations of that phenomenon or kind of phenomenon, whenever and wherever it may appear.

The two criteria for the validity of scientific law are further clarified in Hegel's subsequent discussion of the organism. The Observing Reason chapter moves from investigating physical laws to investigating the determinations of the organism to investigating the psychological laws governing observation itself. This development mirrors a development toward more explicit *self*-relation. Thus, for Hegel, the idea of scientific law does not apply as clearly to the organism because, by definition, a law puts together two (or more) determinations that each "have an independent, indifferent subsistence of its own, the relation of the aspects being shared between them as a twofold determinateness corresponding to that relation."[26] For example, while distance and velocity do not directly refer to each other, reason discovers their relatedness and formulates the concept of gravity accordingly. In contrast, the organism involves an explicitly purposive self-relation between its inner determinateness and external appearance. Similarly, Hegel claims that magnetism cannot be expressed through a law in the *Philosophy of Nature* given "the inseparability of the two [polar] determinations," whereas a law is supposed to demonstrate a "mutual freedom" between its sides.[27] It seems that this remark contradicts Hegel's invocations of acid/base and negative/positive electricity as examples of scientific law in the *Phenomenology*, since both examples also

[25] PS ¶251.
[26] *Ibid.* ¶278.
[27] EPN §270R.

involve the inseparability of one conceptual determination from the other. Hegel even lauds this conceptual complementarity for indicating the non-arbitrariness of scientific laws applied to these phenomena.[28] Leaving this seeming inconsistency aside, what is important is that any scientific law or concept is not arbitrarily posited but rather refers to how nature actually appears. As such, although not all of natural being is structured according to laws in Hegel's specific sense, the criteria for judging the validity of laws applies to all other essential determinations of nature.

Nevertheless, to emphasize once more, all of nature also involves a difference between these essential determinations and the sensuous individuality in which they present themselves to observation. Since the conceptual structure implicit in sensuous experience must be made explicit by thought, this conceptuality is never immediately given *as known* in observation. The empirical scientist is tasked with abstracting and knowing this essentiality and recognizing its appearance in sensuous experience. Thus, an ineliminable aspect of the activity of empirical science is judging the extent to which the phenomena at hand correspond with the various conceptual terms that are employed to understand it. Given its need to abstract concepts from and to apply concepts to sensuous experience, empirical science always requires the explanatory power of thought as the 'middle term' for its activity. Observing Reason cannot overcome the difference between its method of knowing and the being to which this knowing refers. As such, the *Phenomenology* leaves the investigation of nature behind in the attempt to overcome this difference—that is, to attain truth by rendering knowing perfectly adequate to being—in the examination of human spirit and the articulation of spirit's essence in the pure philosophical science of logic. Unlike this pure philosophical science, empirical science seems to be inherently open to the problems of misrecognition and misapplication of concepts. As such, the problem for empirical science becomes justifying that what is abstracted from experience in conceptual or lawful form actually applies as its truly

[28] PS ¶251.

objective determinations.

Brady Bowman argues that Hegel is a skeptic about empirical knowledge because it never attains to the apodictic, self-developing necessity found in pure logic.[29] However, this reading of Hegel is not generally accepted in the secondary literature, and rightly so. First, such a radical skepticism about empirical knowledge would seem to contradict Hegel's emphasis on the ability of empirical science to obtain knowledge of the "universal" (i.e. conceptually articulated determinations of nature) as "the truth, objectivity, and actual being of the things themselves."[30] This is so, even if one may not consciously recognize it and even if the concepts one grasps are not put into properly systematic presentation according to Hegel's standards. Second, Bowman's emphasis on the underdetermination of scientific laws—whereby the same phenomenon can be explained in multiple ways without ultimate justification for any one interpretation—is directed toward theoretical laws posited in scientific theories. I argue below that scientific theory cannot be judged as objectively true anyway under Hegel's *phenomenological* analysis.[31] Instead, Adrian Johnston underscores the structural "isomorphism" between subjectivity and objectivity that allows for the disclosure of reality as "law-like, and hence, comprehensible in the form of posited laws with predictive power."[32] Similarly, Brigitte Falkenburg argues that, for Hegel, knowledge of natural kinds is discernable from experience and that valid phenomenological laws exist objectively, over against an empiricist view that would deny there to be any real laws in nature.[33]

Yet, if we accept Johnston and Falkenburg's readings, the precise nature of the *objectivity* of these natural determinations may engender

[29] Brady Bowman, *Hegel and the Metaphysics of Absolute Negativity*, (Cambridge: Cambridge University Press, 2015), pp. 134-157.
[30] EPN §246A.
[31] Brady Bowman, *Hegel and the Metaphysics of Absolute Negativity*, p. 151.
[32] Adrian Johnston, *A New German Idealism: Hegel, Žižek, and Dialectical Materialism*, (New York: Columbia University Press, 2018), p. 57.
[33] Brigitte Falkenburg, "How to Save the Phenomena," p. 113.

debate. In view of the isomorphism between subjectivity and objectivity, Hegel might be read as arguing that empirical science can grasp objective determinations as they apply to nature as it is 'in itself' independently of the subject's *experience* of natural being. Johnston cites Hegel's criticisms of transcendental idealism, for instance in the start of the "Subjective Logic" section of the *Science of Logic*, where Hegel argues against the supposed absurdity that true knowledge is only of "false appearances"[34] and that objectivity is only ultimately of the "I" itself.[35] This immanent critique of Kant, including of the emptiness of the concept of the thing-in-itself, gives Hegel an impetus for arguing that conceptual determinations "cut across" the subject/object distinction so as to be "objective (as substantially 'in themselves' apart from all knowing subjects) and subjective (if and when they also become 'for themselves' through human mindedness and like-mindedness)."[36] Subjectivity is here understood as "nothing other than the self-reflectivity or -reflexivity of substantial objectivity itself,"[37] which gains support in Hegel's logical demonstration of the development of cognition out of the various determinations of objectivity that it comes to know in their own conceptuality. While I cannot examine this demonstration in any detail, including its possible deficiencies, I note only that one can find strong textual justification for Johnston's reading. Indeed, Hegel writes that the knowing subject "refers to an external world" with "absolute certainty of itself, in order to elevate its implicit reality" to articulated conceptual truth.[38] The subject posits the "entire essentiality of the objective world" as identical to its concept of it.[39] Thus, for Hegel, subjective cognition—as part of its conceptual determination—has the reflexive power to know the objective world in which it exists as it truly is.

[34] Adrian Johnston, *A New German Idealism*, p. 48.
[35] See the discussion of SL pp. 515-516 in: Adrian Johnston, *A New German Idealism*, pp. 45-47. I leave possible defenses of Kant on this point aside.
[36] Adrian Johnston, *A New German Idealism*, p. 55.
[37] *Ibid.*, p. 51.
[38] SL p. 696.
[39] *Ibid.*

While Johnston interprets these claims to indicate that Hegel takes the subject to be able to know the 'in itself' independently of its appearing in experience, such a position may be problematic from a phenomenological point of view. Even the thought or projection of these determinations as existing independently of experience must be posited in experience by the subject—including the subject who thinks the purely logical categories themselves as the very source of the justification of such a projection. As such, Tom Rockmore argues that, for Hegel, the concepts of empirical science are objective because they are "tested" and reformulated according to the conscious *experience* of objectivity.[40] Phenomena thus have a "dual status within and outside consciousness" insofar as the appearing of objects depends on the construction of "conceptual schemes […] to cognize conscious experience" at the same time that these concepts must be tested in their adequacy for engaging experience itself.[41] Thus, this interpretation might question how experience itself is structured so as to engender true judgments on natural kinds. Indeed, this "constructivism" is a critical reflection on how the positing of certain determinations cannot but belong to the subject's experience of nature *in its phenomenality* alone. Here Rockmore claims to avoid reproducing the problem of the noumenon, insofar as his interpretation focuses on the immanent contents of experience itself without judgment about either an external reality causing it or its having its source in subjectivity itself (since experience always involves a distinction between subject and object). For Rockmore, Hegel's *phenomenological* analysis suspends both metaphysical realism and idealism as intuitively or experientially empty in favor of this immanent interrogation of the "dual status" of phenomena.[42] This reading provides an alternative for obviating

[40] Tom Rockmore, *German Idealism as Constructivism*, p. 108.
[41] *Ibid.*, p. 110.
[42] Problematizing Rockmore's reading, Hegel nowhere suspends belief in the existence of nature external to subjectivity, as the *transcendental* (Husserlian) phenomenologist might. On the other hand, if Hegel is read to reject this suspension of judgment, I leave open whether his philosophy can provide an adequate rebuttal to the critique that such a projection of external existence is not justified *phenomenologically*, from the limits of what is given in experience itself.

the problems with Johnston's reading and accords with Hegel's critiques of epistemological theories that posit an independent object external to yet represented by consciousness. Indeed, Rockmore's argument resonates with Hegel's critique of the "sophistry" of perception,[43] which ends in a dualism between consciousness and an external objective cause. This dualism cannot discern what belongs to the object as it is externally to consciousness versus how consciousness transforms the object in its being *for it*. To investigate nothing but consciousness's *own* contents and activities—including how objects appear in, through, and as their structured unity—resolves this problem definitively.

For my concerns, it is less of a problem whether Hegel takes natural kinds to exist independently of their relation to consciousness or whether they are only *experienced* as objectively existing from within the constructivist framework.[44] Rather, it is more important to examine how certain determinations could be judged within experience as essentially and objectively belonging to natural phenomena, regardless of their 'actual' status outside of conscious experience.

Following Falkenburg and Thomas Posch, I argue that Hegel offers two standards for making such a justification. First, Hegel demonstrates a commitment to preserving phenomena in their qualitative distinctiveness, such that one should not attempt to reduce distinct qualitative levels of nature to an underlying sameness. As Falkenburg emphasizes, Hegel is concerned with doing justice to the phenomenological structures of experience "of increasing degrees of complexity, to which quite distinct conceptual structures apply."[45] This attitude is evinced in Hegel's critique of the physics of his day to regard "magnetism, electricity and chemism" as "one and the same thing" over and against their qualitative differences.[46] What holds validly and essentially for one kind of phenomenon may not for another or otherwise require a more complex reformulation reflecting

[43] PS ¶130.
[44] Whenever I use the words 'exist' or 'existing,' it is with this qualification in mind.
[45] Brigitte Falkenburg, "How to Save the Phenomena," p. 98.
[46] EPN §240A.

qualitative difference in nature (including, for instance, the levels of mechanism, chemism and organics and the distinct phenomena falling under each). Moreover, for Hegel, the essential determinations of these qualitatively distinct phenomena hold regardless of further discoveries (e.g. there is no life without sensibility, irritability, and reproduction, by the very definition of life; there is no mater without gravity, by the very definition of matter; and so on). Second, and more importantly for my concerns, Hegel's phenomenological analysis indicates that only what is observable in sense perception can be justified as objective. I thus interpret Hegel as rejecting the validity of positing unobservable causes or structures behind the appearing of phenomena.

These two standards for the objective validity of scientific laws and concepts are not unproblematic. First, Hegel may be charged with begging the question with regard to the observation of qualitative distinctions in nature. For example, is there still not the threat of misrecognizing the organic realm as teleological, over and against a mechanistic view? Perhaps distinguishing these qualitatively distinct layers of nature is justified in the systematic development of the philosophy of nature itself; yet, if the philosophy of nature depends for its content on these empirical concepts, this solution is circular.[47] Perhaps Hegel intends his logical science, with its sections on mechanism, chemism and teleology and life, to prove the necessity of distinguishing these layers.[48] Finally, perhaps the phenomenological justification for distinguishing qualitative differences is precisely *its own*, given by the "test" of experience. In this case, what appears cannot be fully or adequately described through qualitative

[47] EPN §246A. As I consider in the conclusion, how one understands Hegel's philosophy of nature as either *a posteriori* or *a priori* may confound this problem.
[48] In view of my concerns with observability below, one might look to Hegel's assurance that the animal has feeling as one place where problematic inference to the unobservable takes place. However, feeling is part of the determination of life as outlined in the pure science of logic (SL p. 683), thus seeming to allow this inference in the study of nature. The target of critique would move to the justification of this logical principle and its application. The same would go with the application of other logical concepts and their determinations to the study of nature.

reduction, leaving something left unsaid that is more adequately articulated through these distinctions. Thus, for example, even if certain organismic processes *can be* understood mechanistically or chemically when taken in isolation, the very structure of their working together presents itself differently than mere self-externality. Defending Hegel's non-deflationary account of life, James Kreines underscores that the parts of the organism cannot themselves exist and be reproduced over time without an interconnectedness allowing for the activity of assimilation and species-reproduction.[49] This more holistic account emblematizes Hegel's concern with understanding a phenomenon in all of its complexities.

A second, more serious problem with the criteria for the validity of scientific concepts and laws is that what it means to 'save' phenomena may be contentious under different conceptions of observability. Hegel's lack of specificity on what counts as observable is particularly problematic for certain entities like atoms, which may be argued to indirectly appear according to abductive reasoning, or which may be argued to exist as merely theoretical constructs, opening the problem of underdetermination. It is necessary to emphasize the gap in Hegel's work around the question of observability and how different criteria may enable different accounts of a contemporary Hegelian philosophy of nature. Nevertheless, I argue that the problem of observability can be approached through Hegel's treatment of Kepler and Newton, which provides paths for considering contemporary debates.

Hegel on Scientific Theory and the Unobservable

Hegel's discussions of Kepler and Newton span across his dissertation *De orbitis planetarum,* the *Philosophy of Nature*, the *Science of Logic,* and his

[49] James Kreines, *Reason in the World: Hegel's Metaphysics and its Philosophical Appeal* (Oxford: Oxford University Press, 2015), pp. 77-109.

lectures on the history of philosophy.[50] His narrative across these texts is relatively consistent,[51] with Kepler serving as an exemplar of the proper methodological boundaries of empirical science and Newton serving as a warning against the speculative excess of scientific theory. As Rockmore writes, Hegel considers the difference between Newton and Kepler to be one between "causal analysis" and "phenomenological description."[52] While Kepler provides "phenomenological laws" for particular celestial phenomena,[53] Newton substitutes these with "laws of forces,"[54] which Posch emphasizes emerge out of a unified theory deriving "several classes of motions."[55] Indeed, as K.N. Ihmig writes, Hegel seeks to establish "mechanics on purely kinematical grounds," focusing on observed motion alone.[56] Because Newton's unified theory moves beyond phenomenological description to the forces lying behind phenomena, he loses the basis for the objective validity of his laws in a way Kepler does not.

Before examining the problem with Newton's theory in greater depth, let us consider the objection that Kepler's laws are less phenomenologically adequate than Hegel portrays. First, mathematical models are only approximate in nature—something Hegel does not problematize sufficiently. Thus, with new instruments, might there be a need to reformulate the laws with greater accuracy, perhaps revealing

[50] For an extensive examination of Hegel's engagement with Newtonianism, including precise engagements with the mathematical formalism of Newton and Kepler, see: *Hegel and Newtonianism*, ed. by M. J. Petry (New York: Springer, 1993). My brief analysis focuses on the question of observability and does not touch on the myriad of important topics in the Hegel-Newton relationship.
[51] However, Rockmore notes slight differences between the earlier and later critiques; for instance, the early complaint in the dissertation that "Newton does not prove his theory of gravitation by deducing it from the phenomena" is absent. See: Tom Rockmore, *German Idealism as Constructivism*, p. 129.
[52] Tom Rockmore, *German Idealism as Constructivism*, p. 129.
[53] Thomas Posch, "Hegel and the Sciences," in *A Companion to Hegel*, ed. by Stephen Houlgate and Michael Baur (Malden, MA: Wiley Blackwell, 2011), pp. 177-202 (p. 193, original emphases).
[54] Hegel quoted in Thomas Posch, "Hegel and the Sciences," p. 193.
[55] Thomas Posch, "Hegel's Criticism of Newton's Physics. A Reconsideration."
[56] K.N. Ihmig, "Hegel's Treatment of Universal Gravitation," in *Hegel and Newtonianism*, ed. by M. J. Petry (New York: Springer, 1993), pp. 367-381 (p. 379).

minute changes previously unaccounted? Even if so, however, the laws can be understood *as approximate* articulations of phenomena that correspond to this objectivity in the very mode of approximation; moreover, the conceptual determinations of the phenomena themselves can still be discerned through these models. Second, the Humean might charge that these laws cannot be known to always hold and thus lack objectivity. What if, for instance, the planets were to change course? To this, note that *phenomenological* laws are meant only to rearticulate observed phenomena as they so appear; even if these laws were somehow no longer to apply, it means not that the laws were not objective or true but that the phenomenon *itself* changed. The same goes with other natural kinds.

In contrast, *theoretical* laws move beyond the mere appearing of phenomena. The problem with Newton's universal laws is not that they are empirically inadequate or false *per se* within the classical frame. However, as Falkenburg writes, Hegel takes it to be the domain of philosophy to criticize physics "whenever the preliminary concepts of that science do not denote natural kinds but unobservables."[57] Once again, the 'unobservable' is what is not or cannot be perceived sensuously *as itself*; rather, it is or can only be theoretically inferred *from* the observed effects that it is postulated to cause or structure. This includes entities or structures that have no empirical verification but are merely hypothesized to exist, especially from within a scientific theory. Falkenburg claims that this critique of the unobservable is "in the spirit of Hegel's own *phenomenological* attitude towards *physics* itself," which bars inference from what is observable to what is unobservable or merely hypothesized.[58] Newton's laws make such an inference by explaining motion via centripetal and centrifugal forces that are, Hegel claims, conceptually incoherent when taken independently of one another.[59] For Hegel, gravity, inertia, impact, and fall are essential

[57] Brigitte Falkenburg, "How to Save the Phenomena," p. 130.
[58] *Ibid.,* p. 99, original emphases.
[59] EPN §270R. As he writes, "[n]o enquiry is made into how an independent force […] is able, of its own accord, to make itself subordinate to the other, and then to make itself predominate, to get the other force to allow this, and to follow this up by cancelling this predominance again, or allowing it to be cancelled."

determinations of matter yet not under the Newtonian paradigm of forces.[60] This is because, Ihmig writes, Newton models these forces as "external causes" of matter and motion, rather than the essential determinations of matter's unity with motion.[61] Indeed, Hegel charges that these forces are conceived as "implanted in matter" and thus "originally external to it."[62] As such, they gain a *separate* existence as distinct, unobservable entities from the "sensuous events" that they are inferred to cause.[63] The problem of observability haunts Newton elsewhere.[64] As Falkenburg writes, Hegel especially criticizes Newton for having made reference to unobservable atoms "and their primary qualities (and their interactions with an immaterial substance, the ether or absolute space)."[65]

According to Hegel, Newton's treatment of mathematics leads him to posit the existence of these unobservable, theoretical entities. As Rockmore writes, part of Hegel's rejection of Newtonian dynamical laws lies in how "natural science employs unclarified metaphysical categories based on mathematics, rather than thinking about the conception of the object."[66] By confusing mathematical figures with physical entities, Newton "conflates the *a priori* and the *a posteriori*" and "depends more on a mathematical approach than on the empirical data by slighting the phenomena."[67] Although Newton claims to have an inductive method grounded in empirical observation,[68] Hegel charges Newton with

[60] EPN §262-268.
[61] K.N. Ihmig, "Hegel's Rejection of the Concept of Force," in *Hegel and Newtonianism*, ed. by M. J. Petry (New York: Springer, 1993), pp. 399-414 (pp. 413-414). Ihmig warns that Hegel's critique of *Newtonian* forces does not equate to a rejection of the category of force, which appears elsewhere in the *Philosophy of Nature* without speculation to the unobservable (p. 402).
[62] EPN §261R.
[63] *Ibid.* §261R.
[64] For further references on the unobservability of Newtonian force, see also: Thomas Posch, "Hegel and the Sciences," p. 193.
[65] Brigitte Falkenburg, "How to Save the Phenomena," p. 107.
[66] Tom Rockmore, *German Idealism as Constructivism*, p. 130.
[67] *Ibid.*, p. 125.
[68] Tom Rockmore, *Cognition: An Introduction to Hegel's* Phenomenology of Spirit (Berkeley: University of California Press, 1997), p. 54.

conflating the physical and mathematical by deducing physical entities from mathematical formalism. In *De orbitis planetarum*, Hegel challenges Newton for using terms like "attraction," "impulse," and "propensity towards a centre" in an "indiscriminate" and "interchangeable" way for both physics and mathematics, despite Newton's own claim that these terms refer to mathematical models rather than actual physical entities or structures.[69] Accordingly, Hegel warns that "we must beware of confusing pure mathematical grounds with physical ones […] we may not mix that knowledge typical of the secure and formal manner of mathematics with physical relationships by attributing physical reality to what only has reality in mathematics."[70] This attitude is consistent in Hegel's later writings. In the *Philosophy of Nature*, Hegel writes against Newton that mathematical analysis "should be sharply distinguished from whatever is supposed to have a physical reality."[71] He claims that centripetal and centrifugal forces are "only mathematical lines."[72] Instead, empirical science must be measured by the "physical worth and physical significance of its determinations and procedure."[73] The confusion of ontologizing unobservable, theoretical entities emerges in their being referenced in theoretical laws.

Although subjective explanation is ineliminable to the activity of empirical science, *causal-theoretical* explanation exceeds the boundaries of phenomenological justification. As Gerd Buchdahl writes, Hegel opposes theory and hypothesis in empirical science for "going beyond experience" and "transcend[ing] the phenomena."[74] Theoretical speculation provides causal explanations 'behind' phenomena that are thus inessential—or that involve a lack of empirical evidence to be judged as

[69] Hegel quoted in Tom Rockmore, *German Idealism as Constructivism*, pp. 127-128.
[70] Hegel quoted in Tom Rockmore, *German Idealism as Constructivism*, p. 127.
[71] EPN §270R.
[72] *Ibid.* §270A.
[73] *Ibid.* §270R.
[74] Gerd Buchdahl, "Conceptual Analysis and Scientific Theory in Hegel's Philosophy of Nature (With Special Reference to Hegel's Optics)" in *Hegel and the Sciences,* ed. by Robert S. Cohen and Marx W. Wartofsky (Boston: D. Reidel Publishing, 1984), pp. 13-36 (p. 20).

essential—to the appearing of the *phenomenon as phenomenon*. In other words, positing unobservables in causal or theoretical explanation moves explanation beyond what is given with certainty; it engenders the problem of assenting to the existence of what is not or cannot be perceived sensuously from within the limits of this experience itself. As such, it cannot be known whether the contents of these theories and hypotheses refer to the essential determinations of the objects themselves or are empty products of subjectivity. This lack of certainty manifests in the problem of underdetermination, as multiple causal frameworks can explain the same phenomenon by extending beyond mere phenomenological description. Differences in what are posited as underlying causes may take the form of contemporaneous theories, or they may indicate historical paradigm changes, based on data falsifying theories.[75] In principle, one may invoke the problem of unconceived alternative theories, ranging from the plausible to the absurd (Descartes' evil demon?), to underscore the underdetermination of even the most entrenched theories positing unobservable causes or structures to explain phenomena. Many scientific realists are satisfied with strong plausibility as a way of cancelling out other possible theoretical explanations. However, for Hegel, the essential determinations of a phenomenon as phenomenon are given insofar as they appear in sense perception; what is given theoretically or hypothetically cannot, by its very nature, attain this kind of phenomenological necessity—regardless of how empirically adequate in modeling observations it may be.[76]

All of this is not to say that Hegel does not recognize the role of theory and hypothesis in empirical science's attempt to explain

[75] For example, while gravity is an essential determination of matter, the shift from understanding it as Newtonian force to understanding it as the curvature of space-time in general relativity shows how the same phenomenon can fall under incompatible theories.

[76] Unobservable *historical* phenomena (e.g. big bang theory, the original emergence of life from non-life, etc.) may also fall under this critique, though I will not explore the complications of this historical dimension here.

"everything."[77] I would add the value of their predictive powers and practical implications as well; in the realm of practical application, the empirical adequacy of theories goes far. However, for purely epistemological reasons, Hegel may be understood as an anti-realist about scientific theories for extending beyond the strict boundaries of phenomenological explanation. The general nature of contemporary debates over realism and anti-realism in its metaphysical, epistemological, and semantic variants is too extensive to engage here.[78] However, as Harald Wiltsche writes succinctly, scientific realism—at least in its epistemological valence—"implies that science provides us with methods to determine the truth-values of our theories," especially including the unobservable.[79] In contrast, he continues, scientific anti-realism is characterized by the view that "observation and experiment are the only ways to find out about the truth or falsity of scientific statements."[80] Accordingly, Rockmore characterizes Hegel's view of scientific theory as "fallibilist," in the sense that theories that posit what is unobservable in principle "are not and can never be proven, and hence are never beyond the possibility of refutation" with new data.[81]

However, it is necessary to examine, with greater specificity, what it means for something to be observable in nature. As Rockmore writes, part of Hegel's phenomenological analysis of empirical science involves interrogating how the subject actively "shapes what it observes or experiences."[82] In empirical science, there is a mediation between this activity (including experimentation) and the concepts through which the

[77] EPN §270A. Hegel also notes here that "philosophy need not be disturbed if the explanation of each and every phenomenon has not yet been completed."
[78] For an extensive discussion of the realism/anti-realism debates in contemporary philosophy of science, see: Matthias Egg, *Scientific Realism in Particle Physics: A Causal Approach,* (Berlin: De Gruyter, 2014), pp. 8-10.
[79] Harald Wiltsche, "Review of Lee Hardy's *Nature's Suit: Husserl's Phenomenology of the Physical Sciences*," *Husserl Studies,* 31.2 (2015), 175-182 (p. 181).
[80] Harald Wiltsche, "What Is Wrong With Husserl's Scientific Anti-Realism?" *Inquiry* 55.2 (2012), 105-130 (p. 106).
[81] Tom Rockmore, *German Idealism as Constructivism,* p. 123.
[82] Tom Rockmore, *Cognition*, p. 86.

subject approaches objects as observable at all. From a phenomenological perspective, these concepts must be interrogated and corrected—so as to discover which are natural kinds—by 'testing' the appearing of phenomena to the subject's experience of this appearing.

More problematically, the precise boundary between the observable and the unobservable may be taken as a matter of historical and technological context. Although Hegel does not provide an exhaustive treatment of the role of instruments in mediating observation, he passingly mentions telescopes[83] and light microscopes[84] at different moments in the *Philosophy of Nature* and seems to have no problem with their usage in enabling observations. After all, Kepler could not have discovered his phenomenological laws without instrumental supplementation. Nor would the qualities of chemical elements, electricity, or magnetism be discernible without specific instruments or measurement apparatuses. Thus, on the one hand, one can expand observability with technologies in order to discover new entities or qualities of entities *as they so appear as themselves* through the augmentation of perception. In these cases, what was 'unobservable' without technological mediation can be made observable. On the other hand, one can record and characterize data as the effect or trace of entities (or their qualities) that cannot in principle, by their very posited nature, be observed perceptually in that way.[85] These unobservable entities are inferred to cause the appearing of perceptual data. For instance, there are entities that are posited to be too small to see with light yet are inferred from photo images visible by the subject; this includes the detection of ions in cloud chambers and atoms with electron microscopes.[86] In these cases,

[83] EPN §279A.
[84] *Ibid.* §320A.
[85] Compare the distinction I draw here with: Edmund Husserl, *Ideas: General Introduction to Pure Phenomenology*, trans. by W. R. Boyce Gibson (New York: Routledge, 2012), §52.
[86] This is why we *still* could not observe atoms directly, even if we augmented our eyes with electron microscopes: the images that appear via electron microscopes always appear as sensuously grasped with light itself. The relation is thus always inferential. On this point, see: Harald Wiltsche, "What is Wrong With Husserl's Scientific Anti-Realism?" pp. 116-117.

what appears presents itself with reference to what is unobserved or unobservable to explain *what* the appearing is. For future analysis, these examples also bring to question how positing theoretical or unobservable entities *in the functioning of the instrument itself* may problematize judgment on what appears through it.

Given Hegel's lack of engagement with the nature of observability, it may be open to debate how Hegel would treat various technological possibilities. On the one hand, it seems that Hegel would problematize—wherever it may be judged—the existence of theoretical causes, structures, or models that cannot be given except as causes 'behind' sensuously observed effects, or otherwise as unobservable postulates explaining observation. With purely hypothesized entities or structures that have no discernible verification in experience (e.g. string theory), this position is unproblematic. On the other hand, one may argue that certain unobservables appear indirectly through instrumental mediation, such that the term 'unobservable' is itself a misnomer.[87] This mode of argumentation may support a dissolution of the observable/unobservable distinction altogether. However, such a perspective must reckon with the rebuttal that the appearing of only some entities involves, in principle, a direct contradiction of their sensuous appearing with their own posited unobservability through the sensible medium in which they are brought to observation. Most generally, only some entities are postulated as non-perceptual or distinct in kind from the observed effects that they are theoretically modeled, inferred, or hypothesized to cause. As warned above, this includes unobservable, theoretical entities that are ontologized from mathematical formalism (e.g. Newtonian forces and electromagnetic fields). Judging particular cases according to these standards may engender debate, informed by technological advances and the philosophical investments touched upon above.[88] Whatever one's position on these

[87] One might argue that these entities are *directly* observable; however, it is unclear how one could reject an irreducible need for inferential reasoning to what cannot *in principle* be observed yet whose results must be recorded sensuously.

[88] I also bracket the problem of possible vague cases/examples that problematize

contentious issues, I note that making these judgments will influence how one reads Hegel's philosophy of nature for today: on the one hand, denying the philosophical relevance of much contemporary empirical science; on the other, reconciling Hegel's criticisms of scientific theory with inference to unobservables.

On this latter point, perhaps one may attempt to distinguish between realism about scientific theories and realism about certain unobservable entities. Ian Hacking and Nancy Cartwright posit versions of "entity realism" that both seem incapable of maintaining this distinction coherently. Hacking explores the "home truths" about entities, abstracted from what is common to multiple theories, while Cartwright fails to distinguish what makes causal explanation via unobservable entities different than causal explanation through theories and theoretical laws.[89] Matthias Egg claims to fare better in his use of inference to the best explanation [IBE] under the criteria of non-redundancy, material inference, and empirical adequacy.[90] Discussing the atomic hypothesis, Egg claims that knowledge of unobservable atoms "does not come from a fundamental theory, but from what is experienced in the laboratory."[91] Yet, inferring what is experienced (or manipulated, in Hacking's case) is precisely the problem at hand, rather than its solution. The same problematic form of making an explanatory leap from observable data to underlying causes

distinguished observable and unobservable and how best to characterize them according to the standards discussed here. My analysis is only meant to introduce the theme of (un)observability in Hegel's work, rather than definitively characterize or resolve all issues with it. Perhaps this vagueness could be critically engaged to become part of a reflection of nature and the imperfections or limits of empirical knowledge. Moreover, the observable/unobservable distinction remains valuable even in view of possible vagueness; as Wiltsche writes, the distinction holds "so long as clear cases exist on both ends of the continuum" (Harald Wiltsche, "What Is Wrong With Husserl's Scientific Anti-Realism?", p. 128 fn. 5). The examples given in this essay are clear cases.

[89] Egg discusses Hacking's and Cartwright's work in depth, and my description accords here with his. See: Matthias Egg, *Scientific Realism in Particle Physics*, pp. 19-32.

[90] Matthias Egg, *Scientific Realism in Particle Physics*, p. 32.

[91] *Ibid.*, p. 102.

arises even in Egg's example, regardless of whether a hypothesis ascends to the status of a well-articulated theory in its content. One would be burdened with engaging the seemingly irreducible gap from *best* explanation to judgment about the *necessity* of underlying natural kinds. More plausibly, perhaps Hegel's purely logical science, with its sections on mechanics, chemism, teleology, and life, proves the necessity of distinguishing these layers of objective being. If one accepts that this jump to necessity cannot be made non-arbitrarily yet asserts the belief that these entities are real, then accepting entity realism is as problematic as accepting full-fledged theory realism. Perhaps one may attempt to reconcile Hegel's philosophy with realism about certain theories or hypotheses beyond the problems he finds in Newtonianism. Yet, if so, it is unclear how the problem of underdetermination can be avoided, leading to a merely tentative account of natural being (or, rather, one that can never prove *necessary* from experience itself), over and against what I interpret as Hegel's concern with its indubitably essential determinations. An alternative reading of Hegel's project may find precisely such an implication non-problematic.

Again, I do not pretend to resolve all of the difficulties presented in appeals to observability, nor again to provide a definitive Hegelian response to these problems, including the potential malleability of his views in our current historical situation. Perhaps what is more important is to recognize how the problem of observability emerges, for Hegel, through the tension between providing a phenomenological analysis of empirical science and striving to discover objective determinations of natural being. If Hegel were not concerned with phenomenological evidence, his philosophy could be reconciled with realism about contemporary scientific theories yet would lose the rigorous criteria for discerning natural kinds. Exploring these stakes has relied on interrogating the nature of Hegel's commitments to observability and objectivity.

Hegel and the Quantum Unobservable

Thus far, I have given a more general analysis of Hegel's phenomenological account of empirical science in relation to the problem of theory realism. If Hegel's critiques of Newton are taken as paradigmatic of his treatment of empirical science, then all contemporary scientific theories also fall under his critique. However, the theory[92] of quantum mechanics is particularly interesting because it directly thematizes the role of observation and measurement in the constitution of phenomena.[93] Moreover, recent work by Slavoj Žižek has brought attention to the ways in which the Hegelian dialectic may be rearticulated in relation to certain theoretical interpretations of quantum mechanics.[94] Given the superseding of the classical Newtonian framework to which Hegel responds, anyone engaging the continued relevance of Hegel's philosophy of nature must address the development of quantum mechanics. Thus, far from an arbitrary annex to the concerns in the first sections of this essay, the theory of quantum mechanics provides one locus for examining the continued relevance of Hegel's phenomenological analysis of empirical science.

Rather than provide an overview or thorough analysis of the history, theory, or mathematical formalism of quantum mechanics, I seek only to

[92] I take the *theory* of quantum mechanics to lie in its positing of unobservable entities and their properties and activities as causes of observational data, while there are many *interpretations* of the theory that posit distinct underlying ontologies (or not). These interpretations may be considered their *own* theories or hypotheses *of* quantum mechanics. Note, however, that some philosophers of science like Tim Maudlin object to labeling quantum mechanics as a *theory* given the unclarity of this underlying ontology. For Maudlin, quantum mechanics is a "predictive receipt" *in search of a theory* (rather than interpretation *of* the theory). See: Tim Maudlin, *Philosophy of Physics: Quantum Theory* (Princeton: Princeton University Press, 2019), p. xi. I reject Maudlin's terminology because it presents quantum mechanics as if neutral description rather than as already theoretical in form, in the sense of its positing of unobservables.

[93] I do not engage quantum field theory here. Note, however, that even in the expanded purview of quantum field theory, the measurement problem and interpretation of the wavefunction, on which I focus my analysis below, are not resolved.

[94] Slavoj Žižek, *Less Than Nothing: Hegel and the Shadow of Dialectical Materialism* (London: Verso, 2012), pp. 905-961.

consider quantum mechanics in relation to Hegel's concerns with scientific theory and observability. The previous sections of this essay ground my warning to avoid capture by metaphysical speculations that pervade the popular reception of quantum mechanics.

Yet, the extent to which one might engage quantum mechanics in relation to these criteria depends on how one justifies the existence of natural kinds in relation to observability. The most conservative reading of observability from a Hegelian lens—one tied to the critiques of theory and entity realism—would reject that quantum mechanics reveals anything valid about the objective determinations of natural being. On this reading, the proper Hegelian response to quantum mechanics, as a scientific theory, is to critique how it posits the existence of atomic and subatomic unobservables that causally explain the appearing of experimental observations. On the other hand, if one attempted to reconcile Hegel with realism about these quantum entities—something that must be taken with suspicion, given the problems examined above—it would be necessary to provide a more detailed examination of what quantum phenomena are understood to be. Most importantly, regardless of whether one accepts this latter view, the multiplicity of realist interpretations that attempt to explain why and how they act must be submitted to critique for failing to present empirical evidence and failing to overcome the problem of underdetermination. As such, I argue that examining the details of quantum mechanics provides opportunities for a more nuanced Hegelian critique. For the sake of clarity alone, I speak of atomic and subatomic particles and their qualities *as if* they were real in order to provide this critique.

With quantum mechanics, the relationship between the mathematical "formal structure" and the semantic "empirical interpretation which *fixes* the meaning and reference of the formal structure"[95] is particularly fraught with uncertainty.[96] As Peter Lewis writes, quantum

[95] Brigitte Falkenburg, "How to Save the Phenomena," p. 102.
[96] Peter Lewis, *Quantum Ontology*, (Oxford: Oxford University Press, 2016), p. 26.

mechanics seems to reveal that "physical explanation has limits."[97] The phenomena of entanglement (whereby pairs of particles seem to be inextricably and immediately connected across space and time), wave-particle duality (based on the apparent capacity of quantum particles to also act as waves),[98] quantum superposition (whereby certain values are presented as indeterminate or probabilistic pre-measurement), and quantum indeterminacy (based on the incapacity for all qualities of a quantum system like position/momentum, energy/duration, and spin of different axes to be known determinately *at the same time* and thus ever completely) present significant problems for interpretation. The problem lies in that these phenomena do not seem explicable from the tools of the formalism. For instance, wave-particle duality "can't be explained via waves and it can't be explained via particles—so what kind of physical entity does quantum mechanics postulate behind the phenomena? Entanglement can't be explained via spin properties of individual electrons—so what kind of property does quantum mechanics postulate behind the observed correlations?"[99] Similarly, it is unclear to what quantum superposition and indeterminacy refer, particularly whether these reflect an objectively existing probabilism or indeterminacy in nature itself. For Lewis, it is as if "we have no idea what we are talking about, because we have no idea what (if anything) the basic mathematical structures of the theory represent."[100]

The formalism of quantum mechanics raises two problems involving the question of observability. First, in accordance with Hegel's warning not to confuse mathematical structure with physical reality, physicist Niels Bohr raises the problem that the formalism of quantum mechanics relies

[97] *Ibid.*, p. 25.
[98] Note Hegel's treatment of light in EPN §276R, in which he claims that the mechanical concepts of wave and corpuscle (particle) are not qualitatively appropriate descriptors of the phenomenon of light's simplicity and indivisibility. Might Hegel's critique that light is never given *phenomenologically* as either wave or particle, but rather is only modeled and causally explained as such from observational results, be one resource with which to critique the theory of quantum mechanics more broadly?
[99] Peter Lewis, *Quantum Ontology*, p. 22.
[100] *Ibid.*, p. 23.

on imaginary numbers. For instance, the formalism of the Heisenberg uncertainty principle and Schrödinger's wavefunction equation posit the imaginary number i that does not seem to have any real significance, ontologically speaking.[101] As Jan Faye writes, the nature of this mathematical formalism leads Bohr to take the wavefunction to have "only a symbolic meaning" rather than to represent anything real.[102] The modeling of quantum phenomena with complex vector spaces—complex because they use i—as Hilbert space is particularly problematic if taken as "a direct representation of the spatial structure of the world."[103] This is because it would indicate that "the world has many, many more spatial dimensions" than what is directly observed in experience.[104] Moreover, the formalism of complex vector space is not phenomenologically valid but rather merely predictive. Thus, second, there is a more serious problem with the probabilistic nature of the formalism of the complex vector spaces as it relates to determinately measured values. Before measurement, we can represent with these complex vectors "the potential possibilities but not the actual values of our measurements," as physicist Leonard Susskind and Art Friedman write.[105] While the wavefunction equation is deterministic as it involves the state-vectors themselves, "even if we know the state-vector exactly, we don't know the result of any given measurement."[106] In other words, even if a range of results can be predicted probabilistically, uncertainty is built into the mathematical formalism as it relates to actual, determinate measurements.

Let us consider in greater depth why. Summarizing Bohr's anti-realism, Faye lists four mediations involved in the appearing of any

[101] Jan Faye, "Copenhagen Interpretation of Quantum Mechanics." *The Stanford Encyclopedia of Philosophy*. https://plato.stanford.edu/entries/qm-copenhagen/.
[102] Jan Faye, "The Copenhagen Interpretation of Quantum Mechanics."
[103] Peter Lewis, *Quantum Ontology*, p. 163.
[104] *Ibid.* Lewis also discusses several ways to avoid this implication, for instance in Bohm's theory and GRW theory, which I will not examine in this essay.
[105] Leonard Susskind and Art Friedman, *Quantum Mechanics: The Theoretical Minimum,* (New York: Basic Books, 2014), p. 39.
[106] Leonard Susskind and Art Friedman, *Quantum Mechanics: The Theoretical Minimum*, p. 126.

quantum phenomenon, which problematizes grasping what exists pre-measurement: first, "the need of classical concepts for the description of measuring results;" second, "the entanglement of the system and the measuring instrument;" third, "the contextual nature of the measurements of complementary properties;" and fourth, "the symbolic character of the quantum formalism."[107] The probabilistic nature of the mathematical formalism relates directly to the problems of measurement with the "measurement problem." Under the classical paradigm, it is relatively unproblematic to assume that what is observed through experimentation and observation are the processes and dynamics that occur independently of scientific measurement itself. This is not so with quantum mechanics. Under its theoretical presuppositions, the very act of measurement affects or changes the quantum system due to the scale of analysis—that is, what is observed is so small that any act of recording or measurement interferes with what is given. Because to observe and measure is always already to fix values, what belongs to the quantum system pre-measurement cannot be discerned, with certainty, from the determinate measurement results themselves. The problem of the unknowability of what exists pre-measurement holds for many of the problems of quantum mechanics. Entangled properties that are modeled probabilistically pre-measurement cannot be known to have been already determinately valued or not. Indeterminately modeled properties of a quantum system can never be measured directly without fixing them. Indeed, the superposition of the wavefunction cannot be known directly because to measure it is, again, to fix it. Thus, the question becomes whether the wavefunction refers to something objective, and if so, whether it has an underlying wave, particle, or wave-particle ontology, and whether this ontology is deterministic.

In response to the measurement problem, some deny that quantum mechanics reveals anything discernible about what really exists pre-measurement. For example, QBism takes the probabilism of the mathematical formalism to indicate nothing more than *subjective belief* about a quantum system, which leads this position to suspend judgment on

[107] Jan Faye, "The Copenhagen Interpretation of Quantum Mechanics."

any direct ontological implications.[108] On the other hand, a number of realist interpretations attempt to fill the explanatory gap built into the formalism of quantum mechanics. Lewis exemplifies the realist pathos in writing that it is the "business of science to describe the world" outside of subjective measurement and observation.[109] For quantum mechanics, this means postulating the underlying causal conditions of measurements, as they are pre-measurement. Dustin Lazarovici, Andrea Oldofredi, and Michael Esfeld characterize quantum mechanics as necessitating a "provisional, hypothetical" ontology in order to do so.[110]

There are several "provisional, hypothetical" ontologies in quantum mechanics—all of which I cannot examine in any depth here—that attempt to describe the quantum system pre-measurement. Each posit unobservable entities or structures beyond what is directly observed in experimentation, based on philosophical or methodological commitments external to what is actually observed (including, for instance, preserving determinism or locality). I follow Lewis in characterizing some of these interpretations. For example, the Everett Interpretation maintains the determinism and locality of quantum systems by arguing that quantum superpositions are not probabilistic. Rather, "every outcome of a measurement actually occurs"[111] because reality itself branches out into many worlds that correspond with each of the superimposed quantum states of the formalism. While "there are no collapse and no hidden variables," meaning this interpretation may be viewed as parsimonious adding nothing to the evolution of the Schrödinger equation itself,[112] it makes an entirely unfalsifiable claim about other worlds to which we have no phenomenological access, from our experience of observing only *one*

[108] See, for instance, Hans Christian von Baeyer, *QBism: The Future of Quantum Physics*, (Cambridge, MA: Harvard University Press, 2016), pp. 129-184.
[109] Peter Lewis, *Quantum Ontology*, p. 43.
[110] Dustin Lazarovici, Andrea Oldofredi and Michael Esfeld, "Observables and unobservables in quantum mechanics: How the no-hidden-variables theorems support the Bohmian particle ontology," *Entropy* 20.5 (2018), 116-132 (p. 131).
[111] Peter Lewis, *Quantum Ontology*, p. 63.
[112] *Ibid.*, p. 62.

measurement result. Second, the "hidden variable" interpretation of Bohm and de Broglie, which posits a dual ontology in which particles move on a "wave-like field that pushes them around" deterministically,[113] also takes there to be no collapse of superposition into determinate values; rather, determinate values are of the particles that are pushed by the wavefunction itself.[114] This interpretation overcomes the problem of indeterminacy of position of quantum particles. Yet, this interpretation supplements the mathematical formalism by adding coordinate positions of point-particles as unobservable variables, hence its namesake.[115] Nothing from the experiments themselves justify the positing of these hypothetical structures, nor can they ever be verified directly because the initial positions of entities that supposedly evolve deterministically cannot be known due to the disturbance of measurement. Other hidden variable hypotheses rely on this same unobservability, whether they choose to violate locality or, as in the case of the retroactive causality hypothesis,[116] claim that effects precede causes in time. Such a claim seems not to be metaphysically coherent. Finally, versions of spontaneous collapse theories take the underlying ontology of quantum mechanics to be "wave-like" and indeterministic according to the wavefunction;[117] for these interpretations, the wavefunction exists objectively and "collapses" into determinate values according to entanglements that particles form with others in a system. Aside from positing the existence of an indeterminacy that can never be directly observed, these interpretations suffer from the seemingly *ad hoc* introduction of the fundamental constants of "the frequency of hits and the width of the hit function."[118] They too pose problems for locality.

For my purposes, it is less important to examine each of these interpretations and their permutations in depth than it is to note how they

[113] Peter Lewis, *Quantum Ontology*, p. 108.
[114] *Ibid.*, p. 57.
[115] *Ibid.*, p. 56.
[116] Lewis notes that no "retrocausal hidden variable theory has been constructed" (*Ibid*. p. 104).
[117] *Ibid.*, p. 180.
[118] *Ibid.*, p. 160.

are vulnerable to Hegel's phenomenological critique of theory realism. The realist pathos must be submitted to a more fundamental, phenomenological critique of causal-theoretical explanation, grounded in the inability to discern objective determinations from mere subjective speculation. Each of the realist interpretations fall into this problem because they provide causal explanations structured according to theoretical motivations external to the results of observation and measurement. Although these realist interpretations claim to describe what is "really" observed, these descriptions are not phenomenologically valid; each supplements the appearing of observational results with underlying conditions and causes not given by the phenomenon itself. For instance, the Everett Interpretation supplements the phenomena observed by claiming that what is *really* registered as the determinate values of quantum states is a branching off of reality into multiple worlds; the Bohmian interpretation claims that what is *really* observed are only particles moving on a deterministic wave; spontaneous collapse theories claim that what is *really* observed is the "collapse" of an actually existing wavefunction into determinate values.

Yet, one might ask: could it not be that any one of these things are being observed always and already—just that we are not aware of it? Thus, even if these theories are only hypothetical today, might one be proved as true in the future? Again, as with all causal theories that rely on inference to unobservable causal principles, none of these theories can ascend to necessarily objective truth of the things themselves. As Thomas Seebohm writes, in contrast with classical physics, for which "there are no serious problems in principle for the ontological interpretation of the theoretical entities of classical mathematical formalism,"[119] the problem facing incompatible interpretations of quantum mechanics is that "there is no possibility to find any mathematical or empirical justification for one of them together with the rejection of the other."[120] Realist interpretations uptake certain assumptions about the quantum system pre-measurement

[119] Thomas Seebohm, *History as a Science and the System of the Sciences: Phenomenological Investigations*, (New York: Springer, 2015), p. 222.
[120] *Ibid.,* p. 225.

that already frame how any new data is to be interpreted. Depending on the interpretation, the nature of (non)locality, (in)determinism, the wavefunction, and so on are hypothetical presuppositions that lead to other posited unobservables, *ad hoc* assumptions, or intuitively empty claims that reflect these pre-established commitments. Experimental results are subsequently made to fit their framework. Given the nature of quantum formalism in relation to measurement, post-measurement empirical data has not been able to refute any of these hypotheses or commitments from within quantum mechanics itself. For this reason, even interpretations that may be open to entity realism must criticize the arbitrariness—at least the lack of necessity—of adhering to one realist interpretation over another, as measured against the data itself. Finally, even if one *were* to narrow the interpretative field based on external philosophical commitments, any one interpretation can never ascend beyond hypothesis to what cannot, in principle, be perceived in experience. One could never discern the natural structures that lie outside of perceptual experience *or not*.[121]

As such, it seems that nothing definitive can be said about the determinations of nature at the quantum level, prior to measurement. Yet, having problematized these realist interpretations, there is a certain anti-realist temptation that must also be addressed. Uncertainty over the underlying causes of quantum phenomena does not translate to the view that what appears in the frame of experimentation has no connection with what exists 'in itself,' even if there may be challenges to whether and what natural kinds can be attributed to this appearing. On the one hand, with a more restrictive view of observability, it makes as little sense to speak of what does not apply to an actually existing 'quantum realm' as what does:

[121] One exception may be if a theory or interpretation posits something conceptually self-contradictory or metaphysically incoherent. There seems to be nothing *a priori* about space preventing about non-locality, about causality preventing natural indeterminism, or about reality preventing the existence of multiple worlds. I leave for future work whether any of these concepts contradict Hegel's own views on space, causality, and world. However, note that Hegel writes of these concepts as they appear and function *in our perceptual experience*, so that any seeming contradiction may be from within this frame alone.

this ‘quantum realm’ cannot be judged to exist objectively in either case, since it is unobservable. On the other hand, this problem remains even with a more expansive view allowing for indirect observability or IBE. Just as the realist interpretations are problematic for making a projection to what cannot be observed, so too would an anti-realist interpretation that projects a quantum realm disconnected from its own appearing. Such a position would reproduce the kind of theoretical projection that plagues realist causal theories. In other words, neither can it be said definitively that the quantum system “has no particular property or character *until* we make the measurement,”[122] as if it were otherwise devoid of determinations pre-measurement and only gains them in the subjective frame of experimentation.[123] While the measurement problem restricts what can be known in quantum mechanics, asserting what the pre-measured quantum realm *is not* ontologically turns out to be as speculative as the realist theories that attempt to discern what it *is*.

Instead, attention must be given to how the ‘in itself’ appears. Hegel’s critique of the noumenon is not based on the presupposition that we have a ‘view from nowhere’ of natural being, nor does Hegel claim that we can ‘exhaust’ all empirical knowledge or that there are not things that may be unknown at different times. Rather, attention must be paid to how objectivity appears in different ways in its various relations—including, I would add in view of contemporary physics, those relations formed with observational instruments and measurement apparatuses. As Stephen Houlgate writes, for Hegel, “nothing can avoid asserting its own determination in its relations with others, but equally nothing can avoid being constituted in ways that are beyond its control by other things that surround it.”[124] Thus, Hegel argues for a more nuanced perspective that questions what *of* the ‘in itself’ appears—or, to reverse perspectives phenomenologically, how the ‘in itself’ is intended as objective in sense

[122] Patrick Heelan, *The Observable: Heisenberg's Philosophy of Quantum Mechanics,* (New York: Peter Lang Publishing, Inc., 2016), p. 84.
[123] Some attribute this view to Bohr. See: Patrick Heelan, *The Observable*, p. 108.
[124] Stephen Houlgate, *The Opening of Hegel’s Logic: From Being to Infinity*, (Lafayette, Indiana: Purdue University Press, 2005), p. 349.

perception—so as to prompt the need for amending our understanding of the objective determinations of nature. Whether this dialectical overturning supports the isomorphism emphasized by Johnston or the constructivism emphasized by Rockmore, nature must be treated in its *own* phenomenal appearing.

However, on this point, we return to the heart of the problem of a Hegelian interpretation of quantum mechanics: precisely *what* is observed in those experiments and observations that claim to reveal the nature of the 'quantum' world? Even if the experiments of quantum mechanics reveal *something* about how nature appears, does it enable knowledge of certain 'quantum' natural kinds *more specifically*, based on the criteria of validity discussed above? As I interpret Hegel, one would have to suspend judgment about causal claims outside of the appearing of the phenomena themselves—even if this means not being able to subtract measurement itself from the experience of this appearing. Yet, if we must suspend causal theories in empirical science, we have strong reason to deny that these observations say anything about 'quantum' natural kinds or entities at all. Given that quantum mechanics is a theory that explains measurement results from entities that cannot be observed perceptually (and whose very ontology is subject to debate), there is an irreducible 'gap' in attributing 'quantum' natural kinds to it in a way that guarantees that what is explained is necessarily objective and valid rather than merely hypothetical. If so, is Hegel's lesson that the *uncertainty* about what these observations actually entail emerges from the problems of moving beyond what is perceptually given and into the realm of the theoretical or hypothetical?

Conclusion

In view of the questions above, the way we develop a contemporary Hegelian philosophy of nature may be informed by two issues. First, as I have emphasized in this essay, it will be necessary to make judgments about the ways in which objects can be said to be given in perceptual

experience. This may include judging the limits of observability and whether Hegel's philosophy can be reconciled with IBE or some forms of theoretical speculation—including what we would lose of his project, under my interpretation, if we attempt such a reconciliation. In any case, these judgments must directly thematize the epistemological limitations of empirical science in attaining to the same kind of apodicticity as pure philosophical logic—including the role of the 'middle term' of subjective interpretation and explanation required to articulate the essential determinations of natural being.

Second, a contemporary Hegelian philosophy of nature may depend on how we understand the connection between empirical science and the philosophy of nature more generally. As Houlgate writes, there are differing readings as to whether the philosophy of nature is meant as a "flexible conceptual framework" in view of the scientific discoveries of the day, or whether the different divisions of the philosophy of nature are determined *a priori*.[125] Edward Halper's formulation of the philosophy of nature exhibits an ambiguity between the *a priori* and *a posteriori* in Hegel's account, which Halper writes "does not aim to produce new scientific results but to deduce already established results by dialectical, *a priori* argument."[126] Regardless of where one stands on this debate, it is necessary to note that many of the developmental stages of Hegel's philosophy of nature rely on historically and technologically mediated observations of natural kinds. This includes the concepts of acid/base and positive/negative electricity and also Kepler's laws. Even if the general conceptual trajectory of the philosophy of nature is established, it would appear open to the addition of other natural kinds based on this character of its other contents. If so, whether this additional data might be reduced to or subsumed under a previous division or concept, or whether it might require establishing new divisions or determinations previously

[125] Stephen Houlgate, "Introduction," in *Hegel and the Philosophy of Nature,* ed. by Stephen Houlgate (Albany: SUNY Press, 1998), pp. xi-xxvii (pp. xiii-xiv).
[126] Edward Halper, "Hegel's Criticism of Newton," in *The Cambridge Companion to Hegel and Nineteenth-Century Philosophy,* ed. by Frederick C. Beiser (Cambridge: Cambridge University Press, 2008), pp. 311-343 (p. 316).

unarticulated, any supplementations must be judged in view of the first concern with epistemic justification.

Rather than stipulate how one must continue Hegel's legacy today, I end this essay by underscoring that one's attitude toward the two issues above will affect how one characterizes Hegel's contributions to current debates in the philosophy of science and empirical science. Yet, if Hegel's project is caught between a phenomenological analysis and concern for the true objectivity of natural kinds, as I have argued in this essay, it is precisely his concern with doing justice to both of these principles that makes his perspective so critical today.

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What is Living and What is Dead in the Empirical and Speculative Sciences? The Problem of Demarcation and the Speculative Structure of Life in Hegel's *Naturphilosophie*

CHAPUT EMMANUEL

Introduction

In this paper, I tackle the question of Hegel's relation to empirical sciences and his conception of the respective roles of science and philosophy of nature. The issue is addressed from the angle of Hegel's treatment of life within the second part of his *Encyclopedia of the Philosophical Sciences*. In the final section of this work, Hegel asserts that life marks a boundary between that which can be apprehended by the understanding (*Verstand*) and the empirical sciences on the one hand, and that which must be a specific object of speculative reason (*Vernunft*) and philosophy on the other.

The very structure of life as a totality having "its contrary within itself"[1] continues, for Hegel, to elude standard empirical sciences. But that

[1] G. W. F. Hegel, *Werke in Zwanzig Bänden*, IX (Frankfurt-am-Mainz: Suhrkamp,

is not to say that *Naturphilosophie* should in his opinion in any way supplant empirical sciences. On the contrary, Hegel writes: "It is not only that philosophy must accord with the experience nature gives rise to; in its formation and its development, philosophic science presupposes and is conditioned by empirical physics"[2]. Nevertheless, the structure of life for Hegel seems to elude the dissecting eye of empirical sciences. Thus Hegel argues in favor of a reciprocal acknowledgment between empirical sciences and philosophy in their specificity and respective limits.

In the first sections of this paper, the limitation of empirical science is explained in terms of Hegel's distinction between the respective *modi operandi* of empirical science (understanding) and philosophy (speculative reason), which function in a fashion analogous to their object of inquiry. The philosophical apprehension of life will necessitate a form of living thought; whereas the understanding will function somewhat mechanically in order to capture the essence of the inorganic.[3] In the following sections, I focus on the nature of the relation that can established between these two forms of science, empirical and philosophical, and the fruitful dialogue they can engage in. On this occasion, I will briefly highlight the difference between Hegel's conception and Schelling's. It will also invite the question, more in tune with contemporary concerns, of Hegel's relation to epistemological or methodological naturalism.

While Hegel distinguishes between the objects of philosophy and science and suggests limits for the natural sciences that only philosophy can surpass, the task of a philosophy of nature nevertheless cannot be fulfilled without a general understanding of the scientific works of its time and its historical progress. If philosophy is to have its own methodology, its own mode of reasoning, it must acknowledge the relevance and necessity of scientific methodology for both the progress of science and

1971), E.§337Zu., p. 339, hereafter *W*; Michael John Petry, *Hegel's Philosophy of Nature*, I (New York: Humanities Press, 1970), p. 11, hereafter *PhN*.
[2] Hegel, *W* IX, E.§246Anm., p. 15; *PhN* I, p. 197.
[3] See Emmanuel Renault, *Hegel. La Naturalisation de la dialectique* (Paris: Vrin, 2001), pp. 60-61.

philosophy itself. As such, Hegel presents a more qualified view of the relation between science and philosophy than might be at first surmised from his assertion[4] that only philosophy can adequately appraise the phenomenon of life within nature. On the other hand, he nevertheless preserves philosophy's autonomy from empirical sciences. In this respect, Hegel's originality is to offer an example of how science and philosophy can entertain a fruitful dialogue without falling into the pitfall of asserting the primacy of one over the other.

What is Living and What is Dead in the Empirical and Speculative Sciences?

A Hegelian might be tempted to answer—if in a somewhat abstract, if not naïve, manner— the question "what is living and what is dead in the empirical or speculative sciences?" in the following way: what is dead belongs to the empirical sciences and what is living to the speculative or philosophical science.

As demonstrated in this answer, the question in this context has a slightly different meaning than that proposed by Benedetto Croce's in his famous question (which I am here voluntarily mimicking). The issue is not, as it was for Croce,[5] to distinguish between what is relevant, pertinent, and actual in Hegel's speculative science (or in empirical sciences for that matter), and what has lost its meaning by becoming obsolete. My interrogation, rather, relates to the issue of demarcation within Hegel's thought. When we consider Hegel's account of nature, where is the demarcation between the organic and the inorganic, between the living and the dead?[6] I will argue that this point of demarcation between the organic

[4] Hegel, *W* IX, E §337Zu., p. 338; *PhN* III, p. 10.
[5] See Benedetto Croce, *What is Living and What is Dead of the Philosophy of Hegel*, trans. by Douglas Ainslie (New York: Russell & Russell, 1969), pp. 203-04.
[6] One could argue that the equivalence between the inorganic and the dead is not as self-evident as Hegel seems to suggest. Death can signify the transition of the living

and the inorganic is also the demarcation for Hegel between empirical and speculative science.. In other words, life as an object of science requires another kind of approach that empirical sciences cannot provide. Life is an object for speculative science; that is, for philosophy.[7]

The Understanding and the Speculative in Hegel

Continuing with the Kantian distinction between understanding (*Verstand*) and reason (*Vernunft*), yet surpassing the limits imposed by his predecessor, Hegel considers speculative science to be the science of reason; whereas, as Jean Hyppolite remarks, "the empirical sciences are the work of the understanding."[8] According to Hegel, understanding distinguishes, dissects and analyses. It tends to simplify and decompose an object into its basic elements. But this dissection or reduction fails to grasp the dynamical unity of the living object. As Hegel notes in the *Encyclopedia*: "the understanding […] tears apart the general object, even when this is a living

from its organic state to the inorganic state of the cadaver, but the transition from the inorganic to the organic is another kind of transition altogether. However, as Hegel argues in §251 of his *Encyclopedia* (*W* IX, p. 36; *PhN* I, p. 216), in as far as the externalisation of the Idea in nature signifies at first the "death" of the concept in its pure logical form, before its re-emergence within reality as life, the inorganic equates with what is dead, at least in regards to what Hegel calls the 'logical life' of the Idea. I want to thank Michel Ratté for bringing this issue to my attention.

[7] In order to avoid any misunderstanding, I must specify that when I refer to the science of life as a 'speculative' science, I do not mean to confer a merely 'hypothetical' character to for example biology. We know that for Kant, biology in the end has only a hypothetical status, since one cannot ascertain empirically that there is as a matter of fact a finality in the living being. It is merely an assumption: I judge *as if* the living organism was an *Endzweck*, but it remains a reflective judgment and not a determinative one (see Immanuel Kant, *Critique of Judgment*, trans. by Werner S. Pluhar (Indianapolis: Hackett Publishing Company, 1987), pp. 324-25). One might be tempted to consider such an assumption as merely speculative in the sense of a conjectural consideration. But of course, this is not how Hegel understands or uses the term 'speculative.' 'Speculative' for Hegel does not mean conjectural; on the contrary, it is a form of truth that contains in itself the demonstration of its reality. In this sense, life within nature doesn't have a merely hypothetical status, but an ontological one.

[8] Jean Hyppolite, *Logic and Existence*, trans. by Leonard Lawlor and Amit Sen (New York: SUNY Press, 1997), p. 40.

being such as a plant or an animal, and in spite of its extensive know-how, it therefore fails to grasp the concrete nature of the general object, to recognise the spiritual bond holding together all the singularities."[9] The understanding is thus seen as *abstract* in that it can seize only one side of the equation, the multiplicity of the parts, but fails to grasp the spiritual bond of the whole. "Take a flower for example," Hegel says. "The understanding can note its particular qualities, and chemistry can break it down and analyse it. Its colour, the shape of its leaves, citric acid, volatile oil, carbon, hydrogen etc., can be distinguished; and we then say that the flower is made up of all these parts."[10] But still, what is lacking is the essence of this unity, which is more than the sum of its parts. This unity is precisely the life of the flower. Again, Hegel will say that this unity of life, this concreteness of the organism and the equilibrium it conveys between the unity of the whole and the multiplicity of its parts, is what the understanding cannot apprehend. The very essence of the understanding that dissects, divides and reduces hinders any attempt to seize life as it is: "Life is the Concept which has reached its manifestation and stands displayed in its clarity; at the same time however it is the most difficult for the understanding to come to terms with, because the understanding finds it easiest to grasp whatever is simplest, abstract, and dead."[11]

As far as the empirical sciences rely on the understanding and as far as the understanding destroys the living unity of an object, or of a concept, to distinguish between its different components, their objects of inquiry are necessarily for Hegel in a sense dead. Even chemistry, which could be

[9] Hegel, *W* X, E.§449Zu., p. 255; Michael John Petry, *Hegel's Philosophy of Subjective Spirit*, III (Dordrecht: D. Reidel Publishing Company, 1978), p. 139. See also G. W. F. Hegel, *Vorlesungen über die Philosophie der Religion III*, Band V, Hrsg. von W. Jaeschke (Hamburg: Felix Meiner, 1984), p. 126.
[10] Hegel *W* IX, E.§246Zu., p. 21; *PhN* I, p. 202.
[11] Hegel *W* IX, E.§251Zu., p. 37; *PhN*, I, p. 217 [trans. slightly modified]. Understanding's inability to grasp life is a thesis that Hegel already holds in his early writings (see for instance Hegel, *W* I, p. 380); Jean Wahl, *Le Malheur de la conscience dans la philosophie de Hegel* (Paris: Presses universitaires de France, 1951), p. 151.

viewed as a dynamical process "analogous to life"[12] (*ein Analogon des Lebens*), ends up with a *caput mortuum*, the inert result of chemical reduction.[13]

As we see, then, the answer given by our hypothetical and somewhat naïve Hegelian enthusiast can be understood along the following lines: for Hegel, the philosophical sciences seem to have a monopoly on the knowledge of the living as they grasp through speculative reason the spiritual bond of life, whereas the empirical sciences are left with the lifeless corpses. Empirical sciences can provide information on the parts of animals through taxonomy and infer chemical processes within a living body. But still, these processes are not life itself, but rather dissected dynamics or the parts of animals, which are often better described, as in the case of the anatomy, by reference to a cadaver than to an actual living being.

Of course, our Hegelian enthusiast is partly right in her depiction: life is indeed for Hegel an object of philosophy, speculation and reason. But the enthusiast is somewhat too adamant. In fact, she falls into the trap of the understanding, which always seeks to provide answers in terms of "either/or."[14] Whereas speculation and the absolute (or the concept) are defined by their capacity to seize the unity of the opposites, the identity of identity and difference;for the understanding, on the contrary, "it is assumed that a plain answer would assure us of *one* or the *other* of [the] alternatives."[15] Likewise, the enthusiast establishes a strict but lifeless distinction between what is dead and what is living, between the empirical sciences and the speculative sciences. Just as the understanding usually attempts to establish clear-cut distinctions between different terms seen as mutually exclusive the Hegelian enthusiast seems in like manner to think abstractly, which is a mode of thinking Hegel clearly associates with the

[12] Hegel *W* IX, E.§326Zu., p. 292; *PhN*, II, p. 182.
[13] See Hegel *W* IX, E.§332Zu. and §359, p .323, pp. 468-71.
[14] Hegel, *W* IX, E.§247Zu., p. 27; *PhN*, I, p. 208.
[15] *Ibid*.

one-sidedness of the understanding.[16]

The issue is, in fact, slightly more complicated. Empirical sciences are not entirely rational (*vernünftigen*) and they are not *merely* empirical; for as Hegel says: "if physics were based only on perceptions […] and perceptions were nothing but the evidence of the senses, the activity of the natural scientist would consist only in seeing, smelling, hearing, etc. so that animals would also be physicists. It is however a spirit, a thinking entity, which sees and hears, etc."[17] Empirical sciences are in fact filled with (often implicit) conceptual and metaphysical assumptions that philosophy needs to acknowledge. This is the core of Hegel's criticism of Newton in his *History of Philosophy*. For Hegel, Newton "is such a thorough barbarian in regard to concepts, that it went for him as for his fellow countryman who was highly amazed when he learned that he had spoken in prose without knowing that he was so gifted. As for Newton, he never knew that he used concepts and had anything to do with concepts, when he meant to deal with physical things."[18] Reason and the logical determinations of the concept pervade the empirical sciences. Moreover, the empirical sciences of the understanding are necessary materials for Hegel's speculative science of nature. The content of *Naturphilosophie*, Hegel says, is in no way different from the empirical science's content. It is according to the way in which they apprehend their object that demarcation emerges between the two. The relation is thus far more intricate than as might have first appeared. As we have seen, the distinction between the inorganic and the organic seems to offer a clear-cut boundary between empirical physics and the philosophy of nature; but from Hegel's philosophical standpoint, this would entail missing the unity that can exist between empirical science and philosophy. If organic life as a totality is indeed an object of philosophy, certain aspects of it (such as mechanical or chemical processes) can also be studied by empirical science, which, in turn, informs a philosophical understanding of life. And conversely,

[16] See Hegel's = text"Wer denkt abstrakt?" in *W* II, pp. 575-581.
[17] Hegel, *W* IX, E.§246Zu., p. 16; *PhN*, I, pp. 197-98.
[18] Hegel, *W* XX, p. 231 [my translation].

Hegel's philosophy of nature is not merely interested in the phenomenon of life, but also considers the inorganic dimensions of nature and the way they relate to organic physics. For Hegel, the issue of demarcation is, then, not so much settled by a distinction in the nature of the object studied by empirical and speculative sciences. Certainly, certain topics are of little or no interest for philosophy and concern only empirical physics; on the contrary, life is in a sense beyond the reach of empirical science. Thus, each can, to a certain extent, distinguish the realm of empirical and philosophical science of nature through (some of) their respective objects of study. But in large measure, the real distinction lies in the way they interact with their object of study and the kind of way they relate to one another. As such, the issue concerns more the *modus operandi* of both approaches to nature, which are for Hegel legitimate in their own right insofar as they correspond to the essential nature of their respective object of inquiry. The mechanical methodology is certainly adequate to the realm of a mechanically-structured nature, but the phenomenon of life requires a method of inquiry that corresponds to its nature, to the "*Sache selbst*". Hence, the question of methodology and the issue of Hegel's relation to naturalism arises from the problem of demarcation.

Hegel and the Issue of Naturalism

Generally, when discussing the relation between science and philosophy, especially in the case of epistemology, philosophy of science and philosophy of nature, the issue of priority is bound to come up one way or another. Is philosophy dependent on the results of empirical sciences, and so merely a sub-discipline of natural science, or is science dependent on a proper philosophical foundation of its very principles? Concerning philosophy of nature, Hegel states quite clearly that "in its formation and its development, philosophic science presupposes and is conditioned by empirical physics."[19] At first glance, such an assertion seems close to a

[19] Hegel, *W* IX, E.§246Anm., p. 15; *PhN* I, p. 197.

certain epistemological or methodological naturalism that was held by Kant who anchored his own philosophical foundation in accord with Newtonian science. If for Hegel, philosophical science is grounded on the logic of the concept, within the realm of *Realphilosophie* (i.e. philosophy of nature and philosophy of spirit), this logic must also take into account the input of empirical science, the contingency of nature, etc. in such a way that it cannot remain closed on itself. As such, the development of *Naturphilosophie* is conditioned not only by its inner logic and coherence, but also by the external input of empirical data and science. But does this necessarily mean that for Hegel, *Naturphilosophie* should conform to the scientific knowledge of its time?

Broadly speaking, naturalism in epistemology asserts, at least in its most radical version, that philosophical interrogations must, in the end, be subordinate to natural sciences, for only natural science can provide the proper answers to our questions.[20] In a more qualified version, epistemological naturalism holds that natural or empirical sciences can help resolve philosophical questions without necessarily turning these questions into scientific ones.[21] In both cases, proponents of naturalism in epistemology assume to a greater or lesser degree "that there should be," as Patrick Rysiew writes, "a close connection between philosophical investigation […] and empirical ("natural") science."[22] In a somewhat similar fashion, David Papineau describes methodological naturalism as a perspective that "see[s] philosophy and science as engaged in essentially the same enterprise, pursuing similar ends and using similar methods."[23]

[20] The paradigmatic figure for this position is Quine in his seminal paper 'Epistemology Naturalized' in *Ontological Relativity and Other Essays* (New York: Columbia University Press, 1969), pp. 69-90.
[21] Peter Godfrey-Smith, *Theory and Reality* (Chicago: The University of Chicago Press, 2003), p. 151.
[22] Patrick Rysiew, 'Naturalism in Epistemology', in *The Stanford Encyclopedia of Philosophy* (Spring 2017 Edition), ed. by Edward N. Zalta, URL = <https://plato.stanford.edu/archives/spr2017/entries/epistemology-naturalized/>.
[23] David Papineau, 'Naturalism', in *The Stanford Encyclopedia of Philosophy* (Winter 2016 Edition), ed. by Edward N. Zalta, URL =

Such a congruence of goal and method is however usually anchored in the historical process of scientific revolution and confers accordingly a certain primacy to scientific methodology over traditional philosophical argumentation.

Now, does Hegel adopt a certain naturalist stance when he writes that philosophy is conditioned by the empirical sciences? In a recent paper, I have discussed Hegel's relation to what one might call ontological naturalism.[24] In the present paper, I would like to focus rather on his stance towards epistemological or methodological naturalism. In other words, I want to address Hegel's views on the interaction between the empirical sciences and the philosophical sciences in order to determine whether or not a naturalist perspective can in fact be derived from his philosophy of nature.

This effort in my view converges with a number of contemporary attempts to demonstrate the actuality of the Hegel's philosophy of nature, and more generally the actuality of his idea of philosophy as a system. As Sebastian Rand noted in his paper *The Importance and Relevance of Hegel's "Philosophy of Nature"*, both proponents and opponents of Hegel's philosophy have judged his views on nature and science to be utterly devoid of meaning, and "dead" in Croce's sense.[25] This apprehension is largely due to our own contemporary naturalist tendency and our perception of Hegel's *Naturphilosophie* as an aprioristic attempt to deduce nature from the logical structure of the concept or Idea.[26] My aim

<https://plato.stanford.edu/archives/win2016/entries/naturalism/>. See also David Papineau, *Philosophical Naturalism* (Oxford: Blackwell, 1993), pp. 1-5.

[24] [Anonymized for blind review] Emmanuel Chaput, 'Nature as *Umwelt* and 'the Universal Thinking Animal' presented at the 32nd International Hegel Congress, in Tampere, Finland, 5th of June to the 8th 2018 (to be published in the *Hegel-Jahrbuch*).

[25] Sebastian Rand, 'The Importance and Relevance of Hegel's 'Philosophy of Nature', *The Review of Metaphysics*, 61/2 (2007), pp. 379-400 (pp. 379-382).

[26] See for instance, Alison Stone, *Petrified Intelligence* (Albany: SUNY Press, 2005), pp.xii, 1-28, and her contribution 'Philosophy of nature', in *G.W.F. Hegel Key Concepts*, ed. by Michael Baur (London: Routledge, 2015), pp. 91-102 (p. 94-95); Charles Taylor, *Hegel* (Cambridge: Cambridge University Press, 1987), p. 352.

here is not to resolve this issue, which is still topical and debated among Hegel scholars. However, looking into the issue of demarcation between the empirical sciences and the speculative sciences, we find that while Hegel may not be a proponent *stricto sensu* of naturalism in epistemology, the discoveries of natural sciences for him provided important insights for philosophy, which therefore must keep in constant and fruitful dialogue with science. Hence, Hegel's position regarding the relation between philosophy and science might in the end be less estranged from our contemporary naturalist tendencies than one might at first presume.

The Virtues of Dialogue

The possibility of a dialogue between empirical and philosophical sciences presupposes a sort of division of labor: the recognition that each has its own field of expertise, that one field cannot impede upon the other. In other words, there must be a demarcation between what belongs to empirical and what belongs to philosophical sciences of nature. Yet, as we saw, such a demarcation is for Hegel intrinsically related to the division of nature between an organic and an inorganic sphere.

As I have in brief shown, the concept of life is for Hegel something that only a philosophy of nature can fully understand, because it remains on the whole largely foreign to the empirical sciences. This claim is justified by the speculative structure of life. Indeed, says Hegel that "life may only be grasped speculatively, for it is precisely in life that speculation has existence."[27] Thus to understand life and the living as speculative, as "the identity of identity and difference,"[28] is to have already placed oneself

[27] Hegel *W* IX, E. §337 Zu., p. 338; *PhN* III, p. 10. Hegel argues in the same way that the "Living being is perpetually exposed to danger, and always bears something alien within it. Unlike inorganic being, it can sustain this contradiction. Speculation subsists in this resolution, and it is only for the understanding that the contradiction remains unresolved" (*Ibid*.).

[28] Hegel *W* II, p. 96. See also Hans-Georg Gadamer, *Hegel's Dialectic – Five*

at the level of the concept (*Begriff*) and idea (even if, for Hegel, life is only the *in itself* of the absolute). This is something, as we have seen, that the understanding cannot really achieve, and, as such, the notion of life is constitutive of a distinctive line, dividing that which can be grasped through the empirical sciences and that which can only be thought through a *philosophical* science.

Accordingly, the demarcation between science and a proper philosophy of nature is for Hegel closely intertwined with the notion of life and its own demarcation from the inorganic realm of nature. It is on this basis that Hegel criticises the Schellingian school of *Naturphilosophen*. For Hegel, Schelling and his followers fail to draw a proper distinction between that which is living and that which is dead within nature, and therefore fail to distinguish what belongs specifically as an object of inquiry to philosophy and what belongs to empirical sciences. According to Hegel, the speculative structure of life is essential to understand, not only in terms of the task of a philosophy of nature in opposition to empirical sciences, but to distinguish his own version of a philosophy of nature from those of his contemporaries.

In the introductory *Zusatz* to the second part of the *Encyclopedia*, Hegel acknowledges the general discredit in which philosophy of nature was at that time held. But this "very considerable lack of favour" as Hegel says,[29] is a result of, in his opinion, the way Schelling and his followers practised *Naturphilosophie*. Harsh words are used to describe their approach:

> Crude empiricism and travestied thought-forms, capriciousness of fancy and the flattest methods of proceeding according to superficial analogy, have been mixed into a complete chaos, and this stew has been served up as the Idea, reason, science, divine perception. A complete lack of system and scientific method has been hailed as the

Hermeneutical Studies, trans. P. Christopher Smith (New Haven: Yale University Press, 1976), p. 58.

[29] Hegel *W* IX, p.9; *PhN* I, p.191.

> very peak of scientific accomplishment. It is charlatanry such as this, and Schelling's philosophy is a prime example of it, that has brought the philosophy of nature into disrepute.[30]

Those words certainly do not do justice to Schelling's philosophy of nature, and they are somewhat surprising considering that the young Hegel largely subscribed to Schelling's philosophy of nature. They nonetheless express what is for Hegel the main problem with is Schelling's *Naturphilosophie*'s: confusion, lack of a methodology, etc. This critique relates to our problem in that the said confusion arises for Hegel as a consequence of a lack of demarcation, within Schelling's philosophy, between the organic and the inorganic on the one hand,[31] and between empirical science and philosophy on the other.

As we see in his *Weltseele*, for instance, for Schelling the principle

[30] Hegel *W* IX, p. 9; *PhN* I, pp. 191-92. I leave the question open as to whether this crude critique of Schelling and his followers arises directly from Hegel or rather from Karl Ludwig Michelet (1801-1893), the first editor of Hegel's *Philosophy of Nature* with the additions compiled from students' notebooks. In his *Foreword* to Hegel's *Philosophy of Nature*, Michelet first praises the young Schelling and his effort to establish a philosophy of nature, but quickly lashes out against the like of Carl August von Eschenmayer (1768-1852) whose *Naturphilosophie* was nevertheless certainly inspired by Schelling; see *PhN* I, 179-80. Michelet's praising of the young Schelling should be considered in its historical context. At the time, the Hegelian School struggled against Schelling's late *positive* philosophy which claims to go beyond his earlier philosophy, including his own *Naturphilosophie*, which is seen as a merely *negative* philosophy. We find a similar opposition between the young Schelling, who aimed to bring back the issue of nature within philosophy, and the later Schelling perceived as the philosophical armed wing of political reaction within the early writings of such Young Hegelians as Ludwig Feuerbach, Karl Marx, Friedrich Engels or Mikhail Bakunin.

[31] See F. W. J. Schelling, "Von der Weltseele" in *Werke* VI (Stuttgart: Frommann-Holzboog, 2000), p. 70; *First Outline of a System of the Philosophy of Nature*, trans. Keith R. Peterson (New York: SUNY Press, 2004), p. 231; *System of Transcendental Idealism*, trans. Peter Heath (Charlottesville: University Press of Virginia, 2001), p. 124; Christine Daluz Alcaria, *Une logique de la vie – La pensée hégélienne de l'organisme* (Paris: Jérôme Millon, 2010), p. 98, p. 117; and Joseph Esposito, *Schelling's Idealism and Philosophy of Nature* (Cranbury: Associated University Presses, 1977), p. 92.

of life pervades every part of the World-organism.[32] And, as Roberts J. Richards writes, for Schelling "from top to bottom nature is organic."[33] As such, one can only speak of a "(seemingly) inorganic nature."[34] This is of course not without consequences for the kind of methodology that Schelling adopts and applies to natural science and experimentation. Contrary to Hegel, and far closer to Goethe in a sense, Schelling will understand his *Naturphilosophie* not only as a philosophical approach essentially in dialogue with empirical sciences, but as a science of nature proper. Philosophy of nature is a science of nature which, in Schelling's view, aims to replace the mechanical paradigm of the time with the dynamical and organicist approach he calls *speculative physics*.[35]

In Hegel's view, such an attempt to replace the mechanical paradigm in science is far from illegitimate, and he himself will grant that there is indeed a necessity to go beyond the merely reflective understanding of mechanical physics.[36] But for Hegel this does not necessarily mean that one is doing philosophy proper. Indeed, for Hegel there are "two possible ways out"[37] of the limits of the understanding in natural science. One remains in a sense within the realm of empirical sciences but offers another grid of interpretation that has the virtue of acknowledging its own metaphysical presuppositions. The other is philosophy of nature proper. Schelling seems to be doing the former while claiming to be doing the

[32] Just as magnetism is everywhere in nature, but manifests itself only in some natural bodies, so is life everywhere in nature, but expressed only outwardly in living beings. See Schelling, "Von der Weltseele", p. 255.
[33] Robert J. Richards, *The Romantic Conception of Life* (Chicago: The University of Chicago Press, 2002), p.157.
[34] *Ibid*. p. 291.
[35] See Schelling *First Outline of a System of the Philosophy of Nature*, p. 195.
[36] See for example the addition to §246 of the *Encyclopedia*, where Hegel writes that "Spirit cannot be confined to this procedure of the reflective understanding" (*W* IX, p. 21; *PhN* I, p. 202). However, as Emmanuel Renault argues, this does not mean that mechanism is entirely devoid of legitimacy for Hegel; see Renault *Hegel. La Naturalisation de la dialectique*, p. 60-63. Indeed, Hegel makes room for mechanism within his conception of nature, even though philosophy is necessary to account for certain aspects of nature which the understanding cannot adequately grasp.
[37] Hegel *W* IX, E.§246Zu., p. 21; *PhN* I, p. 202.

latter. Here lies the problem. For Hegel, a good and legitimate case which corresponds to the first way out is found in Goethe's scientific works.

Goethe does not seem to have regarded his work as *doing philosophy*, despite the fact that he was an active reader of Spinoza, Schelling, and Kant. His intentions were rather of a scientific endeavour.[38] Naturally, Goethe's science is grounded on metaphysical assumptions, mainly inherited from Spinoza, but it arises primarily from intuition[39] and empirical observation: "this mind feels the life and the universal relatedness within nature; it has a presentiment of the universe as an organic whole, a rational totality,"[40] as Hegel writes. But Hegel takes good care to distinguish this metaphysical intuition, which serves as a guiding principle for the development of science along an organicist framework, and what a proper philosophy of nature should be. This distinction, however, is lacking in Schelling's philosophy of nature. Hegel thus goes on to say: "Intuition has therefore been reinstated in the philosophy of nature, and set above reflection, but this gets us nowhere, because one cannot philosophize on the basis of intuition."[41]

The main problem for Hegel is not the use of intuition *per se*, but to resort to intuition while claiming to be doing philosophy. Empirical sciences work by means of intuitions and followed by rigorous

[38] Robert Richards recounts the meeting between Goethe and Schiller, where, after hearing Goethe's description of the *Urpflanze* and his own way of making science, "Schiller listened politely, shook his head, and exclaimed: 'that's no observation, that's an idea.' Goethe recalled being struck by this remark and not a little irritated. He replied: 'Well, I am quite happy that I have ideas without knowing of them and that I can even see them'" (Richards, *The Romantic Conception of Life*, p. 424). It is significant that for the somewhat more philosophical Schiller, faithful to his Kantian inheritance, Goethe was attempting philosophical speculation (and not necessarily in the best manner, according to his friend); while for Goethe, it was not a matter of philosophical ideas or speculations, but a matter of scientific observation and intuition.

[39] "To think is more interesting than to know, but less interesting than to intuit" [my translation] J. W. von Goethe, *Goethes Werke - Hamburger Ausgabe*, XII (Hamburg: Christina Wegner Verlag, 1958-60), p. 398.

[40] Hegel *W* IX, E.§246Zu., p. 21; *PhN* I, p. 202.

[41] Hegel *W* IX, E.§246Zu., p. 21; *PhN* I, p. 203.

experimentation. And in a way, in large measure both Goethe, Schelling and their followers did just that. But philosophy for Hegel is defined by its demonstrative structure and cannot so simply rely in the end on intuition: "Intuition has to be submitted to thought."[42] This is the demarcation between science and philosophy.

Ironically, this demarcation between philosophy and science allows for a more open approach toward the empirical and mechanical sciences. For Schelling, mechanical physics should be more or less replaced by his own version of a dynamical physics as the former "deals only with secondary motions" and grasps only "the *surface* of Nature,"[43] and so remains inadequate to comprehend the necessary principles of motion. Accordingly, Schelling argues for the reduction of mechanism, which is regarded as little more than a partial explanatory scheme, in order to resituate it in the broader framework of a systematic and organistic understanding of nature. As Thomas Posch has stated using Nicolai Hartmann's terminology, we find here the opposition between a reductionism "from below" and a reductionism "from above."[44] Mechanical reductionism endorses the reduction of our scientific knowledge of nature to that which is explained through mechanism, and the rejection of any phenomenon that would exceed this explanatory paradigm. "From below," one reduces the realm of scientific knowledge to what can be inferred from the established ground of mechanism. In contrast, Schelling seems to subscribe to a reductionism "from above," which claims to show how mechanism is itself grounded in the superior explanatory scheme of the organism.[45] The organism is not merely the superior form of organisation that allows for a better understanding of lesser forms of organisation, such as mechanical or chemical processes that

[42] *Ibid*.
[43] Schelling *First Outline of a System of the Philosophy of Nature*, p. 196.
[44] See Thomas Posch 'Hegel's Anti-Redutionism', *Angelaki*, 10/1 (2005), pp. 61-76, (p. 64); Nicolai Hartmann, *Philosophie der Natur* (Berlin: De Gruyter, 1950), Introduction, §15.
[45] See Emmanuel Renault *Philosophie chimique – Hegel et la science dynamiste de son temps* (Pessac: Presses universitaires de Bordeaux, 2002), pp. 103-04.

are simply the *in*organic realm of nature, the mere negation of what nature is positively;[46] rather, the organism also constitutes a general model for the essence of nature as a whole.

According to Hegel, however, although his own scientific sensibility also leans towards dynamical physics and the organicist paradigm, mechanical sciences are a necessary object of inquiry for a philosophy of nature; it aims to demonstrate the progressive motion of the concept within nature from its presence in the most abstract figures of nature (and scientific comprehension of such figures), to the more concrete form of the Idea within nature (which corresponds to life).[47] If life as an organic entity is the first real and complete figure of the concept within nature, as Hegel repeatedly asserts,[48] the task of a philosophy of nature is to capture how we came to see the presence of the concept within life by acknowledging the different determinations of the concept in our processes of investigating nature. Thus where Schelling regards his own *Naturphilosophie* as a contender in competition with other scientific approaches of his time, Hegel sees these approaches, and Schelling's *Naturphilosophie*, as the very object of his philosophy of nature. Because the concept within nature is expressed through rational investigation, mediated by scientific discourse, Hegel's demonstration relies on the systematic translation of science to retrieve from it and find in it the mark of a logical structure–what Hegel

[46] "Is mechanism something that exists for itself or is it not rather itself merely the negative of the organism? Shouldn't the organism be priori to mechanism, the positive prior to the negative? But if, generally speaking, the negative can only be explained in relation to the positive (obscurity only in relation to light, cold in relation to heat), and not the other way around, then our philosophy cannot start with mechanism (as the negative), but must start with the organism (as the positive), and accordingly, in truth, the latter has no need to be explained by mechanism as mechanism must itself can only be explained by the organism" (Schelling, "Von der Weltseele", p. 69)

[47] See Bernard Mabille, *Hegel. L'Épreuve de la contingence* (Paris : Hermann, 2013), pp. 271-72.

[48] See Hegel, *W* VIII, E.§161Zu., p. 309; *W* IX, §249, §251Zu., §308, §337, p. 31, p. 37, pp. 197-98,p. 337. See also Hegel, *Vorlesungen über die Philosophie der Religion III*, p. 28 and Gian Franco Frigo, 'Die Welt der lebenden Natur bei Hegel' in *Hegel und die Lebenswissenschaften*, ed. By Olaf Breidbach & Dietrich von Engelhardt, (Berlin: VWB, 2002), pp. 107-20, (p.107).

calls the Idea–within reality.[49]

As such, the task of *Naturphilosophie* cannot be fulfilled without an adequate understanding of the scientific works of the time and their historical progress, which from the perspective of philosophy are the multiple manifestations of the process by which the Idea as spirit recognizes itself in its other, that is, within nature. Empirical sciences are indeed institutions of the Hegelian *Geist*, encompassing the presence of the Idea in the apparently chaotic figures of externality and nature. However, for science the actuality of logical structures within nature is first perceived as something belonging to the world in itself, objectively and independently from any thinking, self-conscious or spiritual subject. For this reason, the empirical sciences in Hegel's view fail to appreciate the spiritual bond that connects nature, spirit and the logical Idea. Life—understood in its organic and speculative structure that unifies oppositions and manifests a primitive form of subjectivity within the objectively given nature,—is a first step toward the articulation of logic (i.e. the Idea), reality (i.e. nature), and the reflective self-consciousness of spirit. The system of life comprised of a series of (sub)systems (nervous, digestive, circulatory, etc.) organically articulated together, forms in a certain manner the image of the system of philosophy characterized by Hegel as a "circle of circles"[50] or a system of (sub)systems.

For Hegel, then, the demarcation between the natural and the philosophical sciences is strictly speaking due neither to a difference of object, since the objects of physics (space, time, motion, gravitation, etc.) are also at the forefront of Hegel's philosophy of nature, and nor to an assumed convergence in epistemological approach, since both would

[49] As an example of this process within Hegel's philosophy of nature, see my 'Hegel lecteur de Bichat, ou comment la raison spéculative fait d'une distinction d'entendement un moment conceptuel du vivant', *Symposium*, 22/1 (2018), pp. 159-186.

[50] Hegel *W* VI, p. 571; *W* VIII, E.§15, p. 60. See Ludwig Feuerbach, *Principle of the Philosophy of the Future*, trans. Manfred H. Vogel (Indianapolis: Bobbs-Merrill, 1966), §48, p. 65 for a critique of the image.

struggle to assert themselves as *the* proper approach to science. In contrast to Schelling, Hegel does not seek to establish a general epistemological paradigm for the practice of science.[51] His goal does not seem to be to offer an *a priori* explanation of physical phenomena—that would be, in Schelling's sense, an experimental demonstration to establish absolute necessity.[52] For Hegel, this would count as a task for empirical science.

The task of a philosophy of nature is both narrower and wider for Hegel. It must always be thought within the context of his system of philosophy, not as an attempt to deduce nature or rethink nature from the logical standpoint of the Idea, but as a necessary transition from the realm of pure logic (what Hegel calls the "in itself") to the "in and for itself" of spirit within reality.

In this sense, the demarcation between science and philosophy is related to the way they each apprehend the same nature with a different yet complementary but not concurrent approach. Sciences of the understanding, as we have seen, conceive of the object from the standpoint of differences, simplifications and distinctions; whereas the philosophical science of reason conceives the object from the standpoint of its living unity. Philosophy thus grasps a new conception of life by accounting for objects that the empirical sciences study in terms of mechanical, dynamical, or chemical relations.

Accordingly, Hegel's relation to epistemological or methodological

[51] That does not, however, prevent him from taking a stance in debates between different scientific approaches. This is the case, for example, with the theory of light and of colors, where Hegel endorses Goethe over Newton. With regards to these topics, see Brigitte Falkenburg, 'Hegel on Mechanistic Models of Light', in *Hegel and Newtonianism*, ed. Michael John Petry (Dordrecht: Springer, 1993), pp. 531-46 (p. 531, pp. 541-42); and also Luca Illetterati, 'Hegel's Exposition of Goethe's Theory of Colour', in *Hegel and Newtonianism*, ed. by Michael John Petry, (Dordrecht: Springer, 1993), pp. 557-68, (pp. 561-63).

[52] Regarding Schelling's definition of the *a priori* as an absolute necessity which does not necessarily entail the exclusion of all forms of experimentation, see Schelling, *First Outline of a System of the Philosophy of Nature*, p. 198. Contrary to the standard conception of the *a priori*, for Schelling it *implies* experimentation.

naturalism can be seen as ambivalent. As far as science relies on the understanding, or, as in Goethe and Schelling's case, on speculative intuitions grounded in observations, it cannot serve as a proper model for philosophy, since philosophy relies, for Hegel, on speculative reason and demonstration rather than intuition. As such, both philosophy and empirical science possess their own methodology and study nature according to different perspectives; yet these perspectives are regarded as complementary, just as their methodologies are.

Naturphilosophie for Hegel cannot operate without science's input and must therefore endorse scientific methodology, if not as its own at least as a prerequisite to its own activity and development. For this reason, we could develop from out of Hegel's philosophy of nature a version of epistemological or methodological naturalism. Philosophy does not share science's method, nor is it subordinate to natural science, but a proper knowledge of the current scientific theories and discoveries are essential for philosophy. This is because these theories are from a philosophical standpoint the necessary but unconscious manifestations of the Idea recognizing itself within the externality of nature through the spiritual institution of science. Nonetheless, this statement in favor of acknowledging the necessary contribution of empirical sciences to the development of Hegel's philosophical system does not change the fact that for Hegel a certain aspect of reality remains unintelligible for empirical science.

Life as a speculative reality is only intelligible for reason and philosophy, and so indicates a point of demarcation for Hegel between empirical and philosophical science. Philosophy, then, acknowledges the necessity of the empirical scientific discourse, but simultaneously highlights science's limits as an explanatory discourse of the totality of the reality. Taking into account science's methodology and epistemology is a necessary part of Hegel's philosophy of nature; but I do not think that it is sufficient, since it cannot account for the scope of *Naturphilosophie*, that for Hegel must necessarily be conceived in its relation to the whole system

that constitutes his *Encyclopedia*.[53]

Philosophy Come Alive: Life and the Absolute

As we have seen, with respect to contemporary considerations of the relation between philosophy and science, in which the naturalist stance has come to be dominant, Hegel cannot really be understood as an anti-naturalist, for: "in its formation and its development, philosophic science presupposes and is conditioned by empirical physics".[54] On the other hand, we have to distinguish the manner by which both science and philosophy approach their object. They each advance two different modes of rationality of different scopes, respectively. The understanding dissects and unravels, making distinctions according to a binary system of opposition, whereas reason traces the speculative unity of the object that is, the unity of unity and multiplicity, or the identity of identity, and difference.[55] Indeed, philosophy is the science of the absolute for Hegel insofar as it articulates the unity not only between the different components that the understanding sees as mutually exclusive but also the unity of the understanding's standpoint itself–that is, of difference–and the speculative standpoint, that takes up the elements of the understanding and articulates the dialectical relations between them, ending in a united and systematic totality. I think that this is the meaning of Hegel's definition of the absolute

[53] This goes to show the scale of Hegel's ambition: what Hegel saw as a necessary yet subsidiary task of his philosophy of nature constitutes a real challenge for contemporary philosophy of science, which must, now more than ever, keep abreast of current scientific discoveries.

[54] Hegel *W* IX, E.§246Anm., p. 15; *PhN* I, p. 197.

[55] For the sake of conciseness, I have not discussed here of the sort of exception mentioned earlier, exemplified by Goethe and some of the better aspects of the Romantic or Schellingian philosophies of nature. While in Hegel's view they are not strictly speaking *philosophies* of nature, as they rely on the power of intuition, they tend to acknowledge the necessary metaphysical background of science and reject the simple binary of the understanding. In this sense, they might be said to anticipate some of the contemporary approaches of science that seek to overcome the reductionist and mechanist worldview that prevailed in the earlier scientific worldviews.

as the "identity of identity and difference,"[56] as he wrote in his *Differenz des Fichteschen und Schellingschen Systems der Philosophie* of 1801. Interestingly, in his book *Hegel's Dialectic*, Gadamer uses the very same definition to define life: "Life is the identity of identity and difference. Everything alive is bound to its 'other', the world around it, in the constant exchange of assimilation and secretion".

We have seen that for Hegel the demarcation between the empirical sciences and philosophy is inseparable from the demarcation between the living and the dead. We now understand in what sense: namely, life has a speculative structure that reflects the very structure of the absolute. And insofar as the absolute is for Hegel substance and subject, it not only defines the content of philosophy but characterizes its nature and structure. Since the absolute as the identity of identity and difference surpasses the abstract opposition between subject and object, the absolute qua object of philosophy cannot be considered as separate from the philosophizing subject. Philosophy is a shape of the absolute, of absolute spirit. Accordingly, the systematicity of philosophy is the systematicity of the absolute. And to the extent that the absolute corresponds to the highest form of life, as Hegel argues following Aristotle's claim from the *Metaphysics* that Hegel ends the *Encyclopedia* with,[57] philosophy is therefore something alive that "is bound to its 'other'" as Gadamer writes, through the process of assimilation.

Conclusion

Several issues and avenues of inquiry remain open. I would like to touch upon one of these issues to conclude. As we have seen, it is inappropriate to regard Hegel as a naturalist *stricto sensu*. But he nevertheless grants an important role to science in the constitution of his own philosophy of

[56] Hegel *W* II, p. 96.
[57] Hegel *W* X, E.§577, p. 395. See also Hegel's review of *Solgers nachgelassene Schriften und Briefwechsel* in *W* XI, p. 267.

nature. The open question, however, often debated among Hegelian scholars, is to account for the ways Hegel picks out the scientific discoveries in his philosophy of nature, and whether these ways can bear a naturalist overtone. A detailed discussion cannot be given here, but as we saw in the last section there is a kind of isomorphism in Hegel between the systematic structure of the absolute and the systematic structure of life. Building on Hegel's description of the systematic structure and substructures of life, we could trace the similarities between the dynamical, organic and rational process of the digestive system, for instance, , which assimilates its "other" and takes up the specially selected nutriments that allow the system to live, with the dynamical process of philosophy, which selects the universal and rational (*vernünftige*) components within its "other," the empirical sciences.[58] The appropriation of these rational elements within science and other rational discourses (such as history, art, religion and the philosophical tradition itself) is that which allows philosophy to come alive as a *noeseos noesis*, that is, the living act of thought thinking itself. If both the system of philosophy, understood as a system of systems or a "circle of circles,"[59] and the system of life appear as organically and rationally structured, as shapes of the concept, we could ask whether or not life constitutes a (naturalist) model for philosophy. But for Hegel, life is nothing but a single figure of the Idea. Therefore, is it at the Idea, the object of philosophy, that in the end serves as a model for life? The dialectical articulation of life, philosophy, and the absolute suggest that the alternatives are not mutually exclusive.

[58] See Hegel, *Vorlesungen über die Philosophie der Religion III*, p. 83-84; Bernard Bourgeois, *L'Idéalisme allemand*, (Paris : Vrin, 2001), p.92 Félix Duque, 'La logique de la liberté, c'est la liberté du logique', in *Hegel au présent. Une relève de la métaphysique?*, ed. by Jean-François Kervégan & Bernard Mabille, (Paris: CNRS Éditions, 2012), 81-91, (p.88); Jeffrey Reid, *Real Words – Language and System in Hegel*, (Toronto: University of Toronto Press, 2007), p. 51; David Wittmann, 'Faut-il relire Hegel à travers Kant?', in *Hegel au présent. Une relève de la métaphysique?*, ed. by Jean-François Kervégan & Bernard Mabille, (Paris: CNRS Éditions, 2012), pp. 437-49, (p. 440).

[59] G. W. F. Hegel, *W* VI, p. 571; *W* VIII, E.§15, p. 60.

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Hegel and Jonas on the Ethical and Onto-Theological Implications of Life

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> The world is too much with us; late and soon,
> Getting and spending, we lay waste our powers;
> Little we see in Nature that is ours;
> We have given our hearts away, a sordid boon![1]

Introduction: The Phenomenon of Life and Humanity's Place in Nature

The current environmental crisis demands that humanity fundamentally rethink its relationship with nature. The ambitious modern project of mastering nature has led to an unstable relationship between man and his earthly conditions. If we are to address the crisis that threatens the very existence of the human species, then the still-regnant materialist and mechanistic conception of the natural world must be supplanted by a metaphysics that sees nature as purposive—not only at the level of individual organisms or even at the level of the species but also universally

[1] William Wordsworth, '*The World Is Too Much with Us*', in *Selected Poems,* ed. Stephen Gill (London: Penguin, 2005), p. 144.

purposive insofar as the whole of nature is directed toward the generation of a self-conscious, rational being that is at once dependent on nature and also the ultimate custodian of nature.

Much of the philosophic work directed toward thinking beyond the modern categories and distinctions that have led to our current plight take their bearings from Martin Heidegger, whose critique of modern philosophy as essentially technological has been profoundly influential. Heidegger's claim to be engaged in a form of thinking beyond the limits of the tradition and thus outside of the paradigm of thought that leads to the objectification and eventual exploitation of nature has led many to embrace his thorough-going criticism of all Western modes of thought. We argue, however, that recourse to a system of thought that seeks to supplant "the traditional metaphysical mode of thinking" is not necessary.[2] In fact, as we illustrate, the tradition stretching back to Aristotle provides conceptual resources for thinking through our current plight that can also aid in restoring the dignity of nature—a dignity grounded in the ontological significance of life. Such an approach would preserve modern philosophy's concern with human emancipation without that goal coming at the expense of nature.[3]

We argue that G.W.F. Hegel and Hans Jonas provide models for creatively appropriating the tradition of philosophy to address new theoretical and practical challenges. When read in tandem, the two thinkers offer conceptual resources for developing an understanding of humanity's relation to nature that would provide a much-needed corrective to the scientific reductionism that remains popular today.[4] Our comparative analysis of Hegel and Jonas begins from their similar concern to address

[2] Martin Heidegger, "Der Spiegel Interview," in *The Heidegger Reader* ed. Günter Figal, trans. Jerome Veith (Bloomington, IN: Indiana University Press, 2009), p. 328.
[3] Cf. Dieter Henrich's argument that Heidegger's interpretation of modernity as essentially Baconian overlooks viable alternatives and denies the legitimacy of the modern concern with human autonomy ("The Basic Structure of Modern Philosophy" *Cultural Hermeneutics*, Vol. 2.1 April 1974, pp. 1–18).
[4] Consider for example the success of Daniel C. Dennett's *From Bacteria to Bach and Back: The Evolution of Minds* (New York, NY: Norton, 2017).

the mechanistic view of nature by means of reviving Aristotelian modes of thought. In particular, both thinkers explore new forms of teleological reasoning which they deploy in various domains – from cosmogony to the philosophy of history, and from logic to political philosophy.

The essay foregrounds three levels of conceptual analysis pertinent to "the phenomenon of life" where teleology proves decisive: (1) the self-maintaining activity of individual organisms; (2) the natural world as a whole articulated into an order of increasingly complex natural genera; (3) the place of the human being within this natural whole. On the basis of this threefold perspective on natural being, we then explore how each thinker connects their philosophy of nature to metaphysical reflections that culminate in speculative theology, on the one hand, and in moral and ethical considerations, on the other—especially the distinct responsibility of the human in the realization of the final end or ultimate purpose of creation as a whole.

Although the juxtaposition of a German Idealist and a post-existentialist environmental philosopher might at first seem arbitrary, we argue that their thought exhibits a number of continuities. Even where they appear to diverge, their different responses to similar problems often prove to be differences of inflection, degree, and emphasis. By bringing the two thinkers into dialogue, we aim to highlight the connection between a holistic philosophy of nature that emphasizes the ontological significance of the distinction between animate and inanimate being and the moral obligation that follows from understanding the human being as both part of and the culmination of the natural order. For both Hegel and Jonas, philosophy strives not only to encompass both the theoretical and the practical as distinct domains of human interest, but to connect metaphysical speculation to moral reflection and on that basis discover "the idea or 'image' of man" and his place within the whole.[5] In other words, human

[5] Hans Jonas, *Mortality and Morality: A Search for the Good After Auschwitz*, ed. Lawrence Vogel (Chicago, IL: Northwestern University Press, 1996), p. 84. Hereafter, *MM*.

beings always live in light of a conception of themselves and the vocation of philosophy is the pursuit of a self-understanding adequate to the human condition. For humanity to be at home in the world requires self-knowledge—a self-knowledge that recognizes that humanity's unique status amongst all natural beings is the ground for unique duties and responsibilities.

Reading these two philosophers together shows that the Western metaphysical tradition, far from being incapable of addressing the ecological crisis or the challenges of climate change, provides the theoretical resources for developing a conception of humanity's place in nature adequate to the task of rethinking man's role as "steward or guardian of creation."[6]

1. The Recovery of Teleology

In the opening lines of *De Anima,* "the inquiry about the soul" is said to be precise and concerned with the knowledge of good and wondrous things, contributing "greatly toward all truth and especially toward the truth about nature, since the soul is in some way the governing source of living things."[7] According to conventional opinion Aristotle's conception of living beings as ensouled has been totally eclipsed. Since the Baconian project to master nature and Descartes's mathematization of the world, Aristotle's teleological view of nature has been displaced by a more mechanistic science, which in its pursuit of a *mathesis universalis* leaves little scope for conceptions of the world that grant ontological significance to natural organisms.[8] The consequent representation of the natural world therefore

[6] Hans Jonas, "Technology as a Subject for Ethics", *Social Research*, Vol. 49:4 (Winter, 1982), p. 895.
[7] Aristotle, *On the Soul,* trans. Joe Sachs (Santa Fe, NM: Green Lion Press, 2001), 402a.
[8] For the complex developments of early modern natural science and philosophy, see Alexandre Koyré, *From the Closed World to the Infinite Universe* (Baltimore, MD: John Hopkins University Press, 1974)*;* Jacob Klein, *Greek Mathematical Thought and the*

appears to the human subject as the inert collocation of matter, as essentially "dead."[9] Recognizing the parlous consequences and the inadequate theoretical underpinnings of the reductive materialist conception of the physical world, Hegel seeks to reintegrate final causality into our study of natural beings and to defend a view of nature that could provide a coherent basis for rational freedom. Far from being a nostalgic antiquarian, trying to resuscitate outdated and superseded theoretical models, Hegel eschews all forms of romantic obscurantism. Rather he endeavors to integrate ostensibly opposed explanatory paradigms, demonstrating them to be complementary in an effort to comprehend the whole of nature, grasp its polymorphous unity, and find man's place within the diversity of life; for without such a philosophy of nature, humanity is destined to be alienated from the natural world.

Yet for all Hegel's efforts, the sense of our alienation from the natural world increases throughout the 19th century. Max Weber's description of modernity as the progressive disenchantment (*Entzauberung*) of the world encapsulates the belief that rational inquiry revealed nature to be purposeless. The pressing need to confer meaning onto an otherwise meaningless world culminates in Martin Heidegger—according to Jonas the preeminent existentialist philosopher.[10] The existentialist destruction (*Destruktion*) of the metaphysical tradition, however, leaves us with positive conceptions of the world that offer little guidance for the direction of human affairs. While seeking to overcome the tradition of modernity and modern science, these thinkers retain the modern prejudice that nature is devoid of meaning and thus separate human beings from nature in novel ways with ominous ethical and political implications.[11] Jonas's

Origin of Algebra, trans. Eva Brann (New York, NY: Dover, 1992); Richard Kennington, *On Modern Origins,* ed. Pamela Kraus (Lampham, MD: Lexington Books, 2004).

[9] Hegel, *Early Theological Writings*, ed. Richard Kroner (NY: Harper & Brothers, 1961), p. 305.

[10] MM, pp. 44–49.

[11] Hans Jonas, *The Phenomenon of Life*, ed. Lawrence Vogel (Evanston, IL: Northwestern University Press), pp. 232–234, 257–258, hereafter *PL*.

revitalization of natural teleology, which shares many similarities with Hegel, begins from the critique of his erstwhile teacher, Martin Heidegger.

According to Jonas, Heidegger, for all his profundity, overlooked the quotidian biological realities of our embodiment that anchor our being-in-the-world—in a word, Heidegger "failed to bring the statement 'I am hungry' within the purview of philosophy."[12] Thus although indebted to Heidegger's analysis of modern subjectivity and technology, Jonas believes himself to have identified the essential deficiency in Heideggerian philosophy—one ultimately responsible for Heidegger's reprehensible moral conduct. While Jonas agrees with the existential tradition insofar as he recognizes "the same danger to ethical praxis that Nietzsche saw in materialistic science, and the death of the transcendent source of ethical principles," he also "finds a parallel danger in the existential view that the only guide for action is resolute choice in the moment of authentic being."[13] Jonas contends that the "modern mind hovers" between the "Scylla" of a "monistic naturalism," which would "abolish the idea of man as man," and the "Charybdis" of existentialism, which condemns man to "isolated selfhood."[14] For Jonas, the latter danger can only be overcome through a renewed appreciation for both the ontological and the ethical "advantage—so stubbornly denied or maligned in the history of epistemology—of our having a *body*, i.e., of being a body."[15] Appreciation of the corporeal organism necessarily involves a criticism of Heidegger, whose "interpretation of inwardness denied itself an important means of access to this field"—namely, the fact of our embodiment—and "with this lack, ethics for him remained empty of real content."[16] If, then, there is to be a "third

[12] *MM,* p. 47.
[13] Theresa Morris, *Hans Jonas's Ethic of Responsibility: From Ontology to Ecology* (Albany: SUNY Press, 2013), p. 4.
[14] *PL*, 234. Cf. Lawrence Vogel, "Overcoming Heidegger's Nihilism: Hans Jonas versus Leo Strauss," in *Heidegger's Jewish Followers: Essays on Hannah Arendt, Leo Strauss, Hans Jonas, and Emmanuel Levinas*, edited by Samuel Fleischacker (Duquesne University Press, 2008).
[15] *MM*, p. 67.
[16] *MM*, p. 47.

road" open to the modern mind, it must begin with a "philosophy of life" that takes into account the "organic facts."[17]

Through his interpretation of metabolism, Jonas discovers that freedom, inwardness, and subjectivity belong to life rather than to human subjects alone. Consequently, final causality "cannot be entirely foreign to nature, which brought forth precisely this kind of being. Finality must itself be 'natural'—in keeping with, conditioned by, and autonomously produced by nature."[18] In cosmological and cosmogonic speculations predicated on this insight, Jonas argues that a novel conception of "history" must be developed in contradistinction to Heidegger's "history of Being." Because freedom arises in nature, because "the voice of subjectivity in animals and human beings did emerge from the mute vortex of matter," and because "it is universal matter itself which, in becoming inward, finds its voice in subjectivity," Jonas proposes a new conception of the origin of life, the evolution of species, and the genesis of consciousness that integrates the positive insights of the natural sciences into a holistic account that gives due weight to the irreducible "inwardness" of our experience as "an ontologically essential fact of Being."[19] For Jonas, a necessary precondition for understanding the human being's place in nature is the recognition of the emergence of life as "an ontological revolution in the history of matter."[20]

Accordingly, Jonas proposes a new framework for the ethical, political, and spiritual challenges of technological modernity diagnosed so perspicuously by Heidegger, replacing the deconstructive history of Being with a futural history of freedom and form, elaborating a teleological account of life's emergence out of matter, its development into complex organisms, and its culmination in mankind's freedom of thought and action. In notable contrast to his teacher, Jonas writes that "no rescuer god will relieve [the human mind] of this duty, which its position in the order of

[17] *PL*, p. 6.
[18] *MM*, p. 173.
[19] *Ibid.*, pp. 170–71.
[20] *Ibid.*, p. 66.

things places upon it."[21] Rather than wait in anxious expectation for divine deliverance—a clear rejoinder to Heidegger's infamous pronouncement that "only a god can save us"[22]—we must instead embrace our freedom and acknowledge that we stand in a position of absolute responsibility for the future of the human species and the biosphere as a whole.

This ethical project begins with a reassessment of the "biological facts," foremost among which is an acknowledgement of mortality as the inviolable corollary of life and the condition of freedom.[23] For Jonas, every form of life exhibits a fundamental "polarity of being and non-being," existing only insofar as it strives to affirm its existence in "opposition to its ever-present contrary."[24] And just as life depends upon the continual possibility of death, so too does freedom depend upon necessity, for it is only insofar as the organism is beset by contingent conditions and circumstances that it can transcend them: "The privilege of freedom carries the burden of need and means precarious being."[25] The basic activity of life is the metabolic integration of the organism's incidental "other"—the matter found in its environment—into the form of its own body. With this activity the living being makes something of itself and establishes its own inwardness, yet at the same time it remains "dependent on . . . outward reality" and "exposed to the world" from which it continually wrests its existence. Although life opposes "in its internal autonomy the entropy rule of general causality, it is yet subject to it. Emancipated from the identity with matter, it is yet in need of it."[26]

For Jonas, all mere persistence is at the same time an active risk. Even the single-celled organism is endlessly engaged in an "adventure of

[21] *MM*, p. 54.
[22] The Spiegel Interview, published in English as "Only a God Can Save Us," translated by William J. Richardson, in *Heidegger: The Man and the Thinker* (New York: Routledge, 1981), p. 57.
[23] See "The Burden and Blessing of Mortality" in *MM,* pp. 87–98.
[24] *PL*, p. 4.
[25] *Ibid.*
[26] *PL*, p. 5.

form" which sustains its internal identity "as an unceasing act."[27] Not only can our mortality not be wished away, but if Jonas's vision of life is correct, then we might even be grateful for the inevitable end that awaits us all; for mortality would constitute the governing condition for, and possibly the deepest foundation of the good. In a striking echo of Hegel, Jonas writes:

> That life is mortal may be its basic self-contradiction, but it belongs to its nature and cannot be separated from it even in thought: life carries death in itself, not in spite of, but because of, its being life, for of such a revocable, unassured kind is the relation of form and matter upon which it rests. Its reality, paradoxical and a constant challenge to mechanical nature, is at bottom continual crisis whose momentary resolution is never safe and only gives rise to crisis renewed.[28]

Reading Hegel and Jonas in tandem provides invaluable resources for developing a conception of organic existence adequate to the task of comprehending the objective insights of modern science without undermining our experience of subjectivity, thereby providing the ontological ground for the idea of right and an ethics of responsibility.

2. Hegel's Revision of Aristotle

Hegel's philosophy of nature has long been the target of repeated criticism, not to say hostile mockery. In response, Hegel's defenders have marshalled robust arguments against the charges of excessive speculation and *a priorism*, noting Hegel's careful attention to the sciences of his day and his respect for empirical investigation.[29] While such scholarship has

[27] *MM*, p. 67.
[28] *PL*, p. 5.
[29] See, Stephen Houlgate, "Reason in Nature" in *An Introduction to Hegel: Freedom, Truth and History* (Oxford: Blackwell, 2005), pp. 106–121; William Maker, "The Very Idea of the Idea of Nature, or Why Hegel Is Not an Idealist," in *Hegel and the*

successfully rebuffed specific charges as groundless, there nevertheless remains a degree of scepticism regarding Hegel's project in the second part of the *Encyclopaedia of Sciences*. The source of this scepticism, however, lies not in the details of Hegel's project nor in its execution. Rather it stems from a general distrust of the kind of speculative reasoning that Hegel believes distinguishes philosophy from science. Thus, in addition to the anti-metaphysical tendency of much contemporary philosophy, there is the incongruity between the modes of intellectual activity practiced by mathematical physics and those required for philosophic work.[30]

In contrast to physics, which tends to "ignore specific differences (*Bestimmtheiten*)" since the mode of inquiry is "dominated by the category of identity, [which] is the fundamental category of the understanding," Hegel's aim is to grasp the whole without reducing the plurality of natural beings to one common denominator that would negate the determinateness of natural beings.[31] Rather, adequate comprehension of nature requires attending equally to the heterogeneity *and* the homogeneity of being.[32] If the totality of nature is intelligible as an integrated whole, it will be as an articulated cosmos rather than a uniform universe. The principle of grasping identity-in-difference, however, is not only the key to adequately

Philosophy of Nature, ed. Stephen Houlgate (New York, NY: SUNY, 1998), pp. 1–27; Thomas Posch**,** "Hegel and the Sciences" in *A Companion to Hegel,* ed. Stephen Houlgate and Michael Baur (Oxford: Wiley–Blackwell, 2011), pp. 177–202. Posch is especially lucid in his discussion of a priori knowledge as *conceptually* necessary knowledge and that "Hegelian conceptual necessity is closely linked to systematic coherence (namely of a set of basic laws, logical structures, or metaphysical assumptions)" (Hegel and the Sciences, p. 182).

[30] On the distinction between a philosophy of nature and the scientific inquiry into nature see the introduction to *Hegel's Philosophy of Nature,* part two of the *Encyclopedia of Philosophical Sciences*, trans. by A .V. Miller (Oxford: Oxford University Press, 2004), §244, *Zusatz*; *Werke* 9:9–13 (Hereafter *Enc.*). On the difference between physics and speculative philosophy see Enc. §246 *Zusatz*; *Werke* 9:20–21. *Enc.* §286 *Zusatz*; *Werke* 9:145. *Enc.* §313, *Remark*; *Werke* 9:210–212.

[31] Enc. §245 *Zusatz*; *Werke* 9:20–21.

[32] Cf. Hegel's account of physics in his discussion of the old theological/metaphysical problem of the one and the many in *Philosophy of Mind,* trans. W. Wallace and A. V. Miller, revised by Michael Inwood (Oxford: Oxford University Press, 2007) §573, *Remark*; *Werke* 10:389–391 (Hereafter *Enc.*).

delineating any subject matter (e.g., magnetism's relation to electricity); it is also the master thought behind the systematic edifice of the *Encyclopedia* itself that renders the hierarchical and progressive development of Hegel's philosophy of nature rational. Accordingly, even though the articulation of the parts of Hegel's philosophy of nature—"Mechanics," "Physics," "Organics"—is an ascent in ever greater complexity, differentiation, and individuality, the same logic of negation must be at work in each of the transitions that constitute nature's "*system of stages*."[33] Taken as a whole, Hegel's philosophy of nature must, therefore, uphold both the univocity of nature as a systematic integrated whole and the polymorphic manifestation of that unity in natural existents.[34]

Above all Hegel must account for the infinite difference between the motions of externally determined matter and the activity of internally differentiated, self-determining living organisms. This ostensibly radical ontological opposition must be conceptually comprehensible as integrated aspects of a whole if this antithesis between animate and inanimate is not to remain the final word. Accordingly, Hegel's attempt to avoid an incommensurable duality at this ontological level is integral to his philosophic project of overcoming the various iterations of dualism that have dogged modern philosophy from Descartes to Kant. Thus, Hegel's philosophy of nature confronts two challenges. On the one hand, it must be integrated into the systematic account of the whole—while distinguishing itself from the ontological-logic that is its ground and the world of spirit or mind that emerges out of nature—and, on the other hand, it must overcome any internal antithesis that would rupture the unity of nature itself without reducing the variegated character of natural existence to mere epiphenomenal

[33] *Enc*. §249; *Werke* 9:31.

[34] For a meticulous account of the relevant theoretical context for Hegel's inquiry as well as a subtle treatment of the philosophic questions at stake in trying to comprehend the diversity of natural phenomena in one integrated system without reducing the differences in ontological complexity of natural beings see Michael J. Petry, "Levels, Hierarchies and Spheres" in *Hegel's Philosophy of Nature*, vol. 1, trans. and ed. Michael J. Petry (London: Routledge, 1970) , pp. 21–40.

excrescences. In sum, Hegel's philosophy of nature aims to uphold the ancient standard of science, *tithenai ta phainomena*.

However, for a modern philosophy of nature, such as, one written in the wake of the remarkable success of mathematical physics, the challenge of avoiding reductive monism or metaphysical dualism is especially acute when the philosopher endeavors to comprehend living beings.[35] One is tempted either to reduce the animal to a machine, like Descartes, and so to render the organism susceptible to mechanical analysis or, conversely, to endow all matter with life and, like Herder, adopt a form of hylozoism.[36] Alternatively, one might pursue a crude dualism, asserting, like some of Hegel's contemporaries, that living beings are endowed with a "vital force" (*Lebenskraft*), which appears mysteriously in the natural world as a *deus ex machina*.[37] Opposed to these alternatives Hegel attempts to revive an Aristotelian vision of nature, guided by Aristotle's definition of nature as "a principle of motion and rest."[38] While Aristotle is explicitly invoked as *the* authority in the *Encyclopedia's* introduction to the *Philosophy of Mind*, the significance of Aristotle for Hegel's understanding of nature can hardly be overstated. As Alfredo Ferrarin has comprehensively demonstrated, Aristotle is a pervasive presence in Hegel's thought, providing invaluable

[35] Any post Newtonian recovery of Aristotlean teleology has to confront the tremendous explanatory power of modern mathematical physics and the mathematical calculus that appears to overcome Aristotle's judgment regarding the application of mathematics to "mobile being". See Aristotle's discussion of the difference between mathematics and natural science (*Physics*, 193 b 22–194 a 11); cf. Thomas Aquinas, *Commentario in octo libros Physicorum*, II.3.

[36] It is worth noting that both these conceptions of natural life were often (if not always) connected to rival conceptions of the divine as either the deist watchmaker who set the world in motion at the beginning of time but is thereafter wholly separate from creation which proceeds to operate independently in accord with strictly universal, invariable, and necessary physical laws, or as a wholly immanent and omnipresent pantheism.

[37] For a helpful overview of the variety of alternative theories explored in the 18th and early 19th see John H. Zammito, *The Gestation of German Biology: Philosophy and Physiology from Stahl to Schelling* (Chicago: University of Chicago Press, 2018).

[38] *Physics*, 192b20–193a5; cf. 199b15–32.

conceptual resources for Hegel's systematic account of the whole.[39] Of particular importance for Hegel's account of life is the conceptual pair of *dunamis* and *energeia*, which operating in tandem with the idea of final causality render change intelligible.[40] While there are a host of interrelated notions, such as form, essence, substance, accident, etc. that are pertinent to Hegel's account of organic life, Hegel's deployment of teleological explanation proves to be the master concept. Teleology is the key not only to understanding distinctive features of organic life—such as: (1) the differentiated moments of a living being as manifestations of natural form, (2) the part-whole relations characteristic of living beings as that of organs to a body (defined by their functional role in self-maintenance of the whole), and (3) the continuity whereby an individuated being maintains its identify over time in otherness—but it is also central to the philosophy of nature as a theoretical system, since the distinction between internal and external purposiveness marks the transition between animate and inanimate being.[41]

In the transition from the final stage of "Physics" to "Organic Life," several features of Hegel's Aristotelianism come into focus. The peak of physical processes, in which internal and external determination are coextensive, is the "chemical process," which "displays the dialectic by which all the particular properties of bodies are drawn into transitoriness."[42] Lacking any enduring substrate, the process of change (the activity of negation) yields the dissolution of the objective being. It is therefore solely "the self-

[39] See Alfredo Ferrarin's comprehensive study, *Hegel and Aristotle* (Cambridge: Cambridge University Press, 2007).
[40] That is, all motion/change (*kinesis*), save locomotion, is relegated to epiphenomenal status by a Cartesian view of nature. Given Aristotle's definition of a natural being, an alternative way of understanding motion proves crucial to grasping living beings as more than the concatenations of matter in motion. On the multiple senses of change (*kinesis*) in Aristotle, see *Physics,* 225a 1–b 9. For a discussion of Descartes' rejection of Aristotle's definition see Daniel Garber, *Descartes' Mathematical Physics* (Chicago: University of Chicago Press, 1992), pp. 194–196.
[41] Although we emphasize the Aristotelian dimension of Hegel's thought, Kant's teleological reflections are central to his distinction between internal and external purposiveness. See Daniel O. Dahlstrom, "Hegel's Appropriation of Kant's Account of Teleology" in *Hegel and the Philosophy of Nature*, pp. 167–188.
[42] *Enc*. §336 *Zusatz*; *Werke* 9:336.

subsistent infinite form, the pure immaterial individuality which is for itself, and for which material existence is alterable through and through. The chemical process is the highest to which inorganic Nature can reach."[43] By illustrating the limits of external determination, it points to a new relation between an actively determining principle existing for itself and the material objectivity in which it is at work. The chemical process, thus, constitutes "the transition into the higher sphere of the organism where the infinite form makes itself, as infinite form, real."[44]

With the transition to organic being, the objective individuality is no longer determined by an external, finite teleology, but is determined by (i.e., has its form according to) the activity of an internal, infinite principle governing its self-constituting being. From the perspective of the *Science of Logic*, life is the internalization of the dynamic operative in teleological causality, in which the concept employs external objectivity to achieve its purpose; for in life the concept is no longer external to its objective instantiation, but is always already at work in forming the being. As Burbidge states, life is "the immediate union of a subjective concept or purpose with its objective realization: the concept permeates the objective (and is to that extent universal) and, by determining how each part (or means) performs its particular function, it integrates what is objective into something singular."[45]

With life, the full import of Hegel's appropriation of Aristotle's natural philosophy, especially the ontological priority of *energeia* to *dunamis*, becomes clear. If we recall that Aristotle's philosophy is characterized above all by the rejection of the Platonic *chorismos* thesis in favor of an account of the *eidē* (the intelligible forms of beings) as immanently active in individuated substantial beings (*ousia*)—and thus that the *energeia* of a being's *eidos* is responsible for shaping the potency (*dunamis*) of material (*hulē*) in its genesis and subsequent self-maintenance as well as for the

[43] *Enc*. §336 *Zusatz*; *Werke* 9:336.
[44] *Ibid.*
[45] John W. Burbidge, *Hegel's Systematic Contingency*, p. 118.

intelligibility of the being (comprehensible as a member of a species)—we see that *energeia* unites the principle of thought with the principle of being.[46] Hence, the significance of Aristotle's definition of nature as a principle of motion and rest, since in contrast to inorganic natural beings, for which the concept remains external to its objective realization, in living organisms the concept (as the being's *archē* determining its motion and rest) realizes its purpose in the organism's material processes by which it maintains its self-identity; the *energeia* of the concept is the corporeal individual.

However, from the perspective of the existing individual the perpetual activity of the concept in the maintenance of its objective identity is concomitantly the experience of a lacking. If the realization of the concept requires a continual activity, that is because the achievement of its end is never final or secure. A living being stands in relation to what is not itself (its environment) seeking to maintain its individuality. Mere endurance requires that an organism continually assert its *independence* in pursuit of its self-preservation even while incorrigibly *dependent* on its environment.

> Only what is the living feels a *lack*; for in nature it alone is the *concept* [*Begriff*], the unity of itself and its specific opposite ... A being which is capable of containing and *enduring* its own contradiction is a *subject*; this constitutes its *infinitude* ... An important step towards a true representation of the organism is the substitution of the concept of stimulation by external potencies for that of the action of external causes. With this idealism begins, in that nothing whatever can have a positive relation to the living being if this latter is not in its own self the possibility of that relation, i.e., if the relation is not determined by the concept and hence not directly immanent in the subject."[47]

[46] Cf. Hegel's description of ancient metaphysics which held that "the *things* and the *thinking* of them agree in and for themselves" (*Science of Logic*; *Werke* 5:38).
[47] *Enc.*, §359, *Remark*; *Werke* 9:469 (translation modified).

Although an internal purposiveness determines the being's activity as it strives to maintain itself as what it is, the discrepancy between the quiddity and the facticity of the organism's being at any given moment is the source of deficiency: the need for self-maintenance is an indication of mortality. In other words, only beings that are striving to be *what* they are can perish. Death as the cessation of the self-maintaining activity is built into the structure of life insofar as life, i.e., the process whereby an organic being works to maintain itself, is predicated on a discrepancy between internal and external, namely, subjectivity. Death is coeval with subjectivity.[48]

This account of the logic by which living beings maintain themselves in their peculiar identity and determinate difference—a heterogeneity of being that cannot be accounted for on the homogeneity implied in material reductionism—rescues the organism from conceptual deconstruction and causal dismemberment: parts are seen in light of the being's wholeness, organs (in their functional specificity) in light of the being's identity. Nevertheless, the single living individuality remains logically circumscribed by a determination of its activity that remains external to its being. As Hegel states in the *Science of Logic*, the concept makes the particular what it is insofar as it is a member of a species; the purpose of the individual organism is the perpetuation of the species (*Gattung*).[49]

The human organism, however, is capable of consciously appropriating its conceptual determination and it is this capacity that also makes human beings cognizant of death. Since their potential negation is present to them as a possibility, the end of their individuality is not confined to the perpetuation of the natural species. Mankind's cognizance of death means that the individuality of the members of the natural species homo sapiens

[48] One can see here a crucial connection to Hegel's account of Christianity, which for Hegel is the consummate religion in large measure because it recognizes that the divine must die. The Death of God is the recognition in representational form (*Vorstellung*) that death is integral to the logic of life.
[49] *Science of Logic*, *Werke* 9:486.

is categorically distinct: the human alone is not only a "what" but also a "who".[50]

With the emergence of a being for which its concept exists for itself and therefore for which the individuality of the members of the species is logically distinct from that of all other forms of life, Hegel discloses a new realm of being. What is in-itself in all less complex organic beings is for-itself in the human. The subjective concept is now fully at work in the objective individual only insofar as it is actively present to individual consciousness. Thus, spirit emerges out of nature, even as it remains dependent on nature and, in addition to Aristotelian *phusis*, there exists the world of *Geist*—a realm of purposive activity altogether more substantial and ontologically significant than the comparable domain of intentional human action that Aristotle treats under the umbrella of practical philosophy. For Aristotle, although *nomos* and *technē*, *pragmata* and *poiema*, are indeed manifestations of mankind's unique ingenuity, they remain (for all their wondrous diversity) circumscribed by *phusis*.

One might summarize by observing that, for Aristotle, psychology remains within the realm of natural philosophy, but according to Hegel *De Anima* constitutes a philosophy of subjective spirit. From this perspective, we can see that the Hegelian idea of nature is no less a product of wrestling with problems bequeathed by Kant and Fichte. Thus, the deepest problem facing Hegel's appropriation of Aristotle is, in the final analysis, not the challenge of mathematical physics but the spontaneity of human freedom. Hegel cannot rest content with Aristotelian *phusis*, for the philosophy of spirit stands in opposition to the philosophy of nature, and this opposition is the basis for an even more radical departure from Aristotle's teaching.[51]

Hegel's break with Aristotle over the ontological status of psychology is the ground of their respective judgments of history. Whereas for

[50] This account is heavily indebted to Ferrarin, *Hegel and Aristotle*, pp. 221–226.
[51] *Enc*. §381.

Aristotle history is the contingent concurrence of particulars,[52] for Hegel *Weltgeschichte* is no less intelligible than the motions of natural beings.[53] Consequently, Hegel's appropriation of Aristotle is ultimately a comprehensive transformation, since his understanding of teleological nature is the ground for the further teleological development of spirit. The *telos* of nature is the possibility of a historical being that understands itself through its opposition to nature. Thus, by providing the condition for spirit's self-development in the human, nature as a systematic whole proves to be a moment in a larger whole, deriving its meaning from its role in the more encompassing whole of the systematic articulation of the self-differentiating Absolute Idea.

In other words, agency is the final fruit of nature and according to the Hegelian dictum that something is intelligible only in light of both process and result, any adequate philosophy of nature must account for the human. As Hegel remarks at the beginning of the *Anthropology*, "Mind has *come into being* as the truth of nature," for "nature in its own self sublates itself as what is untrue, and mind thus presupposes itself as this universality that is no longer *self-externalized* in bodily individuality."[54] The philosophy of nature culminates in the appearance of a being whose mind can comprehend the logical ground of nature precisely because it is "a copy of the eternal Idea."[55] One could summarize the second part of Hegel's philosophical encyclopedia as the bridge between the mind of God before creation and the mind of man capable of grasping creation.[56]

[52] See Aristotle's *Poetics* 1451b1–6 and the discussion of *kata sumbebekos* in Aristotle's *Physics*, 195a30–197a20.
[53] Hegel, *Lectures on the Philosophy of World History,* Volume I: *Manuscripts of the Introduction and the Lectures of 1822–3*, ed. R. F. Brown and P. C. Hodgson. Oxford: Oxford University Press, 2011, 82–86; *Werke* 12:20–28.
[54] *Enc*. §388; *Werke* 9:43.
[55] *Enc*. §377, *Zusatz*; *Werke* 9:9
[56] See description of the *Science of Logic* as "the exposition of God as he is in his eternal essence before the creation of nature and of a finite spirit" (*Werke* 5:44**).**

3. Jonas on Concern and Meaning as Ontological Categories

Jonas's philosophy of life defends a conception of nature that overcomes the artificial shortcomings of natural science by remaining intimately open to the subjectivity and inwardness of living beings. Despite his criticism of Heidegger, Jonas acknowledges the ontological significance of mortality; yet whereas Heidegger draws a sharp distinction between existential death and natural demise, Jonas emphasizes how organic corporeality at all levels of complexity is shadowed by death, and thus does not restrict the experience of mortality to human beings alone.[57] To be alive is to be perpetually threatened by "not-being."[58] Because his account of the living organism treats metabolism as the governing organic property—as both historically and logically prior to all other facets of life—Jonas's claim that subjectivity inheres everywhere in nature applies at the very least to every metabolic being. This much Jonas takes himself to have demonstrated beyond doubt.[59] However, in subsequent reflections on cosmogony, Jonas wonders whether we ought to attribute inwardness and purposiveness to nature and matter more generally.

In his analysis of metabolism Jonas observes with Aristotle that the organism exhibits *energeia* chiefly by virtue of its *eidos* rather than its *hulē*. As matter comes and goes through the organism, most obviously in the process of eating and excreting, the organism does not cease to exist when all of its original matter returns to the environment. On the contrary, the organism only ceases to exist when its form *does* become equivalent to its matter: we call this cessation of metabolic functionality "death." The metabolic act must therefore be regarded as an essentially daring and transformative venture. Even the most primitive metabolic function implies "some original act of segregation," whereby "that living substance . . . has

[57] Cf. Heidegger's distinction between existential death and natural demise in *Being and Time,* trans. J. Macquarrie and E. Robinson (San Francisco: Harper, 1962), p. 291, note especially the assertion: "the existential interpretation of death takes precedence over any biology and ontology of life."
[58] *PL*, p. 5.
[59] *Ibid.*, pp. 55–58.

taken itself out of the general integration of things in the physical context, set itself over against the world, and introduced the tension of 'to be or not to be' into the neutral assuredness of existence."[60] In its peculiar "hazardous independence from the very matter which is yet indispensable to its being," life is precisely "precarious being."[61] Through its appropriation of the material in its environment for its sustenance, wherein it transforms and subverts the continuity of its material substrate in order to sustain its form, the metabolic organism "transcends" the realm of dead matter that surrounds, sustains, and threatens it. As Richard Wolin has put it, "whereas matter remains self-identical, life is self-mediating and self-transformative."[62] Accordingly, if the life-process involves self-relation, then by definition life possesses inwardness.

For these reasons, Jonas resists those contemporary trends of thought that draw a sharp distinction between the human and the natural. Even the nature of consciousness, which we describe so often in terms of the "hard problem" concerning the inward experience of "having" consciousness, cannot justify the dualistic split of being into mental and non-mental categories.[63] Jonas's subverts the "hard problem" by showing how subjectivity inheres in all life. Natural science tends to overlook the inwardness of living beings because the heuristic principle guiding its inquiries obscures certain phenomena for the sake of attaining clarity about others.[64]

Because inwardness requires a transcending of material being, Jonas finds a certain kind of freedom even in the most basic forms of life.[65] Yet

[60] *PL,* p. 4.
[61] *Ibid.*
[62] Richard Wolin, *Heidegger's Children*, (Princeton: Princeton University Press, 2001), p. 115.
[63] David Chalmers, "Facing Up to the Problem of Consciousness," *Journal of Consciousness Studies*, 2:3 (1995), pp. 200-219; cf. Thomas Nagel, "What Is It Like to Be a Bat?" *The Philosophical Review*, 83:4 (1974). pp. 435-450.
[64] See Erazim Kohák, *The Embers and the Stars: A Philosophical Investigation into the Moral Sense of Nature* (Chicago: University of Chicago Press, 1984), pp. 12-13.
[65] Murray Bookchin, *The Ecology of Freedom: The Emergence and Dissolution of Hierarchy* (Palo Alto: Cheshire Books, 2005), p. 364.

such freedom is coextensive with life's care or concern for itself, its survival, and, by extension, with the conditions of its existence that lie outside of itself, viz., its environment—the "other" from which the organism distinguishes itself but upon which the organism necessarily depends. Heideggerian "care" (*Sorge*) thus proves to be an essential feature of organic being as such—not only to human beings with their proclivity for metaphysical anxiety. The linchpin of Heidegger's existential analytic of Dasein becomes in Jonas's thought an integral dimension of every living being's existential condition. This is not to say all care is created equal. Animals have the powers of perception and motility, which plants lack, and therefore animals are capable of a deeper awareness and more attentive care for "the other" than beings which lack these powers. Similarly, with language and reason, humans have access to an "eidetic" realm of meaning, in which care is expressed through the recognition and representation of normative values.[66] But to conclude from this gradation of complexity that concern belongs only to humans would be to ignore the phenomenology of life.

Accordingly, Jonas offers a subtle treatment of human distinctiveness, maintaining that responsibility, not inwardness or subjectivity, is what distinguishes us from the rest of nature. Jonas emphasizes that our capacity for responsibility is intimately interwoven with our capacity for metaphysical reflection. Our responsiveness to the ethical "ought" presumes commitment to some metaphysical view of what is. What makes human existence unique therefore is the manifestation of *Sorge* as *das Sollen*—an imperative that is ultimately grounded on an account of the whole. Nevertheless, just as it is possible for plants to fall short of effective metabolic functionality and thereby lose their separability from inorganic being and therewith their identity, so too is it possible for humanity to fall short of realizing its *eidos* and thereby lose that which makes it distinct;[67] in other words, humans fail to be themselves when they reject all metaphysical thought as meaningless or refuse to hear the call of responsibility for

[66] *PL*, pp. 184–187; cf. *PL,* pp. 162–173.
[67] *PL*, pp. 4–6, pp. 82–3.

beings other than themselves.[68] Humanity's privileged status is not an immediate given; rather, it is always a precarious and finite achievement. To be fully human demands taking an active responsibility for beings other than ourselves. As Erazim Kohák asserts:

> [...]the distinctiveness of the human species [is that] we have a moral obligation of responsibility to all other beings, to cherish their kinship and respect their otherness. [...] With Hans Jonas, I am convinced that all purposive activity generates value. Life is a value *for* itself—whatever lives, wishes to go on living—and so a value *in* itself, *intrinsically* valuable. Wholly intuitively, I would extend this to all that is. *Humans, not as discontinuous with nature, but as in their freedom distinctive within it, have a moral obligation to cherish and respect all being*.[69]

Jonas ties the question of values and responsibility to a conception of freedom grounded in biological phenomena. According to Jonas, "Being, in the testimony it gives of itself, informs us not only about what it is but also about what we owe it."[70] However, in our contemporary socio-economic and political order—one continually adapting to technological innovation—we find ourselves far removed from the natural environment toward which we owe our care.[71] Jonas traces our condition of homelessness to:

[68] *MM*, 84, 120; cf. Hans Jonas, *The Imperative of Responsibility: In Search of an Ethics for the Technological Age* (Chicago: University of Chicago Press, 1984), pp. 45–46. Hereafter, *IR*.
[69] Erazim Kohák, "Whose Nature? Which Morality? A Response," in *Philosophies of Nature: The Human Dimension*, ed. Robert S. Cohen and Alfred I. Tauber (Dordrecht: Kluwer Academic Publishers, 1998), p. 36.
[70] *MM*, p. 101.
[71] The complex role of political economy and moral philosophy in this multifaceted transformation of our relation to nature is helpfully sketched with an eye to the consequences for environmental philosophy by Melissa Lane (see "From Greed to Glory" in *Eco-Republic: What the Ancients can teach us about Ethics, Virtue, and Sustainable Living* (Princeton: Princeton University Press, 2012), pp. 29–46.

> […] the ejection of teleology from the system of natural causes, [when] nature, itself purposeless, ceased to provide any sanction to possible human purposes. A universe without an intrinsic hierarchy of being, as the Copernican universe is, leaves values ontologically unsupported, and the self is thrown back entirely upon itself in its quest for meaning and value. Meaning is no longer found but is "conferred."[72]

Consequently, although humans are capable of beholding meaning in the world, we have talked ourselves into denying the significance of the phenomena that provides the requisite evidence. A post-Darwinian phenomenology of life is a necessary corrective on both theoretical and practical grounds to modernity's rejection of teleology. If we are to overcome our homelessness, we must look on nature as truly worthy of our care on account of nature possessing intrinsic rather than merely instrumental value. The first necessary step to such a perspective is a revitalized concept of teleology. Only on such a basis, Jonas thinks, will we discover on ontological grounding for an ethics of environmental responsibility.

4. The Ontological Ground of Human Freedom and World History

In his landmark 1967 study, *The Religious Dimension in Hegel's Thought*, Emil Fackenheim locates the heart of Hegel's system in the threefold reciprocal determination of the logical idea, nature, and spirit, demonstrating how each can serve as the mediating ground for the other two.[73] Governed by overreaching subjectivity (*übergreifende Subjektivität*) of the idea this threefold relation remain a unity.[74] Given the orientation of Fackenheim's

[72] *PL*, pp. 214-215.
[73] Emil L. Fackenheim, *The Religious Dimension in Hegel's Thought* (Bloomington: Indiana University Press, 1967), 75–115. Cf. *Enc.* §187, *Zusatz*; *Werke* 8:339–340; cf. Hegel's discussion of the three syllogistic relations of logic, nature, and mind *Enc*. §§575–577.
[74] Fackenheim, *The Religious Dimension*, pp. 98–99, pp. 108–112; cf. *Enc.* §215; *Werke* 8:372–373.

study, namely, his focus on Hegel's transfiguration or "trans-mythologization" of Christianity, Fackenheim explores how these three parts of the system have their precursor in Christian representation (*Vorstellung*). Fackenheim argues that Hegel's absolute Idea or fundamental onto-logical *Concept* (*Begriff*)—the *logos* animating all things—can be comprehended as the philosophic recapitulation in conceptual form of the religious truth expressed figuratively in the idea of God as triune: the relation of the three persons of Godhead—Father, Son, and Holy Ghost—exemplifying the logic of identity-in-difference.[75] Hegel's conceptual edifice retains its systematic unity on the condition of their commensurate congruence; only thereby can the "real be rational and the rational real" and mankind experience his freedom as being-at-home in the world.[76]

Such an approach to Hegel, which has since Heidegger been termed "onto-theological," continues to receive extensive criticism, especially from proponents of what Terry Pinkard dubs a "hybrid logic-historicist" approach.[77] According to Pinkard, such substantive ontological readings run afoul of the epistemological strictures established by critical philosophy. Yet notable scholars, such as John Burbridge, Stephen Houlgate, and Charles Taylor[78] argue that absent a thick ontology the system collapses into a fragmented congeries of discourses, connected methodologically but lacking the requisite unity to make good on that most quintessentially Hegelian maxim, "the true is the whole." Moreover, although the close

[75] Fackenheim, *The Religious Dimension*, pp. 193–206, pp. 217–219.
[76] Emil L. Fackenheim, "Hegel on the Actuality of the Rational and the Rationality of the Actual" in *The God Within: Kant, Schelling, and Historicity*, ed. John Burbidge (Toronto: University of Toronto Press, 1998), pp. 164–171. Although Fackenheim's reading of Hegel appears to risk lapsing into either idolatry or pantheism (as both nature and man are divinized), Fackenheim underscores that it avoids these twin errors; for although "divinity comes to dwell, as it were, in the same inner space as the human self," the identity occurs in the realm of thought alone; "existentially man and God remain apart" (*Encounters Between Judaism and Modern Philosophy,* 191).
[77] Terry Pinkard, *Does History Make Sense? Hegel on the Historical Shapes of Justice* (Cambridge, MA: Harvard University Press, 2017), p. 235.
[78] For a brilliant recent defense of Hegel as a thoroughgoing, highly original speculative metaphysician see Brady Bowman, *Hegel and the Metaphysics of Absolute Negativity* (Cambridge: Cambridge University Press, 2013).

connection between ontology as first philosophy and theology is out of favor with contemporary philosophy, Hegel repeatedly remarks that religion and philosophy share the same content but in different forms.[79]

Thus, it would appear from the scholarly debate that the theological question is intimately interwoven with the ontological question, and this debate, in turn, proves to be interwoven with the debate over Hegel's naturalism. While the literature on this topic is vast, especially in the wake of McDowell's publication of *Mind and World*, the central node of contention is clear: How should we understand spirit's relation to nature and the ontological implications of human freedom?[80] As these intersecting interpretative debates illustrate, the question of how subjective freedom (or embodied mind) abides in the natural world is concomitantly the question of the relation of nature to the divine ground of being.

Pace anti-metaphysical readings, we can see the threefold mediated relation identified by Fackenheim at work Hegel's description of the three fundamental transitions of Hegel's system: (1) from the logical idea to existence, (2) from nature to spirit, and (3) from finite spirit to absolute spirit:

1. "When the Idea posits itself as the absolute *unity* of the pure Concept and its reality, and thus contracts itself into the immediacy of *Being*, it is *totality* in this form: *Nature.*"[81]

[79] See *Enc* §1–4, *Enc. Zusatz* §381, *Enc.* §§572–573; cf. *PhG* ¶765. For a synoptic account of Hegel's understanding of the relation between philosophy and religion see Stephen Houlgate, "Philosophy and Christian Faith" in *An Introduction to Hegel: Freedom, Truth, History*, second edition (Oxford: Wiley-Blackwell, 2005), pp. 242–275; see especially Houlgate subtle discussion of Hegel's Lutheranism pp. 256–270.
[80] For a helpful overview of this thicket of problems and questions, see Julia Peters, "On Naturalism in Hegel's Philosophy of Spirit" *British Journal for the History of Philosophy*, 24:1, pp. 111–131.
[81] *Science of Logic, Werke* 6:573. Cf. nature is "the Idea in the form of otherness" (Enc. §247).

2. "Nature itself sublates its externality and individualization, its materiality, as an untruth which is inadequate to the concept dwelling in it, and by thus acquiring immateriality it passes over into mind."[82]

3. Through "*philosophical* thinking" spirit cognizes "the determinate way in which the eternal Idea forming their common principle displays itself in them. Through this cognition, the idealistic nature of mind which is already operative in finite mind, attains its completed, most concrete shape, mind makes itself into the actual Idea that perfectly apprehends itself and hence into absolute mind. Already in finite mind, ideality has the meaning of a movement returning to its beginning; by this movement the mind, advancing from its undifferentiatedness, as the first position, to an Other, to the negation of that position, and by means of the negation of this negation returning to itself, proves to be absolute negativity, infinite self-affirmation."[83]

Taken together these three passages point to the ultimate ground of the system's unity—the self-differentiating and internally determining concept that has its being only in its different moments, each of which, though analyzable as independent, ultimately depends on the activity of the whole. That is, Hegel's creative appropriation of Spinoza's principle that all determination is negation is applicable on the deepest level to the determinate differences between logic, nature, and spirit, each of which is defined in opposition to the other two, possessing its independence only through its determinate negation of what it is not.[84] Thus the very affirmation of the

[82] *Enc*. §389, *zusatz*; *Werke* 10:45. Cf.: "*For us* mind has *nature* as its *presupposition,* though mind is the *truth* of nature, and is thus *absolutely first* with respect to it. In this truth nature has vanished, and mind has emerged as the Idea that has reached its being-for-self" (*Enc.* §381; *Werke* 10:17). Cf. *Enc.* §251; *Werke* 9:36.
[83] *Enc*. *Zusatz,* §381; *Werke* 10:22. Cf. "As the distinguishing determinacy of the concept of mind we must designate *ideality,* that is, the sublation of the otherness of the Idea, the Idea's returning, and its having returned, into itself from its Other; whereas the distinctive feature of the logical Idea is immediate, *simple being-within-itself,* while for nature it is the *self-externality* of the Idea" (Enc. §381, *zusatz*; *Werke* 10:18).
[84] Enc. §573, Remark; *Werke* 10:389: "God's relationship to the world is determined by the determination of God's nature [der Bestimmung der Natur Gottes sich sein Verhältnis zur Welt bestimmt]."

reality of each distinct ontological realm is simultaneously an acknowledgement of its dependence on the whole.

On this basis Hegel makes extensive claims concerning the power and possibilities of finite spirit realized in the activity of individual human reasoning. As he states in the introduction to the *Philosophy of Mind,* "all activity of the mind is, therefore, only an apprehension of itself, and the aim of all genuine science is just this, that mind shall recognize itself in everything in heaven and on earth. There is simply no out-and-out Other for the mind."[85] According to Hegel, the human can be at home in his freedom because there is nothing ultimately, radically alien to the human spirit; our being at-home in the world requires only that we grasp this essential truth about ourselves and our place in the whole.

Previously, we suggested that the realm of history constituted Hegel's sharpest break with Aristotle. In contrast to *phusis*, defined by cyclical repetition of the same, Hegel explores a mode of change (*metabolē*) or, more precisely, motion (*kinesis*), which employs the potency-actuality relation and is governed by a telos, but unlike the natural changes of *ousia*, there is but one unique motion for the species, and by extension for the biosphere as a whole. History is a grand "actuality of potentiality qua potentiality" or an incomplete activity (*atelēs energeia*).[86] World history as a form of absolute spirit is the externalization and progressive objectification of spirit itself—the manifestation of the idea "in the element of human will, of human freedom."[87] It is the process by which the mind of God knows itself.[88] But what does spirit come to know of itself as a result of human efforts at self-knowledge, efforts that not only unfold in, but are the

[85] *Enc*. §377, *Zusatz*; *Werke* 9:10.
[86] Aristotle, *Physics* 201a11; *De Anima* 417a16–17, *Metaphysics* 1048b18–34. For a lucid introduction to the subtle complexities of Aristotle's definition see Aryeh Kosman, "Aristotle's Definition of Motion," *Phronesis*, Vol. 14, No. 1 (1969), pp. 40-62.
[87] Hegel, *Die Vernunft in der Geschichte,* ed. J. Hoffmeister (Hamburg: Felix Meiner, 1955), p. 83; cf. p. 154.
[88] Enc. §384 (*Werke* 10:29–32). Cf. *Werke* 12:39–40.

impetus (*Drang*) of world history? If achieving knowledge of our essential freedom is the end of history, what does this mean? Hegel answers:

> This is the hallmark of the lofty and absolute vocation of human beings [*Bestimmung des Menschen*], that they *know* what good is and what evil is, and know that *volition* itself is willing either good or evil—in short, that they are capable of responsibility [*er Schuld haben kann*], responsibility not only for evil but also for good; responsibility not simply for this or that or for everything that is around them and in them, but also responsibility for the good or evil that are inherent in their individual freedom [Schuld an dem individuellen Freiheit angehörigen Guten und Bösen]. Only the animal is truly innocent [*wahrhaft unschuldig*].[89]

Mankind's freedom and triumphant march of spirit through history prove to be the dawning awareness of our awesome responsibility. We have eaten of the fruit of the tree of knowledge of good and evil. To be made in the image of God is to be free. To know ourselves as such is concurrently to be responsible (or guilty as *Schuld* could also be translated) and not just for this or that deed as individual agents, but collectively, as a species, for the fate of creation.[90] As the natural being that transcends nature and in which nature achieves its purpose, human freedom—objectified in practices, customs, laws, institutions, and above all, the state—is the locus of the justification of creation: the theodicy of spirit ultimately depends on the exercise of our subjective freedom. As Hegel asks, what could justify the slaughter-bench of history? The only plausible answer appears to be a truly just political order – a domain of intersubjective recognition in which human

[89] Hegel, *Lectures on the Philosophy of World History*, 97–98; *Werke* 12:50–51.
[90] See Hegel's interpretation of the Fall in *Lectures on the Philosophy of World History*, p. 455–6; cf. *Phenomenology*, pp. 775–780. See also his description of Socrates's discovery of subjective freedom as plucking "the fruit of the tree of the knowledge of good and evil—self-knowing reason" (Hegel, *Lectures on the History of Philosophy 1825–6, Volume II: Greek Philosophy*, ed. by Robert F. Brown, trans. by Robert F. Brown, et al. (Oxford: Oxford University Press, 2006), p. 127.

beings could know themselves, in their knowing of one another, as made in the image of God.

5. Cosmogonic Speculation and The Purpose of Creation

Jonas offers his strongest indictment of Hegel in "Matter, Mind and Creation: Cosmological Evidence and Cosmogonic Speculation," criticizing Hegel for being excessively optimistic about the efficacy of logos in natural development.[91] The essay ventures a series of "cosmogonic speculations" that incorporate Jonas's own philosophy of nature into the picture of the universe provided by contemporary cosmology. Rejecting the idea that the development of complex life and human reason was predestined from the outset by a "cosmogonic logos," Jonas argues that when viewed from the perspective of the "Big Bang," life cannot seem inevitable, but only possible. In place of a necessary logic governing the gensis of the cosmos, Jonas posits the principle of a "cosmogonic eros" (a term coined by Ludwig Klages) in trying to comprehend the improbable development of life on Earth.[92] Jonas notes that "in the matter under formation in the 'Big Bang' there must have already been present the possibility of subjectivity—the inner dimension in latency, which awaited its external opportunity in the cosmos for manifestation." Because all that was present was subjectivity's *possibility*, Jonas argues that "no 'seeing' intelligence at the beginning, no eternal providence concerning what ultimately comes to fruition, need be assumed. Unconscious tendency suffices for the evidence of life."[93] Cosmogonic investigations thus lead Jonas to theological speculations.

Just as Cartesian dualism fails to account for the intimate connection between matter and mind, divine predetermination fails to acknowledge the "improbable" character of abiogenesis. Jonas writes that "instead of

[91] *MM*, pp. 165–197; for the critique of Hegel, see pp. 187–189.
[92] Cf. The argument developed by Stuart A. Kauffman about the nonergodic quality of the biosphere in *Humanity in a Creative Universe* (Oxford: Oxford University Press, 2016), pp. 39–82.
[93] *MM*, p. 180.

placing the destiny of mind under his continual guardianship," the first cause of the universe "must have given to the primordial matter released into time *more* than neutral compatibility with mind," or more than "mere toleration of its coexistence."[94] The relation of inwardness to exteriority must be "more intimate" than dualism can permit and yet more uncertain than predetermination can admit.[95] This does not mean, however, that Being is always in perfect unity with itself or that mind was always present in nature. Spinoza's pantheism, which on Jonas's reading implies that mind "was always already there," fails for that reason as a cosmology, since it fails to account for the *genesis* of mind, i.e., for the process wherein mind wins itself from out of the substrate of natural potency or "prefiguration" for mind.[96] Jonas suggests that conceptualizing the first cause as a "self-divesting" or "self-alienation of mind" is the only way to address these difficulties.

In this context, Jonas praises Hegel for achieving a "majestic" and "edifying" doctrine "that likewise had the world process begin with the extreme self-alienation of mind, and gains precisely from this antithesis the principle of movement for the further process: the principle of becoming by which the mind wins itself back again in the world."[97] That is, in full awareness of speculative nature of such cosmological reflections on the origins of existence, Jonas believes that we ought to regard the beginning as Hegel did—in terms of "the extreme self-divesting of the Creator-mind at the beginning of all things."[98] Nevertheless, Jonas's cosmogonic account does not wholly endorse Hegel's majestic teaching. Stressing the perilous, risky nature of this act of self-divesting, Jonas creatively adopts ideas from the tradition of Jewish mysticism. In particular, Jonas offers a novel interpretation of the kabbalistic doctrine of *tzimtzum* that foregrounds

[94] *MM*, p. 184
[95] *Ibid.*
[96] *PL*, p. 5. Cf. *MM*, pp. 186–187.
[97] *MM*, p. 187.
[98] *Ibid.* For an interpretation of Hegel's position as a revision of the Christian idea of *kenosis* see Thomas J. J. Altizer, "Hegel and the Christian God," *Journal of the American Academy of Religion*, 59:1 (1991), pp. 71-91.

humanity's stewardship for creation.[99] Though innovative, Christian Wiese argues that it is continuous with the tradition of Jewish thought which has long held, in Eliezer Berkovits's formulation, that God "took a risk with creation by granting it consciousness and free decision," such that failure "is always a possibility."[100] Jonas departs from Berkovits, however, by claiming that the creator must have divested his power *absolutely*, such that God *cannot* prevent man from inflicting or suffering great evil. God's powerlessness is made thematic in "The Concept of God After Auschwitz," where Jonas argues that only by rejecting the traditional principle of divine omnipotence can we retain any faith in a benevolent God. Arguing for an "endangered God" who "has made his care dependent on" human beings, the cosmogonic principle ultimately turns from God toward humanity. [101] We are not only the hierarchical culmination of this risky cosmic enterprise, but the source and locus of all responsibility for it:

> By forgoing its own inviolateness, the eternal ground allowed the world to be. To this self-denial all creation owes its existence and with it has received all there is to receive from beyond. Having given himself whole to the becoming world, God has no more to give: it is man's now to give to him. And he may give by seeing to it in the ways of his life that it does not happen or happen too often, and not on his account, that it "repented the Lord" to have made the world.[102]

Nothing can meet the demands of post-Holocaust theodicy except for the unequivocal assertion of human responsibility for Being. The blame for Auschwitz does not fall on God, but on us.

It is from this perspective that Jonas criticizes Hegel's cosmology, whose "sense of an eschatological and perfecting dynamism" appears, after

[99] *MM,* p. 142.
[100] Christian Wiese, *The Life and Thought of Hans Jonas: Jewish Dimensions* (Waltham MA: Brandeis University Press*,* 2007), pp. 120–149; Eliezer Berkovits, *God, Man and History* (Jerusalem: Shalem Press, 2004), p. 83.
[101] *MM*, p. 138.
[102] *Ibid.*, p. 142.

Auschwitz, as one of those naively optimistic "self-guaranteed success stories of Being."[103]

> The disgrace of Auschwitz is not to be charged to some all-powerful providence or to some dialectically wise necessity, as if it were an antithesis demanding a synthesis or a step on the road to salvation. *We* human beings have inflicted this on the deity, we who have failed in the administering of his things. […] Don't talk to me here about the cunning of reason.[104]

To avoid subverting the purpose of creation, we must turn from the "is" to the "ought" in order to hear "the call of the good." With our recognition of this "call" comes our "binding *obligation* to the guarding of being"[105] and thereby our obligation to protect God, in part by resisting the temptation to despoil the planetary environment:

> This duty, which exists constantly, becomes acute and concrete with the growth of human power through technology, which endangers the entire habitat of life here on Earth. […] It tells us that we must now protect from ourselves the divine cause in the world that has become threatened by us, that we must come to the aid of the deity who has become powerless for Himself regarding us.[106]

Here the principle of responsibility finds its grounding not only in human subjectivity but also in the objective cosmological order. Jonas, thus, derives our responsibility for the whole from our unique place within the whole.

There remains then the question of the validity of Jonas's interpretation of Hegel. On our reading, Hegel does not need desperate reconstructions from post-Holocaust thinkers; for the cunning of reason is not a crude effort to justify the workings of God in what is often the brutal course of

[103] *MM*, p. 189.
[104] *Ibid.*, p. 188.
[105] IR , p. 50.
[106] *MM*, p. 191.

world history, but a description of the relation of means to ends in all teleological reasoning. In clarifying the relation between contingent and essential, "the cunning of reason" is a description of the priority of essential ends at work in any process that is intelligible at all.[107]

Rather than defending Hegel, however, it is more constructive to highlight the extent to which the central thrust of Jonas's argument echoes Hegel's teaching. Ultimately both thinkers advance a self-differentiating monist ontology that grounds humanity's moral agency. Both thinkers, thereby, run afoul of what Jonas identifies as the conventional prohibitions of twentieth century academic philosophy against metaphysical speculation and the attempt to ground ethics in ontology.[108] Jonas describes his speculative remarks in the cosmogonic essay as having:

> […] sinned against two powerful interdicts of contemporary philosophizing, which, over the rather long history of modern thought, have almost attained the status of articles of faith. These are, first of all, that one should steer clear of the unprovable, and secondly, as a special case of the first, that there is no way leading from the 'is' to the 'ought,' from fact to value. To put it briefly, there is a prohibition against metaphysics, and the dogma of the sheer subjectivity of values, hence also of obligation and ethics. The near unanimity on these issues should not startle us. It reflects the succumbing of philosophy to the success of natural science, which it would like to imitate.[109]

Jonas further cautions that "physicists should beware of making their physics into a metaphysics, i.e., to pass off the reality known by them for the

[107] John Burbidge, *Systematic Contingency,* pp. 143–152. In addition, as Peter C. Hodgson (among others) has argued reconciliation with the violence of history is not a justification for violence or a minimizing of the suffering (*Shapes of Freedom: Hegel's Philosophy of World History in Theological Perspective* [Oxford: Oxford University Press, 2012), pp. 167–175.

[108] Cf. The ethical significance of Hegel's resolution to the mind–body problem, which, Richard Dien Winfield judges to provide "not only a viable framework for the philosophy of mind but also the enabling conditions of ethical theory" ("Hegel's Solution to the Mind–Body Problem" in *A Companion to Hegel*, 240).

[109] *MM,* pp. 192-193.

whole of reality." However, the problem does not ultimately lie with physicists themselves, who restrict the scope of their purview for understandable methodological reasons. Rather, it is "the task of *philosophy* to reflect on this whole."[110] Jonas believes that philosophy must recover a proper understanding of itself lest a fundamental mode of human reflection be lost.[111] Much of Hegel's importance for contemporary philosophy is as a counterweight to this tendency, especially with respect to the ambitions of some strands of analytic philosophy to transform philosophy from an open-ended inquiry into the whole into a science with its own clearly delineated subject matter. Under this view, philosophy quickly becomes a handmaiden to science, acting as a mere referee, warning about conceptual confusion and clarifying the logic and use of language—a conception of philosophy that echoes Locke's relegation of philosophy to the admittedly efficacious task of "clearing the underbrush" from the path of the new sciences. As both Hegel and Jonas recognize, when philosophy takes its bearings from the physical sciences, it sacrifices its claim to be the theoretical activity that aims not solely at knowledge but at wisdom.

For both Hegel and Jonas, our capacity for moral responsibility is interwoven with our capacity for metaphysical speculation.[112] Although the human being can simply *feel* the call of responsibility in ethical cases that are near at hand, it takes our occasional willingness to indulge our metaphysical longings to realize obligations that are not immediately apparent, such as the ones we owe to God, the natural environment, and future generations of human beings. Given that our technological powers have exploded during the same period when we have abdicated metaphysical speculations, "we need wisdom most when we believe in it least."[113] If we smugly regard technological progress as our triumph while also refusing to reflect on the significance of that gain in the context of our status as natural beings, we risk thwarting the purpose of creation.

[110] *Ibid.,* pp. 193.
[111] *MM*, pp. 84–86. Cf. Hegel's critique of mathematics in *PhG,* ¶¶38–48.
[112] Morris, *Hans Jonas's Ethic of Responsibility: From Ontology to Ecology*, p. 5.
[113] *IR*, p. 21.

6. Conclusion: Between Self-Centered Pride and Self-Abnegating Humility

Contemporary discussions of the environmental crisis often fall into two camps. The first begins from the anthropocentric perspective and develops arguments in terms of a cost-benefit analysis, attempting to quantify the future harm of our current profligacy; it seeks to measure, often in economic terms, the potential costs of environmental degradation or global warming. Such arguments appeal to the "utility maximizing" rational agent of economists' imaginations, supposing that human beings might alter their habits in accordance with what Tocqueville called "self-interest rightly understood." On this view, the environment is a resource that should not be heedlessly exploited for short-term gain given the anticipated costs—as though we should understand our relation to the natural world on a quasi-financial model where policy prescriptions can be evaluated like any investment plan in terms of the expected "rate of return."

The second approach is resolutely opposed to this utilitarian and economic conception of our fiduciary responsibility to the environment, arguing that such an approach to the crisis remains ensconced within the paradigm of modern subjectivist reasoning that led to the crisis in the first place. Appeals to the prudential management of resources only entrenches the underlying problem, namely, that man is presumed to be the sole source of meaning and value. Reacting to all objectifications of the environment as mere means to satisfy our ends, the approach of 'deep ecology' insists that only a radical reorientation and de-centering of the human subject can save the world from comprehensive degradation and impending disaster. Thus, the privileged status of the human agent that is characteristic of the "Western" metaphysical tradition must be radically questioned: man is not the peak of creation or the summation of nature, let alone "the measure of all things." On this view, man's hubris led him to imagine himself as uniquely entitled to transform his environment; but as the crisis of the Anthropocene makes evident, hubris is followed by nemesis.

These two alternatives, however, suffer from a similar theoretical

shortcoming—they are abstract in the technical sense of being one-sided and therefore partial truths. From a Hegelian perspective, the apparently exhaustive disjunction between an anthropocentrism that justifies conservation only on prudential or utilitarian grounds and a biocentrism or ecocentrism that would deny humanity its unique or privileged status is the result of a failure to reason dialectically. Likewise, Jonas thinks such an either/or obscures the mutual and reciprocal significance of the relation between mankind and nature. As we have demonstrated in the paper, both thinkers are committed to a view of the human being as the culmination of creation—the creature in which nature becomes self-conscious and autonomous. The human being's capacity for theoretical reflection is complemented by her practical power of self-determination. While being the least restrained by external conditions, mankind alone is capable of imposing restrictions on his own activity. Yet humanity's emancipation from nature is not an unconditional independence. To understand the place of the human being in the cosmos, one must grasp both the continuity and discontinuity of *homo sapiens* with the rest of creation.

Both Hegel and Jonas explore this peculiar identity and difference through a species of teleological reasoning that strives to avoid the ontological dualism of mind and matter that would leave us essentially alienated from the world. Moreover, the human being is distinguished by the unique capacity to reflect on being. Humanity therefore cannot be incidental to the meaning and significance of creation. Albeit not the source of value, the human alone can discover value and conduct his practical life in light of a normative judgment held to be objectively valid. In the final analysis, mankind's capacity for self-restraint is more truly indicative of his rational autonomy than the manipulation of his physical environment. Thus, for both thinkers, philosophy is not a superfluous leisure activity; not only is our humanity defined by what Kant called our *metaphysica naturalis*, our longing to know the whole, but it is only in light of such reflection that there can be moral imperatives that transcend utilitarian reasoning.[114] The highest expression of human reason is, therefore, not the

[114] Kant, *Critique of Pure Reason*, B21; cf. A849/B877.

mastery granted by technological ingenuity but the capacity born of metaphysical reflection to recognize our responsibility to heed "the outcry of mute things . . . by curbing our powers over creation."[115]

Our paper has shown how beginning from a similarly creative appropriation of Aristotle—specifically of teleological explanations in understanding the self-maintaining activity of natural organisms—Hegel and Jonas offer invaluable conceptual resources for any future environmental philosophy by connecting their reflection on the ontological significance of the phenomenon of life to both the most encompassing metaphysical framework and the most urgent ethical questions. If we are to rethink humanity's relationship with nature, we must indeed recognize that the modern technological worldview is as deeply rooted in our patterns of thought as it is in our behavior and policy. Yet we must also avoid the temptation of an excessive and hasty reaction that would jettison everything associated with modernity, including philosophy's concern with human freedom. Both Hegel and Jonas are committed to the proposition that "der Mensch als Mensch [ist] frei."[116] The challenge of our time is to find an environmental philosophy that defends the dignity of nature without losing sight of the nobility of man while integrating both within an account of the whole that fosters human responsibility by recovering a view of nature as intrinsically endowed with meaning.

[115] *MM*, pp. 202.
[116] *Werke* 12:31.

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Diego E. Machuca and Baron Reed (ed.), *Skepticism: from Antiquity to the Present*, Bloomsbury, 2019, 746pp., ISBN 9781472514363.

LORENZO SERINI

Skepticism: *from Antiquity to the Present* is an extremely ambitious study that offers a comprehensive picture both of the history of the various sceptical traditions and the contemporary discussion of sceptical arguments in recent epistemology. The book, edited by Diego E. Machuca and Baron Reed, is a collection of contributions made by a great number of scholars who specialise in different areas of the research on scepticism. This monumental work comprises fifty chapters, each of which provides a brief but often penetrating insight into a sceptical thinker and/or theme. These are chronologically organised into four main parts: (1) ancient, (2) medieval and Renaissance, (3) modern, and (4) contemporary scepticism. Each part begins with an introduction that presents the collected chapters, situating and linking them within a specific historical context.

Although each chapter can be read individually, the reader is invited to browse through the entire book, following the continuous developments of scepticism in the history of philosophy and discovering the intriguing connections which exist between different sceptical thinkers and problematics. Alongside and through this critical survey of the history of

the sceptical traditions—including the contemporary analytic one—, this study also launches a fundamental philosophical inquiry concerning the nature of scepticism. Indeed, the whole volume may be thought as a collective attempt to provide an answer to the question "what is scepticism?". It is famously difficult to come up with a precise answer to this question due to the elusiveness of the concept of scepticism. We may all agree that scepticism, in a way or another, has to do with human cognitive limitations, with the fact that there is something we do not know, or that there is something we believe we know but, in reality, we do not know. Yet, as the editors remark in the general introduction, "[s]kepticism has been many things in its long history: a puzzle, a paradox, a challenge, an argument, an attitude, a way of life" (xiv). As a result, the problem of scepticism reveals a dynamic and complex nature. In this sense, the concept of scepticism is elusive: it subsumes a variety of conceptions and practices across several areas of philosophy, including epistemology, metaphysics, ethics, politics and philosophy of religion. Philosophers with different philosophical concerns often disagree about the nature of scepticism because they focus only on one aspect of it, failing to capture its other equally essential dimensions. In contrast, at the centre of this editorial project lies the claim that in order to do justice to problem of scepticism, it is necessary to recognise firstly its historical developments and secondly its multifacetedness. The editors and authors provide a philosophically rich answer to the question regarding the nature of scepticism by adopting a broad, multi-perspectival approach which brings to light the multiple facets of sceptical problem in the history and practice of philosophy.

Let us consider, for example, two sceptical traditions at the extremes: one from antiquity and the other from the present. In ancient Greece, Pyrrhonism—arguably, one of the most original and influential ancient sceptical traditions—practiced scepticism as a way of life devoted to ongoing investigation and based on the ability to oppose equally convincing arguments in order to suspend judgment about the matter under examination in the hope of achieving a state of tranquillity. In the present, scepticism is generally understood as an epistemological challenge to, and

more specifically as an attitude of doubt about, the possibility of justifying our beliefs. In recent epistemology, scepticism largely functions as an argument to refute in order to justify our knowledge claims. Evidently, these ancient and modern traditions are significantly different. As Gianni Paganini emphasises, Pyrrhonian scepticism was not much about epistemological doubt but a discursive ability to compare conflicting propositions for the practical and therapeutic purposes of living a good, tranquil life (p. 240). On the other hand, this practical and therapeutic dimension of scepticism does not find space in the contemporary debate which is centred on more theoretical issues.

One of the great merits of this study is, then, to bring together these two different conceptions and uses of scepticism, highlighting that despite their profound differences, both the ancient and present traditions are linked in numerous ways. For instance, Richard Bett shows that the Cyrenaics, another ancient Greek school of philosophy, adopted a sceptical epistemology which interestingly anticipates modern and contemporary sceptical problems, such as scepticism about the external world and about other minds (p. 20). Conversely, Markus Lammenranta notes that still contemporary philosophers, among whom Robert Fogelin and Walter Sinnott-Armstrong, advocate a form of neo-Pyrrhonism, reviving and rethinking the ancient sceptical problem posed by Agrippa to the structure of justification—that is, our beliefs are unjustified, or an infinite chain of justification supports our beliefs, or a circular chain of justification supports our beliefs—(pp. 565-562). In a similar direction, Andrew D. Cling points out that the problem of the criterion—to know that something is true we must first know a criterion of truth, but how do we know that such a criterion is true?—in the ancient sceptical tradition plays an important role also in Roderick Chisholm's epistemology (pp. 550-552). These are only few examples, among others (see also Micheael W. Hickson's article on the modern varieties of ancient Academic scepticism and Donald L. M. Baxter's Pyrrhonian reading of Hume's conception of assent,) of how this enterprise is successful in providing un understanding of the full variety, both past and present, of scepticism. By doing so, as we

will see, it enables the reader to appreciate both the differences, which distinguish the various traditions and kinds of scepticism, and the historical, philosophical links, by virtue of which they are subsumed under the same concept.

Let us now delve into the individual parts. The book fulfils the reader's expectations by covering the major sceptical figures and traditions in the history of Western philosophy. The first part contains chapters on Pyrrho, the founder of Pyrrhonian scepticism, and on his followers, particularly on Aenesidemus and on Sextus Empiricus. It also addresses the Academic sceptical tradition, focusing on Academic sceptics, such as Arcesilaus, Carneades and Philo, who, inspired by the most sceptical aspects of Socratic philosophy, orientated the Platonic Academia towards scepticism. In relation to this, J. P. F. Wynne's article shows how Cicero reinterprets Academic scepticism within the context of an ethics of belief, transforming it in a properly ethical—and not only intellectual—virtue, in opposition to the vice of rush assent. The case of Cicero opens to an intriguing comparison between the Stoic sage, who according to their ethics of belief ought not to assent to what is unclear, and the Sceptic, who never assents and goes on investigating. Unfortunately, Wynne only hints at this, failing to grasp the full potential of his interpretation. Due to their ethics of belief, according to which the Stoic sage ought not to accept unclear matters in order to avoid falsehood, and to the complexity of appearances and thoughts, which makes it difficult—and even virtually impossible—to clarify the matter under investigation, for Cicero, the stoic sage would effectively never assent to anything and therefore, would come closer to the Sceptic.

In the second part, one can find an important chapter on Montaigne, who is largely responsible for the rebirth of ancient Pyrrhonism in the Renaissance and in effect for introducing it into Modernity. In this text, Gianni Paganini argues that Montaigne not only revived Pyrrhonian scepticism but also innovated it in the context of his pursuit of self-knowledge. There are in fact different kinds of scepticism in Montaigne's *Essays*: beyond Pyrrhonian scepsis, scepticism about reason and fideism, a

philosophy of doubt and a free-spirited attitude of suspect. In particular, according to Paganini, Montaigne originally elaborated a philosophy of doubt which—as mentioned above—was not strongly present in the ancient Greek traditions and that, in doing so, lead the way to the modern association between scepticism and doubt, as well as to the libertine, free-spirited attack on beliefs justified on the basis of the principles of authority and traditions.

The third part deals with well-known modern sceptics, like Descartes, Bayle and Hume. Furthermore, it hosts a chapter by José R. Maia Neto on Richard Popkin, a prominent academic philosopher who extensively contributed to the study of the history of scepticism, specifically of the influences of the ancient sceptical thought in early modern philosophy. It should be noted that regrettably a number of important sceptical thinkers from the Eighteenth-century French Enlightenment are not given place in this volume. This is the case of philosophers, such as Voltaire and especially Diderot, who are representative of what is called "Enlightenment scepticism". Commentators—and among this there is also Richard Popkin—have frequently undervalued the sceptical dimension of the Enlightenment on account of its positive belief in the power of reason to illuminate reality and, as a direct consequence, to bring about moral betterment. However, this canonical reading of the Enlightenment tends to oversimplify an entire intellectual movement and surely does not capture the important role that scepticism plays in it. Enlightenment scepticism finds his origins in Montaigne's and, as we will see, in Pierre Charron's tradition of scepticism as a libertine, free-spirited attitude of suspicion. Crucially, in this tradition scepticism becomes a prerequisite to the search of truth and consolidates itself as a sort of intellectual virtue for free thinkers. Consider, for example, Diderot's famous motto in his *Pensées Philosophiques*: "scepticism is the first step of truth." To think freely, for Diderot and other Enlightenment thinkers, meant to cast suspicion on all beliefs which only rely on authority and tradition, in order to justly conduct their philosophical investigation, avoiding intellectual and political dogmatism and fanaticism.

Finally, the fourth part expounds the main sceptical arguments in contemporary epistemology, often stressing—as we have seen in the case of neo-Pyrrhonism and of the criterion of truth—their relations to the ancient and modern varieties of scepticism. The assorted articles look at a number sceptical challenges (e.g., the regress argument, the problem of disagreement, scepticism about the external world, about other minds and about *a priori* knowledge, etc.), as well as at a variety of strategy to respond to these challenges (e.g., the distinction between everyday knowledge and philosophical knowledge and other forms of contextualism). Moreover, it counts an interesting contribution on moral scepticism, which analyses different sceptical doubts about moral knowledge, and one on religious scepticism, which clarifies in what sense we can speak of scepticism about religion and what kind of claims are precisely put into question.

In addition to this, *Skepticism*: *from Antiquity to the Present* stands out for four principal reasons. First, it pays attention to a number of influential sceptical thinkers who are largely neglected in the historical and philosophical literature on scepticism, such as Charron, François de La Mothe Le Vayer, and Gassendi. Second, it considers many famous philosophers who are not normally regarded as sceptics proper, revealing how scepticism in fact plays a crucial role within their respective thoughts. In this regard, it is worth mentioning the chapters on Kant, Hegel, Nietzsche and even Augustine that show how each of these thinkers deploy scepticism in a specific, original manner within the scopes of their philosophical projects. Third, its focus is not narrowly restricted to sceptics and philosophers who are in some way sympathetic to scepticism but is extended also to those who are decidedly opposed to it. See, for example, the articles on Spinoza, Reid, Moore, Russel, Wittgenstein and on contemporary responses to sceptical arguments in the analytic tradition. These contributions, too, help us further our understanding and appreciation of sceptical problems by exploring anti-sceptical thinkers and their critical engagement with scepticism. Fourth, it has also the merit of including some contributions focused on non-Western sceptical traditions, notably chapters on scepticism in classical Indian philosophy and on Al-

Ghazali as a sceptic within classical Islam.

To consider just a few of these stand-out chapters, we will review one article on a sceptic proper (Charron), one on a philosopher who believes scepticism is important to his philosophical project (Nietzsche) and one on a philosopher who aims to dispel sceptical doubt and establish certainty (Wittgenstein). Paganini's article on Pierre Charron (1541-1603) deserves special mention. The majority of scholars have overlooked the importance and the influence of Charron's work, often interpreting him as a mere imitator of Montaigne. In contrast, Paganini demonstrates that Charron is an original sceptic and that his *De la Sagesse* marks a crucial turning point in the history of scepticism by breaking away from the Pyrrhonian tradition and taking forwards Montaigne's philosophy of doubt, especially in its libertine, free-spirited dimension. Paganini interestingly argues that "[f]or the first time in the modern age, Charron's sceptical sage is someone who *fights* against an entire corpus of beliefs, someone who *decides to doubt* and *seeks* for arguments to this effect. This is the main Charronian achievement, *epochē* or suspension of judgment becomes now a vigorous and voluntary liberating move from a system of beliefs rather than an imponderable point of balance between different opinions, as it was before in the ancient idea of equipollence" (p. 249). Paganini concludes that, in contrast to the Pyrrhonists and with more emphasis than Montaigne, Charron promoted the free-spirited attitude of suspicion that becomes typical of the modern sceptic, from Descartes, through the French Enlightenment, up until Nietzsche.

In his article, Andreas Urs Sommers carefully analyses Nietzsche's knowledge of sceptical sources and his views on scepticism, clearly showing that he had a strong interest in sceptical themes. Sommers' analysis poses a key question to the reader: is Nietzsche a sceptic? And, if he is, in what sense? In the Nietzsche scholarship there are three major interpretations of Nietzsche as a sceptic. First, Nietzsche is a sceptic in the sense of an iconoclast, that is as someone who attacks or criticises cherished beliefs or institutions, especially Christianity. Second, Nietzsche deploys sceptical arguments to question a number of epistemological and

metaphysical claims. Third, Nietzsche's scepticism should be read in connection with the ancient sceptical tradition and particularly with Pyrrhonism. Sommers suggests that the first interpretation is non incorrect but, given the centrality of scepticism in Nietzsche's philosophical projects, fails to grasp the exact nature of his engagement with and practice of scepticism. With regard to the second, Sommer duly notes that in Nietzsche's writings scepticism is not only an epistemological problem but is always directly connected to ethics and in general to life. In fact, for Nietzsche, scepticism — even as an abstract, epistemological exercise – on the one hand has important consequences for morality and the way we live our lives and on the other is the expression of particular psychological, physiological conditions of life. Finally, Sommer correctly argues that Nietzsche develops a kind of experimental scepticism that, being judgment-friendly, is at odds with Pyrrhonian *epochē*. Sommers' article provides a helpful guide to Nietzsche's scepticism and clearly indicates new direction of research. However, the question of whether and in what sense Nietzsche might be a sceptic remain largely unanswered.

Michael Williams's article on Wittgenstein highlights an important aspect of a correct, healthy approach to scepticism and, more specifically, to the Cartesian-like doubt about our knowledge of the external world. Williams gives a close reading of *On Certainty*, reconstructing Wittgenstein's debate with Moore on what may count as a proof in response to the radical sceptical questions whether anyone knows anything whatsoever about the external world. Wittgenstein is not a radical sceptic, who denies the possibility to acquire certain knowledge about external world, because he maintains that certainty—as he understands it—of a proposition about things around us can be established. However, Williams suggests that in light of his account of certainty, nor is he a dogmatist, for whom the certainty of their knowledge claims is never under scrutiny. Wittgenstein's notion of certainty, in contrast to absolute or transcendent certainty, is in fact always situated in a dynamic belief-system open to "belief-revision" (p. 499), which is "for human beings, not disembodied intellects or thinkers wholly detached from any concrete, historical

situation" (p. 501). In relation to this understanding of certainty, Wittgenstein's position on doubt teaches us something important regarding the limits of scepticism. Williams points out that Wittgenstein shows how not all doubts are legitimate and how some of them are even illusory, that is, they are inauthentic philosophical problems. From a Wittgenstein's angle, we must ask the question whether the doubts we are raising about our knowledge make sense, whether in a particular circumstance the question "How do you know?" is meaningful and even permissible. Williams stresses that "the hyper-generality of sceptical doubts makes their meaning problematic […]. In the absence of *any* idea of how I might be going wrong, an expression of doubt would mean nothing. Further, in many everyday situations, no answer I could give to the question 'How do you know?' would be more certain than the proposition supposedly in doubt" (p. 486). In a sense, then, Wittgenstein invites us to be sceptical about scepticism, to distinguish a reasonable doubt, which poses a concrete, context-specific problem for knowledge, from an unreasonable, unhelpful one, which assumes that the question "How do you know?" is always permissible regardless of the context of its belief-system. Thus, Williams concludes that, for Wittgenstein, first, even doubts needs grounds and limitations and that a general, radical doubt is therefore impossible and, second, "grounds for doubt are harder to come by than the skeptic thinks. We can image (*vorstellen*) all sorts of extraordinary happenings: we can *picture* them. (Wittgenstein would surely put Demon-deception and brain-in-a-vat tales in this category.) But ordinarily, far-fetched imaginings are not treated as grounds for doubt" (p. 487). In this way, not only does Wittgenstein attempt a refutation of philosophical scepticism—especially, of the Cartesian kind—but he also casts suspicion on a particular use of doubt that has become prominent in contemporary, which dangerously isolates the sceptical question "How do you know?" from the belief-system from which it arises and, in doing, creates an illusionary problem, detaching it from any concrete, historical situation.

In conclusion, given the heterogenous nature of the project at times the individual chapters do not strike as exhaustive, and the reader who

would like to know more about a specific sceptical thinker or theme will be left wanting. However, the rich variety of the contributions is at the same time also one of the major strengths of the volume, depicting a comprehensive, dynamic and complex picture of scepticism in the history and practice of philosophy. This historical and philosophical inquiry makes an important contribution to the contemporary debate by providing the reader with a wide-ranging understanding and appreciation of the multifacetedness of scepticism. This is especially valuable in the context of recent scholarship which tends to be dominated by epistemological interests at the expense of other essential dimensions of scepticism, including its psychological, affective, ethical, therapeutic, religious and even political aspects. In light of this, *Skepticism*: *from Antiquity to the Present* is a must-have book for philosophers interested in the topic of scepticism and its history. This is also of interest to more specialised debates focused, for example, on individual thinkers. Not only some of the chapters offer a genuinely helpful overview of sceptical themes in the work of the philosopher taken into consideration, but the volume as a whole, also fosters links between authors and problems, generating new possibilities of research.

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Pärttyli Rinne, *Kant on Love*, De Gruyter, 2018, viii+189 pp., ISBN 9783110544978.

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Pärttyli Rinne's *Kant on Love* offers the first systematic exegesis of the concept of "love" from the writings of Immanuel Kant. The reasons motivating the book are twofold: first, Rinne elucidates the thought of one of the great philosophers on a topic of enduring importance, and secondly, a systematic exposition of how the concept of "love" functions improves one's "overall understanding of …[Kant's] ethical project" (p. 1). However, an understanding of the concept of "love" does not offer *only* one improved understanding of his ethical project, rather, the various kinds of love that are identified by Rinne play different roles within Kant's ethical project and give a nuanced picture of Kant's moral philosophy.

Following a passage from *Religion*,[1] Rinne divides the concept of "love" into love of benevolence and love of delight, what he calls *the general division of love*. This is the first of Rinne's main interpretive illuminations of the Kantian corpus, and part of his exegesis is dedicated to demonstrating this general division at work despite the absence of its explicit conceptualisation by Kant. Love of benevolence is a "goodwill that is directed to the well-being of its object" (p. 6); whilst love of delight is devoid of interest in the object and takes pleasure merely in its "the sheer existence, of the object" (p. 6). Within this general division of love Rinne

[1] *Religion within the Boundaries of Mere Reason* (1793).

focuses on five kinds of love: self-love, sexual love, love of God, love of neighbour, and love in friendship. Rinne's second interpretive illumination is to show that between each of these kinds of love in Kant there is *an ascent of love* from our natural inclinations to the "highest ideals of morally deserved happiness" (p. 1).

I will now give a summary of Rinne's exposition of self-love, which I hope will give an overall flavour of the book.

For Kant self-love is active within all of us, and Rinne shows how this stems from "animal mechanical self-love". It is through this self-love that we are predisposed to the good, whilst it also being the necessary cause of contra-moral inclinations.

Rinne begins with the lowest level of love, which is that of animal-mechanical self-love. The desires that are meant by this kind of love are non-rational, and moreover they do not fall within the general division of Benevolence and Delight. Yet, despite the fact that they do not require reason Kant nevertheless identifies them as aspects of love. This is Rinne's first interpretive query. Why identify self-preservation, sexuality, and sociality as moments of love? Taking us through various passages from the *Religion*, the second critique, the *Metaphysics of Morals*, and the *Anthropology*, Rinne focuses on Kant's conception of desire and how it figures in his picture of animal mechanical self-love. Desire is the most fundamental faculty that explains the motivations for doing or not doing something. This motivation is what leads Kant to identify desire as self-love, as love that is effectively focused on the self at the (possible) expense of those around.

Rinne's second query is; why does Kant think that self-love allows for moral progress? Self-preservation, the desire to procreate, and sociality are all necessary to our survival. Therefore, animal mechanical self-love is in a "fundamental and necessary sense" (p. 28) that which enables moral progress in the first place. Rinne, however, identifies a stronger connection between the animal impulse of sociality and moral progress. The drive for

sociality amongst animals, when considered through the prism of human reason, is what compels us to compare ourselves to other members of our society. According to Rinne, "This rational but non-moral predisposition of self-love motivates us to emulate and compete. It gives rise to social antagonism: 'unsociable sociability'" (p. 30). Because of these social antagonisms self-love can be a source of evil or that which pushes the development of civilisation and culture. It is this idea that we are instinctively interested in the behaviours of others, and that this interest is, on occasion, the motivating force for behaving morally in society. It is important, however, to stress that this desire to emulate and compete is also what leads to a break in moral behaviour. Self-love is, after all, only a predisposition to the good and not the absolute ground for the good.

We now move from the animal-mechanical self-love to the "middle level of self-love." Rinne's first point is that *Religion* shows a distinction between non-rational self-love, (animal-mechanical self-love), and a rational self-love which is directed by "rational maxims of love of benevolence for oneself [and which] subordinate reason to natural inclination" (p. 35). This, as we have seen, is the general division between Benevolence and Delight, both of which involve rationally wanting things to go well for oneself.

Rinne's second point involves him proving that the general division is a valid one, and that it can be seen in Kant's earlier moral works. In the *Groundwork* Rinne discerns that Kant does have a working conception of what will later be called Benevolence when discussing the tension between the self-love that promotes one's happiness against the moral good that is disinterested in whether or not it promotes happiness.

Moving to the second critique Rinne identifies that Kant is essentially elaborating on what we have just seen in the *Groundwork*; that self-love works in opposition to the moral law. Rinne, however, identifies this notion of self-love with the first definition of Delight, as that of taking delight in one's successful implementation of the rational maxims of Benevolence. Thus in the primitive conceptualisation of the second critique

Delight builds upon the feeling of self-love that we saw in the *Groundwork*. In chapter three, however, Delight is discussed as self-conceit and seems to be opposed to Benevolence which acts as the paradigmatic form of self-love. What is to be made of this apparent banishment of Delight from self-love?

Rinne moves to discuss this negative aspect of Delight by identifying self-conceit as a moment of self-love (a moment of self-love on the side of Delight and not simply as subsumed under Benevolence) when it mistakenly takes itself to be the moral law. In this sense self-love as Delight gives itself an objective authority that it does not possess and becomes self-conceit.

It is clear from the second critique that Kant wants us to mitigate our self-love so that it does not contradict the moral law. But, Rinne asks, does this mean that we should get rid of self-love and reach for an ideal state whereby self-love no longer contradicts the law? Rinne shows that Kant thinks that not only can self-love not be eradicated but that it would also be bad to do so. The basic idea behind this is that one can cultivate one's natural inclinations (since eradicating them is not an option) to "harmonise with moral demands" (p. 51). The limitation of self-love can be done by limiting "the maxim of our own happiness with the happiness of others" (*Ibid*.). In this respect self-love can become lawful by extending the wish for our own happiness to the happiness of others.

Rinne's main contribution to Kantian scholarship is that we cannot eradicate self-love, and that it would be bad to do so. The force behind this point is slightly convoluted. On the one hand the principles of self-love from the animal-mechanical tell us that we are pre-disposed to the good. These natural inclinations bring us happiness in the form of love of benevolence or love of delight. However, these feelings of happiness cannot inform the moral law. So what role do they play? The answer seems to be structurally negative because we cannot eradicate self-love. Whilst we might feel conflicted at doing a morally right action, we might able to cultivate our natural inclinations so as to feel good about doing said

morally right action. Moreover, self-love seems to lend itself to turning into a universal maxim permitting the happiness of others: by curbing my happiness I can allow the happiness of others, which in turn brings me happiness. It is important to point out, however, that this grounding of the moral law in self-love is what always leaves open the possibility for self-conceit and evil. The inability to eradicate self-love is conceptualised as the *persistence of self-love*.

The following four chapters proceed in much the same way. Rinne draws on a wealth of unexplored material across Kant's thought to systematically argue for the existence of the general division of love and the ascent model of love. Rinne's presentation of Kant's ascent model of love redefines the concept as instantiated by Plato in the *Symposium*. Whilst for Plato the ascent results in a mystical unveiling of the world of forms, for Kant the ascent model of love is about the moral progress of the subject towards a more harmonious relationship with the moral law. Rinne presents the richness of Kant's thought in an eloquent manner and argues robustly for his thesis, whilst always being prepared to admit the limits of his interpretation. *Kant on Love* succeeds in inaugurating an interest in this unchartered terrain and promises to reward the reader, be they curious members of the public or Kantian scholars, with a more nuanced picture of morality in Kant's thought.

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Pli 31 (2019), 216-215

Andrew Gibson, *Modernity and the Political Fix*, Bloomsbury Academic: London, 225pp., ISBN 978-1-3500-9697-4.

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Andrew Gibson's book proceeds not by presenting a systematic argument but rather by regimenting a cluster of concepts with which the author believes that it is possible to think against and eventually *beyond* the impasse of what he calls "ironical modernity" (p. 1). We moderns, if indeed we are modern, were promised a good and just life, understood as a general condition of equality, community and liberty (p. 3), but this is yet to be realised in our political institutions, and the signs are disheartening despite our best efforts and continued and now seemingly forlorn *hope*.

The chapters of the book make use of an array of historical and contemporary sources and consist in a discussion of the development of its central notion. And if I have understood it correctly, its organisation is relatively straightforward. Modernity, whose roots are in the French Revolution, for all its disasters and inhuman depredations, has produced certain truths that Gibson wishes to preserve. The first is that of *historicity*, the paradoxical effect of believing in the necessity of our historically-determined subjectivity when it is nothing other than supremely contingent. Contingent because of, second, the *event*, an unforeseeable occurrence arising out of nowhere, which disrupts the seeming self-

enclosure of our lifeworld and thereby introduces heretofore unknown possibilities of being. Third, the *remainder*, "the world as it appears without events or not seriously touched by their consequences" (p. 91), that is, a lifeless, static historical epoch, the leftover of an event, in which an experience of the suffering and depression of the will is predominant. Fourth, the *people*, with whom the intellectual must stand tall, and who are recognised by their nixing of meta-structures instituted from on high, whether it be a master-narrative, dialectic, or putatively emancipatory political theory. Finally, Gibson wants to focus on *transmission*, and it is here that literary works, which explore the space of human realisabilities leveraged by the mutability of the forms of the world, and which bear witness to the event, *do their work*.

Gibson proposes at least two strong theses: the first is that literature *thinks* (p. 156); second, that *secular* political theology is *the* way to make sense of the failure of modernity and unite us in sincerity. The difficult part for me lies in elaborating what Gibson intends by "political theology." Without wanting to sound obscure, I suggest that in a quite specific way the book must be taken whole, read entirely in order to grasp its intention. This is because the thesis is immanent to the writing itself. It *expresses* its thesis. Roughly, however, I would say that Gibson's political theology is that which purports to renege on political ideology, whether stemming from the left or right, and declines to prescribe positive political action. Instead, it commends that we peaceably await the *event-to-come*, which, because of its contingency, cannot be predicted or induced by theoretical activity. Literature is entrusted with inexactly transmitting a "divine principle" (p. 193), an asseveration of the revelatory power of an "enigmatic hole in the given" (p. 198). The future is luminous. The given is not all there is.

Gibson brings a lifetime's worth of learning to bear on his subject. Nevertheless, the book does contain (nothing more than) a handful of incongruent moments. For example, Gibson's surprising and for me unwarranted vilification of Leibniz as a thinker *par excellence* of the concepts of orderliness, perfectibility, and reconciliation; for Gibson, these are manifestly the concepts relied upon by neoliberal ideologues, neo-

Pelagians (p. 185) like Steven Pinker skilled in marketing their abject ideas of progress. Yet all-in-all Gibson is an exceptionally balanced writer. His hymnal, confessionary approach serves a purpose: it corresponds to the temporal cadence of what he nominates as the "melancholic-ecstatic" (p. 141), "geological time of the event" (p. 197) against which he opposes the *just-in-time* of "modern positivity" (p. 168).

Most significantly, Gibson is a perspicacious critic of literary writers. He makes use of, for example, the work of indispensable modernists like James Joyce and Samuel Beckett. But, for me, the most astonishing and admirable analysis in the book pertains to Virginia Woolf and her underappreciated but wonderful novel *The Years*, which unearths new aspects to the texture of her thinking. Moreover, especially welcome is Gibson's fascinating foray into Islamic theology; his compelling elucidation of the operas of the unfairly maligned but archetypical modernist Richard Wagner; and his remarkable commentary on two exquisite poets, R.S. Thomas and Norman Nicholson, both of whom I am very pleased to have now been brought to my attention. Further, his extended, compassionate and charitable account of the King James Bible is worth it for the abundance of stunning quotations he includes if for nothing else. The book is in its own way exuberant, and I hope that I have afforded an impression of Gibson's cultural erudition, but there is a great deal I am necessarily omitting—not-to-be-missed studies of texts, the bulk of which gave me both pause and pleasure.

Gibson's political theology is positioned peculiarly within current political thought and activism. It is not going to be to everybody's taste. But Gibson is careful to demonstrate that his stance is not to be dismissed out-of-hand. He emphatically critiques two theoreticians, Adrian Johnston and Alberto Toscano, who are each resolutely opposed, on independent rhetorical grounds, to the idea of tainting politics with theology. They are "captive to a present day *dispositif* [...] a continuing assumption that we are well-embedded in an [advanced] modernity [...] completable relatively soon" (pp. 168-9). Another contemporary theory, accelerationism, resembles this desire for completion. Accelerationism, which Gibson does

not mention, constitutes a normative injunction: the political ought to track the material, *think* the development of productive forces, and accumulate rational knowledge as a means to seize control of capital. But its conceptual structure is tangled: nothing gets accelerated in this way *until* control of capital is gained. Hence there is overlap: accelerationism despite itself must await the event. It is a *negative theology* in Gibson's sense, save that Gibson would add it to the heap that includes Johnston and Toscano, all abducted by fantasies of completion. On the other hand, Gibson is on occasion weaker in his political thought. For example, he dismisses Marx on spurious polemical grounds rather than by argumentative reasoning. While this recusal of Marx might for some be a serious shortcoming, it is consistent with and entailed by Gibson's political theology. In my opinion, the real virtue of the book lies in its vivid, almost dramatic style; that is to say, it should not be judged as a political treatise whose movements are built to withstand vivisection.

Gibson mourns a modernity fat with promises but which has delivered loose change. But what in more precise terms is it that he is mourning? His discussion of Jacques Lacan is telling. While Gibson finds considerable grounds for agreement, he is not convinced by the attempt to transmit the teachings of psychoanalysis through what Lacan called *mathemes*. Gibson thinks that mathemes aim at "integral" over "approximate" truth (p. 153) whereas approximate truth is more apt to convey Gibson's political theology. This is the explicit site of disagreement but what is implicitly in question here as throughout the book is *meaning*: Gibson mourns the loss of meaning, the meaning of the human condition, a sense of *not-being-at-home* in an inscrutably silent cosmos. Gibson fears "business persons" who "make fortunes and then write PhDs or turn scholars" (p. 35) in addition to employees at Merrill Lynch getting schooled in the ethics of Levinas (p. 25). None of this makes any sense because that which Gibson holds sacred, the humanising potential of thought, is rapidly losing its value while being trammelled by the rampant advance of modernity.

Lacan did not share this fear of the death of meaning. Rather, he

anticipated it. For this reason, he attempted to prime his audience for the reception of a meaningless sign (*matheme*) in order to convey to them a meaningless metaphysics grounded in nothing but abstract knot theory. In Gibson's terms Lacan *prophesied* a time of senselessness-to-come, caused by the inexorable growth of capitalism and techno-science, and resulting in the fabrication of an intersubjective world of ironic social relations within which the sincere individual futilely labours to make sense *as such*.

At this juncture Gibson runs out of resources, so he is unable to think this consequence through. He mourns a loss in the world that he does not properly apprehend. Curiously, then, even though Gibson includes a lifetime's worth of reading, his conceptual resources are limited: if there is a weakness, it is that his theology is truncated by its commitment to a type of conservative humanism. But for all that I enjoyed this book. It is to be recommended for its expansiveness, generosity and singular orientation. It would appeal to a wide audience, since it covers much ground, but especially to anybody interested in the relationship between literature, philosophy and the political ramifications of aesthetics. It is a unique and insightful work. Its central theses deserve to be respected.

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Kamini Vellodi, *Tintoretto's Difference: Deleuze, Diagrammatics and Art History*, Bloomsbury Academic: London (2019), 222pp., ISBN 978-1-3500-8307-3.

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Vellodi's *Tintoretto's Difference: Deleuze, Diagrammatics and Art History* is an ambitious and well-orchestrated monograph that seeks to address emerging problems in diverse but contiguous domains—including art history and its methodological intricacies; aesthetics and its theories of representation; and, most importantly, art in both its practical and experiential aspects. The book is rich in novelties, evincing a close involvement with the stakes involved—Vellodi is indeed both academic and practising artist. It encompasses the systematic co-examination and critical appraisal of pre-existing theoretical schemas (contextualism and historicism) while advancing in opposition new categories ("diagrammatic aesthetic" and "diagrammatic time") that problematize artistic construction and artistic experience as such.

Vellodi intends to "give an account of artistic difference" (p. xiv), the latter conceived as "something internal to what the work of art does, a power of change that constitutes what is singular and irreducible of a work – that element which continues to affect us when the contingencies of

historical circumstances are long past" (p. xiv). At the outset, she clarifies that her present interest is not in a difference recognisable and representable via external comparison that would delimit artistic style, object, epoch, etc. For this reason, Vellodi salvages the work of the sixteenth-century Venetian painter Jacopo Tintoretto as the locus of a persistent internal difference *within* art that challenges the very methodologies of theoretical art history.

Through a detailed presentation of Tintoretto's reception in art history, Vellodi shows that the singular character of his art has not been effectively accounted for. Tintoretto, "a slippery figure that resisted easy categorization," (p. 5) not only reveals the limits of a certain kind of art history, but moreover the limits of the representational image of thought in which this art history is methodologically grounded; namely, "a thought that recognizes itself and its object in advance of its operation, which seeks to identify its objects, and which is carried out for the sake of furthering the knowledge of that which it thinks" (p. 5).

This is why the main target of the book is the self-image art history promotes in order to conform to its ostensible maxim of "rational scholarly work" (p. 4). Methodological strategies, such as "historical reconstruction," "cognitive distance" that contextualist theories deploy, purport to provide historical study with rigorous and consistent categories, but for Vellodi are indifferent and oblivious to the actual experience of works of art in the present; that is, to what Velodi calls the "aporetic experience of their difference" (p. 4).

Two questions are posed. First, why assume that art practitioners of the same chronological time produce isomorphic artistic realities and compel inquiry to start with what is known and well-defined? And second, given that in the present we experience the unclassifiable and perplexing character of artistic creation of the past, how do we account for this *aporia* that challenges our thought of the artwork beyond pre-established schemes of intelligibility (pp. 2-5)?

Vellodi's discussion affords a direct view into the intricacies between theory and practice. She suggests that it is time for the institutional humanities to disentangle from the double bind of either treating theory as "quotational patchwork" (p. 8), or of recoiling in resentment from any positive, critical and constructive engagement with it. Accordingly, she aims at revitalising the constitutional goal of art history in order to "produce thought, concepts, ideas, that are immanent to the object/material of its experience, rather than applied" (p. 9). Subsequently, in affirming its own empiricism, Vellodi suggests that art history can re-orientate in respect of its use of theory, and thereby grasp the pragmatic leverage that a theory immanent to its practical exigencies brings. The crux of Vellodi's analysis seems to be that the element proper of a discourse of art that effectuates its critical, historical and philosophical potential is the "registration of the sensible" (p. 7).

Vellodi's analysis dovetails with Deleuze's philosophy of difference in addition to his collaborations with Guattari. Yet, Vellodi notes the reluctance of applying Deleuze and Guattari's thought to art history by both scholars of their work and by art historians. On the contrary, she readily undertakes her quest for thinking "with" and not "about" art using their thought in an attempt to "renew the philosophical element of art theory, that element pertaining to the question of thought" (p. 9).

Regarding Deleuze's philosophy, Vellodi succeeds in delivering a refreshing and skilfully developed staging of the theme of *transcendental* or *superior empiricism*. Operating under the tenet of a "radical materialism and pragmatism of the concept" (p. 9) that allows her to pursue her programme of a diagrammatic aesthetic, Vellodi astutely explores, unfolds and re-activates the concepts—notably, the diagram—and the problems—notably, the constitution of the passage from sensations to concepts and back—that furnish Deleuze's constructivist universe.

In terms of its structure, the book is comprised of a short prologue and five well-balanced chapters. Initiating her theme in the prologue, and extensively developing it in the first and second chapters, Vellodi

introduces Tintoretto and explores the reasons that the idiosyncrasy of his genius caused bewilderment for his contemporaries, and that has triggered strikingly inconsistent views among historians. Vellodi's exquisite descriptions of Tintoretto's works enliven for the reader the bespoke singularity of his creations. Throughout her elaboration, Velodi makes use of exegetical evidence with the aim of substantiating her claim of Tintoretto's artistic difference. For example, Vellodi analyses his innovations, such as his so-called "stage-method," which intensifies the dramatic effect of the works and results in the production of canvases that do not represent a *historia* but rather stage the interplay of heterogeneous forces beyond the visible pictorial forms. Finally, this culminates in chapter three with Vellodi's exposition of diagrammatic constructivism.

In chapter three, Vellodi outlines a lineage of philosophical constructivism, which begins with Kant's "epistemological constructivism" (pp. 65, 70-72) and the synthetic cognition issued by his schematism—its mediation between concept and sensibility. This then passes to C.S. Pierce and his "empiricist constructivism" (pp. 72-75), which is grounded in his concept of diagram as "an icon whose iconicity lies in its materiality rather than its relation to its object" (p. 73). Finally, Vellodi differentiates between Pierce's representational diagrammatics and Deleuze and Guattari's diagram as "pure matter-function" (pp. 75-76).

Chapters four and five, the most exciting parts of the book, presents the reader with a compelling synthesis. The "diagrammatic aesthetic" (chapter four) builds upon the conceptual apparatus of philosophical constructivism, culminating in a material aesthetic that goes beyond art's theorisation and signals "a transcendental power of the sensible" (p. 99). Crucially, Vellodi takes Deleuze and Guattari's inversion of Kant's conception of aesthetic production and artist-genius. This is their notion of "proto-aesthetic regime" that signals "a dimension of creation in a nascent state, perpetually in advance of itself" (p. 101), whereas "the genius is

someone who knows how to make the whole world a becoming" (p. 101).[1] It is here that Vellodi positions her understanding of Tintoretto's constructivist tendencies: she sees the unconventional character of his art as an effect of his use of diagrams, for he maps unframed material relations that refer to a "reality *yet to come*" (p. 127).

This aspect of futurity of Tintoretto's diagrammatic art is explored in chapter five in which Vellodi advances the philosophical implications of different kinds of temporality. Chronology and its categories, such as "contemporaneity" and "anachronism" as deployed by art historians, operate within a linear temporality that cannot account for artistic difference (pp. 136-140). On the other hand, Vellodi's *diagrammatic aesthetic* aspires to a conception of temporality that allows for the question of "what survives of the past beyond chronological inscription and historical context" (p. 133). Deleuze's philosophy of time, and especially his reading of Nietzsche's eternal return, complements the function of the diagrammatic aesthetic: "Both involve a synthesis of forces, both are activities of genesis that produce the new […] both break through the banal repetition of identical forms with the creative return of dissimilarity and excess" (p. 149).

It seems to me that Vellodi's achievement consists in her effectiveness at operating on multiple registers. She introduces the problematic of artistic difference, a difference that proves that art is a device of thought rather than of representation. Further, she recuperates new categories for thinking through the excess of artistic experience while engaging with the methodological criticism of art history by providing a substantial overview of problems, thinkers, and practices. Most importantly, her original proposition of *diagrammatic aesthetic* introduces a transformation of the role of the art historian into the "philo-historian,"

[1] Vellodi's own quotations of Guattari (Félix Guattari. *Chaosmosis: An Ethico-aesthetic Paradigm*, trans. Paul Bains and Julian Pefanis, Bloomington: Indiana University Press, 1995, pp. 102, 106) and of Deleuze and Guattari (Gilles Deleuze and Félix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia*, translation and foreword by Brian Massumi, London: Continuum, 2004, p. 200).

that is, "a thinker of art that attends to the multifaceted myriad of problems raised by the work, without recourse to the supremacy of any particular discourse" (p. 165).

As a final remark, I wish to say that Vellodi's book, itself an example of a "philo-historical" account, gives ample opportunity to the reader intrigued by questions at the intersection of art history and philosophy to follow the unfolding of her complex but gratifying inquiry. In this respect, *Tintoretto's Difference* would be appreciated not only by art historians, and by philosophers interested in Deleuze and Guattari's work, but further by a general audience receptive to the experience of artworks, and who wish to think through this experience.

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Thomas Posch (1974 – 2019)

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It was with great sadness that we learned in April 2019 of the death of the philosopher and scientist Thomas Posch at the age of 45. He had been severely ill for over two years. Posch achieved the rare distinction of completing two doctoral theses — one in philosophy (2002) and one in astrophysics (2004) — and he went on to make significant contributions in both fields. From 2003 until his death he was a lecturer in astronomy, the history of science and philosophy at the University of Vienna, and in 2006 he was appointed as staff scientist at the University's Institute for Astronomy (later Astrophysics). His main topic of research at the Institute was astromineralogy, but he was also an active campaigner against light pollution. Indeed, he co-edited one of the most influential German-language books on the subject[1], and in 2014 he received the Galileo Award for his work in this area from the International Dark Sky Association.

Posch believed strongly that scientific research should, where possible, be carried out in dialogue with other disciplines, especially theology, philosophy and the humanities, and he had a particular interest in Hegel's philosophy of nature, on which he undertook important research alongside his scientific study of the heavens. He wrote what is to my mind one of the most intelligent and accessible essays on Hegel's philosophy of

[1] Thomas Posch *et al* (ed.), *Das Ende der Nacht. Lichtsmog: Gefahren – Perspektiven – Lösungen*, 2nd edition (Weinheim: Wiley-VCH, 2013).

nature[2], in which he eloquently defends Hegel's critique of reductionism in science. He co-edited two invaluable editions of Hegel's lectures on the philosophy of nature — 1821/22[3] and 1825/26[4]— and two fine volumes of essays on, respectively, Hegel's philosophy of nature[5] and Hegel and the sciences.[6] He wrote notable essays on the reception of Hegel's philosophy of nature by critics such as William Whewell and Karl Popper[7]; and in 2004 he gave an important paper at the annual conference of the Hegel Society of Great Britain on Hegel's critique of Newton, in which he points out that, for Hegel, there is more abstract metaphysics in Newton's concept of force than is usually recognised.[8]

Posch also wrote two monographs that are of enormous value to those interested in Hegel's philosophy of nature and, indeed, the history of science more generally. Since these books may not be familiar to all readers of Hegel, I would like to take this opportunity to explain briefly what they are about and what makes them important.

[2] Thomas Posch, "Hegel and the Sciences", in *A Companion to* Hegel, ed. by Stephen Houlgate and Michael Baur (Oxford: Wiley-Blackwell, 2011), pp. 177-202.
[3] G. W. F. Hegel, *Vorlesung über Naturphilosophie. Berlin 1821/22. Nachschrift von Boris von Uexküll*, ed. by Gilles Marmasse amd Thomas Posch (Frankfurt am Main: Peter Lang, 2002).
[4] G. W. F. Hegel, *Vorlesungen über die Philosophie der Natur. Berlin 1825/26. Nachgeschrieben von Heinrich Wilhelm Dove*, ed. by Karol Bal, Gilles Marmasse, Thomas Posch und Klaus Vieweg. *G.W.F. Hegel. Vorlesungen. Ausgewählte Nachschriften und Manuskripte Bd. 17* (Hamburg: Felix Meiner, 2007).
[5] Thomas Posch and Renate Wahsner (ed.), *Die Natur muß bewiesen werden. Zu Grundfragen der Hegelschen Naturphilosophie* (Frankfurt am Main: Peter Lang, 2002).
[6] Thomas Posch and Gilles Marmasse (ed.), *Die Natur in den Begriff übersetzen. Zu Hegels Kritik des naturwissenschaftlichen Allgemeinen*, (Frankfurt am Main: Peter Lang, 2005).
[7] Posch, Thomas, "Die Rezeption der Hegelschen *Mechanik* durch William Whewell und Augusto Vera", *Wiener Jahrbuch für Philosophie* 33 (2001), pp. 39-73; Posch, "Die Rezeption der Hegelschen Lehre von der Wärme durch Carl Ludwig Michelet und Karl Raimund Popper". *Wiener Jahrbuch für Philosophie* 34 (2002), pp. 143-58.
[8] See, Thomas Posch "Hegel's Criticism of Newton's Physics: A Reconsideration" <https://core.ac.uk/download/pdf/12236749.pdf> (2004), which, however, is a draft that unfortunately has not been edited into a publishable form.

Posch's first doctoral dissertation was published as *Die Mechanik der Wärme in Hegels Jenaer Systementwurf von 1805/06. Ein Kommentar vor dem Hintergrund der Entwicklung der Wärmelehre von 1620 bis 1840*.[9] This work is, in my view, one of the best studies of Hegel's philosophy of nature there is. Indeed, it provides a model for how one should approach what is probably the most neglected part of Hegel's philosophy: it examines Hegel's ideas in detail and makes good sense of them (whilst also recognising their occasional obscurity), and it sets them, with subtlety and intelligence, in relation to both the science of Hegel's time and later developments in science. Posch recognizes that the topic of his book — Hegel's theory of heat — is largely ignored even by the relatively few people who study Hegel's philosophy of nature at all. This is due partly to the considerable conceptual difficulty of Hegel's account of physics and chemistry (in contrast to his mechanics and organics), but also to the fact that the sciences underpinning that account — the theories of heat and electromagnetism, as well as anorganic chemistry — were still in their infancy at the start of the 19th century.[10] In Posch's view, however, it is precisely these difficulties, as well as Hegel's significant and enduring insights, that make it important to study and explain his account of heat. Posch focuses on Hegel's Jena philosophy of nature of 1805-06 because it contains his most extensive text on the topic of heat. Towards the end of his book, however, Posch highlights the continuities and differences between Hegel's Jena theory of heat and the theories contained in the Heidelberg and Berlin editions of the *Encyclopaedia*.[11]

Before turning to Hegel directly Posch provides an invaluable survey of the philosophical and scientific theories of heat advanced by Aristotle, Francis Bacon, Robert Boyle, Joseph Black, Antoine Lavoisier and others, and he notes that around 1800 the central problem concerning

[9] Thomas Posch, *Die Mechanik der Wärme in Hegels Jenaer Systementwurf von 1805/06. Ein Kommentar vor dem Hintergrund der Entwicklung der Wärmelehre von 1620 bis 1840* (Aachen: Shaker Verlag, 2005).
[10] *Ibid*., pp. 2-4.
[11] *Ibid*., p. 149 ff.

heat was this: is heat a substance —"caloricum"[12]— or rather a *kinetic* phenomenon, that is, the movement or "vibrating" of the parts of bodies? Later in the 19th century the kinetic theory prevailed and became part of modern thermodynamics; around 1800, however, the conflict between the conceptions of heat as substance and as movement had not yet been resolved. Posch points out that in the 1827 and 1830 editions of his *Encyclopaedia*, Hegel is severely critical of the substance theory of heat and draws a parallel between heat and sound, both of which he conceives as forms of the "negation" of the cohesion of bodies. For the later Hegel, heat is thus not a substance but an *activity* that manifests itself in the expansion of bodies.[13] In his Jena philosophy of nature of 1805-6 Hegel does not yet criticise explicitly the substance theory of heat, but there too he conceives of heat as "negativity" or, more specifically, as the "power of dissolving shape," evident for example in process of melting. As Posch puts it, Hegel interprets heat as an immanent (as opposed to an external) negation of a body that frees it to take on a "higher mode of material organisation".[14]

Hegel's "intuition of genius" in his Jena manuscript, however, lies in recognizing an intimate connection between heat and the expansion of *gases* at a time when the theory of heat and the theory of gases were by no means universally understood to be connected. More specifically, Hegel takes over from Gay-Lussac the idea that all gases, when heated, "expand to the same extent" — an idea that was not beyond dispute at the time — and gives it a conceptual underpinning.[15] As Posch explains, Hegel points out that solid bodies have different "coefficients of expansion" and in that respect can be understood to determine themselves in distinctive ways. Gases, by contrast, all expand in the same way when heated and in that respect *lack individual self-determination*. Hegel thus makes philosophical sense of an observed (though not undisputed) phenomenon by giving gases

[12] *Ibid*., p. 34.
[13] *Ibid*., p. 154.
[14] *Ibid.*, pp. 61-2, 120.
[15] *Ibid*., p. 135.

a place in the development of nature from the sheer self-externality of space to the explicit self-determination of the organism. In the process he also provides a philosophical foundation for the connection between heat and the expansion of gas that would later become widely accepted by science.

By examining Hegel's theory of heat Posch shows that Hegel has a subtle understanding of natural phenomena and the science of his time and is not the ignorant and arrogant philosopher of nature that critics, such as Whewell and Matthias Schleiden, took him to be.[16] Anyone who still doubts whether there is much to be learned from Hegel's philosophy of nature will have their doubts allayed by Posch's subtle, intelligent, indeed exemplary, book.

Students of Hegel's philosophy of nature will also find much to interest them in Posch's outstanding biography of the astronomer Johannes Kepler.[17] Hegel considered Kepler (1571-1630) to be a scientist of unparalleled genius and regarded his three laws of planetary motion as "a discovery of immortal fame."[18] Kepler's genius, for Hegel, lay in his ability to find "universal law" in the empirical observations of Tycho Brahe; and his laws — especially the third — are so important because, though found "by induction", they disclose the rationality inherent in nature itself, or what Hegel calls the "*reason of the thing*" (*Vernunft der Sache*).[19] Hegel does not deny Newton's ground-breaking contribution to the mathematical analysis of celestial motion, and he acknowledges the importance of Newton's discovery of the way planets — in particular Jupiter and Saturn —"perturb" one another. In Hegel's view, however, Kepler deserves the highest praise for first discovering the basic laws that govern planetary motion, and Hegel notes that "seldom has fame been more unjustly

[16] *Ibid*., pp. 178-9.
[17] Thomas Posch, *Johannes Kepler. Die Entdeckung der Weltharmonie* (Darmstadt: Theiss, 2017).
[18] G. W. F. Hegel, *Philosophy of Nature. Being Part Two of the Encyclopaedia of the Philosophical Sciences (1830)*, trans. by A.V. Miller, (Oxford: Clarendon Press, 1970), p. 66 [§270 Remark].
[19] *Ibid*., pp. 71-2 [§ 270 Remark and Addition]; see also *Ibid*., p. 103 [§ 280 Remark].

transferred from a first discoverer to another person" (in this case, Newton).[20]

Posch explains in detail how Kepler discovered his three laws by applying his own "mathematical genius" to Brahe's "precise observations" of the planets: he shows, for example, how specific and easily missed features of the orbit of Mars led Kepler to formulate his first law that planets orbit the sun in an ellipse rather than a circle.[21] Posch also notes that Kepler made significant contributions to optics and crystallography, that he was the first to argue that the sun rotates on its axis, and that he predicted the transits of Mercury and Venus across the sun that would occur in 1631 (after his death).[22] Furthermore, Posch sets out in subtle detail the historical and religious context in which Kepler undertook his astronomical work, and he highlights with a touching empathy the personal difficulties that Kepler faced throughout his life (including, for example, the fact that his mother was accused of witchcraft).[23]

Posch writes as a professional astronomer and historian of science, but he endorses Hegel's evaluation of the enduring significance of Kepler's work. In particular, he agrees with Hegel that Kepler's third law — which states that the squares of the orbital periods of any two planets are proportional to the cubes of their mean distance from the sun (or, more precisely, of their semi-major axes) — is one of the "great laws of nature."[24] Posch also agrees with Hegel that Kepler sought not just to develop a mathematical interpretation of phenomena or to construct a coherent "model" of nature, but to disclose the reason that is inherent in nature itself. As Posch writes, "there are in nature objective spiritual [*geistig*] structures, to which the laws of nature belong, which are thus not just human

[20] *Ibid*., pp. 66-8 [§ 270 Remark]; see also Posch, *Johannes Kepler. Die Entdeckung der Weltharmonie*, pp. 230-2.
[21] Posch, *Johannes Kepler. Die Entdeckung der Weltharmonie*, pp. 92-4.
[22] *Ibid*., pp. 76-7, 118, 154, 197-201.
[23] *Ibid*., pp. 170-4.
[24] *Ibid*., p. 224; see also, Stephen Houlgate, *An Introduction to Hegel. Freedom, Truth and History*, 2nd ed, (Oxford: Blackwell, 2005), pp. 147-53, 156.

constructs. Kepler, Hegel and Einstein were profoundly convinced of this."[25] Posch argues that Kepler sought to understand the rationality in nature because he saw nature as the harmonious work of God.[26] His aim, therefore, was not only to increase our scientific knowledge of the cosmos, but also to integrate such knowledge into a metaphysical, religious and indeed aesthetic view of the cosmos — one in which "the laws of nature include harmonic relations between numbers that we know from music."[27] For Posch, therefore, it was not just "Swabian regional patriotism"[28] — the fact that all three studied at the University of Tübingen — that led Hegel and Schelling to praise Kepler, but a deep appreciation of the fact that his thinking combined science and rational metaphysics in a way that has become so unfashionable in modernity.

Posch clearly favours Kepler's more holistic and metaphysical conception of nature over what he calls the "mechanistic world-view" of modern science.[29] He insists that, for Kepler, it is essential in astronomy to achieve exact measurements and "precise numbers". He claims, however, that modern science often espouses a "barren naturalism" that would banish all metaphysical, religious or aesthetic concerns from the study of nature.[30] By contrast, "Kepler's cosmos is one in which reason and even aesthetic ideals of humanity find an intensive echo. Kepler's cosmos is not only accessible to sober geometrical measurement [...]. It is a cosmos whose spiritual [*geistig*] structure allows humanity to find itself in it again with amazement and great joy."[31]

In my view, Posch's biography of Kepler is a magnificent achievement. It explains with impressive clarity and eloquence Kepler's ground-breaking discoveries in astronomy; it sheds light on the religious

[25] Posch, *Johannes Kepler. Die Entdeckung der Weltharmonie*, p. 231.
[26] *Ibid*., pp. 53, 167.
[27] *Ibid*., p 223; see also Hegel, *Philosophy of Nature*, p. 103 [§ 280 Remark].
[28] Posch, *Johannes Kepler. Die Entdeckung der Weltharmonie*, p. 16.
[29] *Ibid*., p. 226.
[30] *Ibid*., pp. 234, 238.
[31] *Ibid*., p. 238.

and political conditions in central Europe in the late sixteenth and early seventeenth centuries; and it raises important and enduring questions about the relation between science, religion and metaphysics. It is also immensely valuable for those interested in Hegel's philosophy of nature: for Kepler's influence on Hegel's understanding of celestial mechanics is unparalleled. I hope that in the not too distant future Posch's wonderful book will be translated into English so that more students of Hegel worldwide can learn from it.

Posch notes that at one point Kepler taught Latin literature, ethics and history, as well as maths, and that he wrote thirty-six poems in the course of his life.[32] Kepler also showed his "artistic vein" in the elegance of his scientific writing and correspondence.[33] It is thus understandable that he became an important figure, not just for later astronomers and philosophers, but also for later poets, such as Hölderlin and Novalis.[34]

Posch emulated his illustrious predecessor by also engaging in literary activity alongside his research in astronomy, and in 2001 he published a volume of poems and short prose texts entitled *Miniaturen*.[35] Posch's sharply observed prose "miniatures" often focus on *individuals* — the monk, the singer, the author — but in so doing (and in a way that should resonate with readers of Hegel) they highlight themes of *universal* human interest. These pieces are sometimes amusing or quirky, sometimes touching and even sad, but they are always original and thought-provoking. They show empathy for the individuals concerned, but without sentimentality, and when they remind us of our responsibilities to others (human and non-human), they do so without any hint of moralising. They are the work of a man who took his own responsibilities seriously — especially in trying to combat light pollution — and who, in so doing, was sometimes melancholy, often witty and humorous, and always perceptive,

[32] *Ibid*., pp. 48, 53.
[33] *Ibid*., p 239.
[34] *Ibid*., pp. 227-8.
[35] Thomas Posch, *Miniaturen. Ein bißchen Literatur*, (Wien: Edition Doppelpunkt, 2001).

thoughtful and, above all, generous.

It was a privilege and pleasure to know Thomas Posch, and his passing at such a young age is a cause for deep sadness. His work will, however, remain a rich source of understanding and inspiration for years to come.

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